

Sixty-Third Annual Report of the Gulf States Marine Fisheries Commission

For the Year 2012



The GULF STATES MARINE FISHERIES COMMISSION is an organization of the five states whose coastal waters are the Gulf of Mexico. This Compact, authorized under Public Law 81-66, was signed by the representatives of the Governors of the five Gulf States on July 16, 1949, at Mobile, Alabama. The Commission's principal objectives are the conservation, development, and full utilization of the fishery resources of the Gulf of Mexico to provide food, employment, income, and recreation to the people of these United States.

GULF STATES MARINE FISHERIES COMMISSION

Sixty-Third Annual Report
(2012)

*to the
Congress of the United States
and to the
Governors and Legislators
of
Alabama, Florida, Louisiana, Mississippi, and Texas*

Presented in compliance with the terms of the Compact and State Enabling Acts Creating such Commission and Public Law 66-81st Congress assenting thereto.



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Preserving the Past ▪ Planning the Future ▪ A Cooperative Effort

Charles H. Lyles Award

The *Charles H. Lyles Award* is awarded annually by the Gulf States Marine Fisheries Commission (GSMFC) to an individual, agency, or organization which has contributed to the betterment of the fisheries of the Gulf of Mexico through significant biological, industrial, legislative, enforcement, or administrative activities.

The recipient is selected by the full Commission from open nominations at the spring March meeting. The selection is by secret ballot with the highest number of votes being named the recipient. The recipient is awarded the honor at the annual meeting in October.

CHARLES H. LYLES

Award Recipients

Charles H. Lyles	1984
Theodore B. Ford	1985
J.Y. Christmas	1986
John Breaux	1987
John Ray Nelson	1988
I.B. "Buck" Byrd	1989
Hugh A. Swingle	1990
John A. Mehos	1991
J. Burton Angelle	1992
Louis A. Villanova	1993
Theodore H. Shepard	1994
Edwin A. Joyce, Jr.	1995
Tommy D. Candies	1996
Walter M. Tatum	1997
Thomas L. Heffernan	1998
Trent Lott	1999
James Barkuloo	2000
Walter Fondren, III	2001
Jerald K. Waller	2002
Andrew J. Kemmerer	2003
Hal Osburn	2004
Leroy Kiffe	2005
Robert P. Jones	2006
Wayne E. Swingle	2007
Ralph Rayburn	2008
W. "Corky" Perret	2009
Albert L. King, Sr.	2010
Virginia "Ginny" Vail	2011
R. Vernon Minton	2012

Acknowledgements

In submitting this Sixty-Third Annual Report, we the Commissioners, wish to express our most sincere appreciation for the splendid cooperation of the Members of Congress and the Governors and Legislators of our Compact states. We fully appreciate that success in the management of the public's fishery resources would not be possible without your valued assistance. This acknowledgement is also extended to the directors of the federal, state, and interstate agencies and their respective staff, and to representatives of all organizations and individuals who have contributed to the realization of the objectives of the Gulf States Marine Fisheries Commission.

Respectfully submitted,

Chris Blankenship, *Chairman*

Joe Gill, *Vice Chairman*

David Heil, *Second Vice Chairman*

Larry B. Simpson, *Executive Director*

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Commission Roster

Commission Officers

Chairman: Chris Blankenship

First Vice Chairman: Joe Gill, Jr.

Second Vice Chairmen: David Heil

Commissioners

(order of listing – administrator, legislator, governor’s appointee)

ALABAMA

N. Gunter Guy
Alabama Department of Conservation &
Natural Resources
Montgomery, Alabama
Representative Steve McMillan
Bay Minette, Alabama
Chris Nelson
Bon Secour Fisheries
Bon Secour, Alabama

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Florida Fish & Wildlife Fisheries
Commission
Tallahassee, Florida
Senator Thad Altman
Melbourne, Florida
Stephen Greep, Jr.
Alexander & Greep Insurance
Fort Lauderdale, Florida

LOUISIANA

Robert Barham, Secretary
Louisiana Department of Wildlife &
Fisheries
Baton Rouge, Louisiana

Senator R. L. “Bret” Allain, II
Franklin, Louisiana
Campo “Camp” Matens
Baton Rouge, Louisiana

MISSISSIPPI

Danny Guice, Jr., Executive Director
Mississippi Department of Marine
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Biloxi, Mississippi
Senator Brice Wiggins
Pascagoula, Mississippi
Joe Gill, Jr.
Joe Gill Consulting, LLC
Ocean Springs, Mississippi

TEXAS

Carter Smith, Executive Director
Texas Parks & Wildlife Department
Austin, Texas
Senator Mike Jackson
Austin, Texas
Troy Bello Williamson, II
Corpus Christi, Texas

Staff

Larry B. Simpson, *Executive Director*
David M. Donaldson, *Assistant Director*

Virginia K. Herring, Administrative Officer
Nancy K. Marcellus, Administrative Assistant
Cheryl R. Noble, Staff Assistant
Debora K. McIntyre, Staff Assistant
Alyce R. Catchot, Staff Assistant
Ashley P. Lott, Staff Assistant
Deanna L. Valentine, Data Entry Clerk
Alexander L. Miller, Program Coordinator
James R. Ballard, Program Coordinator
Angela R. Rabideau, Staff Accountant

Steven J. VanderKooy, Program Coordinator
Jeffrey K. Rester, Program Coordinator
Ralph E. Hode, Program Coordinator
Gregory S. Bray, Programmer/Analyst
Robert W. Harris, Programmer/Analyst
Douglas J. Snyder, Survey Coordinator
Donna B. Bellais, Survey Coordinator
Joseph P. Ferrer, III, Systems Administrator
Lloyd W. Kirk, SEAMAP Database Programmer

Active Committees

- Executive CommitteeChris Blankenship
Joe Gill, Jr.
Joey Shepard
David Heil
Mike Ray

- Law Enforcement Committee..... Jeff Mayne, Chairman

- State-Federal Fisheries Management Committee.....Chris Blankenship, Chairman

- Menhaden Advisory Committee.....Joe Smith, Chairman

- Commercial/Recreational Fisheries Advisory Panel..... Philip Horn, Commercial Chairman
Bob Fairbanks, Interim Recreational Chairman

- Technical Coordinating Committee Dale Diaz, Chairman

- TCC Artificial Reef Committee Doug Peter, Chairman

- TCC Crab Subcommittee Ryan Gandy, Chairman

- TCC Data Management Subcommittee David Gloeckner, Chairman

- TCC Habitat Subcommittee Ron Mezich, Chairman

- TCC SEAMAP Subcommittee.....Read Hendon, Chairman

- TCC Outreach Subcommittee..... James Ballard, Facilitator

GULF STATES MARINE FISHERIES COMMISSION **EXECUTIVE DIRECTOR'S REPORT** *David M. Donaldson, Assistant Director*

Probably the best way to describe 2012 is the lull before the storm. Being located on the Gulf Coast, we can all understand that concept. While it appears that everything is calm, there are several major issues brewing on the fisheries front.

The Marine Recreational Information Program (MRIP) is a national initiative to improve and expand the recreational data collection and management efforts throughout the country. Initially, MRIP has focused on testing a variety of improvements to address identified concerns and problems with the existing methods. However, MRIP is slowly moving away from the testing phase and beginning to implement some of the new methodologies. It is anticipated that these changes (such as the new intercept and effort surveys) will provide better data for the management of the recreational fisheries in the Gulf of Mexico but there will be some rough seas in the near future as these modifications are instituted.

The red snapper fishery in the Gulf of Mexico is one of the most important commercial and recreational fisheries in the region. It is not only exceedingly sought after by recreational anglers as one of the most favorite fish to catch but highly desired by locals and tourists alike at the many Gulf Coast restaurants and seafood shops. The management regimes put into place for red snapper appear to be working. There are reports of plentiful and large red snapper being landed by the recreational fishery. However, despite this fact, the number of fishing days available to recreational anglers continues to decrease. This has caused concern and, in response, there are a variety of alternative approaches that will be examined to allow for more flexibility. These alternatives have the potential to produce some waves and turmoil (change is always difficult) to this already complicated situation.

Adding even more complexity to these issues, it appears that the budget climate in the next few years does not look very promising. Without adequate fiscal resources, addressing these important topics will be even more difficult and problematic. As the national debt has continued to grow, Congress will be taking a hard look at the national budget and attempting to rein in spending. While the federal funding allocated to fisheries issues is extremely critical to effective management of these important resources, it will be subjected to budget cuts and potential Sequestration like all of the federal programs.

As I said, a storm is a brewin'. It should be an interesting next couple of years, although I am confident that through a cooperative and coordinated approach, we can weather the storm and move the needle towards better fisheries management.

EMERGENCY DISASTER RECOVERY PROGRAM

Ralph E. Hode, Fisheries Disaster Program Coordinator

The Gulf States Marine Fisheries Commission established its Fisheries Emergency Disaster Recovery Program (EDRP) in 2006 in response to a marine fisheries disaster declaration by then Secretary Carlos Gutierrez, US Department of Commerce. The declaration came following Hurricanes Katrina and Rita in 2005 which destroyed significant portions of the marine fisheries industry and related habitat in the northern U. S. Gulf of Mexico. Fiscal support for the program, which is authorized by the Magnuson-Stevens Fishery Conservation and Management Act (Public Law 94-265, as amended), came from Congress in the form of two supplemental appropriations. These included: first, an appropriation in 2006 in the amount of \$127 million for fishery resource restoration and recovery (EDRP I); and secondly, an additional appropriation in 2007 in the amount of \$85 million for economic assistance to the recovering industry (EDRP II). The Gulf States Marine Fisheries Commission (GSMFC) was selected by NOAA Fisheries to coordinate and oversee the distribution and use of these appropriations.

Appropriations for the disaster recovery program were generally determined based on damage assessments conducted by the Gulf state marine agencies and, on NOAA findings, following assessments by independent consultants working for NOAA Fisheries in the weeks and months following Hurricanes Katrina and Rita. Individual apportionments to the states were determined at the federal level based on prior year fisheries landings records and the extent of damage incurred in each state industry.

Resource Recovery – EDRP I

As a result of the EDRP I appropriation, a total of 17 sub grant agreements was subsequently

executed with the five member states in the Gulf. The agreements address three areas of fisheries restoration and assistance as authorized by NOAA. They include oyster restoration, finfish and shellfish habitat restoration, and cooperative research.

Summaries of the current Gulf-wide categorical funding level as approved by GSMFC with concurrence from NOAA Fisheries are included as follows:

Category	Funded Amount*
Oyster Restoration Program	\$50,074,120.00
Habitat Restoration Program	\$29,662,045.00
Cooperative Research	\$47,035,987.00

* As amended based on changing needs during the recovery process.

The initial EDRP I grant agreement was scheduled to be completed in August 2011. However, because of multiple natural and man-made events over the duration of the restoration cycle, planned work programs and projects across the Gulf were necessarily postponed until conditions righted themselves. The delays were universally attributed to flooding of the Mississippi River in 2008, the effects of the oil disaster of 2010, and flooding of the Mississippi River again in 2011. As a result, the year ended with combined expenditures of only \$427,000, and an unexpended fund balance in the overall EDRP I program of \$12 million. Late in 2011, approval was granted by NOAA for an extended grant period through August 2012, to allow the states additional time to utilize the remaining \$12 million.

The 2012 program year began with an overall fund balance of nearly \$12 million. Spending during the year was slightly over \$9.7 million; indicating that approximately 29% of these expenditures

were used in oyster restoration; 39% for habitat restoration; and about 34% in the cooperative research component. Unexpended fund balances at the end of the year, however, still amounted to \$2.3 million; the majority of which was in the oyster rehabilitation category or in the habitat restoration category where oyster restoration was scheduled for 2012.

Once again, the GSMFC sought and received a NOAA no cost grant extension that would allow additional time for the states to complete those components that they were unable to complete during the first extension. The new extension date was approved for August 31, 2013.

Categorical spending summaries for each state for 2012, as well as comparable figures for 2011, are included as indicated in Table 1. Significant accomplishments during the 2012 year are described below.

Oyster Restoration Element

Oyster restoration during 2012 primarily reflected efforts to complete projects originally scheduled for earlier completion, but which continued to be delayed because of issues beyond the control of the respective state agencies. These included problems such as too much fresh water on some grounds (Mississippi and Louisiana) and too little fresh water in other areas of the Gulf (the Apalachicola region of the Florida panhandle). By the end of 2012, however, most states were positioned to

complete planned work in the final eight months of funding eligibility. Progress was seen as:

- Cultch plants in both Florida and Mississippi;
- Continued development of a lease holder data management system; and, research and growth of oysters larvae (including triploids) at the Native Stock Hatchery in Grand Isle, Louisiana;
- Oyster relays and cultch plants in Alabama; and,
- Continuation of the oyster habitat mapping program in Texas.

Habitat Element

Habitat restoration during 2012 also reflected efforts on behalf of the Gulf States to complete projects originally scheduled for earlier completion, but which also experienced delays because of issues beyond their control. Notable progress was seen as follows:

- Texas completed programmed marsh and shoreline stabilization projects during the year, but experienced delays in planned oyster cultch plants because of red tide issues in the Galveston Bay area;
- Wave attenuation and shoreline stabilization demonstration projects in Louisiana were finalized in 2012; the results of which are currently being monitored and evaluated for possible future applicability;
- Aquatic invasive species monitoring, education

Table 1. Expenditures by Category 2012 – EDRP I

<i>State</i>	<i>Oyster Recovery</i>	<i>Shrimp and Shellfish Recovery</i>	<i>Cooperative Research</i>	<i>Totals</i>
Florida	921,583.00	142,186.94	77,000.00	1,140,769.00
Alabama	253,020.00	193,846.00	1,676,565.00	2,123,432.00
Mississippi	300,247.00	2,712,319.00	138,128.00	3,150,695.00
Louisiana	1,206,138.00	503,268.00	1,467,732.00	3,177,138.00
Texas	140,452.00	131.00	0	140,583.00
Total 2012	\$2,821,441.00	\$3,551,751.00	\$3,277,394.00	\$9,732,618.00
Total 2011	\$207,549.00	\$78,516.00	\$141,637.00	\$427,702.00

and outreach programs in Mississippi were completed during the 2012 year, and MDMR worked collaboratively with sister agencies in continued monitoring and restoration/rehabilitation of protected and endangered species in Mississippi, including the Kemp's ridley turtle which experienced increased strandings during the year. The Department also continued to expand and monitor newly installed hydrologic and meteorological stations in its inshore and nearshore waters as an aid in its management decisions;

- Shoreline stabilization projects in Alabama were completed. The ADCNR continues to monitor the effects of wave action and tidal influence on this program over time; and,
- The Florida Department of Agriculture and Community Services continued to work with area agencies and commercial lease holders in oyster habitat restoration throughout the year.

Cooperative Research Element

By the end of 2012, cooperative research components in all five states were either completed or their remaining fund balances re-allocated to other components. Notable progress was seen as follows:

- The cooperative research component in Texas was closed out in 2011 and fund balances transferred to the oyster restoration and habitat restoration component.
- In Louisiana, the state continued with an analysis of commercial trip tickets, independent sampling in Lake Pontchartrain, inventory and analysis of coastal marinas and boat launches, and providing demonstration assistance to foster development of commercial menhaden bait industries in the state.
- Mississippi continued to monitor and enhance offshore and inshore artificial fishing reefs, and to support the Gulf Coast Research Laboratory in a finfish spawning and stock rearing program.

- In Alabama, the ADCNR continued to support the Dauphin Island Sea Lab in its Fisheries Oceanography of Coastal Alabama (FOCAL) study – an evaluation of near shore and shelf environs as they relate to fisheries production in state waters.
- The Florida Department of Wildlife and Fisheries Research Institute completed its oyster larval dispersion model in the Pensacola Bay system based on similar models in the Chesapeake area.

Economic Assistance Progress and Spending – EDRP II

The second Congressional supplemental appropriation for the Gulf fisheries disaster of 2005 was approved in September 2007 in the amount of \$84,915,000. It was directed towards economic assistance to the Gulf fishing industry to restore and shore up the industry during its recovery period.

Under this program, economic assistance was made available to shrimpers who were compliant with by-catch reduction regulations including use of turtle excluder devices (TEDs); to fishery-related businesses and industries that received damages or losses beyond that which was covered by insurance or other forms of assistance; to individual fishermen who were impacted through the loss of markets, equipment and infrastructure services; and, for seafood testing and promotion of Gulf-caught seafood products.

The initial EDRP II grant agreement was scheduled to be completed in August 2012. However, like the EDRP I program, because of multiple natural and man-made events over the duration of the restoration cycle, planned work programs and projects across the Gulf were necessarily postponed until conditions righted themselves. As a result, the 2012 year ended with combined expenditures of \$5.1 million, and an unexpended fund balance in the overall EDRP II program of \$5.4 million. Late in 2011, approval was granted by NOAA for

an extended grant period through September, 2013 to allow the states additional time to utilize the remaining funds.

Most of the reimbursements through 2012 continued to reflect the efforts of Alabama, Mississippi, and Louisiana where the majority of the economic losses were found and where most of the funds were programmed. As indicated below (Table 2), 59.13% of planned spending was programmed for Assistance to Fishermen and 28.73% was for Assistance to Marine related Businesses and Industry. Through 2012, 94.8% of the Assistance to Fishermen category, and 96.0% of the assistance to Business and Industry category had been utilized. The combined balance of these two categories at the end of 2012, amounting to approximately \$3.5 million, is expected to be completely utilized during the early spring and summer of 2013.

Work efforts during 2012 primarily reflect the following, and, with little exception, most of this work is expected to carry forward into 2013. These efforts include:

- In both the **Assistance to Fishermen** and the **Assistance to Business and Industry** components, work efforts in 2012 involved

continuation of oyster rehabilitation initiatives, and artificial reef restoration that was delayed because of the oil disaster. It also included support in the form of equipment for the rehabilitation of the LDWF's Grand Isle Laboratory and the ADCNR's Claude Peteet Marine Research facility in Gulf Shores.

- With the exception of approximately \$6,500 in Mississippi, which is programmed for TED outreach in the state shrimp industry in 2013, the **TEDS/BRD** components were completed in previous years.
- The **Domestic Products Marketing** component, with a balance of approximately \$837,000, was 53.1% complete at the end of 2012. Primary work under this category during 2012 included Louisiana's involvement and support for the Louisiana Seafood Museum on Lake Pontchartrain, support for a seafood culinary program at Nichols State University, and traditional marketing and advertising. All funds are expected to be fully utilized by the end of the 2013 grant period.
- The Seafood Testing component, with a balance of approximately \$722,000 at the end of 2012, is exclusively a Mississippi program. Primary work under this category in 2012 included continued seafood monitoring, training, and outreach as necessary, and support of the Gulf

Table 2. Planned Utilization of Funding EDRP II 2012

<i>State</i>	<i>Economic Assistance for Fishermen</i>	<i>Assistance for Commercial Businesses & Industry</i>	<i>Additional Assistance for TED/BRD Compliance</i>	<i>Domestic Product Marketing and Seafood Testing</i>	<i>State Totals</i>
Louisiana	39,153,631.00		825,460.00	1,293,909.00	41,273,000.00
Texas	1,173,000.00		27,000.00		1,200,000.00
Florida	460,000.00	1,500,000.00	40,000.00		2,000,000.00
Mississippi	6,440,000.00	10,788,622.00	650,000.00	7,121,378.00	25,000,000.00
Alabama	3,895,062.00	10,804,938.00	300,000.00		15,000,000.00
Total	\$49,948,693.00	\$24,266,555.00	\$1,842,460.00	\$8,415,287.00	\$84,473,000.00
<i>Percentage</i>	59.13%	28.73%	2.2%	9.9%	

Source: Final Sub-award agreements, as amended, for each of the five Gulf States as approved by NOAA and on file in the GSMFC Administrator's office.

of Mexico Alliance. All funds are expected to be fully utilized by the end of the 2013 grant period.

Expectations Over the Upcoming Year

Aside from the previously-referenced work that is scheduled for 2013, program coordinators and/or principal investigators will be involved in the assimilation of final reports and assure that requests for reimbursements are received by GSMFC prior to the grant end dates. Final reports were received in 2012 for several individual components as they were completed. However, all final reports are expected to be completed and submitted to GSMFC no later than 45 days following the grant end dates.

OIL DISASTER RECOVERY PROGRAM (ODRP)

Ralph E. Hode, Fisheries Disaster Program Coordinator

History was made in the Gulf of Mexico in April 2010 when the British Petroleum oil drilling rig Deep Water Horizon (DWH) exploded approximately 50 miles south of the mouth of the Mississippi River, resulting in the indefinite closure of much of the waters in the Gulf to all fishing activity.

“The April 20, 2010, explosion on the Deepwater Horizon rig led to more than 200 million gallons of oil being released into the Gulf. Eleven people working on the rig died in the explosion, while another 16 were injured.

Besides the oil, hundreds of thousands of gallons of chemical dispersant went into the water as well. At the peak of the crisis, in June 2010, 37% of Gulf waters -- a total of 88,522 square miles -- were closed to fishing due to contamination.” (Source CNN, April 22, 2011)

The explosion and resulting discharge of oil in the Gulf was subsequently called one of the worst man-made environmental catastrophes in the history of the Country.

In response, Secretary of Commerce, Gary Locke declared fisheries failures in Florida, Alabama, Mississippi, and Louisiana, creating an opportunity under section 312 of the Magnuson-Stevens Fishery Conservation and Management Act (Public Law 94-265, as amended) for Congress to appropriate funding that would aid in the post oil disaster fisheries recovery effort. As a result of the declaration, the 2010 Appropriations Bill of the 111th Congress included an “Oil Disaster” supplemental appropriation (ODRP) amounting to \$15 million for use in the Gulf for fisheries

assistance. These funds were directed through NOAA Fisheries to the Gulf States Marine Fisheries Commission for administration and coordination through a cooperative agreement. The intent of the program was to address negative public perception of Gulf seafood following the oil disaster – anticipating a recapture of lost markets and instilling new confidence in seafood coming from the Gulf.

By the end of 2012, with guidance and oversight of an Ad Hoc Advisory Committee composed of the State Marine Directors, GSMFC had executed 20 independent contracts (or amendments) covering three separate elements of a Gulf-wide marketing initiative – an increase of nine over 2011. These elements include Marketing, Product Source Traceability and Sustainability Certification, Seafood Testing, and a Kemp's ridley turtle shrimp interaction analysis.

The Marketing Element

Seven contracts are currently in place to promote Gulf seafood products under this element of the ODRP. These cover public relations and advertising elements, culinary events, and web-based marketing opportunities.

Public Relations and Regional Marketing Component

The public relations and regional marketing element is being facilitated under a contract with the Gulf and South Atlantic Fisheries Foundation through which a Gulf-wide Marketing Coalition composed of a broad cross section of state marketing specialists and industry representatives has been established. Early in 2011, the Marketing Coalition adopted regional goals and objectives, established by-laws and operational procedures, conducted marketing perception studies that

set the stage for decisions regarding marketing strategies, and engaged the services of professional public relations and advertising firms with individually unique experiences that are expected to lend themselves to multi-faceted approaches to marketing products from the Gulf.

Among other early actions, the Coalition also approved a Gulf seafood logo to be used as a tagline



in all advertising campaigns, programs, and projects. Additionally, a regionally focused video was developed to tell the story of post DWH conditions and opportunities in the Gulf; a Gulf Marketing Coalition web page was developed www.eatgulfseafood.com to meet contemporary needs for social interface for marketing, opinion surveys, and to meet other promotional needs as determined necessary. Concurrently, a marketing perception crisis management program was developed to provide a mechanism for uniform response to perceived crisis and negative media coverage regarding the quality of Gulf seafood. Administrative personnel and Coalition members continued to participate in culinary events, and TV shows throughout the year, creating a measurable Gulf presence at most of the nationally recognized seafood marketing trade shows. This included the Boston Seafood show and the New Orleans Seafood show.

Other marketing components of the Coalition included an annual “familiarization tour” (FAM) in which numerous media organizations and publication specialists are hosted at different state industry sectors each year in order to expose them to the industry’s economic, social, and cultural attributes. The intent is to gain national recognition

for the seafood industry as participants experience first-hand the life of the fisherman and what it takes to produce and market products from the waters of the Gulf. The 2012 tour was conducted in Alabama and received positive publicity.

In addition, funding was approved in 2012 to facilitate expanded partnerships with the retail sectors. As a result, a pilot study was conducted with 11 HEB stores in Texas, including food sampling, and banners, cooler markers, and related media materials that saw an increase in Gulf seafood sales of 63% in the weeks following the campaign. Similar partnerships with multiple food service chains are expected early in 2013.

Culinary Events Component

Also part of the overall ODRP marketing initiative is a contract/sub-award agreement with the Louisiana Wildlife and Fisheries Foundation to provide support of Annual Culinary Events that promote Gulf products. These include a culinary event held in association with an annual Washington meeting of the Gulf Oyster Industry Council and support for the Louisiana Seafood Marketing Board’s “Great American Seafood Cook-off” which is conducted annually in New Orleans as part of the New Orleans Seafood show. The Gulf Oyster Industry Council event was held in January and the Seafood Cook-off was held in August.

Web-Based Marketing Component

Contracts are also in place under the ODRP marketing initiative with Sea Grant agencies and/or divisions of the State Extension Services across the Gulf for development and outreach services focusing on web-based marketing opportunities in each of the five Gulf States. These “Market Maker” efforts continued through 2012 and saw both increased interests in on-line buying and in marketing opportunities. Reports by MSU Extension service indicated that of nearly 662,000 registered users of the Market Maker program nationally, nearly 30% are from the Gulf

States. And, of the nearly 2,965 seafood retailers registered, 1,522 or approximately 51%, are from the Gulf. One hundred percent of for-hire/charter boat registrants in the Market Maker program are currently from the Gulf.

Under the Market Maker program individual seafood businesses in the Gulf are provided the opportunity to promote their respective products, provide pertinent contact information, interact with buyers from across the country, and tell individual stories about their businesses – all via individual unique web pages.

Also funded under this element of the ODRP is a “port direct” marketing strategy being sponsored by the Louisiana State University Sea Grant. Through this program, web-based marketing opportunities are being utilized to promote sales of fresh seafood at the dock. Known as Louisiana Direct, the initiative currently has active programs in two key coastal seafood communities of the state, with plans for an additional three to five additional sites in the next year.

The combined budget for contracts that are currently in place under the Marketing Element amounts to nearly \$7.1 million, with nearly \$3.1 million having been reimbursed through 2012.

Product Source Traceability and Sustainability Certification Element

GSMFC currently has four primary contracts in place under this element and an additional three sub-primary contracts or amendments that expand the original scope of work to better address tracing of gulf products along the chain from the harvester to the consumer. All contracts and amendments were executed with oversight from the Ad Hoc Advisory Committee; and, while each serves a useful purpose as stand-alone work components, they all serve to complement ongoing product marketing and promotion efforts funded through the ODRP.

Sustainability Gap Analysis – Management Framework

A contract was executed early in 2011 with MRAG of the Americas for an evaluation of past and current efforts aimed at certifications that would qualify Gulf product under Food and Agriculture Organization of the United Nations (FAO) and other standards for eco labeling purposes. In 2012, a contract was executed with Ocean Trust Inc., which follows up on the MRAG review by evaluating the gap between management schemes currently in place in each of the Gulf States, including NOAA policies, and the FAO standards that must be met for a particular fishery to qualify for Eco-labeling purposes. The intent of this element is to examine alternatives to species certification by certification of the “management framework” that assures sustainability, and identifies the need for management improvement or fisheries management plans that may be necessary in order to achieve acceptable levels of sustainability.

This element is ongoing and is expected to receive peer review, including review by both the harvester/processor sector and the retail sectors, and FAO endorsement by 2015.

Gulf Product Traceability Component

GSMFC also executed contracts with Trace Register, LLC for the development of an electronic product traceability program. The aim of the program was to improve the ability for seafood buyers, processors, and distributors, as well as State and Federal agencies and the consumer, to electronically determine the source and movement of Gulf seafood products through the use of electronic traceability. The program was introduced nationally at the Boston Seafood Show in March 2012, but was effectively in place at the end of 2011. It is a voluntary program that is now receiving national recognition as a means of ensuring product providence and chain of custody. The program provides a sense of confidence in the product consumers are buying and is a tool

to discourage seafood mislabeling. By the end of 2012, 56 of the leading processors and/or distributors in the Gulf had signed agreements of participation – an increase of nearly 40 participants over the past 12 months. More are expected to follow as the benefits of tracing seafood products from the source to the plate become more and more obvious to processors, distributors, and the retail sectors alike.

Participation in the traceability program also provides an opportunity for first receivers (docks) and processors to tell their stories through a unique Marketing Module interface that uses traceability information entered into the Trace Register platform. The module, use of which is also voluntary, is provided at no cost until the end of 2014 and allows users to share pictures, business histories, information on harvest or processor practices and other stories that ensure not only the source of the seafood, but also a sense of confidence in the freshness and quality of their respective products. A data confirmation component is also built into the contract with Trace Register to ensure confidence in the information being made available to end users.

Complementing the traceability program component was an Oyster Traceability element that was approved in 2011. Phase I of this element, which developed the platform for electronic tagging of oysters as they are harvested and move through the supply chain, was completed early in 2012. Under this element, harvesters may choose to replace or enhance the paper tagging system that has been in place for years in the Gulf, with an electronic tagging system that allows timely (near real-time) source verification along the entire product supply chain. Phase II of this element began in 2012 as two of the leading oyster processing facilities in the Gulf are currently converting from the paper tagging system to an electronic hybrid system using state of the art electronic technology. Additional participants are expected to convert to the new system over the next several years.

Traceability Outreach Component

Because the electronic seafood traceability concept is new to the Gulf, the Ad Hoc Committee determined that there was a need for an outreach program which could work with the seafood industry in the Gulf to introduce the concept, solicit participation, and provide technical support for the use of the program. As a result, a contract was executed with GCR, Inc. in September 2011 to work with GSMFC staff in the development of strategies and projects that explain, promote, and support the Gulf Seafood Trace initiative. The contract was amended late in 2011 to include the production of a Gulf Seafood Trace video which explains the Gulf Seafood Trace program and its benefits in an appealing format featuring local harvesters, processors, and other industry leaders.

By the end of 2011, the outreach effort had resulted in the creation of a Gulf Seafood Trace website www.gulfseafoodtrace.org, which provides a continuing source of related news and information about the Gulf Seafood Trace program. Concurrently, a Gulf Seafood Trace logo was developed as well as media materials that can be used in conjunction with participant registration and information packets and for a variety of meeting and traceability marketing activities.



GCR, Inc. was instrumental in facilitating the roll out of the Gulf Seafood Trace program during the Boston Seafood Show in March 2012. Also in 2012, additional funding was provided through the ODRP for this element in order to expand outreach to the retail sector and extend the time during which technical assistance and outreach can be provided. Outreach and participant registration efforts as

well as related program promotion will continue with the aid and assistance of GCR through 2014.

Gulf Seafood Watch

Many of the previously described ODRP components (*Traceability, Rapid Assessment, Traceability Outreach, and the Gap Analysis*) were approved and implemented to lend support to sustainability certifications initiatives. Each are able to stand alone in terms of the benefits they provide, but in concert, they provide part of those certification requirements that are, in fact, necessary to meet accepted standards for certification as defined by the FAO and other accepted certifying programs. In 2012, Gulf Seafood Watch, the formal naming of which is still under review, was established to provide yet another element that complements ongoing activities in the Gulf that speak to Gulf product sustainability and ultimately to certification.

The Gulf Seafood Watch is designed to mirror NOAA's Fish Watch, which is a web-based information system that provides the latest and most comprehensive source of information pertaining to seafood harvesting and consumption. It is the basis for sound decision-making in the retail and wholesale sectors as well as at the consumer level when choosing sustainable seafood products.

Phase I of the Gulf Seafood Watch, which included initial construction of the web-based platform upon which the program will operate, has been completed. Implementation of the initiative began in late 2012 with budget and program preparation preparatory to formal approval of a contract with GCR for Phase II. This phase will involve working with individual states to identify research and incorporate select species into the Gulf Seafood Watch website. Additionally, GCR and GSMFC will be working with the states to define and incorporate regulatory standards and to develop other elements that are expected to contribute to public information and sound decisions regarding

seafood harvested from the Gulf. The program is expected to be operational by early 2014, and will be rolled out at the 2014 Boston International Seafood Show.

The combined budgets under the Traceability and Sustainability Certification Element amount to approximately \$4.1 million, with nearly \$2.1 million having been reimbursed through 2012.

Seafood Testing Component

The seafood testing component was established by the Ad Hoc Committee early in the ODRP program to promote ready access to qualified laboratories and personnel for testing of Gulf seafood samples in the aftermath of the DWH disaster. It is the intent of this component to position member states to continuously monitor products from the Gulf for the presence of oil-related contaminants and to be able to make real time or near real time decisions regarding harvests and consumption of Gulf seafood.

All five of the Gulf States were given the opportunity to acquire the necessary testing equipment and supplies and to provide staff training under this component of the ODRP. Because most States were already positioned to conduct the necessary tests, only the Mississippi State Chemical Lab (MSCL) and the Alabama Department of Public Health, Bureau of Clinical Laboratories (ADPH BCL) opted to participate.

Reports late in 2012 indicated that in excess of 1,400 tests had been conducted to-date. Samples are collected on a continuing basis by both the Alabama Department of Conservation and Natural Resources and the Mississippi Department of Marine Resources, and all sampling and preparation prior to analysis is performed utilizing rigid chains of custody. None of the Gulf samples analyzed through 2012 were found to contain PHA or dispersant levels above the allowable limits established by the FDA.

The combined budget for contracts that are currently in place under the Seafood Testing Element amounts to nearly \$538,359, with nearly \$442,700 having been reimbursed through 2012.

S TOCK ASSESSMENT ENHANCEMENT PROGRAM (SAE) *David M. Donaldson, GSMFC Assistant Director*

The Stock Assessment Enhancement Program (SAE) was created in response to the BP Deepwater Horizon disaster. Congress allocated \$10 million to conduct an expanded stock assessment of the fisheries of the Gulf of Mexico. Such expanded stock assessment shall include an assessment of the commercial and recreational catch and biological sampling, observer programs, data management and processing activities, the conduction of assessments, and follow-up evaluations of such fisheries. The funds were appropriated to the Commission via a cooperative agreement in October 2010. In 2012, the funds were allocated to one activity: collection and analysis of biological data from commercial and recreational fisheries.

Biological Sampling of Commercial and Recreational Catches

This task provided funding for collection of biological data from the recreational and commercial fisheries. These data are essential to accurately assessing the status of commercial and recreational species. For the commercial aspects, port samplers collected this information based on established guidelines. For the recreational side, samplers went to sites and collected the necessary biological data using a modified MRFSS method. This task provided funding for collection, processing and analysis of these data. The primary target species include black drum, gag, gray snapper, gray triggerfish, greater amberjack, king mackerel, red drum, red grouper, red snapper, sheepshead, flounders (gulf & southern), spotted seatrout, striped mullet, and vermilion snapper. The secondary target species include Spanish mackerel, scamp, yellowtail snapper, cobia, black grouper, black sea bass, red porgy, snowy grouper, speckled hind, and Warsaw grouper. For 2012, FIN samplers collected almost 29,000 otoliths from almost 30 species.

SPORT FISH RESTORATION ADMINISTRATION PROGRAM

James R. Ballard, Program Coordinator

The Gulf States Marine Fisheries Commission (GSMFC) provided administrative support for the “Sport Fish Restoration Administrative Program,” FWS Grant Agreement No. GS-96-Segment 15. The GSMFC furnished services, qualified personnel, materials, equipment, and facilities as needed to perform required duties.

During the period covered by this report, the Program Coordinator attended meetings and participated in planning and development activities pertinent to carrying out responsibilities of this Grant Agreement. The GSMFC arranged and paid expenses for appropriate personnel to attend and participate in selected activities. Minutes, general correspondence, meeting notices, agendas, and other required materials were prepared and distributed to the appropriate persons. Persons authorized to travel have been reimbursed. A brief report on program progress follows.

Artificial Reef Activities

General Coordination

The Program Coordinator continues to provide general coordination for the Technical Coordinating Committee’s (TCC) Artificial Reef Subcommittee and to facilitate work between the TCC Artificial Reef Subcommittee and the Atlantic States Marine Fisheries Commission’s (ASMFC) Artificial Reef Subcommittee. This coordination provides the opportunity to address issues of national scope and importance, such as drafting the National Artificial Reef Plan and developing a partnership with the Department of the Navy and the Maritime Administration for the distribution of decommissioned ships for artificial reef development.

Gulf-Wide Artificial Reef Monitoring Program

The Program Coordinator is working with the state Artificial Reef Program coordinators to

develop a standardized monitoring protocol for artificial reef habitat across the Gulf of Mexico. This protocol will be modeled after existing long-term monitoring programs that focus on natural reef habitats, utilizing comparable gear types and methodologies where possible. The goal of this effort is to develop a program that would provide baseline data for artificial reefs. This will allow states to assess impacts from natural and manmade disasters in the future and to understand how their reefs are functioning over time compared to natural reefs. Once a standardized sampling protocol is developed and agreed upon by all states, the program coordinator will purchase and supply to the states all necessary sampling equipment to carry out the artificial reef monitoring across the Gulf of Mexico. All data collected by this new program will be compiled and housed at the GSMFC to establish a database of baseline data for artificial reefs in the Gulf of Mexico that can be utilized for future assessments.

Artificial Reef Website and Bibliography Database Activities

The Program Coordinator maintained the artificial reef website that is housed on the GSMFC’s website. He also added new artificial reef journal articles to the “Reef Compiled Data” bibliography database that is accessible from the GSMFC website.

Habitat Activities

The Program Coordinator supported and participated in the meeting of the TCC Habitat Subcommittee. During this meeting there was a lot of discussion about ways the group could be involved with the ecosystem restoration work that is taking place through NRDA.

Invasive Species Activities

The Program Coordinator continues to work in

conjunction with the National Aquatic Nuisance Species Task Force (ANSTF) to determine appropriate actions and roles for the GSMFC and its member states in addressing invasive species issues. In addition, the GSMFC provides administration for and participates in the Gulf and South Atlantic Regional Panel on Aquatic Invasive Species (GSARP). During this reporting period, the Program Coordinator arranged meetings of the GSARP, its associated work groups, and its steering committee.

The GSMFC continues to host the GSARP’s website. The website address is www.gsarp.org. It can also be accessed by going to the GSMFC website and clicking on “Aquatic Invasive Species Program” in the description of the Sport Fish Restoration Administration Program. During 2012, the Program Coordinator worked with the GSARP’s Information Management Work Group to update the content of this website.

Mississippi Bight Lionfish Response Unit Project

The Program Coordinator secured funding for the Mississippi Bight Lionfish Response Unit (MBLRU) through a USFWS branch of invasive species proposal. This new project is a cooperative effort between the GSMFC, MDMR, ADCNR, the National Park Service and the USFWS. The objectives of this new project are to:

1. Establish a lionfish monitoring program at established sites in the near coastal waters between Pensacola, Florida and the Mississippi River Delta to monitor and track the invasion.
2. Perform diver surveys of density and richness of associated species at all sites to aid in future assessment of impacts as a result of the invasion.
3. Remove lionfish encountered during normal monitoring operations.
4. Coordinate reporting activities with the established USFWS hotline and the USGS online reporting system.
5. Establish a “Strike Team” to harvest lionfish

at locations beyond regular sampling sites reported to the MBLRU.

6. Engage in outreach activities in the region to help inform the public about the seriousness of the lionfish invasion.

The funding for this new project was made available on June 27, 2012 through an amendment to GS-96-Segment 15. Since that time we have purchased all of the necessary gear including custom designed dive slates for conducting surveys of the habitat and associated species. We have held a meeting to distribute all of the gear to the different agencies that will be conducting the lionfish monitoring dives. We have developed a database that will house all data collected during the course of the project and developed an internet-based entry form that will let the members conducting the surveys enter their results directly into the database, which will allow for almost real-time data entry. We are currently working on establishing the necessary agreements between the states of Alabama and

Associated Meetings

2/1/12	Gulf Council Artificial Reef Committee Meeting
2/2-3/2012	Ornamental Nonnative Species Workshop
3/19-20/2012	State Directors/NOAA Fisheries Meeting
3/13-14/2012	Joint GSMFC’s and ASMFC’s Artificial Reef Subcommittees Meeting
3/6-8/2012	Gulf States Marine Fisheries Commission Annual Spring Meeting
3/7/2012	TCC Habitat Subcommittee Meeting
4/2-4/2012	Gulf and South Atlantic Regional Panel on Aquatic Invasive Species Meeting
6/27/2012	Coastal Conservation Association Meeting
8/19-23/2012	American Fisheries Society Annual Meeting
10/16-18/2012	Gulf States Marine Fisheries Commission Annual Fall Meeting

Mississippi to permit GSMFC to reimburse them for the costs they incur carrying out the regular monitoring component of this project.

This project will give us a clear picture of where we stand in regards to the invasive lionfish population in northern Gulf waters, and will provide much needed information for future management decisions.

ADMINISTRATION OF THE GULF AND SOUTH ATLANTIC REGIONAL PANEL ON AQUATIC INVASIVE SPECIES

James R. Ballard, Program Coordinator

The Gulf and South Atlantic Regional Panel on Aquatic Invasive Species (GSARP) met twice during 2012. The first meeting was held April 2-4 in Austin, Texas and the second was held October 9-11, in New Orleans, Louisiana. The fall meeting was held jointly with the Mississippi River Basin Panel to help foster collaboration between more states. This meeting was presided by an Incident Command System training workshop that was hosted by the two Panels and was open to all state and federal personnel involved with managing aquatic invasive species in the United States.

During the period covered by this report, the Program Coordinator attended meetings and participated in planning and development activities necessary to meet the needs and goals of the Panel. The Program Coordinator, through the GSMFC, arranged and paid expenses for appropriate personnel to attend and participate in selected activities. Minutes, general correspondence, meeting notices, agendas, and other required materials were prepared and distributed to the appropriate persons.

Administrative Support for the GSARP

The GSMFC provided staff to maintain a full and active membership on the GSARP. The staff facilitated communication among Panel members, planned and coordinated meetings of the GSARP, maintained an administrative record of GSARP meetings, provided staff support for development of documents, and was responsible for all fiscal management and tracking of funds supporting GSARP activities.

Several Panel members are collaborating on efforts to understand more about the Asian tiger shrimp (*Penaeus monodon*). In 2011, there was a 20-fold

increase in reported collections of tiger shrimp from 2010, with 678 reports. In 2012, the reported collections dropped to 153; however, this decrease is most likely the result of reporting fatigue as opposed to less individuals being collected. Along with increasing in abundance, it appears that this species is also expanding its invaded range, with a number of specimens being collected in coastal rivers. At this time, it is unclear if this invasive species has established a breeding population in this range or if they are being introduced. To try to answer this question, the group is setting up a tissue repository and has started to run a genetic analysis on the samples to get a better understanding of the population genetic structure of this invasive species. The preliminary results of this analysis show no genetic variation, suggesting that individuals of the population are highly related or inbred. The group is going to continue this DNA work with more samples from across the invaded range to get a better picture of the population. The next big question is what impact this species may have on the invaded environment or native species, which is widely unknown.

The Invasive Lionfish Control Ad-Hoc Committee (ILCAC) that is coordinated by the GSMFC's ANS Program Coordinator is continuing to draft the "National Invasive Lionfish Prevention and Management Plan" (NILPMP). The ILCAC is made up of 22 members from federal and state agencies, universities, NGO's, and the pet trade industry. The Vision of the NILPMP is to serve as a guide to the Aquatic Nuisance Species Task Force (ANSTF) and other interested parties involved in managing lionfish and natural resources in U.S. waters. The ILCAC hopes to have a completed draft of the plan ready for the ANSTF to review prior to their May 2013 meeting.

The Program Coordinator and the GSARP are exploring other funding possibilities to secure money so the Panel can start to be more proactive in their efforts to control aquatic invasive species in the Gulf and South Atlantic Region.

GSARP Member States ANS Management Plans

- Georgia, Louisiana, and South Carolina have completed plans and are actively implementing them.
- Alabama's and Texas' Plans have been conditionally approved.
- Mississippi's plan has gone through the preliminary review by the ANSTF, they have incorporated the recommended changes, and the plan will be sent to the ANSTF for final approval at their May 2013 Meeting.
- Florida has a completed plan, but it has not been approved by the ANSTF.
- North Carolina is in the preliminary stages of formulating their plan.

Logistical and Administrative Support for the GSARP Committees and Work Groups

The GSARP has several work groups directed toward providing advice and guidance on selected subject matter. These groups require meetings and/or telephone conference calls from time to time, and the GSMFC provided staff to assist these work groups in carrying out their respective charges. Planning and logistics for meetings and maintenance of administrative records of such meetings are the responsibility of the staff.

The Panel's Rapid Response Work Group has drafted a new rapid response plan that incorporates the Incident Command System and elements of other plans that have been used across the country. The Work Group is making their final edits to the plan and hopes to have it finalized in 2013.

Subcontract Awards

The Invasive Species Traveling Trunk

This project has been completed and the PI

presented the final report and the finished trunks at the GSARP's spring 2012 meeting. This project produced two complete trunks and enough extra components to put together a third, which has now been finished. Before the trunks were made available to the public, the GSARP's Education and Outreach workgroup performed a final review of all talking points that accompany the included PowerPoint presentation. The PI addressed all of the recommended changes from the review, and the finished trunks were made available through the GSMFC in July. Since they have been available, the trunks have been utilized by 18 different organizations ranging from federal and state agencies, schools, and NGO's. These organizations have presented the enclosed material to thousands of people. The reviews that we have received have all been very positive, and the trunks have been so popular that we have had to turn down requests to borrow them. Because of the current demand for the trunks and the expressed interest, the Program Coordinator has started to collect materials to produce additional trunks.

Trojan Y Chromosome Eradication of Invasive Fish – Development of Sex-specific DNA Markers

The sex-specific DNAs for three invasive fish species (Nile tilapia, African jewelfish, and silver carp) were used in PCR reactions containing random 10-mer oligonucleotides to produce DNA fragments for analysis by gel electrophoresis. Approximately 200 primers were designed for screening and are now being applied towards the isolation of sex-specific markers in the three invasive fish species. At this time, no sex-specific markers have been identified for any of the three species of invasive fish. This is not unexpected because most RAPD PCR primers are not linked to a sex-determination locus, so it is expected that a true sex-specific marker will be rare. Others using this method have screened 250 primers or more before identifying a sex-specific marker for a single species, so it is expected that the screening of many more primers will be required to identify a useful and reproducible sex-linked marker.

Reproductive Sterility as Tool for Prevention and Control of Invasive Aquatics

Snails have been irradiated at different radiation doses using two different methods, and it has been determined that a gamma dose range of 100Gy – 130Gy is a workable range for sterilization of adults. Following a successful, small-scale, nine-month experiment with snails irradiated with gamma doses in this range, the PI performed a larger experiment to simulate the release of a larger number of irradiated individuals. Although the irradiation was successful at producing sterility, the 130Gy dose caused higher mortality rates, resulting in the death of all of the snails in three months. The basis for this higher mortality is not yet clear, but it may reflect the normal variation in radiation sensitivity between batches of snails harvested at different times of year. As an alternative to radiation-induced sterility, methods to induce triploidy in snails are also being explored.

Associated Meetings

4/2012	Gulf and South Atlantic Regional Panel on Aquatic Invasive Species Meeting
5/2012	Mid-Atlantic Panel and National Aquatic Nuisance Species Task Force Meetings
10/2012	Joint Gulf and South Atlantic Regional Panel and Mississippi River Basin Panel Meeting
11/2012	National Aquatic Nuisance Species Task Force Meeting

SOUTHEAST MONITORING AND ASSESSMENT PROGRAM (SEAMAP) *Jeffrey K. Rester, Program Coordinator*

In 2012, SEAMAP operations continued for the thirty-first consecutive year. SEAMAP resource surveys included the Winter Plankton Survey, Spring Plankton Survey, Summer Shrimp/Groundfish Survey, Reef fish Survey, Inshore Longline Survey, Vertical Longline Survey, Fall Plankton Survey, Fall Shrimp/Groundfish Survey, and plankton and environmental data surveys. Other 2012 activities included SEAMAP information services and program management.

The SEAMAP Winter Plankton Survey took place from January 28 to February 28, 2012. NOAA Fisheries collected ichthyoplankton samples at 107 SEAMAP stations. The main objective of the survey was to assess the occurrence, abundance, and geographic distribution of early life stages of winter spawning fish from the mid-continental shelf to deep Gulf waters.

The SEAMAP Spring Plankton Survey took place from March 28 to May 29, 2012. NOAA Fisheries, Mississippi, and Louisiana collected ichthyoplankton samples at 111 SEAMAP stations. The objectives of the survey were to collect ichthyoplankton samples for estimates of the abundance and distribution of Atlantic bluefin tuna larvae and to collect environmental data at all ichthyoplankton stations.

The Inshore Bottom Longline Survey was conducted monthly from March through October. This nearshore survey targets shark and finfish species within the shallow waters of the north central Gulf of Mexico. The objectives of the survey are to collect information on coastal shark and finfish abundances and distribution with a one-mile longline and to collect environmental data. Louisiana sampled 94 stations from March through October, Mississippi sampled 48 stations,

and Alabama sampled 28 stations during the same period. Texas sampled 20 stations from June through September 2012.

In FY2012, Louisiana and Alabama conducted vertical line sampling for reef fish during the SEAMAP Vertical Line Survey. In Alabama, a total of 12 grids are fished per survey. Vertical longline reels are baited with Atlantic mackerel and are fished for five minutes. Fish may be retained and processed for age and fecundity. All fish are sacrificed for otoliths at stations deeper than 60 m. In water depth less than 60 m, stations may be assigned as tag and release or collection sites. Eighty-one stations were completed in March, May, and August 2012 off Alabama. In Louisiana, the sampling frame is subdivided into three sampling blocks based on depth between 89 degrees longitude and 91 degrees longitude, with the water depth ranging from 60 to 360 feet. Each block is sampled quarterly in a rotation. Within these sampling blocks, there is a possibility of randomly selecting 40 different corridors within the block. The actual sites are randomly selected within the corridor boundary and sampled at the chief scientist's discretion. The sites roughly consist of artificial reefs, natural bottom, and petroleum production platforms. During FY2012, Louisiana sampled 75 stations in July and September.

NOAA Fisheries and Florida conducted reef fish sampling from April through August 2012 as part of the SEAMAP Reef Fish Survey. The primary purpose of this survey was to assess relative abundance and compute population estimates of reef fish found on natural reef fish habitat in the Gulf of Mexico. The Reef Fish Survey uses video stereo cameras and chevron fish traps to sample reef fish populations. In July and August 2012, Florida sampled 147 stations on the west

Florida shelf. NOAA Fisheries conducted reef fish sampling in April through May 2012 and completed 206 stations.

The overall sampling strategy during the 2012 SEAMAP Summer Shrimp/Groundfish Survey was to work from the eastern Gulf to the Texas/Mexico border, in order to sample during or prior to migration of brown shrimp from bays to the open Gulf area. The Summer Shrimp/Groundfish Survey was conducted from May 29 to July 15, 2012. Florida, Alabama, Mississippi, Louisiana, Texas, and NOAA Fisheries sampled 409 trawl stations during the survey. This was the thirty-first year for the survey. In addition, NOAA Fisheries and Louisiana vessels collected ichthyoplankton data. During the Summer Shrimp/Groundfish Survey, SEAMAP produced seven real time data mailings and an end of survey report. The real time mailings provide weekly information on shrimp and fish catches during the Summer Shrimp/Groundfish Survey and the mailings were distributed to approximately 100 individuals and were also available on the Commission web site.

The Fall Plankton cruise was conducted from August 22 through September 28, 2012. NOAA Fisheries sampled 173 stations, Alabama sampled six stations, Louisiana sampled seven stations, and Mississippi sampled eight stations. The objective of this survey was to collect ichthyoplankton samples with bongo and neuston gear for the purpose of estimating abundance and defining the distribution of eggs, larvae, and small juveniles of Gulf of Mexico fishes, particularly king and Spanish mackerel, lutjanids, and sciaenids.

The Fall Shrimp/Groundfish Survey was conducted in October and November 2012. Vessels from Texas, Louisiana, Mississippi, Alabama, and NOAA Fisheries sampled waters out to 60 fm with trawls and plankton nets in addition to environmental sampling. The main objective of the survey was to sample the northern Gulf of Mexico to determine abundance and distribution

of demersal organisms from inshore waters to 60 fm.

In August 2012, SEAMAP published the SEAMAP Environmental and Biological Atlas of the Gulf of Mexico 2010. The 2010 Atlas is a summary and listing of all 2010 SEAMAP surveys in the Gulf of Mexico and is available on the Commission's web site.

SEAMAP continued to document the spread of lionfish in the Gulf of Mexico. SEAMAP first documented lionfish off southwest Florida in the 2010 Summer Shrimp/Groundfish Survey. Since that time SEAMAP has continued to record lionfish in the trawl surveys east of the Mississippi River. The Vertical Line Survey has also recorded lionfish in their ROV work off artificial reefs in Alabama.

JOINT GSMFC/GMFMC HABITAT PROGRAM

Jeffery K. Rester, Program Coordinator

The Joint Habitat Program between the Commission and the Gulf of Mexico Fishery Management Council (Council) that began in 1997 was cancelled in February 2012. Council funding reductions led to the contract not being renewed.

One of the last things the Program Coordinator worked on for the Council was a mapping effort to analyze fishery-independent data to compare densities of larvae and adult organisms before and after the Deepwater Horizon oil spill. The coordinator used SEAMAP trawl data to map sand seatrout, silver seatrout, spot, Atlantic croaker, gulf butterfish, gray triggerfish, red snapper, vermilion snapper, lane snapper, brown shrimp, pink shrimp, and white shrimp. He used NMFS bottom longline data to map yellowedge grouper, red grouper, red snapper, blacknose shark, blacktip shark, and Atlantic sharpnose shark. He used SEAMAP plankton data to map larval red snapper, vermilion snapper, king mackerel, red drum, Spanish mackerel, and penaeid shrimp larvae. The same format was used as the maps he worked on in 2011 for the NOAA Data Atlas, so the map products were added to second edition of the Data Atlas. The Data Atlas can be viewed at <http://gulfatlas.noaa.gov/>. The Data Atlas has six categories with detailed data for each category. The categories are physical, biotic, living marine resources, economic activity, environmental quality, and jurisdictions.

The coordinator continued working on the Commission's Blue Crab Technical Task Force as the habitat representative. The Commission continued the process of updating their Blue Crab Fishery Management Plan. In 2012, he drafted a habitat section detailing blue crab habitat throughout the Gulf of Mexico and a section detailing threats to these habitats. He performed GIS work for the Blue Crab Technical Task Force

to establish size estimates for bay systems and areas that were used in the blue crab stock assessment.

In 2012, the Commission funded a project to conduct a stock assessment on Kemp's ridley sea turtles as part of the Commission's Oil Disaster Recovery Program. The objectives of the project were to examine the Kemp's ridley population status, trend, and temporal-spatial distribution within the Gulf of Mexico; examine the status, trends, and temporal-spatial distribution of shrimping effort in the northern Gulf of Mexico; and examine other factors that may have contributed to increased Kemp's ridley-shrimp fishery interactions or otherwise caused Kemp's ridley strandings, injuries, or deaths in the northern Gulf of Mexico in 2010 and 2011. The coordinator managed the project for the Commission and provided GIS expertise. Using GIS, he modeled Kemp's ridley strandings in relation to shrimping effort, portunid crab abundances and distribution, and other factors relevant to the stock assessment. Two meetings were held in 2012 with sea turtle experts to discuss the project, data needed for the stock assessment, model parameters, and possible causes of the increased strandings of Kemp's ridley sea turtles in 2010. The final stock assessment should be released in May 2013.

INTERJURISDICTIONAL FISHERIES (IJF) MANAGEMENT PROGRAM *Steven J. VanderKooy, Program Coordinator*

The IJF program continued to provide the Gulf States with quality information and recommendations for interstate management of fisheries through the development and revision of its Fishery Management Plans.

During 2012, the IJF Program Coordinator was Mr. Steven J. VanderKooy while Ms. Debora K. McIntyre served as the IJF Staff Assistant. The IJF staff arranged and provided support for meetings, work groups, and committees. Program staff continued to accumulate data, research papers, and other materials critical to the further development of the FMPs in progress. A contractor continued to computerize the IJF literature repository into an electronic data base. Revisions, updates, and other pertinent information were distributed to technical task forces (TTFs), state personnel, and agency directors, as needed or requested, regarding FMP development.

The fifth revision of the Gulf Menhaden FMP began in March 2011 and was intended to be completed along with the stock assessment designated SEDAR27 (Southeast Data, Assessment, and Review). The revision is still underway by the IJF Coordinator and Joe Smith (NOAA Beaufort Lab). Also working on the FMP revision are Alex Miller, GSMFC staff economist, and Dr. Steven Jacob, Associate Professor of Sociology at York College of Pennsylvania who is working on the sociology section.

With the rejection of the SEDAR27 assessment, the revision of the FMP was put on hold until the stock assessment for this species could be completed. The GSMFC discussed continuing the assessment process with the SEDAR Steering Committee and it was agreed that the assessment would be put back into the SEDAR schedule starting in late 2012. An

Assessment Workshop will be held in Beaufort, NC early in 2013 and the Review Workshop will be combined with two other species at the end of August 2013. A large number of conference calls and webinars were held through the end of 2012 in anticipation of an Assessment Workshop after the first of the year. Upon acceptance of the SEDAR32A final report, the menhaden FMP will be completed and the assessment will be integrated into the FMP's management goals, considerations, and recommendations.

The third installment of the Blue Crab FMP began in late 2011 and saw great progress in 2012. In addition, the GSMFC began a regional 'benchmark' stock assessment for blue crabs with the states providing analysts to work with the TTF on the abundance indices and develop surplus production models to evaluate the stocks using both Louisiana and the Chesapeake as examples. The TTF met several times in 2012 and has made good progress on the revision of most of the biology and habitat sections. It is anticipated that the effort will continue into 2013.

The Blue Crab TTF members and the analysts met in April to discuss potential models and the data requirements for the various models. A variation of the Collie-Sissenwine model seemed to be the most successful in other areas with blue crabs and is the model used for the Louisiana assessment for Marine Stewardship Council (MSC) certification. The analysts met independently in August to work out some of the standardizations for the various state data sets and commercial landings and there were a number of conference calls in preparation for the Assessment Workshop which took place in November. It is expected that outside independent reviewers will be found to provide a review of the assessment in June 2013. Upon completion and

acceptance of the assessment, the results will be integrated into the FMP.

The introductory meeting of the Flounder TTF took place in late February 2012 in New Orleans. Initial assignments were given to members to begin the revision to the 2000 FMP. To date, a number of sections have been assigned to TTF members, and the collection of new literature is underway. It was determined that there still was not enough speciated data to be able to conduct a formal stock assessment so the states existing assessments will be integrated into the FMP as before. It is expected that the FMP revision will continue into late 2013.

In accordance with the Gulf of Mexico Cooperative Law Enforcement Strategic Plan, the GSMFC Law Enforcement Committee (LEC) continued to work toward regional enforcement goals. The IJF program provides staff support for the LEC's meetings as well as their joint meetings with the Gulf of Mexico Fisheries Management Council's Law Enforcement Advisory Panel (LEAP). The LEC met in July at the Grand Isle Marine Lab of the LDWF in a joint work session with the Gulf of Mexico Fishery Management Council's (GMFMC) Law Enforcement Advisory Panel (LEAP) to develop the newest editions of the Gulf's four-year Strategic Plan and two-year Operations Plan. In addition, considerable time was spent providing comment to the NOAA Southeast Regional Office (SERO) staff regarding the proposed changes to the federal IFQ program. Finally, the LEC continued to support the ongoing recovery efforts through enforcement and support to the EDRP and ODRP programs. JEAs continued to drive activities throughout the Gulf and the LEC is provided the opportunity to hold monthly conference calls to keep communications open and to share information.

IJF staff continues to work on a number of enforcement-related documents such as the *Rules and Regulations: Officers' Pocket Guides 2012-2013*, the long standing 'red book' *Law Summary*

for 2011-2012, and the annual compilation of the states' *License and Fees*.

Program administration in 2012 included financial and logistical support for all IJF-related meetings; production, duplication, and distribution of all documentation and correspondence related to the program; as well as, provision of accountability reporting to the funding agency. In addition, the GSMFC IJF Program staff continued to provide numerous copies of existing FMPs, profiles, amendments, revisions, and other information upon request.

Electronic copies of all new GSMFC publications were generated and have been added to the publications on the Commission website. Finally, the IJF Staff Assistant continues to edit, publish, and distribute two regional management documents annually; *Licenses and Fees for Alabama, Florida, Louisiana, Mississippi, and Texas in their Marine Waters for the Year* and *A Summary of Marine Fishing Laws and Regulations for the Gulf States*. The IJF staff continues to house and enter programmatic reprints and support literature into the Commission's bibliography database and continue to be available via the GSMFC website. The IJF bibliographic collection represents all of the citations used in the last several FMPs and includes additional technical papers on a number of miscellaneous topics related to fisheries management in the Gulf. The database is searchable from the GSMFC website and provides keywords and complete abstracts when available. All reprints are housed electronically at the GSMFC office and copies are available upon request. In addition, the GSMFC is hosting the Gunter Library Reprint Collection of the Gulf Coast Research Lab which is also searchable through the webpage. The IJF staff is happy to provide electronic copies of any and all reprints housed in GSMFC, as requested.

FISHERIES INFORMATION NETWORK (FIN) *David M. Donaldson, Program Manager*

The Fisheries Information Network (FIN) is a state-federal cooperative program to collect, manage, and disseminate statistical data and information on the marine commercial and recreational fisheries of the Southeast Region [the Southeast Region (the Region) includes Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, Texas, and the U.S. Virgin Islands]. The FIN consists of two components: the Commercial Fisheries Information Network (ComFIN) and the Southeast Recreational Fisheries Information Network [RecFIN(SE)].

The need for a comprehensive and cooperative data collection program has never been greater because of the magnitude of the recreational fisheries and the differing roles and responsibilities of the agencies involved. Many southeastern stocks targeted by anglers are now depleted, due primarily to excessive harvest, habitat loss, and degradation. The information needs of today's management regimes require data which are statistically sound, long-term in scope, timely, and comprehensive. A cooperative partnership between state and federal agencies is the most appropriate mechanism to accomplish these goals.

Efforts by state and federal agencies to develop a cooperative program for the collection and management of commercial and recreational fishery data in the Region began in the mid to late 1980s. In 1992, the National Marine Fisheries Service formally proposed a planning activity to establish the RecFIN(SE). Planning was conducted by a multi-agency Plan Development Team through October 1992, at which time the program partners approved a Memorandum of Understanding (MOU) that established clear intent to implement the RecFIN(SE). Upon signing the MOU, a RecFIN(SE) Committee was established.

In 1994, the NMFS initiated a formal process to develop a cooperative state-federal program to collect and manage commercial fishery statistics in the Region. Due to previous work and NMFS action, the Southeast Cooperative Statistics Committee (SCSC) developed an MOU and a draft framework plan for the ComFIN. During the development of the ComFIN MOU, the SCSC, in conjunction with the RecFIN(SE) Committee, decided to combine the MOU to incorporate the RecFIN(SE). The joint MOU creates the FIN, which is composed of both the ComFIN and RecFIN(SE). The MOU confirmed the intent of the signatory agencies to participate in implementing the ComFIN and RecFIN(SE).

The scope of the FIN includes the Region's commercial and recreational fisheries for marine, estuarine, and anadromous species, including shellfish. Constituencies served by the program are state and federal agencies responsible for management of fisheries in the Region. Direct benefits will also accrue to federal fishery management councils, the interstate marine fisheries commissions, the National Park Service, the U.S. Fish and Wildlife Service, and the NOAA National Marine Sanctuaries Program. Benefits that accrue to management of fisheries will benefit not only commercial and recreational fishermen and the associated fishing industries, but the resources, the states, and the nation.

The mission of the FIN is to cooperatively collect, manage, and disseminate marine commercial, anadromous and recreational fishery data and information for the conservation and management of fishery resources in the Region and to support the development of a national program. The four goals of the FIN include planning, managing, and evaluating commercial and recreational fishery

data collection activities; to implement a marine commercial and recreational fishery data collection program; to establish and maintain a commercial and recreational fishery data management system; and to support the establishment of a national program.

Program Organization

The organizational structure consists of the FIN Committee, two geographic subcommittees (Caribbean and Gulf), standing and ad hoc subcommittees, technical work groups, and administrative support.

The FIN Committee consists of the signatories to the MOU or their designees, and is responsible for planning, managing, and evaluating the program. Agencies represented by signatories to the MOU are the National Marine Fisheries Service, U.S. Fish and Wildlife Service, National Park Service, Alabama Department of Conservation and Natural Resources, Florida Department of Environmental Protection, Louisiana Department of Wildlife and Fisheries, Mississippi Department of Marine Resources, Puerto Rico Department of Environmental and Natural Resources, Texas Parks and Wildlife Department, U.S. Virgin Islands Department of Planning and Natural Resources, Caribbean Fishery Management Council, Gulf of Mexico Fishery Management Council and Gulf States Marine Fisheries Commission.

As of October 1998, the Georgia Department of Natural Resources, South Carolina Department of Natural Resources, North Carolina Department of Environment, Health, and Natural Resources, South Atlantic Fishery Management Council and Atlantic States Marine Fisheries Commission no longer actively participated on the FIN Committee. Although there is no representation of the South Atlantic on FIN, staff members from both FIN and the Atlantic Coastal Cooperative Statistics Program (ACCSP) continue to coordinate, ensuring that there is compatibility and comparability between the two regions.

The FIN Committee is divided into two standing subcommittees representing the major geographical areas of the Region: Caribbean and Gulf of Mexico. These subcommittees are responsible for making recommendations to the Committee on the needs of these areas. Standing and ad hoc subcommittees are established as needed by the FIN Committee to address administrative issues and technical work groups are established as needed by the Committee to carry out tasks on specific technical issues. Coordination and administrative support of the FIN is accomplished through the Gulf States Marine Fisheries Commission.

Program Activities

The FIN is a comprehensive program comprised of coordinated data collection activities, an integrated data management and retrieval system, and procedures for information dissemination. Activities during 2012 were associated with addressing issues and problems regarding data collection and management and developing strategies for dealing with these topics. In addition to committee activities, FIN was involved in various operational activities concerning the collection and management of marine commercial and recreational fisheries data. These activities were conducted by the various state and federal agencies involved in FIN. Each type of activity is discussed below.

Committee Activities

FIN Committee

The major FIN meeting was held in June 2012. The major issues discussed during these meetings included:

- Identification and continuation of tasks to be addressed in 2012 and instruction to Administrative and Geographic Subcommittees and the Commercial Technical, Data Collection Plan, Data Management, For-Hire, Outreach, Recreational Technical, Social/Economic and ad hoc work groups to either begin or continue work on these tasks;

- Development of the 2013 FIN Operations Plan which presented the year's activities in data collection, data management, and information dissemination;
- Discussion of data management issues;
- Review of activities and accomplishments of 2012;
- Continued evaluation of adequacy of current marine commercial and recreational fisheries programs for FIN and development of recommendations regarding these programs;
- Review findings of and receive recommendations from technical work groups for activities to be carried out during 2013;
- Preparation and submission of a proposal for financial assistance to support activities of the FIN; and
- continued internal evaluation of the program.

Subcommittees and Work Groups

The FIN subcommittees and work groups met during the year to provide recommendations to the Committee to formulate administrative policies, address specific technical issues for accomplishing many of the FIN goals and objectives, and examine other issues as decided by the Committee. Their activities included:

- The Marine Recreational Fisheries Statistics Survey data review meetings were held in February, August and October 2012 to present the results of the RDD and intercept surveys for the East coast and Gulf Region, sampler performance issues, update on MRIP and Gulf logbook pilot study, update of national economic surveys, discussion of site register re-design, discussion of APAIS sampling topics, review of wave report fish tables and estimate tables and review of Gulf States For-Hire Telephone Survey;
- The Gulf of Mexico Geographic Subcommittee met in March and October 2012 to discuss status of biological sampling activities, discussion of national registry projects, demonstration

of traceability program, update on MRIP Gulf of Mexico For-Hire Logbook project, update on HMS electronic reporting activities, discussion of adding economic questions to For-Hire Telephone Survey, adding TRIP_ID variable to biological data, discussion of Quality Management concept, update on MRIP activities, status of federal quota monitoring/electronic reporting activities, presentation of trip ticket inventory module, status of recreational choice experiment survey, status of metadata data entry and review of 2011 commercial data;

- The annual Otolith Processor Training Workshop was held in May 2012 to conduct otolith reading and review FIN priority species, discuss the various reference sets, storage of otolith issues and standardized format for reporting APEs;
- The FIN Committee met in June 2012 for their annual meeting. The Committee met to address a variety of important issues including status of Atlantic Coastal Cooperative Statistics Program (ACCSP); FIN Data Management System (DMS) issues, status of commercial vessel, dealer, and fishermen registries, presentation of results from fishing-related businesses project, recreational economic add-on survey and status of for-hire add-on questions as well as plans conducting inshore shrimp survey, status of federal quota monitoring/HMS/electronic reporting activities, discussion of biological and commercial data delivery issues into FIN DMS, update on Traceability Program, discussion of MRIP Gulf Logbook Pilot project, update on new MRIP Intercept Survey design, discussion of next round of states' national registry projects, review and approval of 2011 FIN Annual Report, various subcommittee and work group reports, status of 2012 activities, review and approval of 2013 Operations Plan and discussion of 2013 FIN funding priorities;
- The State/Federal Fisheries Management

Committee met in August 2012 to determine the activities for inclusion in the 2013 FIN cooperative agreement;

- The FIN Data Collection Plan Work Group met (via conference call) in September 2012 to review 2011 and 2012 otolith and length data collection and processing activities and develop recommendations for necessary lengths and otoliths for FIN priority species;
- The Commercial and Recreational Technical Work Groups met (via conference call) in December 2012 to review FIN Detailed Effort Module; and
- The Program Manager also attended the various Fisheries Information System (FIS), Marine Recreational Informational Program (MRIP), ACCSP, SEDAR data workshops and Gulf of Mexico Fishery Management Council meetings as a liaison for the FIN.

Operational Activities

- Coordination and Administration of FIN Activities - This task provides for the coordination, planning, and administration of FIN activities throughout the year as well as provides recreational and commercial information to the FIN participants and other interested personnel. This is a continuation of an activity from the previous year.
- Collecting, Managing and Disseminating Marine Recreational Fisheries Data - This task provided for the conduction of the MRFSS survey in Louisiana, Mississippi, Alabama, Florida and Puerto Rico for shore, for-hire, and private modes, an activity under the RecFIN(SE). This task provided for coordination of the survey, a field-intercept survey of shore, for-hire and private boat anglers to estimate angler catch using the existing MRFSS methodology, and entry of the data. These data were combined with the NMFS effort estimate telephone survey. In addition, the states conducted supplemental sampling of the intercept portion for the MRFSS for charter boats in Louisiana,

Mississippi, Alabama, and Florida (east and west coast). The states also conducted weekly telephone calls to a 10% random sample of the Louisiana, Mississippi, Alabama, and Florida (east and west coast) charter boat captains to obtain estimates of charter boat fishing effort. In 2000, NMFS adopted this method as the official methodology for estimation of charter boat effort. This is a continuation of an activity from the previous year.

- Head Boat Sampling Activities - The port sampling portion of this task provided for the sampling of catches, collection of catch reports from head boat personnel, and gathering effort data on head boats which operate primarily in the Exclusive Economic Zone from ports along the coasts of Texas and Florida. This is a continuation of an activity from the previous year.
- Development and Implementation of FIN Data Management System (DMS) - This task provided for further implementation of a fishery information system for the FIN based on the ACCSP model. This task will provide funding for the FIN Data Base Manager and ComFIN Survey Coordinator who will, in conjunction with the ACCSP, work on developing more data modules for the FIN and ACCSP data management systems. Responsibilities include further development of data modules structures; routine loading of Texas, Louisiana, Mississippi (oyster, crab, shrimp, and finfish), Alabama, and Florida commercial catch effort data; Gulf biological data; Gulf recreational data; and maintenance of DMS. It is the next step for implementing a regional system for FIN.
- Trip Ticket Program Development, Implementation and Operation - This task provided for the full operation of Texas, Louisiana, Alabama, and Florida trip ticket programs, activity under the ComFIN. This task provided for collection of components for a commercial trip ticket system to census the commercial fisheries landings using the

data elements and standards developed by the ComFIN. It will ultimately be combined with other commercial fisheries data collected from around the Gulf of Mexico. Mississippi is moving towards full implementation. Mississippi passed regulations requiring all dealers (as well as fishermen acting as dealers) to report their commercial landings. In addition, it provided funding to contract for implementation and operation of electronic reporting for the trip ticket systems as well as reporting of data for the quota monitoring and IFQ programs. For 2012, there were 820 commercial dealers and processors utilizing this program. This is a long-term data collection activity.

Coordination and Administrative Support

Working closely with the Committee in all aspects of program coordination, administration, and operation was a major function of FIN coordination and administrative support. Other important coordination and administrative activities included but were not limited to providing coordination and logistical support, including communications and organization of meetings for the Committee, subcommittees, and work groups; serving as liaison between the Committee, other program participants, and other interested organizations; preparing annual operations plans under the direction of the Committee; preparing and/or supervising and coordinating preparation of selected documents, including written records of all meetings; and distributing approved FIN information and data in accordance with accepted policies and procedures.

Information Dissemination

Committee members and staff provided program information in 2012 via a variety of different methods such as distribution of program documents, presentation to various groups interested in the FIN, and via the Internet:

- FIN Committee. 2012. 2013 Operations Plan for Fisheries Information Network (FIN). No. 211 Gulf States Marine Fisheries Commission, Ocean Springs. 25 pp + appendix.
- FIN Committee. 2012. Annual Report of the Fisheries Information Network for the Southeastern United States (FIN) January 1, 2011 - December 31, 2011. No. 205 Gulf States Marine Fisheries Commission, Ocean Springs. 22 pp + appendices.
- Variety of informal discussions occurred throughout the year during ASMFC, GSMFC, NMFS, and other participating agencies meetings and workshops.
- The FIN has developed a data management system that provides access to commercial and recreational data for the Gulf States. There are two levels of access: confidential and non-confidential and users can request access via the FIN DMS web site (www.gsmfc.org/data.html).
- NMFS provides a user-friendly data management system (DMS) for the MRFSS that is accessible via the web (www.st.nmfs.noaa.gov/st1/recreational/index.html).
- GSMFC has developed a home page that provides programmatic and operational information regarding FIN.

If you are interested in any of the documents, they are available upon request from the Gulf States Marine Fisheries Commission office.

ECONOMICS PROGRAM

Alexander L. Miller, Staff Economist and Program Coordinator

The Economics Program, formed in July 2008, continued to develop throughout 2012 in an effort to improve economic data collection and management of recreational and commercial fisheries throughout the Gulf of Mexico. The program is a cooperative partnership among Texas, Louisiana, Mississippi, Alabama, Florida, the Gulf States Marine Fisheries Commission (GSMFC), and NOAA's National Marine Fisheries Service (NOAA fisheries). The program monitors the economic performance of the fisheries of the Gulf of Mexico (GOM) and assesses the economic contribution of these fisheries on local and regional economies. In general, the activities of the economics program are divided into three main components: economic data collection, economic research and analysis, and economic outreach and dissemination.

Data Collection

In conjunction with the Fisheries Information Network's (FIN) Social/Economic Workgroup, the GSMFC coordinates, plans, and conducts specific economic data collection projects throughout its five member states. Economic data collection projects in development, progress, or analysis in 2012 included 1) an economic survey of the inshore shrimp fleet, 2) an economic survey of fishing-related businesses: seafood processors and dealers, 3) a marine angler expenditure survey, and 4) a marine recreational use economic survey. Results from these studies will aid in describing the economic performance as well as the economic contributions of these industries. It is the intent that the collection of dependable economic data will further maximize the economic benefits of fisheries resources, while reducing negative costs to fishing communities throughout the Gulf.

Inshore Shrimp Fleet

In 2012, the GSMFC prepared to gather 2012 economic data throughout 2013 from commercial inshore shrimp harvesters across the GOM. This effort will repeat and build on the experiences learned from the previous economic survey of the GOM inshore shrimp fleet which collected 2008 data in 2009. A final report of the results for the inshore shrimp industry for data year 2008 has been completed and can be accessed on the GSMFC website. All figures and estimates are presented as industry totals and averages.

Data collected on the future survey will include information on revenue, operating costs, annual expenditures, employment data, and vessel characteristics of the inshore shrimp fleet for the year 2012. In 2012, the GSMFC obtained the cooperation and support of the relevant state regulatory agencies and several industry groups in each of the five Gulf States. Information about this survey effort was presented at the June, 2012 FIN Committee Meeting in Charleston, SC. During late 2012, sampling frame development and selection took place for each of the states. A survey instrument was also developed at that time and was built off of the 2008 inshore shrimp data collection. The first survey package will be mailed to the sampling frame in early 2013. A press release, subsequent reminders, and a non-response survey will follow the survey deployment.

In addition to analyzing the economic performance of the fishery, this study will also provide an estimate of the economic contributions of the industry to the local and regional economy through the use of regional input-output contribution models for the entire Gulf shrimp fleet. Similar to the 2008 data collection effort, economic data from the inshore shrimp fleet from 2012 will be

combined with federal economic data in order to create a representative data set for the entire Gulf shrimp fleet. This combined data set will again be used to calculate the number of jobs and sales generated by the commercial offshore and inshore shrimp fishery, in the industry itself, and in other portions of the regional economy.

Fishing-related Businesses: Seafood Processors and Dealers

The GSMFC further developed its commitment to collect economic data to determine the economic performance and economic contribution of fishing related businesses (seafood processors and dealers) in the Gulf throughout 2012.

A workshop was conducted to review the Gulf States Seafood Processor Survey instrument and final plans for testing and full deployment of the survey instrument. The survey packet was field tested throughout the five states of the region using the NOAA Fisheries processor list for data year 2009. Data year 2009 was selected to create a baseline that was not influenced by natural and manmade disruptions to the industry. Working in cooperation with the University of Florida, the University of South Alabama, Mississippi State University, Louisiana Department of Wildlife and Fisheries, and Texas A&M, the survey packet was tested with approximately two to three individual processors in each state. Processors were initially mailed a survey packet, which included a cover letter to introduce them to the study. In-person interviews were conducted. Results from each in-person interview were used to improve the survey packet. Given minor changes to the survey instrument, the survey packet was deployed throughout the spring of 2011 using the aforementioned universities and approach. Data collection continued through the end of 2011 and into 2012.

As of 2012, data from 106 completed seafood processor surveys from throughout the Gulf had been entered into a database. The raw regional response rate was around 55%. The response rate

for individual states was as follows: Alabama – 55%, Florida- 41%, Louisiana – 87%, Mississippi – 18%, Texas – 41%. Processor data was cleaned in 2012 and the preliminary results were initially compiled into a final report using a selected sample of 66 respondents, which represents complete and useable responses.

A similar survey instrument and supporting materials, which was shorter and largely based on the processor survey, was finalized for seafood dealers (first receivers) in 2011. A sampling frame was also developed using a database of seafood dealers from each of the states. Throughout late 2011, the dealer survey questionnaire, cover letter, and other materials were produced and assembled in mail survey packets. The dealer survey was distributed in early 2012. Given an initial poor response rate, a shorter and more condensed survey was developed in the summer of 2012 in an effort to improve data collection. This improved survey, that included an increased compensation card, was redistributed to Gulf seafood dealers during late 2012. The response rate at the end of 2012 was around 15%.

A final report of the results from both the seafood processor and seafood dealer survey will be compiled and presented once the analysis of the data is finalized. All figures and estimates will be presented as industry totals and averages. In addition to analyzing the economic performance of processors and dealers, the GSMFC also plans to estimate the economic contribution of the industry on the local and regional economy using regional input-output impact models.

Marine Angler Recreational Fishery

In 2012, the GSMFC and NOAA completed the collection of saltwater anglers' expenditures on fishing trips throughout the GOM states and Puerto Rico in order to assess the size and economic contribution of the marine recreational fishing industry to the GOM and the United States.

The data collection effort used the MRIP intercept for trip expenditures and a mail follow-up survey for equipment and durable expenditures in Puerto Rico, Florida, Louisiana, Mississippi, and Alabama. For Texas, the state license frame was used in order to survey for trip, equipment, and durable expenditures via a mail survey.

Data collection via MRIP field samplers began in early 2011 throughout Florida, Alabama, Mississippi, Louisiana, and Puerto Rico. Data collection in Texas, via a mail survey, also began in early 2011. Extensive outreach efforts were conducted with the initial deployment of the survey.

Data collection for the intercept and follow-up mail survey, as well as subsequent data cleaning and expenditure analysis was completed in 2012. Analysis of the economic contributions began in late 2012. The percentage of completed dockside intercept surveys throughout the GOM and PR was about 73% (either fully or partially complete). The percentage of fully or partially complete surveys, out of all dockside interviews, was as follows in each area: AL: 61%, FL: 67%, LA: 87%, MS: 66%, PR: 82%. The percentage of contact info collected via intercept surveys for the follow-up mail/web survey was as follows in each area: AL: 13%, FL: 12%, LA: 26%, MS: 36%, PR: 27%. Cumulatively, the percentage of completed follow-up mail/web surveys was about 30%.

This project will contribute to a national report entitled, “The Economic Contribution of Marine Angler Expenditures in the United States, 2011” that will be completed and published in 2013. A regional report will be developed for the GOM states by GSMFC based on the analysis done for the national report.

Marine Recreational Use

Throughout early 2012, the GSMFC and the NOAA Fisheries worked with Knowledge Networks (GfK) in order to develop a contract and begin the

data collection process. The GSMFC contracted with Knowledge Networks (GfK) in the spring of 2012 to collect information and economic data on marine recreational use activities. Data collection commenced shortly thereafter. Data collection extended through 2012 and will be completed in 2013.

Data from the survey will enable GSMFC and NOAA Fisheries to estimate the economic contributions and use values from marine recreational use activities. Such activities include canoeing, bird watching, sailing, and others. Data collected via the survey effort include expenditure data, access value data, demographics, and attitudinal information. The population sampled included the general public using the Knowledge Networks (GfK) survey panel. The survey was implemented in monthly waves, with the sample rotating in and out each month and no individual being sampled more than a limited number of times. Notification to selected individuals occurred in advance, so that they could keep track of their activities and expenditures.

This project will contribute to a national report entitled, “The Economic Contribution of Marine Recreational Use in the United States, 2012”, that is anticipated to be completed in 2014. A regional report will be developed for the GOM states by GSMFC based on the analysis done for the national report.

Research and Analysis

Analysis and research investigations allow for a better understanding of the economic performance and contribution of Gulf fisheries to the economy. In 2012, the research and analysis component of the economics program consisted of a contribution analysis initiative for the data collection activities of the program and a stated preference choice experiment for anglers.

Contribution Analysis

While raw economic data allows for descriptive

statistics and averages, economic contribution analysis (e.g. input/output modeling) for a particular fishery can help us to better understand the economic contribution that a fishery has to the local and regional economy throughout the Gulf. For example, contribution analysis can be used to describe taxes, employment, income, value-added, and sales generated from a particular Gulf fishery.

An IMPLAN model was further developed for the Gulf shrimp industry throughout 2012 using data gathered through recent economic surveys. Contribution analysis will be carried forward once data from the aforementioned projects described above are collected and prepared. During the summer of 2012, the program coordinator and a LDWF economist participated in version three IMPLAN training in preparation for future model development and enhancement.

Stated Preference Choice Experiment Survey of Anglers in the Gulf of Mexico

A stated preference choice experiment survey was designed and tested in 2012 for for-hire and private boat anglers in the GOM. The survey includes questions about recent recreational fishing activities, preferences for different types of fishing trips, and angler household characteristics. The angler preference portion of the survey includes a stated preference choice experiment with questions that ask anglers to choose between hypothetical fishing trips. There is a survey version for choices among for-hire fishing trips and a version for choices among private fishing trips. GOM focus groups were conducted throughout late 2012 to identify modifications that were necessary as they relate to species and trip characteristics.

Addresses for the for-hire mode will be collected via the MRIP dockside intercept survey in the GOM starting in early 2013. Addresses for the private angler mode will be obtained from the private angler license database. ICF Macro will administer the mail survey, including data entry and validation. The analysis of the data will be

conducted using accepted methods and reported in a manuscript.

Outreach and Dissemination

The third component of the economic program is outreach and dissemination. This component was further enhanced in 2012. The objective of this branch of the program is to present the information collected and analyzed within the data collection and research and analysis components. Additionally, this component of the program involves the organization of an annual or biennial meeting for economists who are actively engaged in fisheries economic projects and activities throughout the Gulf.

Fisheries Economic Information Portals

In order for there to be a location where stakeholders of fisheries resources can log-on and access fisheries economic data, the GSMFC continued to work with NOAA Fisheries in 2012 to develop a national interactive fisheries economic impacts tool. The GSMFC was also in the process of updating their website in 2012 in order to enable web users the ability to access economic information for selected Gulf fisheries. This information includes relevant publications and final reports as they relate to the GSMFC's economics program.

Gulf States Fisheries Economics Workshop

The Gulf States Fisheries Economics Workshop is an initiative of the economics program that is aimed at promoting communication, coordination, and professional development among fisheries economists and associated stakeholders throughout the Gulf of Mexico. The workshop provides an opportunity to share data collections and research projects and to discuss the future direction of fisheries economics within the region. It is the intention that these meetings will be held as regularly as possible, given funding availability and the need to conduct a workshop. A fisheries economics workshop was held in March, 2012 as part of the GSMFC's 62nd Annual meeting in Gulfport, Mississippi.

A LABAMA MARINE RESOURCES DIVISION *Chris Blankenship, Director*

The Marine Resources Division (MRD) is responsible for the management of Alabama's marine fisheries resources through research and enforcement programs. Two division facilities supported an average of 56 employees cumulative of the Administrative, Enforcement, and Fisheries Sections during the 2012 fiscal year.

Significant Accomplishments

Enforcement officers conducted 18,030 hours of boat and shore patrol, 11,409 boat checks, 1,328 seafood shop inspections, 26,047 recreational fisherman checks, 8,077 commercial fishermen checks, and issued 3,029 citations and warnings for illegal activities. A total of 15,595 hours was spent on administrative duties, court attendance, training, and equipment maintenance. Officers worked 9,733 hours with the National Marine Fisheries Services' inter-jurisdictional fisheries enforcement program.

Enforcement officers continued to participate in the Coastwatch Program, established for the training of citizens to recognize and report violations of saltwater fishing laws and regulations. Information from Coastwatch members has assisted with the planning of enforcement patrols and deployment of manpower and other resources resulting in saved man-hours by not responding to inaccurate reports of violations. The response to the program continues to be very positive.

Officers attended training courses on boat handling, criminal investigation, computer forensics, criminal law update, environmental crimes enforcement, interview and interrogation, suicide terrorism, firearms repair, national incident command, state emergency management, self-defense, supervision, and other state and federal agency law enforcement programs. Officers

continued to enhance public outreach efforts to better communicate enforcement efforts to provide important information and to foster cooperative management initiatives.

The Enforcement section has been actively involved in the Border Enforcement Security Team (BEST) and the Environmental Crimes Task Force. Both of these partnerships allow multiple agencies to provide a wide range of skill sets and manpower to enforce state and federal laws. The Section also participates in the South Alabama Regional Search and Rescue group (SARSAR) to provide regional search and rescue capabilities. This year officers participated in an exercise as well as real events including the crash of a US Coast Guard helicopter and several body recovery missions. They have also worked closely with other state law enforcement agencies to develop a statewide disaster response effort.

The Enforcement Section continued the installation of cameras for the Marine Resources Coastal Remote Monitoring System. When completed, the system will provide up to 30 high resolution cameras at different locations throughout coastal Alabama areas. There are currently 14 cameras that are operational and shared with other state, local and federal agencies. A Port Security Grant for \$244,000 was approved to expand the network to 19 cameras. The video is available through a web-based portal and is accessible to officers in the field via a wireless internet connection. Not only are the officers able to access the video, they are able to manipulate the camera through a web interface. The video is being stored for up to three weeks on secure servers and is time and date stamped for use as evidence. The sensors include closed circuit television, thermal, and infrared cameras.

The 2012 edition of the popular Alabama Marine Information Calendar was produced and distributed. The 2012 children's art calendar was also created. The artwork for the calendar was selected through an art contest, hosted by the Division and judged by local specialists in coastal conservation and the arts. The winning selections were also displayed in art museums in both Mobile and Baldwin counties. Receptions were held at each museum for the winning students, their friends, and families.

A no-cost angler registry license was implemented to allow for collection of better catch and harvest data from people fishing in saltwater. This data should improve the stock assessments of species such as red snapper. Exempted individuals such as lifetime license holders and residents over the age of 64 are now required to register annually. A publicity campaign to publicize the registration requirements was conducted, including print advertisements in angling publications and a radio advertisement on a popular talk radio station.

MRD coordinated the relay of oysters and cultch material from reclassified waters in upper Mobile Bay to a newly constructed reef in lower Mobile Bay. This program began with the first relay event conducted in March 2010 which relocated 6 million pounds of material to this new reef. A second relay to relocate oysters and cultch material to a reef in lower Mobile Bay was conducted during March and April of 2011. Approximately 6 million pounds were relocated during this second relay. Commercial harvest of these oysters first occurred October 20 – November 12, 2010. The use of handwritten harvest records during this harvest was the first implementation of the oyster management plan. Full implementation of the oyster management station, including computer based harvest data collection and oyster sack tag sales began in October of 2011. The relay reef was opened to harvest in November of 2011 and again in March of 2012 under the new management system.

MRD contracted with a local business in May 2012 to plant 5,103 cubic yards of oyster shell on Cedar Point Reef. Eighty acres on Cedar Point East were planted with 4,132 yd³ of oyster shell and twenty acres on Cedar Point West were planted with 971 yd³ of oyster shell. Funding for this shell planting came in part from the shell management fees collected during the fall 2011 and spring 2012 harvest periods.

Construction of an oyster management barge was completed in February 2012. The barge will provide enhanced oyster management capabilities for MRD and has allowed for improved assessment of Alabama's reefs. This barge will be used in the coming years to enhance Alabama's oyster reefs in cultch planting, relaying, and cultivating operations on selected oyster reef bottoms. Construction of a 32 ft research vessel was completed. This vessel will be used for a variety of projects including submerged habitat evaluation and monitoring (sides can sonar work) and vertical line sampling of artificial reefs.

MRD collected recreational fisheries data as required under a sub-award administered by the Gulf States Marine Fisheries Commission. The Marine Recreational Fisheries Statistics Survey (MRFSS) is a survey of the National Oceanic and Atmospheric Administration (NOAA) where catch information from anglers who fish recreationally from shore, charter vessels, and private vessels is collected. MRD staff collected information from anglers representing 3,028 fishing trips during the reporting period.

The success of the electronic trip ticket computer program continues to grow. Currently, 31 Alabama seafood dealers are actively using this program. These dealers comprised 79% of Alabama's annual landings. The computer program allows seafood dealers to enter landings and trip information and submit it electronically on a monthly basis. During the past fiscal year, MRD processed and submitted trip ticket data from 15,911 commercial trips

reporting 23.9 million pounds of seafood with a dockside value of \$44.1 million.

During FY 2012, MRD staff participated in three large outreach events: the three-day Mobile Boat Show, the two-day Delta, Woods, and Water Expo, and the one-day Conservation Expo/Bird Festival in Fairhope. These events were conducted in an effort to inform and educate the public about Alabama's marine environment. Saltwater "touch tables" were set up at each event to allow children the opportunity to interact with living marine life and learn about these animals which are commonly found in Alabama's waters. Literature concerning seafood rules and regulations, and calendars were distributed. Children enjoyed the opportunity to complete activity books and use rub plates depicting various forms of aquatic life found within Alabama's waters.

MRD implemented several construction activities during FY2012. The construction of new office and laboratory facilities at Claude Peteet Mariculture Center (CPMC) was initiated; construction is anticipated to be completed during spring 2013. Renovations to the Dauphin Island boat basin and parking lot were completed during FY2012. Funding for construction activities are derived (in part) from the Coastal Impact Assistance Program (CIAP) and the Gulf of Mexico Energy Security Act (GOMESA). Equipment for the laboratory is being acquired using NOAA Emergency Disaster Recovery Program (EDRP) funds.

MRD, in conjunction with the Alabama Department of Public Health (ADPH) and the Alabama Department of Agriculture and Industries (ADAI), continued a three-year seafood tissue testing program. The testing program is broken down into two projects: (1) Direct Sampling Effort Project and (2) Dealer/Processor Sampling Project. Both programs will be testing polycyclic aromatic hydrocarbons (PAH) levels using the LC-Florescence method as well as for dispersant

and key heavy metals. The Direct Sampling Effort Project, operated by MRD and ADPH, tests seafoods collected directly from Alabama waters and/or artificial reef zones. The Dealer/Processor Sampling Project, operated by ADAI, tests seafoods obtained from processors and dealers regardless of harvest location. MRD submitted a total of 512 composite samples during Year 1 for testing. Testing results have been below the U.S. Food and Drug Administration's level of concern. The results of this program have been distributed to the public.

In addition to the seafood testing program, Alabama has established a Seafood Marketing Commission that will spearhead a seafood promotional campaign in Alabama. MRD continued to work with the Gulf States Marine Fisheries Commission (GSMFC) in the implementation of the Oil Disaster Recovery Program (ODRP). This Program provided an open forum to discuss seafood marketing and sustainability programs. Many of the ideas proposed for other Gulf States will compliment Alabama's state-wide seafood marketing campaign. Results of the Seafood Testing Program and the overall safety and health of Alabama's seafood will be marketed through this program. Director Chris Blankenship has been appointed as the program administrator for both the Seafood Testing Program and the Alabama Seafood Marketing Commission. Director Blankenship is also a member of the Gulf of Mexico Seafood Marketing Coalition.

MRD continued to work with the Natural Resource Disaster Assessment (NRDA) process. Part of this process included extensive, first-round sampling efforts to assess certain habitat impacts as well as the coordination of planned activities.

Administration Section

The Administrative Section provides supervision, clerical, purchasing, and general administrative support for the two operational sections; supervises

state seismic activities; and coordinates with other state, federal, and regional agencies on fisheries and environmental matters.

Staff for the Administrative Section consisted of the Division director, six clerical, one accountant, and one marine mechanic employee. Offices are maintained at Dauphin Island and Gulf Shores.

Enforcement Section

The Enforcement Section patrols Alabama's coastal waters, enforcing state and federal laws and regulations relating to the conservation and protection of marine resources. Officers also enforce laws and regulations relating to boating safety and freshwater fishing and hunting; conduct search and rescue missions; and participate in drug interdiction operations. Officers are cross-trained and deputized as National Marine Fisheries Service, U. S. Fish and Wildlife, and U.S. Customs and Border Protection agents. Marine Resources Enforcement Officers cooperate extensively with these agencies, the United States Coast Guard, and other Federal agencies in the coordination of joint enforcement operations, investigative and fisheries enforcement expertise, training, public safety, and other natural resource issues.

Facilities for the Enforcement Section consist of headquarters at Dauphin Island and a district office in Gulf Shores. There are currently 14 enforcement officers in the section (eight stationed in Mobile County and six stationed in Baldwin County), one laborer, and the Chief Enforcement Officer stationed at the Dauphin Island headquarters.

Fisheries Section

The activities of the Fisheries Section are directed toward management of commercial and recreational fisheries in Alabama's marine and estuarine waters. These activities involve cooperative efforts with the National Marine Fisheries Service (NMFS) in near shore Federal waters in the Gulf of Mexico and with other Gulf of Mexico state agencies to develop cooperative

fisheries management programs. These activities are mostly funded through federal aid programs of the U. S. Departments of Commerce (NOAA/NMFS) and Interior (U. S. Fish and Wildlife Service). Biological programs not covered by federal aid, such as fish kill evaluation, oyster management, shrimp management, and pollution investigations are supported by commercial and recreational license fees. The section personnel also assist in oversight of natural gas activities within Alabama's coastal waters, territorial sea, and adjacent federal waters in the Gulf of Mexico and comment on applications for U.S. Army Corps of Engineer permits in the coastal area. Personnel maintained and improved the home page for the Division, which is associated with and accessed through the Departmental home page at www.outdooralabama.com. The feedback to this site has been extremely positive and it has proven to be a tremendous asset in getting information and assistance to the public.

Fisheries facilities consist of the CPMC in Gulf Shores and the MRD Laboratory on Dauphin Island. Personnel consisted of one Biologist V, two Biologist IV's, five Biologist II's, one Biologist I, four Senior Biologist Aides, twelve Biologist Aides, and two temporary laborers.

Federal Aid

Wallop/Breaux

Wallop/Breaux funds are administered through the U. S. Fish and Wildlife Service. Funds from this source were directed toward production of the 2012 edition of the popular Alabama Marine Information Calendar, children's coastal conservation art calendar, maintenance of equipment and facilities in Gulf Shores and Dauphin Island, management of the public artificial fishing reef permit system in the Gulf of Mexico off Alabama, assisting individuals in designing artificial reefs, conducting mariculture research on marine species, maintaining and enhancing boat ramps for boating access, financing research of the ecology of artificial reefs and effects of reef designs with respect to ecology, and the

sampling of coastal Alabama fishes to determine stock status.

Fisheries Assessment and Monitoring Program (FAMP)

MRD continues to collect legacy data through the FAMP program. This program, implemented in 1981, provides a continuous database of fish and invertebrates captured through independent fishery sampling techniques. This sampling program allows MRD to monitor trends in fishes and invertebrates abundance which are not associated with commercial or recreational fishermen. Monthly samples were collected with otter trawls, seines, and beam plankton trawls to assess adult, juvenile, and larval finfish and invertebrate distribution and abundance within Alabama's marine and estuarine waters. A total of 291 otter trawl samples, 68 seine samples, and 65 beam plankton trawl samples were collected during FY2012 using funds for the FAMP program.

Adult Finfish Sampling Program

MRD continues a fishery independent gillnet sampling program. The objective is to gather data on adult fish to be used in the management of important species. Sampling will be conducted through the use of two gillnet configurations and a stratified, random design. A total of 205 net sets were conducted with Tropical Storm Debby and Hurricane Isaac impacting sampling effort only slightly.

Cooperative Statistics

Federal aid funds for this program are administered by the Department of Commerce (NOAA Fisheries) and are utilized by the MRD to collect fisheries-dependent data on commercial shrimp, oyster, crab, and finfish landings. Additionally, information on processed seafood such as crab meat and mullet is compiled. Biological information was collected on striped mullet, flounder, Spanish mackerel, grouper, and red snapper. Commercial seafood license data was forwarded to NOAA Fisheries under this grant.

Southeast Area Monitoring and Assessment Program (SEAMAP)

Funds from this program are administered by the Department of Commerce (NOAA/NMFS) and are utilized in Alabama for the development of a long-term fishery-independent database on recreationally and commercially important marine and estuarine fishery stocks. This project provides funds to evaluate spawning success and juvenile survival for important recreational and commercial species. In FY2012, 16 offshore trawl samples were collected and three near shore and three offshore ichthyoplankton sample sites were visited for data collection. Ichthyoplankton samples have incorporated both neuston and bongo nets at all SEAMAP stations. Funding of bi-monthly inshore sampling was discontinued. Funding continued for the vertical and bottom line sampling and other states have initiated similar programs under a standardized protocol. Nine vertical line and seven bottom line cruises were completed. A bottom longline cruise was omitted in August due to tropical weather event. Over 500 red snapper were collected to estimate abundances by size and age.

The Marine Recreational Fisheries Statistics Survey (MRFSS)

Funding for this project is provided through a sub-grant from the Gulf States Marine Fisheries Commission. NOAA Fisheries utilizes data from this survey to determine trip level catch and effort information for shore, charter and private boat anglers throughout the United States. Data generated from the survey is used by fisheries managers throughout its scope of coverage. MRD has a subcontract to conduct the portion of MRFSS which collects data from anglers after they have completed their fishing trips and interviews charter boat captains for effort. MRFSS survey interviews totaled 956 in SH mode, 665 in PC mode, and 1,407 in PR mode for a grand total of 3,028 anglers interviewed during the reporting period. All intercept quotas were exceeded with the exception of PR mode in August 2012, due to

Hurricane Isaac. Training of MRFSS samplers was held in November 2012 and June 2012 for fish identification reinforcement and resolution of major MRFSS issues, with regular short meetings held to address immediate issues. Two new aides were hired for the Gulf Shores office, and five new aides were hired for the Dauphin Island office. Phone calls (the For-Hire Survey) to captain/owners in the charter boat industry sampled 10% of the active fleet; the list of active charter vessels and associated information was updated at minimum once per month. Validations of charter activity were done at a minimum of four times per week to reduce the correction factor associated with trip estimations. Samplers were visited in the field for QAQC checks a minimum of twice each during FY 2012.

Otolith Sampling Program

Funding for this project is provided through a sub-grant from the Gulf States Marine Fisheries Commission (GSMFC). MRD continued collection of otoliths (ear stones) from species given high priority for sampling including gray triggerfish, southern flounder, red snapper, greater amberjack, and king mackerel caught by commercial and recreational fishermen. Otoliths are used to age fish which is important information used to determine the health of fish stocks. Recreational samples came from 2,338 fish while commercial samples came from 1,255 fish for a total of 3,593 fish sampled in FY2012. New procedures for tracking collection quotas of primary and secondary target species were put into place, as well as new QAQC methods for verifying data. Targets for the majority of fish species were exceeded; due to closures the target for gray triggerfish was not met. Processing and aging of samples is ongoing, and two new aides are being trained to process and read otolith samples.

Commercial Trip Ticket Program

Funding for this program is provided through the GSMFC. This program is part of a Gulf-wide effort to generate more specific information for

each commercial fishery by collecting landings and effort data from each fishing trip. Trip tickets are printed in triplicate form and supplied to Alabama seafood dealers. Seafood dealers are required to complete the trip ticket for each transaction. An alternative form of submission is through an electronic entry program which allows seafood dealers to enter landings and trip information and submit it via the internet on a monthly basis. Data from the completed trip tickets are scanned into a computer, verified and edited. Monthly data is submitted to the GSMFC and will ultimately be supplied to NOAA Fisheries.

Emergency Disaster Recovery Program

In recent years, MRD worked with legislators, the Commissioner of the Department of Conservation and Natural Resources, and neighboring state agencies to secure through two grants totaling roughly \$44 million in NOAA fishery recovery funds. The monies are being used to clean up and restore oyster and shrimp grounds affected by recent hurricanes and to monitor the recovery of associated fisheries.

AMRD contracted with a local business in May 2012 to plant 5,103 cubic yards of oyster shell on Cedar Point Reef. Funding for this shell planting came in part from the remaining EDRP monies left in the oyster program. Additionally, MRD contracted for the construction of a 40' oyster barge to be completed in early 2012. The barge will be used to plant shell, cultivate reef bottom, relay seed and shell stock, and monitor reef health.

Alabama Seafood Testing Program

Funding for this program is provided by British Petroleum (BP). MRD, in conjunction with the Alabama Department of Public Health (ADPH) and the Alabama Department of Agriculture and Industries (ADAI), began the implementation continued the operation of a three-year seafood tissue testing program to check for contamination resulting from the Deep Water Horizon oil spill.

Alabama Seafood Marketing Program

Funding for this program is provided by British Petroleum (BP). Alabama has established a Seafood Marketing Commission that will oversee a seafood promotional campaign in Alabama due to market losses incurred by the Deep Water Horizon oil spill. Results of the Seafood Testing Program and the overall safety and health of Alabama's seafood will be marketed through this program.

Coastal Impact and Assessment Program (CIAP)

Funds from this program are administered by the U.S. Department of Interior. Construction and renovation projects located at MRD's Gulf Shores facilities are currently being funded through this program. MRD used some funding to renovate the Dauphin Island boat basin. This project replaced the concrete seawall constructed in the 1960's with vinyl sheets and concrete cap and resurfaced the parking lot and driveway. Additional funds were used for the construction of a 32 ft survey vessel for utilizing side scan sonar to map bottom type and structures within Mobile Bay and habitat in offshore reef zones.

Significant Problems and Solutions

The giant tiger prawn (*Penaeus monodon*) has been a species of concern since 2006 when it was first observed in Alabama's inshore waters (Mississippi Sound). After the first individual was documented, captures of *P. monodon* have incrementally increased. A confirmed report of a single specimen caught near Middle Bay Light occurred in 2008, followed by five confirmed reports in 2009. From 2006 to 2009, the distribution of *P. monodon* was primarily restricted to Alabama's southern inshore waters. However, its distribution extended to northern Mobile Bay and into Perdido and Wolf Bays in 2011. The 43 confirmed reports during 2011 indicate the giant tiger prawn occurs within all of Alabama's primary estuary basins. However, the concern for *P. monodon* has decreased within the commercial shrimping community which has resulted in fewer validated reports. Alabama Marine Resources Division has received fewer validated

reports in 2012 than the previous year. Personnel communications between AMRD and commercial shrimpers indicate a significant abundance of *P. monodon* occur within Alabama waters despite the reduction in validated reports. Commercial shrimpers candidly indicate encounters with *P. monodon* throughout 2012, although they no longer record collection information, preserve the specimen, or report the encounters to AMRD in a timely manner. Regardless, 16 Asian Tiger Shrimp have been acquired by AMRD from January 1 through September 20, 2012.

Based upon the temporal and spatial abundance of *P. monodon* encounters and reported sightings (albeit reports more candid during 2012), evidence suggests the Asian Tiger Shrimp has become established in Alabama's waters. Therefore, AMRD continues to focus on documenting occurrence, characterizing the population structure, and processing samples for genetic investigation.

Obtaining validated reports of the invasive lionfish (*Pterois volitans* and *P. miles*) continues to be an issue. Like 2012 reports of the Asian Tiger Shrimp, encounters with lionfish typically are unknown unless AMRD representatives actively seek potential observers (i.e. dive shops, spearfishing tournament organizers, etc). The first report, which was unvalidated, was from a 2009 observation made by a recreational SCUBA diver at an area of natural hard-bottom about 16 miles south-southeast of Orange Beach referred to as the Trysler Grounds. The first confirmed report was documented in June 2011 by a spear fisherman who collected an individual from an oil/gas platform approximately 43 miles south of Dauphin Island. Numerous unconfirmed reports of lionfish have been made to various government agencies that indicate lionfish were rather abundant on the Trysler Grounds in 2011. SCUBA divers reported observing up to 30 individuals during single dives in this area during the 2011 dive season. However, unconfirmed reports from SCUBA divers in 2012 indicate lionfish are now

more abundant than previous years. A recreational diver reported observing upwards of 60 individual lionfish during a dive at Trysler during the 2012 dive season, although the observer did not know when he made the observation or even an approximately location within the Trysler Grounds reef complex. Similarly, a SCUBA diver reported observing up to 100 individual lionfish during a dive at an artificial pyramid reef during June 2012. Unfortunately, the diver would not disclose any information about where the observation was made. Similarly, unconfirmed reports are being made by SCUBA divers that indicate lionfish are widespread throughout Alabama's artificial reef permit zone. However, 26 lionfish were donated to AMRD after a month long lionfish rodeo in June and July 2012 by a local dive shop. Unfortunately the rodeo coordinator did not attempt to obtain collection information about the lionfish, and only retained specimens for AMRD if the participant volunteered to relinquish the lionfish for scientific studies.

Tropical Storm Debby in June 2012 and Hurricane Isaac in August 2012 presented some difficulties with sampling efforts as staff were diverted for preparation and cleanup efforts.

Future Plans

MRD will work with the Department's Engineering Section, the State Lands Division, and outside architects/contractors with ongoing construction and/or renovation projects pertaining to key structures located at the CPMC (Gulf Shores). These projects will consist of the construction of a new multifunctional laboratory and office complex at CPMC and the renovation of the boat basin at CPMC construction activities will be accomplished using CIAP and GOMESA funds. It is anticipated that the construction activities at CPMC will be completed in FY2013.

MRD will continue to work with other state (Alabama and Gulf States) and federal agencies in the assessment, monitoring, and rehabilitation

efforts needed in response to the Deep Water Horizon oil spill. The Fisheries Section will work closely with the NRDA process to implement fisheries assessment and monitoring plans.

MRD will continue outreach efforts to the public regarding the National Angler Registry and assist anglers with questions and registration related to the Registry.

MRD will continue sampling of recreational angler effort under new MRIP intercept protocols, set by NOAA to begin on January 1, 2013. The new protocols are designed to reduce sampler bias and intercept anglers over a broader spectrum of fishing effort. Training of staff will be ongoing throughout the upcoming fiscal year.

MRD will initiate several new, multi-year projects utilizing CIAP funds. These projects will consist of a side-scan sonar mapping project designed to survey MRD's inshore and offshore reef zones, an extensive artificial reef rehabilitation/construction project, and a land acquisition project for the establishment of an oyster management station operated by MRD.

F FLORIDA FISH & WILDLIFE CONSERVATION COMMISSION *Nick Wiley, Executive Director*

DIVISION OF MARINE FISHERIES MANAGEMENT

Jessica McCawley, Director

The major responsibilities of the Division of Marine Fisheries Management include: (1) development and implementation of marine fisheries management and policies, (2) angler outreach and marine aquatic resource education, (3) commercial fisheries assistance, (4) the state artificial reef program, (5) monitoring compliance with the marine fisheries trip ticket reporting requirements through audits of applicable fish house records, (6) administrative penalty assessments for violations of specified fisheries regulations, retrieval of lost and abandoned spiny lobster, stone crab and blue crab traps, and (7) issuance of Special Activity Permits. Highlights of staff efforts in 2012 [i.e., state fiscal year 2011/2012] are summarized below.

The 2012 Florida Legislature did not reduce the Division of Marine Fisheries Management's operation budget for fiscal year 2012-2013. Recall that the 2011 Florida Legislature reduced the Division of Marine Fisheries Management operation budget by 7%. A new Subsection titled Federal Fisheries was added by reorganization of current staffing in the Division of Marine Fisheries Management effective July 2012.

Marine Fisheries Management & Policy Development Section

The Marine fisheries management and policy development program develops regulatory and management recommendations for consideration by FWC Commissioners designed to ensure the long-term conservation of Florida's valuable marine fisheries resources.

The 2012 Florida Legislature passed one bill that amended marine fishery licenses, fees, or penalties. House Bill 7025/Senate Bill 804 reduced the fee for

obtaining a soft-shell blue crab endorsement from \$250 to \$125, modified the penalty for lobster trap theft/molestation to allow a judge the full range of punishment of a third degree felony, and clarified the fishing license requirements for scuba divers/scuba diving charter boats.

During the state fiscal year 2011/2012, the Florida Fish and Wildlife Conservation Commission (FWC) approved a number of amendments to marine fisheries rules contained in Chapter 68B of the Florida Administrative Code.

Amendments were made to the marine life fishery to extend Florida's octocoral and marine life regulations into federal waters. The rule amendment also established an annual quota for octocorals in state and federal waters off Florida.

Amendments were made to the reef fish rule to achieve consistency with federal regulations in the Gulf of Mexico for gag grouper. The amendment reduced the minimum size for gag harvested, sold, purchased, or exchanged commercially from the Gulf of Mexico, except Monroe County, to 22 inches. The recreational open season for gag was also set with this amendment for all state waters of the Gulf of Mexico, except Taylor, Jefferson, Wakulla, Franklin, and Monroe counties, to July 1 through October 31. The recreational gag grouper season was set to April 1 through June 30 for state waters off Taylor, Jefferson, Wakulla, and Franklin counties. Monroe County state waters follow Atlantic rules for gag grouper. Also, the recreational bag limit for red grouper was increased to four fish for waters of the Gulf of Mexico, except Monroe County, with annual catch limit provisions included.

The Commission's rule for red drum was modified to create four management zones (northeast, northwest, southeast, and southwest) and to increase the recreational bag limit to two red drum in the two northern zones. The amendment also created a red drum statewide vessel limit of eight fish, and a transport limit of six fish per person.

Amendments were made to the spotted seatrout rule to split the south region into southeast and southwest regions, extend state regulations into federal waters off Florida, eliminate the recreational closed seasons statewide, and increase the recreational bag limit to six in the northeast region. The amendment also changed and lengthened the commercial seasons for spotted seatrout to five months in the northwest and southwest (June 1 – Oct. 31) and in the southeast (May 1 – Sept. 30) and to six months in the northeast (June 1 – Nov. 30). Also, the commercial vessel limit was changed to 150 fish when two commercially licensed fishermen are on board and inventory of spotted seatrout can be sold for 30 days after the regional season closes.

Great, scalloped, and smooth hammerhead sharks and tiger sharks were prohibited from recreational and commercial harvest in state waters.

The Commission's commercial king mackerel rule was amended to allow legally harvested king mackerel to be landed in Collier County when the state waters off Collier County are closed to harvest.

The recreational red snapper season in the Gulf of Mexico was changed to be open from June 1 through July 10, which is 40 days. This change made state rules consistent with federal rules if the federal season remains at 40 days.

Amendments were made to the Commission's Billfish and Swordfish rule to remove roundscale spearfish from the prohibited billfish list and add

it to the state's billfish possession limit. The amendment also created a minimum size of 66 inches lower jaw fork length for roundscale spearfish.

Language in the Commission's reef fish rule was updated to make the state's multi-day possession limit compatible with the federal multi-day possession limit. Red porgy in the Atlantic Ocean were excluded from the exemption.

Language in the Commission's Spiny lobster rule was updated to match the statute, which changed in 2010. The amendment clarified that trap certificates with unpaid annual fees would revert to the Commission after a period of two years, instead of three.

Angler Outreach and Marine Aquatic Resource Education

The objective of this activity is to inform the public and to increase public participation in the management and preservation of Florida's marine resources by heightening their awareness of and personal responsibility toward these resources.

Overall there were: (1) 54,766 outreach fishing event contacts; (2) 439 presentation and seminar contacts; (3) 29,846 email, telephone, mail outs and in-person contacts; and (4) 1,776,412 website contacts during fiscal year 2011-2012.

Ten Kids' Fishing Clinics (KFC) were conducted in coastal cities throughout Florida. A total of 2,593 children, 498 volunteers and an estimated 1,155 parents attended the KFC's. All participating children received a rod and reel combo provided by Fish Florida! or purchased with donations from individuals and businesses from the hosting community. Fishing vessel partners took 417 participants on fishing excursions to reinforce the Kids' Fishing Clinics curriculum. Two week-long saltwater fishing camps were conducted with a total of 41 youth participating in these events.

Four *Ladies, Let's Go Fishing!* (LLGF) seminars were conducted in four locations. A total of 191 women participated. In addition to learning what FWC does to conserve fisheries resources in Florida, the participants at these events learned about how they can have a positive impact on Florida's marine resources and what they can do to promote fish conservation while fishing.

Two one-day events targeting 28 current and future female recreational anglers were conducted. These shore-based clinics focus on the Sport Fish Restoration Program, basic saltwater fishing skills (casting, knot tying, rods and reels, conservation equipment, terminal tackle, and lures/bait), how FWC functions to conserve marine fisheries resources (research, outreach, and management), catch and release techniques, and ways participants can support and be actively involved in the conservation of Florida's marine resources.

Thirteen events were attended by 545 youth in the Cedar Key region. At these events the participants were provided with information about importance of marine habitats to coastal fisheries, how they as anglers can conserve fish resources, and ways they can contribute to the overall enrichment of marine resources. The participants also conducted field sampling activities similar to what state biologists do to gather resource data for management.

A partnership with the International Game Fish Association (IGFA) and their community marine education and outreach efforts was continued by providing various FWC marine resource publications (e.g. Fishing Lines magazine) for participants in their education activities and Junior Angler tournaments. IGFA continues to incorporate specific aspects of FWC curricula (e.g. Kids' Fishing Clinic stations) into their educational activities.

A partnership was developed with several other agencies and organizations to conduct environmental education projects aimed at marine

resource conservation including: Mote Marine Laboratory, Florida Sea Grant, and Florida Fish and Wildlife Research Institute.

FWC/SFR educational literature aimed at heightening citizen awareness of and personal responsibility for protecting Florida's marine resources was distributed. Educational information was distributed by fishing clubs, tackle shops, Florida state parks, Florida state aquatic preserves, fishing organizations (such as IGFA), National Estuarine Research Reserves, Florida Keys National Marine Sanctuary, Florida Sea Grant, International Game Fish Association, and FWC field offices.

The following educational publications were made available to the public through numerous events. Most of these publications are also available online and, if so, the links to each publication are provided below.

- Fishing Lines: An Angler's Guide to Florida's Marine Resources <http://www.myfwc.com/fishing/saltwater/publications/fishing-lines-magazine/>
- Florida Recreational Saltwater Fishing Regulations (English and Spanish editions) <http://www.myfwc.com/fishing/saltwater/recreational/>
- Fish ID Poster series by artist Diane Rome Peebles
- Sea Stats <http://research.myfwc.com/products/products.asp>
- Catch and Release Techniques <http://research.myfwc.com/products/products.asp>
- Florida Boater's Guides <http://research.myfwc.com/products/products.asp>
- Kids Fishing Activity Book (Freshwater and Saltwater) http://myfwc.com/media/1316038/Fishing_Florida.pdf

- Monofilament Recycling and Recovery Program <http://mrrp.myfwc.com/educational-materials.aspx>

Two Boater's Guides were updated and printed: Charlotte Harbor (17,000 copies) and Tampa Bay (15,000 copies).

In the Apalachee Bay/Apalachicola Bay region of the Florida Panhandle, staff interacted with anglers at boat ramps, tackle shops, and other fishing related events to promote fisheries conservation, resource stewardship, and the Sport Fish Restoration Program. This work included giving presentations at various fishing club meetings in the region. In the Cedar Key region (Big Bend area of Florida), Outreach and Education staff performed similar activities targeting anglers, which resulted in 1,195 anglers and other resource users receiving information about marine fisheries conservation, SFR, and habitat conservation. Staff responsible for this program conducted similar activities at other locations (and with other organizations) around the state, interacting with 500 anglers.

Modified versions of Kids' Fishing Clinics called *Nature Coast Fishing for Youth* (formerly known as *1-2-3 FISH*), were conducted in Cedar Key during the summer months. Five youth events were conducted with participation from 271 youth. The participants in these programs learned about the importance of marine habitats to coastal fisheries, how they as anglers can conserve fish resources, the basics of saltwater fishing, and ways they could reduce pollution while fishing. These events were partially supported by Fish Florida!, which provided rods, reels, and tackle boxes to the participants.

Fifty-five educational tours and 12 fishing events were conducted at the Florida Fish and Wildlife Conservation Commission's Stock Enhancement Research Facility. Six hundred and ninety-six children and adults participated in these hands-on activities designed to increase their knowledge

of marine fisheries conservation, ethical angling, and habitat preservation. Partnering organizations included The Florida Aquarium, Tampa Bay Watch, Anclote Key Anglers Club, Tampa Bay Fly Fishing Club, Manatee County Sheriff's Youth Ranch, the Florida Sheriff's Youth Ranch, and the Make a Difference Fishing Tournament Foundation.

Forty-five workshops were conducted to familiarize new teachers with the use of aquatic field activities and gear used to educate students about marine conservation, the various coastal habitats in Florida and the important link uniting saltwater fish and their habitat. Four hundred ninety-one marine educators completed the workshops and received a certificate that provided them the necessary authority to conduct aquatic field activities. These workshops convey best practices knowledge and skills that the participants can use when bringing groups of students to aquatic environments. These workshops took place at various educational facilities statewide and were taught by trained workshop facilitators. Workshop participants were provided with information about marine fisheries conservation, the SFR program and marine resource educational activities.

Two hundred forty-three copies of the Sport Fish Restoration Program brochure were distributed at numerous events. This publication was also distributed upon request and is on the FWC website.

Staff distributed a video (*Conserving Florida's Marine Fisheries*) covering the Sport Fish Restoration Program, It's in Your Hands (about being a responsible angler), and Catch and Release. Three hundred ten copies of this DVD were distributed to fishing clubs, anglers, marine science educators, and other interested citizens.

Fishing Lines magazine, a Florida Fish and Wildlife Conservation Commission (FWC) publication that highlights information about the Sport Fish Restoration Program and Florida's saltwater Sport

Fish Restoration programs, was reprinted after minor edits and updates were incorporated. About 30,000 copies of this publication were printed for distribution to anglers. The issue contains general fishing information and personal stewardship responsibilities for conserving and enhancing Florida's marine fisheries resources.

Seven thousand sixty-nine copies of various *Boating and Angling Guides* were distributed statewide at angler and boater events and in response to requests for information.

Staff also distributed several promotional items to increase the knowledge about and benefits of the SFR program to anglers and the general public. These items have information about the SFR program, its benefits to Florida and some general fisheries conservation messages. These items include water bottles, pencils, floating key chains, reusable bags, and adhesive fish length rulers. The water bottles, pencils, and bags are made from recycled materials. These items were distributed at fishing club meetings and other events where staff interacted directly with anglers.

Digital and print images continue to be collected and added to the photograph library. Representatives collect images from each grant, and images are also collected from all FWC outreach and education events. Staff continued to add to the inventory and assessment of existing photographs to determine suitability for use in publications (photograph of acceptable quality) and need for future publications.

Staff continued using the Sport Fish Restoration displays produced to promote the SFR program and its value to Florida's recreational anglers. Examples of these displays include vertical roll up banners, table top displays, and a large floor display. Some of the events these displays were utilized at include: the International Game Fish Association Fishing Expo, the Apalachicola Seafood Festival, the St. Marks National Wildlife Refuge Wildlife

and Heritage Outdoor Festival, and the Creating the Next Generation that Cares event.

FWC staff worked with organizations and schools to showcase Florida's SFR programs through the established fish loan program. FWC loaned hatchery-raised red drum to Bottled Ocean (Gaylord Palms Resort), the St. Petersburg Pier Aquarium, Florida Oceanographic Society, Florida Gulf Coast University, the Oregon Coast Aquarium, Rookery Bay National Estuarine Research Reserve, Loggerhead Marinelife Center, the Environmental Learning Center, and the FWC Cedar Key Field Lab. Staff also provided educational publications for public distribution at these locations. FWC loaned hatchery-raised juvenile fish to seven schools through the *Aquaculture in the Classroom* program. Educational materials on the fundamentals of marine aquaculture and fisheries enhancement were also provided to the schools. A total of 6,980 hatchery-bred fish were provided to these facilities.

A 350-gallon Sport Fish Aquarium with Discovery Rail, an Interactive Smart Screen, and a Kids Activity Cube offer ways for the public to interact by virtually touching a screen to learn about Sport Fish Restoration, Marine Fisheries Research, and Marine Fisheries Management in Florida. There are also two Interactive Kids Activities pages and an Interactive Kids Activity Cube that teach children how to measure a fish, bait a hook, and identify what they have caught. It also teaches them where fish live. Staff provided information about outreach material to a variety of media outlets. Staff continues to communicate with media contacts to update them about fisheries management and Sport Fish Restoration information.

Press releases were drafted to publicize or showcase *Kids' Fishing Clinics*, artificial reef deployment, and public workshops regarding angler interests. The information was provided to agency personnel authorized to issue press releases.

Commercial and Recreational Regulatory Outreach (NEW PROGRAM)

The Florida Fish and Wildlife Conservation Commission created a new subsection in the Division of Marine Fisheries management in early 2012. The new subsection, called “Commercial and Recreational Regulatory Outreach,” was created as a way to provide enhanced services and information on marine fisheries regulations. Through the efforts of this group, FWC will develop and distribute new informational tools, conduct presentations, and provide other services that are designed to improve the understanding of state and federal marine fisheries regulations and how they are changing over time.

The subsection, a team of three including a public information specialist, is currently developing new tools to make our management efforts easier to understand. One example is a new web-based and printable “Recreational Seasons Chart” that will allow the viewer to quickly determine which species are open or closed on any given day of the year. The team is also reaching out to recreational and commercial fishing organizations and charter boat captains, offering direct assistance with saltwater fishing regulations.

Funding for the commercial and recreational saltwater fishing regulations publications was offered by FWC as a potential budget reduction this past session, and accepted by the 2011 Florida legislature. This reduction was one of many made in an attempt to lower FWC’s operating costs and achieve a balanced budget state-wide. Unfortunately, the result is that FWC will no longer have the funding to print and distribute copies of the recreational and commercial saltwater regulation magazines.

A contracted vendor and a sponsor picked up the tab for the printing and distribution for both. The recreational publication was printed and shipped to license sales agents by Griffin Publishing and the commercial regulations were sponsored by engine

manufacturer, designer, and distributor Cummins and sent to all saltwater products license holders. At this time, it is unknown whether or not printed copies will be available in the future.

During state fiscal year 2011/2012, the FWC continued ongoing commercial and started recreational saltwater fisheries regulatory assistance activities.

Three commercial fisheries newsletters were prepared and a total of 45,000 newsletters was distributed by mail (also available on agency website). As many as 325,000 emails were prepared and sent informing commercial license holders, law enforcement and commercial industry representatives of 35 agency press releases (also available on agency website). As many as 5,400 telephone calls related to commercial fisheries were received and answered and 7,200 emails related to commercial fisheries were received and answered. As many as 11,245 saltwater products license holders received the printed copy of the commercial regulations publication (also available on the agency website) thanks to Cummins.

Two editions (January and July) of the recreational regulation publication (550,000 each edition) were distributed to 2,000 licensed sales agents and FWC regional offices around Florida. The new recreational regulatory position has given six presentations to fishing clubs, solved 339 knowledge-based questions, and answered 400 telephone and 300 e-mail requests in the first six months.

State Artificial Reef Program

The primary program objectives are to provide financial and technical assistance to coastal local governments, nonprofit corporations, and state universities to develop artificial reefs and to monitor and evaluate these reefs.

Over the spring and summer of 2012, seven artificial reef construction projects were completed

in Florida utilizing funds from the U.S. Fish and Wildlife Service's Federal Sport Fish Restoration Program and managed by the FWC Artificial Reef Program with the Division of Marine Fisheries Management.

Four of the seven (57.1%) new artificial reef construction activities took place on the Gulf Coast and three of the seven (42.9%) were off the Atlantic Coast. Within the Gulf Coast activities, three artificial reef construction activities took place in the Florida 'Panhandle' (Okaloosa County and Bay County, and the City of Mexico Beach), while one other took place off the Florida Big Bend located southwest of the mouth of the Steinhatchee River (Southern Taylor County, Northern Dixie County). Within the Atlantic Coast activities, two construction activities occurred off south central Florida (Martin and St. Lucie Counties) and one construction activity occurred off southeast Florida (Palm Beach County). There were also three artificial reef monitoring projects under way in 2012. These various projects are summarized below.

Bay County (Florida Panhandle)

Bay County deployed a patch reef complex comprised of 40 prefabricated concrete modules at 10 separate locations forming a grid pattern between the existing Dupont Bridge Span Reefs. Each of the 10 patch reefs are approximately 1,000 feet apart. The complex is located approximately 10 nautical miles south of the mouth of St. Andrews Pass at a water depth of 88 feet.

Martin County (South Central Florida East Coast)

Martin County deployed 2,000 tons of concrete culverts, and concrete light poles divided among four patch reefs. Each of the four patch reefs consists of concrete materials placed as a single pile (500 tons each) located about 50 feet (15.2 m) apart from each other. The materials are located within the Donaldson Reef permitted area, which is located approximately 4.4 nautical miles northeast of St. Lucie Inlet at a depth of 60 feet.

St. Lucie County (South Central Florida East Coast)

St. Lucie County deployed a total of 2,000 tons of concrete culverts, concrete light poles and concrete bridge pilings in two patch reefs within the St. Lucie County Offshore Reef permitted area. Each of the two patch reefs consisted of concrete materials placed as a single pile (approximately 1,000 tons each), located 11 nautical miles east of Ft. Pierce Inlet at a depth of 110 feet and 150 feet.

Okaloosa County (Northwest Florida)

Okaloosa County constructed a reef comprised of 40 prefabricated concrete and steel reef modules weighing a total of approximately 100 tons within the county's Large Area Artificial Reef Site (LAARS) site "A." The reef is comprised of 20 separate locations forming an "X" pattern with two units per deployment location. Each patch reef of two units is approximately 500 feet apart. The deployment location is approximately 14.7 nautical miles on a bearing of 151 degrees from the Destin East Pass inlet in about 117 feet of water.

Palm Beach County (Southeast Florida)

Palm Beach County deployed 1,000 tons of limestone boulders at a depth of 37 feet within the Jupiter Inlet Artificial Reef Site located one nautical mile northeast of Jupiter Inlet in the Atlantic Ocean. The three to four feet diameter limestone boulders were stacked at least two high for approximately eight feet of vertical profile. The patch reef is a single pile within the southern quadrant of the permitted area at a depth of 25 feet. This is the second limestone boulder deployment at this permitted area.

Mexico Beach, City of (Northwest Florida)

The city of Mexico Beach, located in eastern Bay County, deployed 53 concrete modular units of three different designs. The 44 modules equate to about 126 tons of reef materials distributed among 15 patch reefs at three different permitted sites, with approximately two to seven modules placed at each patch reef.

Taylor County - University of Florida (Florida Big Bend)

A total of 256 prefabricated reef cube units were deployed off Taylor County over the summer of 2012 as 68 standardized four-cube reefs. Of the 68 four-cube patch reefs, 48 four-cube reefs were unpublished sanctuary reefs for habitat enhancement and fisheries management/research objectives completing the Steinhatchee Fisheries Management Area (SFMA) Phase II construction project that was initiated by the University of Florida in partnership with FWC. Sixteen four-cube reefs were placed to augment fishing opportunities in a designated public fishing area that was started in 2007 in the northern corner of the SFMA permit site with the initial placement of two 16 cube unit public reefs. The SFMA has a depth range of 25-50 feet.

Artificial Reef Monitoring Projects

The FWC is also funding the continuation of years two and three of the fish census monitoring of the 520-foot-long, steel-hulled, former missile tracking ship the General Hoyt Vandenberg, sunk as an artificial reef in 2009 six miles south of Key West. This monitoring project continues to document the changes in fish presence/absence and relative abundance and biomass over time at the Vandenberg artificial reef site and seven reference reef sites for years two and three of the new reef. The Vandenberg rests in 135 feet of water about six miles south of Key West at 24° 27.60' N latitude and 81° 44.25' W longitude. The Reef Environmental Education Foundation (REEF) is performing the fish census activities. The final report from this two-year monitoring effort is expected by December 2012.

The FWC Artificial Reef program is also providing funding to the University of West Florida to conduct acoustic tracking of selected reef fishes associated with modular concrete and concrete and steel units located in 110-130 feet of water in federal waters within the Escambia East Large Area Artificial

Reef Site, 15 nautical miles south of Pensacola Pass. Work began during summer 2012. The project will conduct a multidisciplinary, process-oriented study using an acoustic array of 16 Vemco VR2 receivers deployed in a defined pattern over a 22 kilometer squared area to continue work on the ecological function of small artificial reef patch reefs deployed by the FWC in 2003. Twenty-five reef fish will be tagged and tracked over a three-month period to produce three-dimensional tracks of fish and estimate home ranges and factors effecting tagged fish. Results of this study will add to our knowledge of reef fish ecology on small-scale artificial reefs off the Florida Panhandle. The final report from this one-year monitoring effort is expected by July 2013.

The FWC and Escambia County will continue sampling legal-size recreationally targeted reef fish (red snapper, gray triggerfish, red and whitebone porgy, vermilion snapper, grouper) for PCB analysis (using skin-on lateral muscle tissue fillets) in compliance with requirements of the EPA risk-based PCB disposal permit for the ex-U.S.S. Oriskany (CVA-34), sunk as an artificial reef in 212 feet of water 22.5 nautical miles off Pensacola Pass on May 17, 2006. Between Dec. 14, 2006, and April 19, 2011, 10 reef fish sample collection events were completed, six during the spring and four during late fall/winter. The 330 retained reef fish from the Oriskany Reef through sampling round eight included eight reef fish species: 219 red snapper, 68 vermilion snapper, 19 red porgy, 14 whitebone porgy, five scamp grouper, two gray triggerfish, one red grouper and one bank sea bass. Six of seven species (all but the lone red grouper sample) during one or more of the first nine sampling rounds (sample round 10 has not yet been analyzed) had one or more specimens whose total PCB concentrations exceeded the Florida Department of Health (FDOH) PCB screening level of 50 parts per billion and the EPA Tier 1 monitoring screening threshold of 20 parts per billion total PCBs.

Red snapper and vermilion snapper were the only two reef fish species providing enough information to evaluate mean total PCB concentration trends over the first nine sampling rounds analyzed. During the first four sampling rounds, red snapper total PCB concentration means remained above both FDOH and EPA screening thresholds, spiking during sampling round two. By sampling round five, red snapper mean total PCB levels had declined below the FDOH threshold but remained above the EPA Tier 1 screening threshold. During sampling rounds six through nine, mean red snapper PCB concentration levels fell below both EPA and FDOH total PCB screening thresholds. Mean vermilion snapper levels remained consistently below FDOH and EPA screening levels from the time they became available for capture through round nine. The benthic insectivores red porgy and whitebone porgy continued through sampling round eight to have individual specimens with elevated PCB levels above EPA screening levels, or in some cases exceeding FDOH screening levels through sampling round eight. However, sample sizes were small for red and whitebone porgy and there was considerable variability in PCB concentrations among individual porgy specimens and in sampling round nine, red and whitebone porgy sample results were below the FDOH but slightly above the EPA screening level. The highest recorded total PCB concentrations for any of the individual 254 Oriskany Reef PCB sampled fish were from red porgy (1,654.7 parts per billion (ppb) during sampling round four and 1,222.7 ppb in sampling round eight). These individual Oriskany Reef fish had total PCB levels 24 to 33 times higher than the FDOH screening level. Only five legal size piscivorous grouper (scamp) were available for capture at the Oriskany Reef with two of three captured in sampling round eight exceeding the FDOH screening threshold (highest concentrations 208.7 ppb and 94.1 ppb respectively), and one captured in sampling round eight exceeding the FDOH screening threshold (292 ppb).

The downward trends of mean red snapper total PCB concentrations to below EPA and FDOH screening levels at the Oriskany Reef and the consistently low vermilion snapper mean PCB levels presently do not require any fish consumption advisory action to be taken. The remaining species (triggerfish, groupers, porgy) represent too few specimens sampled at the Oriskany Reef with too great a PCB variability among individuals of the same species to take any species.

Oriskany Reef sampling and monitoring will continue. Thirty-six reef fish specimens from sample round ten were collected from the Oriskany Reef on April 19, 2012, (5.9 years post-deployment) are presently undergoing analysis with results expected by the end of September 2012.

Additionally, 11 underwater visual assessments were conducted on the Oriskany Reef over the past few years by FWC divers, confirming that the observed recreationally targeted species found on the Oriskany are well represented among the fish retained for PCB analysis. Visual observations by FWC divers also documented that the Oriskany Reef had settled into the sediments about 10 feet at 2.5 years post-deployment and sustained minor structural change to the exterior covering of the smoke stack at 3.5 years post-deployment following the tropical storm events of 2007 and 2008, respectively.

Monitoring Compliance with the Marine Fisheries Trip Ticket Reporting Requirements through Audits of Applicable Fish House Records

Monitoring the compliance with marine fisheries trip ticket reporting requirements ensures accurate fisheries information.

Four audits of wholesale dealers were conducted. One of them was conducted jointly with U.S. Fish & Wildlife and FWC Law Enforcement. Ten wholesale dealers were visited to determine

whether or not a detailed audit is necessary. One hundred seventy-four wholesale dealers received delinquent notices for failing to submit trip tickets within 90 days. Research into reported landings was conducted on 74 wholesale dealers and commercial fishermen. Of these, one-third were for FWC Law Enforcement and two-thirds were for federal agencies. Training modules for Investigator II positions were developed and/or updated to facilitate a smooth transition for sworn officers coming into the agency from the Department of Environmental Protection. One hundred emails were sent to the Office of General Counsel relating to redesigning the informal hearing process for license and penalty issues.

In addition, five individuals were sentenced to a total of \$147,000 in fines, 66 months imprisonment, one year of house arrest, and five years probation for crimes related to commercial fishing prosecuted in the preceding year.

Administrative Penalty Assessments for Violations of Specified Fisheries Regulations, Retrieval of Lost and Abandoned Spiny Lobster, Stone Crab, and Blue Crab Traps

Florida Statutes specify administrative penalties and license suspensions for violations of specific fishery regulations.

Sixty administrative penalties were assessed for a total of \$216,000. Two of the administrative penalties were rescinded (totaling \$8,500). Penalties paid totaled \$6,000. Forty-three of the administrative penalties (72%) were for net violations, 10 (17%) were for unlawful purchase of saltwater products, four (7%) were for unlicensed harvest, and three (5%) were for other major violations.

Thirty-two petitions for administrative proceeding were received, 36 informal administrative hearings were conducted, 11 formal administrative hearings were conducted, and six petitions resulted in settlement agreements. Four petitions resulted in

informal administrative proceedings, where the petitioner elected the option to submit additional evidence for consideration in lieu of proceeding with an informal administrative hearing.

The FWC has two programs dedicated to removing lost and abandoned traps from state waters. The Spiny Lobster, Stone Crab, and Blue Crab Trap Retrieval Program contracted with commercial fishermen to remove lost and abandoned traps from state waters during closed seasons. The Derelict Trap and Trap Debris Removal Program provided a mechanism to authorize volunteer groups to collect derelict traps and trap debris during open or closed seasons.

Blue crab, stone crab, and spiny lobster have a number of trap restrictions and/or tagging requirements. Trap retrieval programs were conducted with revenues paid from fees received by these fisheries. Thirty-three trap retrieval trips were conducted (18 for blue crab and 15 for stone crab and lobster) where a total of 3,027 traps (1,501 for blue crab and 1,526 for stone crab and lobster) were retrieved for a total expenditure of \$69,950. Additionally, 18 authorizations were issued for volunteer derelict trap cleanup events, resulting in the removal of 875 traps (three of the 18 cleanup events have not reported).

Issuance of Special Activity Licenses

The marine fisheries special activity license program issues licenses for activities that require a waiver of marine fisheries regulations.

Two hundred fifteen Special Activity Licenses were issued, 75 license amendments were issued, six applications were denied, and one application was withdrawn. Forty-five percent (130) of the licenses issued or amended were for scientific research, 33% (94) were for education and or exhibition, and 14% (41) were for redfish catch, hold and release tournament exemption permits (the remainder were for aquaculture brood stock collection (four), gear innovation (one),

governmental purpose (three), stock collection and release (13), and bonefish catch, hold and release tournament exemption permits (four).

Florida Fish and Wildlife Research Institute

Director: Gil McRae

Finfish

The Florida Fish and Wildlife Institute exists to provide timely information and guidance to protect, conserve, and manage Florida's fish and wildlife resources through effective research and technical knowledge.

We continued our efforts to monitor and characterize the recreational snook fishery in Florida and to conduct studies to establish movements and exchange rates between groups of snook inhabiting freshwater, estuarine, and coastal reef habitats and also between the major estuarine systems. We also expanded our biological sampling of snook for age and reproductive status into riverine and offshore areas not previously sampled. Monitoring of spotted seatrout courtship sounds at a key spawning site was continued and a pilot project to evaluate red drum spawning sites and site fidelity off the mouth of Tampa Bay was continued, using a similar combination of acoustic telemetry and passive acoustic monitoring as used in our spotted seatrout spawning studies.

Studies of Florida's permit fishery were initiated, with an emphasis on developing a better understanding of the fishery and examining population movements and stock structure using both conventional and genetic tagging studies. Our studies of movements, habitat fidelity and home ranges of recreationally important reef fish species in the Florida Keys were continued, as was our effort to identify and document spawning sites of the mutton snapper (*Lutjanis analis*) and other reef fish species.

We also continued a field study to provide quantitative information on habitat associations

and movement patterns of goliath grouper (*Epinephelus itajara*) within the central eastern Gulf of Mexico, as well as initiating a catch and release mortality study and continuing our opportunistic collection of life history information from specimens made available through natural mortality events or enforcement actions of this protected species. Lastly, we began development of a histological atlas of Florida reef fish using samples from FWRI's West Florida Shelf reef fish surveys.

Statistically robust habitat suitability models (HSM) are being developed that relate water quality and benthic habitat data to fish catch rates derived from Fisheries Independent Monitoring (FIM). The HSM models (BEINFO, ZAGA) account for zero-inflation in the FIM data. The model is currently being evaluated. A new web-enabled database has been created, called Ecospecies that incorporates over 90 species life history (SLH) profiles. As part of the Ecospecies contract with the South Atlantic Fisheries Management Council, a comprehensive SLH profile was created that cites almost everything published on red snapper.

Mollusks

Bay scallop (*Argopecten irradians*) population monitoring and restoration is ongoing from Pine Island Sound to St. Andrew Bay, with success evaluated via surveys of adult abundance and recruitment patterns. All of the areas open to harvest that were surveyed in 2011 were classified as healthy except the St. Mark's region, which was in a transitional status (showing signs of recovery after low densities in 2009 and 2010). The 2011 harvest season opened six days early compared to the 2010 season, which opened 11 days early. The 2011 season was also extended to September 25, elongating the season by 21 days total in 2011.

We will conduct a post-season survey for the first time since 2003 (Steinhatchee), 2005 (St. Joe Bay and Homosassa), and 2007 (Anclote and St. Andrew Bay) to assess mortality rates in both

open-harvest and closed populations. The two monitored populations in the region potentially affected by the Deepwater Horizon oil spill (St. Andrew Bay and St. Joe Bay) had densities in 2011 that exceeded those in 2010, and also had higher recruitment levels, suggesting no immediate impact. Scallop densities in most closed areas were at the highest levels seen since surveys were initiated in 1994. But two populations, Tampa Bay and Sarasota Bay, were at their lowest since surveys started there in 2007, suggesting the population in the southwest region has not fully recovered despite restoration efforts. These efforts are organized with the cooperation of FWRI, but are largely funded through micro-grants and other fundraisers by volunteer-based organizations.

Oyster (*Crassostrea virginica*) population assessment studies are being conducted in southeast Florida as part of the Comprehensive Everglades Restoration Program and also as a component of a federally-funded (ARRA) oyster restoration in St. Lucie County. Additional studies of Gulf of Mexico oysters were initiated as part of two actions related to the Deepwater Horizon oil spill: a rapid-response study meant to establish base-line metrics (which will be useful in comparing data from several Florida Gulf estuaries) and, also, as part of the Federal NRDA response. FWRI is also participating in updating the FMP for Gulf oysters. A draft version of the plan is complete and is being prepared for public comment and the 2012 GSMFC review process.

Crustaceans

Research into lipofuscin age determination of Florida blue crabs continues with investigation into the correlation of lipofuscin accumulation and chronological age. The investigation into the effect of the Blue Crab Effort Management Plan (BCEMP) on commercial blue crab effort and landings continues to track annual changes in landings, license renewals, and traps tags post-BCEMP implementation. A statewide disease monitoring program, using histology and qPCR

for the detection of *Hematodinium* sp. in wild populations of blue crabs continues. This program is working to understand the role of this disease in the natural mortality of blue crab populations.

We continue to identify horseshoe crab spawning beaches and collect spawning site information through an online reporting system. This reporting system continues to demonstrate annual increases in public participation and has revealed new spawning sites throughout the state.

The stone crab fishery independent monitoring program continues at nine locations along the west Florida coast. This program gathers fishery-independent data on the stocks exploited in this claws-only fishery. Since the implementation of this program, sufficient data has been collected to suggest fishery specific trends that are currently being integrated into the 2012 stock assessment.

This year, Florida has experienced an increase in the reporting of Giant Tiger Prawn, *Penaeus monodon*, from the Panhandle and East coast of the state. We have distributed press releases and contact information statewide to encourage reporting from recreational and commercial fishermen. The extent of this exotic invasive population is unknown.

Fisheries Genetics

With angler assistance, we continued to use DNA markers to genetically track individual tarpon in capture/recapture studies in Florida. To date, about 9,000 samples from caught-and-released tarpon have been obtained and genotyped. The majority of movements for recaptured tarpon have occurred over small distances (less than 10 km); however, some have occurred over large distances (e.g., from the Tampa Bay area to the Florida Keys).

Analyses of genetic data for spiny lobster and common snook continued. We also continued to examine the distributions of bonefish species inhabiting Florida and are completing the formal description of a newly discovered bonefish species,

which occurs in south Florida, Mexico, and some Caribbean locations (Wallace and Tringali. 2010. J. Fish. Biol. 76:1972-1983). Mean single-generation dispersal distances were estimated for members of sand seatrout populations along Florida's Gulf of Mexico coast. Observed patterns of genetic heterogeneity conformed to an isolation-by-distance model of gene flow, and individual sand seatrout can be expected, on average, to disperse from natal locations a distance of about 80 km. The genetic effective population size for the west-central Florida stock of Gulf of Mexico red drum was determined based on genotype data from more than 23,000 wild red drum ($N_{\text{e}} = 48,580$; 95% CI = 32,720 to 86,830). The effective size of hatchery red drum released during Project Tampa Bay was computed based on genotype data from more than 2,200 hatchery recaptures ($N_{\text{e}} = 34$; 95% CI = 32 to 36). Using 29 microsatellite DNA markers, about 250 specimens of hogfish from the Florida Atlantic and west-central Florida Gulf of Mexico were tested to ascertain levels of geographic connectivity. Spatially-associated genetic differentiation was not observed over the sampled range. For spotted seatrout, approximately 500 breeding adults and 650 young of the year from Tampa Bay were genotyped for mark/recapture and kinship studies, which are ongoing.

Fisheries Statistics

Fisheries-independent monitoring (FIM) of fish continues in Tampa Bay, Charlotte Harbor, Indian River Lagoon, Cedar Key, Apalachicola, and Northeast Florida. The FIM program uses a systematic sampling strategy to collect fish free from the biases associated with collecting data from recreational and commercial fisheries. Data has been used for numerous stock assessments for several inshore species. Staff has spent much time developing models that describe fish abundance associated with different habitats. Additionally, staff in this program have been involved in the mercury concentration in fish program, fish health assessment, environmental health and fish diets, as well as studying fish from the rivers feeding

Charlotte Harbor and Tampa Bay. We have continued to work on expanding our FIM program into reef areas along the coast.

During 2010-2011, preliminary numbers indicate Florida commercial landings from 216,902 commercial fishing trips totaled approximately 95.4 million (M) pounds of fish, crab, clams (wild harvest only, excludes aquaculture), lobster, shrimp, and other invertebrates worth over \$200 M in dockside value. Marine life landings (live fish and invertebrates for aquaria and other uses) from 5,601 commercial collecting trips in 2010-11 amounted to 8.2 M individual specimens worth nearly \$2.9 M in dockside value. The top 10 species in dockside value harvested during 2010-11 in Florida were: Caribbean spiny lobster (\$38.3 M), stone crab (claws: \$25 M), pink shrimp (\$13.8 M), red grouper (\$12.4 M), blue crab (including soft-shell crabs; \$12 M), white shrimp (\$10.5 M), king mackerel (\$8.7 M), bait shrimp (\$7.4 M), oysters (\$6.7 M) and black mullet (\$5.9 M). The total commercial harvest of food shrimp in Florida was 17.4 M pounds (heads on; \$34.7 M dockside value) in 2010-2011.

Stock Enhancement Research

Preliminary designs for future marine eco-centers were completed for sites in Escambia and Walton counties in the panhandle. Demolition of buildings and progress on the youth development center and aquatic plant nurseries were ongoing at the New Smyrna Beach EcoCenter. Planning continued for development of an intensive marine hatchery for Tampa Bay. A fourth trial of intensive culture of juvenile red drum *Sciaenops ocellatus* was completed evaluating new equipment to optimize oxygen levels in circular culture tanks. We continued to make improvements to transition existing culture capabilities from extensive to intensive. A new, six-tank production system for intensive culture of larval red drum was completed in the intensive culture lab. Larval red drum were stocked into these tanks to develop husbandry protocols for indoor, phase-I production. We

continued coordination with the crustacean group for an aging study for blue crabs (*Callinectes sapidus*) in pond 16 and greenhouse two. There were no snook or red drum releases during this period. *Spartina* plugs (33,000) and shoots (10,000) were harvested from the hatchery effluent treatment marsh for shoreline restoration or nurseries at six locations throughout Tampa Bay.

Marine Fish

Fish and Wildlife Health (FWH) staff in St. Petersburg monitors the health of aquatic organisms throughout the state of Florida. During the 2011-2012 FY, the FWH group conducted necropsies (laboratory or field examinations of fish to collect health data) on 1,375 specimens that covered four project aspects: 1) health monitoring (n = 233), 2) event response (n = 235), 3) stock enhancement support (n = 236), and 4) special projects (n = 671).

Event response specimens (17%) were evaluated as part of fish kill investigations or other fish and wildlife health related events. Health monitoring specimens (17%) were collected primarily by Fisheries Independent Monitoring (FIM) as part of our collaborative disease surveillance efforts, and were submitted to FWH because they exhibited gross external abnormalities or because we requested apparently healthy specimens to gather baseline data and develop health profiles for sport fish. Fish categorized under special projects (49%) included sport fish collected for parasitological analysis to study parasites that may impact potential aquaculture species, fish collected to determine the prevalence of lesions in fish as part of a gulf wide survey conducted in collaboration with the University of South Florida in response to the continued anecdotal reports of lesioned offshore fish; and experimental research. Fish examined for stock enhancement purposes (17%) were evaluated in support of the Florida Marine Fisheries Enhancement Initiative (FMFEI). These fish came from trial recirculating aquaculture systems from FWC's Stock Enhancement Research Facility.

The statewide, toll-free Fish Kill Hotline (1-800-636-0511) and our web-based fish kill reporting form allow the public to report aquatic mortality and disease events directly to scientists, who can respond immediately to their concerns. Since its inception, the FWH group has received and responded to over 18,000 reports/information requests (hereafter referred to as reports). In 2011-2012, we received a total of 1,304 reports on FWH Fish Kill Hotline, through the FWRI website, or via direct calls. Approximately 35% of reports were related to unique fish kills, while 30% referred to previously reported fish kills, and the remaining 31% fell into other categories including other wildlife mortalities.

Thirty-seven sites were investigated for fish kills. A fish kill was considered an "event" when it was politically, economically, or ecologically significant. Four groups of reports were designated as events: 1) the Ocklawaha River catfish mortality (ID 16908), 2) the northwest regional reports of diseased snapper (ID 16661), 3) the red tide bloom in SW FL (ID 17359), and 4) the diseased mullet in the Tampa Bay area following spawning season (ID 17873).

FWH participated in various types of outreach activities to promote the Fish Kill Hotline and to promote conservation through education. Outreach consisted of a variety of activities intended to reach many segments of the public. To promote the hotline as a public resource, we gave out specialty items throughout the year, including fishing towels, stickers, reusable grocery bags, and key chains imprinted with the FKH number and the Sport Fish Restoration logo. We logged over 100 hours of preparation time and 238 direct contact hours with the public during outreach events.

Marine Mammals

FWC documented a high number of manatee carcasses in Florida during 2011 (n = 453). Preliminarily, 113 of the cause of death determinations in 2011 were related to cold

stress and 87 were watercraft related fatalities. One hundred statewide manatee rescues were conducted in 2011. Of those rescues, 36 were from natural circumstances and 21 were from watercraft collisions.

A statewide “synoptic” survey was not flown in 2012 because of warmer than average winter weather. An important objective within the state Manatee Management Plan includes improving these methods and implementing statistically sound methods to estimate the manatee population. Work progressed in developing and refining new methodology.

During the 2011-12 North Atlantic right whale calving season (Dec. 01, 2011 –March 31, 2012) staff coordinated and conducted aerial surveys off the coastal waters of Florida and portions of Georgia in an effort to alert vessels to the presence of right whales, monitor calf production, identify unique individuals, and describe whale distribution and habitat. Six mother/calf pairs were documented during the 2011/2012 North Atlantic right whale calving season. One entanglement related event was documented in the southeastern U.S. during the 2011-2012 calving season off Georgia. In collaboration with Georgia Department of Natural Resources, staff conducted 35 right whale biopsy sampling trips resulting in samples from five calves and several juvenile and adult whales.

Division of Habitat and Species Conservation

Director: Eric Sutton

Imperiled Species Management

The Imperiled Species Management Section (ISM) in this Division is responsible for the planning and implementation of management activities directed toward the protection and recovery of manatees, right whales, and five species of marine turtles. Marine turtle activities are funded from the Marine Resources Conservation Trust Fund. Manatee and right whale protection efforts are funded from the Save the Manatee Trust Fund.

Marine Turtles

The ISM implements tasks from recovery plans for five species of marine turtles and provides recommendations to ensure compliance with the Florida Marine Turtle Protection Act (F.S. 379.2431 (1)) for state-authorized activities. The activities are focused in the following program areas:

1. Comment on state and federal-permitted activities to minimize negative impacts to marine turtles and their nesting habitat, including the development of innovative strategies such as regional, littoral cell-wide agreement for all beach management activities.
2. Provide permits to individuals, organizations, and facilities that conduct research or conservation activities with marine turtles or keep captive marine turtles.
3. Assist local governments and the private sector in efforts to reduce impacts of lights and other disturbances on marine turtle nesting.
4. Conduct outreach activities to provide current information to the public and promote conservation stewardship.
5. Respond to unusual or catastrophic events that impact marine turtles or their habitats.
6. Participate in intra and interagency teams to provide expertise on marine turtles, their nests, and habitats.
7. Pursue funding opportunities such as development of decals, promote sales of the sea turtle license plate, or obtain grant funds to achieve program goals.

Accomplishments

- Developed an ~\$3,000,000 Early Restoration Project proposal focused on marine turtles and their nesting habitat for injuries due to activities during response efforts for the 2010 catastrophic Deepwater Horizon event. Staff also continued to provide assistance and expertise for the response activities that are continuing on Florida panhandle beaches and continued participation in Technical Working

Groups (TWGs) for Natural Resource Damage Assessment (NRDA) planning.

- Participated in the development of the Department of Environmental Protection (DEP) inaugural Beach Management Agreement for beach restoration activities on the Island of Palm Beach.
- Participated in the coordination and streamlining of permit commenting, including revising existing commenting logs and developing standard conditions and best management practices to streamline the review process and ensure protection of marine turtles, their nests, hatchlings, and nesting habitat as required under the Marine Turtle Protection Act (F.S. 379.2431 (1)).
- Revised recommendations for beach nourishment projects to reduce the post-construction monitoring specified in DEP permits for beach management activities as outlined in the DEP 2007 Report to the Legislature on post-construction monitoring.
- Participated in the U.S. Fish and Wildlife Service and National Marine Fisheries Service designation of critical habitat for loggerhead sea turtles.
- Educational presentations at schools and meetings of local conservation groups, homeowners associations, and other interested groups concerning marine turtles, lights, and other impacts and display of the Sea Turtle Lighting Trailer educational display by request.
- Administered the Marine Turtle Permit Program and participated in a Rapid Process Improvement for the Marine Turtle Permit Program to better serve researchers working with marine turtles in Florida.
- Coordinated transfer and release of marine turtles during rehabilitation and supervised public sea turtle releases; identified and transferred non-releasable marine turtles to other countries and states for captive display to reduce pressure on Florida facilities with limited space to maintain these animals.
- Staff reviewed more than 300 applications or plans, including revisions, submitted to the Florida Department of Environmental Protection's (DEP) District Offices, DEP's Bureau of Beaches and Coastal Systems, the Water Management (WMD) Districts and the State Clearing House. Projects reviewed included Coastal Construction Control Line applications, Environmental Resource Permit applications, and Joint Coastal Permit applications as well as DEP Clearing House reviews for federal projects to ensure authorized activities comply with Florida Statute 379.2431 (1).
- Participated in review of Department of Environmental Protection proposed rule revisions for Florida Statute 161 that could impact marine turtles, their nests, hatchlings, and nesting habitat.
- Participated in more than 80 site inspections, including lighting inspections as part of our environmental commenting responsibilities or at the invitation of local governments and property owners.
- Conducted public workshops at the request of local government commissions or staff.
- Participated in the following intra and interagency teams, working groups, and committees: Archie Carr Sea Turtle Refuge Working Group, FWC's Coastal Wildlife Conservation Initiative, the FWC Permitting Team, and the Marine Turtle Grants Committee.
- Management of the marine turtle disorientation database.
- ISM co-hosted the 2012 Marine Turtle Permit Holder Workshop with the Sea Turtle Conservancy in Gainesville for over 350 Marine Turtle Permit Holders, volunteers, local government, state and federal agency staff. This three-day event included presentations by agency management and research staff, conservation organizations and local governments, as well as summaries of Marine Turtle Grant projects and workshops focused on key issues.
- Provided educational materials concerning

marine turtles including educational brochures, posters, rack cards, and other information, including the creation and production of a colorful decal featuring a green sea turtle hatchling. This decal, number 21 of a series, was distributed to local tax collectors' offices across Florida.

- Assisted in the Wildlife Foundation of Florida project to provide funds from the National Fish and Wildlife Foundation to two local governments, the city of Deerfield Beach and city of Venice, to obtain funds for lighting improvements along their sea turtle nesting beaches and with a second project for the development of a mobile unit for treatment of sea turtles during cold stun events.
- Oversight of the Wildlife Friendly Lighting Certification program for lighting companies to encourage development of products that meet the requirements to keep light low, long (wavelength), and shielded. Lights that meet certain specifications are featured on the FWC website as options for reducing impacts from artificial lights on marine turtles and other wildlife.

Manatees

The Imperiled Species Management Section (ISM) implements the tasks of the Florida Manatee Recovery Plan and the newly approved state Manatee Management Plan (2007). The activities are focused in six program areas.

1. Development and implementation of county-based manatee protection plans (MPPs).
2. Promulgation of boat speed regulations to protect manatees.
3. Review of permitted activities to minimize negative impacts to manatees.
4. Various directed efforts to protect and enhance manatee habitat, particularly warm water refuges and sea grasses.
5. Outreach activities to provide current information to the public and promote conservation stewardship.

6. Stakeholder engagement to encourage participation and partnerships.

More details on the manatee program are available in the Save the Manatee Trust Fund Annual Report to the Legislature, which can be found at: <http://www.myfwc.com/research/manatee/trust-fund/annual-reports/>.

Highlights

- Duval County: All portions of the MPP have been revised and are in various levels of review by the County, FWC, and the U.S. Fish and Wildlife Service. A complete draft that may be ready for public comment is expected in late 2012.
- Sarasota County: The 2011 revisions to the County's MPP were approved by FWC in October 2011.
- Charlotte County: FWC is partnering with the County to help develop and draft the MPP, and have split the workload of drafting and developing portions of the plan. County staff has drafted five sections for FWC to review, and FWC continues to work on a draft of the manatee data section for the County staff to review.
- Staff produced 397 comment letters for development projects reviewed during the year and offered recommendations to reduce or eliminate potential adverse impacts to manatee from the proposed activities. Implementation of the Boat Facility citing portion of FWC approved MPPs is accomplished during the permit review process. Distribution of public information about manatees is also accomplished through these comments as facilities are required to post informational signs on manatees and distribute written materials to boat users.
- FWC also provided opinions on how to offset expected impacts to manatees for permitted port projects, including the Port of Miami's Phase III and cruise terminal J; Port Canaveral's Deepening and Widening and West Turning

Basin modifications; Port Everglades and Port of Palm Beach dredging modifications; Port of Panama City's Deepening; Tampa Port Authority's berths 151, 152, and 222; and Jacksonville Port Authority projects including maintenance dredging and near-shore disposal, Mile Point, and Bartram Island and Jacksonville Bulk Terminal's Dredge Materials Management Areas (DMMA's).

- Broward County (68C-22.010, FAC) –In September 2011, the FWC Commissioners approved the rule amendments to the existing Broward County manatee protection rule. The rule amendments were filed for adoption in October 2011. Sign posting work to mark the revised zones is expected to be completed early in FY 2012-13.
- Flagler County (68C-22.028, FAC) – A proposed rule for coastal Flagler County was considered by the FWC Commissioners in November 2011 and published in February 2012. FWC staff conducted a public hearing in Bunnell later that month. In May 2012, the FWC Commissioners conducted the final public hearing and approved the rule as proposed. The rule was filed for adoption in late May 2012. Sign-posting work is expected to be completed in early 2013.
- Structure Related Manatee Deaths have totaled 200 (since 1974) as a result of interactions with the numerous water control structures located on the state's waterways. The annual average structure related deaths pre-retrofitting has decreased from an average 6.2 manatees/year (1974-2000) to a post-retrofitting average 2.9 manatees/year (2001-2011). The Moore Haven Lock is the only remaining water control structure requiring the installation of a manatee protection device and this structure will begin retrofitting during the summer of 2012. Overall, coordinated efforts are having a significant influence on reducing structure-caused mortality at retrofitted structures.
- In September 2009, FWC, USFWS, DEP, and The Nature Conservancy began developing

a restoration plan for Fanning Springs that would remove eroded sediments from Fanning Springs run, increase available warm-water habitat for manatees and provide manatee access to the spring run during all river stages. In January 2012, this project was completed by removing 500 cubic yards of eroded sediments from the spring run. Post project observations of manatee use of Fanning Springs indicate that the restoration project achieved its goals of restoring the spring run and, in turn, improving warm-water habitat for manatees. In less than a month after completion of the project, Fanning Springs' park staff recorded an all time high count of 21 manatees in the spring run.

- FWC worked with Florida Power and Light (FPL) to ensure that the interim warm-water refuges that are being used during the conversions of the Cape Canaveral and Riviera Beach power plants provided the necessary refuge to manatees. This was the second winter of a three winter conversion process at the FPL Cape Canaveral Energy Center and the first of three winters at the FPL Riviera Energy Center. At each plant, manatee distribution data were collected via aerial surveys and manatee movement data were collected from satellite tagged manatees. These data will provide information regarding how manatees responded to the changes in warm water availability during the winter cold season. In addition, daily health assessments at the interim warm-water refuge were conducted to monitor manatees for cold-stress symptoms. In addition to these two FPL plants, FWC staff began drafting recommendations for the Conditions of Certification for the modernization of the FPL Port Everglades plant.
- Educational activities for manatee conservation included the distribution of brochures and other informational materials to local governments, stakeholders, conservation groups, marinas, schools, libraries, and the general public. Staff responded to 154 requests for printed

materials. The “Ask FWC” service on the agency’s website generated 6,311 hits for manatee-related questions. FWC responded directly to 86 online requests. In keeping up with today’s social networks, staff compiled manatee and sea turtle information for an iPhone app and contributes information to the agency’s Facebook and Twitter feeds.

Aquatic Habitat Conservation and Restoration

The Marine and Estuarine Subsection (MES) of the Aquatic Habitat Conservation and Restoration Section is responsible for the FWC’s coordinated management of marine and estuarine habitat in Florida waters. This subsection is staffed by regional biologists that work around the state with partners to develop and implement conservation projects, such as marine habitat restoration efforts, which support healthy marine fisheries. MES activities are supported by the state Marine Resources Conservation Trust Fund, and through various federal grant programs for specific habitat restoration efforts.

Marine and Estuarine Conservation through MES

The strategic actions of the marine and estuarine habitat program revolve around collaboration with other agencies, partners, and stakeholders to support marine habitat conservation activities. These actions revolve around five central goals:

1. Restoration and enhancement of the quality and quantity of marine and estuarine habitats.
2. Conservation and maintenance of intact native estuarine and marine habitats and their ecological functions.
3. Protection of Florida’s native estuarine and marine habitats and their functions within respective ecosystems from degradation.
4. Influence marine and estuarine habitat management through proactive coordination and participation with partners.
5. Support marine and estuarine habitat

restoration, conservation, and protection activities.

Accomplishments

- FWC northwest regional biologists initiated an oyster and seagrass restoration pilot project in West Bay (St. Andrews Bay-Panama City) to restore a seagrass community lost to the combined effects of shrimp farming and municipal waste disposal. The project will use a series of oyster reefs located on the historic deep seagrass bed edges to anchor sediments that currently suspend during periods of wave activity and cause light limitations in the water column. Combined with appropriate seagrass transplantation, this project will restore as much as 2,000 acres of seagrass historically found in West Bay. The resulting oyster reefs will enhance habitat for important fish species such as red drum, spotted seatrout, and gray snapper, and will support endangered species such as Kemp’s ridley sea turtles.
- FWC worked with FDEP, NOAA, and BP consultants to assess damage from oiling and oiling prevention activities to seagrass communities in waters from Franklin to Escambia Counties. This effort resulted in the identification of 17 seagrass scarring areas that were linked to oil response vessels and boom placements that are part of an approved emergency restoration plan that will restore seagrass in affected scars and provide monitoring of seagrass recovery over time.
- FWC staff conducted integrated seagrass monitoring in the Big Bend region of Florida as part of a long-term seagrass health assessment effort. This monitoring effort has continued for a number of years, and has been incorporated into an comprehensive “Seagrass Integrated Monitoring and Mapping (SIMM)” report available at: <http://myfwc.com/research/habitat/seagrasses/publications/simm-report-1/>. This monitoring effort is designed to assess changes in seagrass

system health over a broad area of highly productive habitat in the northeastern Gulf of Mexico, and report the findings to managers and the public.

Florida Department of Agriculture and Consumer Services

Adam H. Putnam, Commissioner

Division of Aquaculture

Leslie Palmer, Director

The Division of Aquaculture conducts numerous activities to promote the development of aquaculture and ensure the quality of aquaculture and shellfish products in Florida. These activities include regulatory, administrative, advisory, and technical functions directed toward ensuring that aquaculture operations are compatible with the Florida Aquaculture Plan, Aquaculture Certification Program, best management practices, resource management goals, and public health protection. The Division provides several primary service programs to support aquaculture and shellfish resource development:

1. Aquaculture Certification Program;
2. Sovereignty Submerged Lands Aquaculture Leasing Program;
3. Oyster Culture and Shellfish Resource Development Program;
4. Shellfish Sanitation;
5. Shellfish Environmental Assessment; and
6. Technical Support Program (Ombudsman, training, technical outreach, grants).

The Division has been very progressive in its support of aquacultural development as a practicable alternative to commercial fishing and conventional agriculture to foster economic development in rural and coastal communities. The Division's programs offer unique and essential services to this emerging sector of Florida's agriculture community. These programs provide the regulatory framework for aquacultural

operations and public health protection, provide specific farming areas on state-owned submerged lands, and provide responsible stewardship for Florida's natural aquatic resources.

During FY 2011/2012, the Division continued its commitment to encourage the development of the aquaculture and shellfish industries in Florida. This commitment is based on the belief that aquaculture will become an integral segment of Florida's agricultural and economic future by providing high quality aquacultural products to worldwide markets while advancing resource management.

The following is a summary of the activities related to aquaculture and shellfish resource management carried out by the Bureau of Aquaculture Development and the Bureau of Aquaculture Environmental Services during fiscal year 2011/2012.

Bureau of Aquaculture Development
Aquaculture Certification Program

Chapter 597, Florida Statutes (F.S.) established the Aquaculture Certificate of Registration to recognize aqua-farming businesses. Aquacultural businesses in Florida are required to be certified annually and to attest that they will comply with the best management practices provided in Chapter 5L-3, Florida Administrative Code (F.A.C.). The aquaculture certificate is used to identify aquaculture producers as members of Florida's agricultural community and to identify aquacultural products produced in the state.

The Aquaculture Certificate of Registration is linked to the Best Management Practices Program. Best management practices have been established by and for the aquaculture industry and represent the most appropriate and practical framework for Florida's diverse aquaculture businesses. More than 2,500 site inspections are conducted at aquaculture facilities to ensure compliance with Aquaculture Best Management practices and state and local regulations. Staff is trained to provide a

standardized evaluation based on compliance with established best management practices.

The Division certified 926 aquaculture facilities during FY 2011/2012. Shellfish producers (343 farmers) make up 37% of the certified farms; 202 ornamental producers make up 22% of the certified farms; 242 food fish producers make up 26% of the certified farms; and the remaining produce live rock, alligators, and bait. Certified farms are found in 61 of the state's 67 counties, with the highest number of certified farms occurring in Levy County (18%) and Hillsborough County (10%).

Sovereignty Submerged Lands Aquaculture Leasing Program

The Division is responsible for the Aquaculture Lease Program under the provisions in Chapter 253, F.S. During FY 2011/2012, the Division administered 506 aquaculture leases containing about 1,182 acres and 56 shellfish leases containing about 999 acres. Aquaculture and shellfish leases are located in 17 counties, including: Bay, Brevard, Charlotte, Collier, Dixie, Franklin, Gulf, Indian River, Lee, Levy, Manatee, Monroe, Palm Beach, Pinellas, Santa Rosa, St. Johns, and Volusia Counties. In response to its statutory mandate, the Division identifies tracts of submerged lands throughout the state that are suitable for aquacultural development. Twenty special aquaculture use areas have been identified by the Division and authorized by the Board of Trustees in nine coastal counties.

Unlike many upland agricultural ventures that are conducted on privately-held lands, marine aquaculture must be conducted on or over submerged lands that are largely held in the public domain. Since only an insignificant amount of suitable submerged acreage is privately owned, marine aqua-farmers are uniquely dependent upon the use of public lands to grow their crops. Accordingly, the Department must act on behalf of the Governor and Cabinet to administer and manage these public lands in the best interest of the

people of Florida, including protecting valuable natural resources.

The Aquaculture Lease Program supports marine aquaculture in a very unique way, and producing hard clams on sovereignty submerged lands is the largest marine aquaculture business in Florida. The most recent economic survey of hard clam processors (University of Florida, 2007) reported that 184 million clams were sold during 2007, accounting for about \$41 million. Currently, there is little cumulative information available to determine the economic impacts from the Deep Water Horizon oil spill event on clam businesses in 2010 and 2011 in Florida.

Oyster Culture and Shellfish Resource Development Program

Under the mandate to improve, enlarge, and protect the oyster and clam resources of the state, the Division is actively engaged in enhancing shellfish resources and restoring oyster reefs on public submerged lands. During FY 2011/2012, the Division collected 256,056 bushels of processed oyster shell from processors located primarily in Franklin County and collected 27,504 bushels of clam shell from processors in Cedar Key. Shell planting operations accounted for the deposition of 14,650 cubic yards of processed and fossil shell on public oyster reefs in Bay, Franklin, Levy, and Santa Rosa Counties. Oyster resource development projects involving the relaying and transplanting of live oysters were conducted in cooperation with local oystermen's associations in three coastal counties. A total of 150,393 bushels of live oysters were replanted on public reefs in Dixie, Levy, and Wakulla Counties.

Restoring Public Oyster Reefs

In 2006, the Department entered into a subcontract agreement with the Gulf States Marine Fisheries Commission (through NOAA) to restore oyster reefs adversely affected by hurricanes under the Emergency Disaster Recovery Program (EDRP). In 2010, the subcontract agreement was extended

on an additional year through September 2012. The \$4.2 million contract provides for three project components: 1) restoring public oyster reefs, 2) providing economic assistance to oyster farmers, and 3) developing a scientific model to assess the success of oyster reef restoration efforts in the Pensacola Bay system. In 2011/2012, the Division continued to be actively engaged in restoring oyster reef habitat on numerous sites identified in the EDRP oyster restoration plan. Oyster reef restoration operations accounted for the deposition of 12,707 cubic yards of substrate materials on public oyster reefs in some of Florida's most productive estuaries.

Apalachicola Bay Oyster Harvesting License

An oyster harvesting license is required to harvest oysters from Apalachicola Bay. In FY 2011/12, 1,790 oyster harvesting licenses were sold, representing a 6% decline in the number of licenses sold in the preceding year. License sales continue to demonstrate a large number of fishers remaining in the fishery, although the number of license holders has declined from a high of 1,909 in 2010.

Technical Support Programs

Providing technical assistance to the aquaculture and shellfish industries is an important role of the Division. Staff provides substantial technical and administrative support for aquacultural and shellfish operations through site visits, compliance inspections, technical meetings, conferences, workshops, and outreach projects. Staff provides guidance to aquaculture businesses to ensure compliance with Aquaculture Best Management Practices and other state and local regulations.

Bureau of Aquaculture Environmental Services **Shellfish Sanitation and Environmental Assessment** **Programs**

A total of 39 shellfish harvesting areas totaling 1,445,833 acres are currently classified and managed statewide. During FY 2011/2012, 555 sampling excursions were conducted to collect

and analyze 11,111 water samples for fecal coliform bacteria. There were 372 management actions to close or reopen shellfish harvesting areas in accordance with the management plans for individual shellfish harvesting areas. During FY 2011/2012, a total of 107 Shellfish Processing Plant Certification Licenses were issued and 331 regulatory processing plant inspections were conducted. Based on inspection results, 34 warning letters and eight settlement agreements were issued.

L LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES
OFFICE OF FISHERIES
Robert Barham, Secretary

The mission of the Louisiana Department of Wildlife and Fisheries (LDWF) Office of Fisheries is to conserve and protect Louisiana's renewable aquatic resources for present and future generations of Louisiana citizens by controlling harvest and replenishing and enhancing stocks and habitat. The mission is accomplished through the activities of programs within the Office of Fisheries: Shellfish (shrimp and crabs), Mollusc (oyster), Finfish, Habitat, and Research. The clients served by these programs include present and future generations of Louisiana citizens, as well as national and international interests that derive benefits from consumptive and non-consumptive use of Louisiana's fisheries resources. The LDWF recommends season, size, and possession limits or recommends other means of conserving key resources. Other conservation/protection methods include replenishing species and enhancing or developing species or habitats as needed to provide for the needs of consumptive and non-consumptive users or environmental health. The LDWF also conducts research to provide insight into the proper functioning of natural systems, educates the public, and promotes wise use of resources.

This report describes program activities that support this mission.

Fishery Openings/Closings

In response to the emergence of tar mats and large concentrations of tar balls on adjacent beaches during Hurricane Isaac, the LDWF took emergency action on September 4 to close a portion of state outside waters extending one-mile seaward of the shoreline from the western shore of Caminada Pass westward to the eastern shore of Belle Pass to all commercial fishing and recreational fishing except for recreational and charterboat angling until further notice. Subsequently, on September 6,

the Louisiana Wildlife and Fisheries Commission adopted a Declaration of Emergency to close these same waters to all commercial fishing and recreational fishing except for recreational and charterboat angling until further notice. Access to Elmers's Island Refuge which lies within the area included in this fisheries closure was closed on August 26, 2012 in advance of Hurricane Isaac. Portions of Elmer's Island Refuge were reopened on February 19, 2013. Approximately 0.6% of saltwater areas of the state currently remain closed to certain fishing activities due to the continued presence of oil from the BP Deepwater Horizon (DWH) oil spill. Certain waters within the Mississippi River Delta remain closed to all commercial fishing and portions of the Barataria basin near Bay Jimmy and Grand Terre Island and portions of state outside waters adjacent to Grand Terre Island remain closed to all recreational and commercial fishing except for recreational and charter boat angling (see Figures 1-3).

Tissue Sampling for Seafood Safety

Since May 2010, the LDWF has continued to test and analyze seafood coast-wide on a regular, ongoing basis. In March 2011, LDWF combined these efforts with the Department of Health and Hospitals (DHH) and with the Department of Environmental Quality (DEQ) to create the Louisiana Seafood Safety Plan. The state sampling plan collects and tests samples from inshore species, near-shore reef fish, and pelagic species along with corresponding water and sediment samples.

To date, over 2,100 statewide samples have been taken for seafood monitoring—for 2012, (47) blue crab (*Callinectes sapidus*), (233) shrimp, and (640) finfish--none of which have had any PAH level near or above the established levels of health

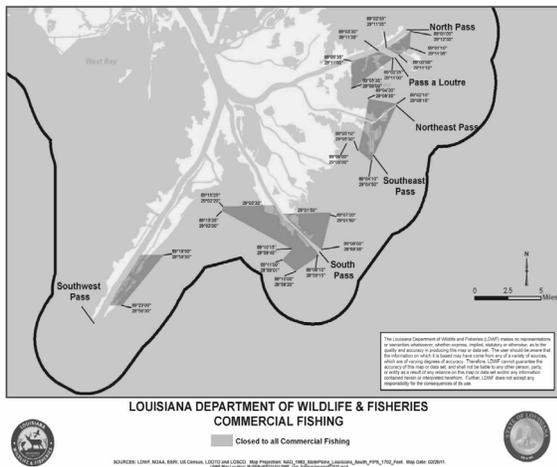


Figure 1. Commercial fishing area closures off the mouth of the Mississippi River.

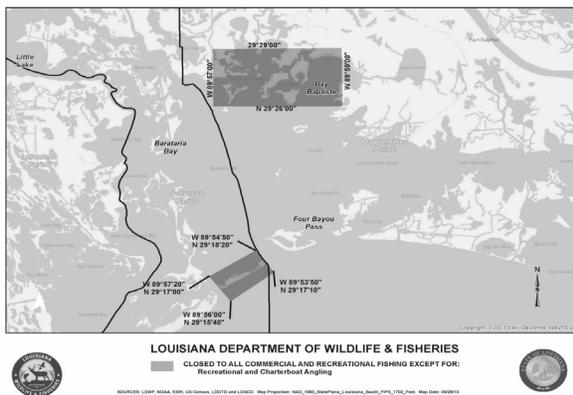


Figure 2. Commercial and recreational fishing closures in Barataria Bay, Louisiana.

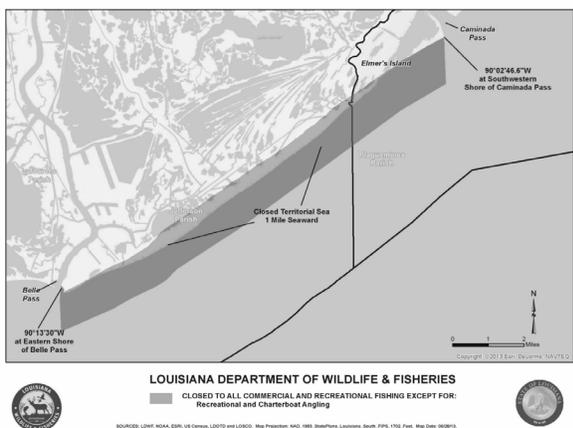


Figure 3. Commercial and recreational fishing closure areas off Elmer's Island in Plaquemines Parish, Louisiana.

concern. This included several samples provided by individuals that reported suspected oil in their seafood.

LDWF has also entered into a cooperative agreement with the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Food and Drug Administration (FDA), who analyze samples taken in areas proposed for reopening after closures due to oil impacts. Both state and cooperative NOAA/FDA sampling programs evaluate the same set of polycyclic aromatic hydrocarbons (PAH). None of those have had any levels of hydrocarbons near or above the levels of health concern.

Tissue Sampling of Offshore Finfish Species/Venice Station

In 2012, 255 fish have been sampled for seafood safety. Of those samples, 134 were collected in the eastern zone, 85 in the central zone, and 36 in the western zone. Variations in sample size are due to weather restrictions and logistical constraints in reaching the furthest stations. The most abundant species sampled, in order, was red snapper (*Lutjanus campechanus*) (n=33), yellowfin tuna (*Thunnus albacores*) (n=21), blackfin tuna (*Thunnus atlanticus*) (n=19), mangrove snapper (*Lutjanus griseus*) (n=16), and scamp (*Mycteroperca phenax*) (n=14).

Habitat Issues

LDWF Fisheries staff along with other state and federal trustees are actively assisting with the DWH oil spill Natural Resource Damage Assessment (NRDA) to determine impacts to Louisiana's natural resources and the human use of those resources. Some NRDA workplans are available online here: <http://losco-dwh.com/viewworkplans.aspx>. Some of those workplans are designed to assess damages for fish, marine mammals and turtles, oysters, submerged aquatic vegetation (SAV), benthic habitats, sandy shoreline habitats, and shoreline (including marsh and mangrove vegetation). In addition, LDWF staff continues to

assist in ongoing field work, data QA/QC as well as prove expertise in interpretation of that data.

Marine Mammal and Sea Turtle Stranding Response

The LDWF serves as the primary marine mammal and sea turtle stranding and rescue response entity in the state with one of our staff members named as the State of Louisiana Sea Turtle Stranding Program State Coordinator by NOAA/NMFS. The LDWF continues to receive and investigate all reports of marine mammals and sea turtles. These reports are received from members of the public, local government officials, and Natural Resource Advisors still working out on barrier islands and beaches. All sea turtle carcasses are recovered for necropsy to be performed by a veterinarian and where logistically possible and appropriate, depending on state of decomposition, marine mammal carcasses are recovered for necropsy to be performed as well.

Response for marine mammals and sea turtles for the DWH oil spill was initiated the first week of May 2010. Since that time, LDWF and other entities have investigated over 877 total marine mammal and sea turtles strandings and incidental captures throughout the entire coast of Louisiana including offshore. Of these animals, the following are included:

- Over 380 marine mammals (including dead and live animals; whales and dolphins)
- Greater than 497 sea turtles (including dead and live animals)

The LDWF is the lead stranding and rescue response organization, covering the entire vast coastline of the State of Louisiana. These investigations are important in that they are all part of the DWH oil spill, NRDA, and marine mammals are also under a formally declared Unusual Mortality Event (UME). The LDWF continues to collect and sample these animals following established protocols working with NOAA/NMFS and USFWS while

maintaining everything collected under a formal Chain of Custody. In conclusion, LDWF plays a vital role in protecting and monitoring the marine mammals and sea turtles that inhabit the waters of Louisiana.

Data Management

Since the DWH oil spill, over 6,500 requests for trip ticket landings have been processed for fisherman claims. After BP announced that it would require certified copies of trip ticket data from LDWF, the Department started receiving multiple sets of trip tickets from previous years, 2008 and 2009 in particular. All late submissions were thoroughly reviewed and forwarded to LDWF Enforcement for investigation. Multiple citations have been issued and several arrests for fraud have been made to date. Investigations are still continuing.

Inshore/Nearshore Sampling

In response to the need for information to assess the status of living marine resources in inshore waters, and in the shelf waters off of Louisiana, LDWF implemented a long-term sampling program in October, 2010, based upon its existing sampling program and the addition of new stations and the incorporation of a stratified random sampling design. LDWF began the Nearshore sampling study in March of 2011 in response to the DWH incident. The goal of this project is to generate fisheries-independent data on the species composition of groundfishes and shrimps found in the coastal waters of the Northern Gulf of Mexico as well as monitor shrimp tissue for toxins and tracking environmental parameters. Sampling occurs monthly year-round and employs a stratified random sampling scheme.

Shellfish Program

The Marine Fisheries Division continued its long-term trawl sampling program throughout coastal Louisiana. Fishery biologists collected 582 six-foot trawl and 3,585 16-foot trawl samples from inshore and offshore waters. Data from these samples were used to recommend season

frameworks for both the fall and spring inshore shrimp seasons and winter territorial sea shrimp seasons. In addition, these same data were used to recommend season extensions and special seasons and to provide recruitment indices for Gulf menhaden and blue crabs.

Shrimp

The Office of Fisheries has continued to administer a coast-wide monitoring program for parameters relevant to important fisheries resources, including both population dynamics and associated hydrological and environmental parameters, and to use information gathered to make management decisions. Technical, biological, and hydrological data gathered from the monitoring program were used to establish seasonal frameworks within the shrimp and oyster fisheries, predict annual Gulf menhaden (*Brevoortia patronus*) abundance, and provide data for managing groundfishes and blue crabs. These data have provided estimates of size, density, and growth of juvenile penaeid shrimp on the nursery grounds and staging areas, movement of sub-adult shrimp from the nursery grounds to staging areas, and the abilities to correlate juvenile shrimp response and subsequent production to hydrologic conditions. Data collected from the monitoring program were crucial in establishing opening and closing dates for shrimp seasons within Louisiana inside and outside territorial waters during the fiscal year. Hydrological and biological data collected on oyster recruitment (spat set) and oyster density and availability estimates were used in formulating management recommendations regarding the oyster season on the public oyster seed grounds and seed reservations. Harvest estimates were determined from boarding report surveys of boats fishing the public seed grounds and seed reservations. These data were compared with annual stock availabilities and previous production estimates calculated during the fiscal year. Interjurisdictional Fisheries Program funding used for many years by LDWF for the assessment and management of Louisiana coastal fisheries is unavailable in the current fiscal year. Lack of these

data affects LDWF's ability to comprehensively monitor growth and distribute the resource, and reduces the accuracy of projections and appropriate management recommendations.

Management Actions

Since 1975, LDWF has managed the shrimp fishery in inside waters using a shrimp management zone concept that has provided the flexibility needed to create staggered opening and closing dates, season extensions, special seasons, and special gear seasons between shrimp management zones. However, greater flexibility in managing the shrimp resource is now provided through the use of a basin type management approach. Louisiana's major estuarine basins include the Pontchartrain Basin, Mississippi River Basin, Barataria Basin, Terrebonne Basin, Atchafalaya River Basin, Vermilion-Teche River Basin, Mermentau River Basin, and Calcasieu and Sabine River Basins.

Shrimp Seasons

Based upon analysis of historic data as well as data from biological sampling by LDWF, the following management practices were implemented during the report period: data were used to set the opening and closing dates of the 2012 Spring inshore shrimp season; set opening and closing dates of the 2012 Fall inshore shrimp season; extend inshore seasons in portions of inside water; and close and then reopen to shrimping portions of Louisiana outside territorial waters.

Recommendations for the opening dates of the spring shrimp season in inside waters are determined by projecting when 50% of the inshore population of brown shrimp (*Farfantepenaeus aztecus*) sampled within each basin are at sizes of 100 count per pound or larger. Closure of the spring shrimp season in inside waters is based upon the relative abundance, percentage, and distribution of small juvenile white shrimp (*Litopenaeus setiferus*) taken in trawl samples. Recommendations for the opening and closing dates of state offshore territorial waters are based

upon the number and size of over-wintering white shrimp sampled in outside waters.

Resource Management Actions

Pontchartrain and eastern Mississippi River Basins

2011 – Fall Inshore Shrimp Season

Closed at official sunset February 2, 2012 except in the following waters:

- The open waters of Breton and Chandeleur Sounds as described by the double-rig line

2012 - Spring Inshore Shrimp Season

Opened at 6:00 am May 21, 2012

Closed at 6:00 am July 9, 2012 except for the following waters:

- Lake Pontchartrain including Rigoletes Pass from the mouth of Lake Pontchartrain extending eastward to the western side of the CSX Railway Bridge
- Chef Menteur Pass from the mouth of Lake Pontchartrain southeasterly to the mouth of Lake Borgne,
- The Mississippi River Gulf Outlet (MRGO)
- That portion of Lake Borgne seaward of a line extending one-half mile from the shoreline That portion of Mississippi Sound beginning at a point on the Louisiana-Mississippi Lateral Boundary at latitude 30°09'39.6" N and longitude -89°30'00" W; thence southeasterly to a point at latitude 30°03'12" N and longitude -89°21'30" W; thence northeasterly to the most easterly point on Isle Au Pitre at latitude 30°09'20.5" N and longitude -89°11'15.5" W, which is a point on the double-rig line; thence northerly along the double-rig line to a point on the Louisiana-Mississippi Lateral Boundary at latitude 30°12'37.9056" N and longitude -89°10'57.9725" W; thence westerly along the Louisiana-Mississippi Lateral Boundary to the point of beginning
- The open waters of Breton and Chandeleur Sounds as described by the double-rig line

Closed at 6:00 am July 14 in the remainder of Zone 1 except for the following waters:

- The open waters of Breton and Chandeleur Sounds as described by the double-rig line

2012- Fall Inshore Shrimp Season

Opened at 6:00 pm August 13, 2012.

Closed at official sunset January 18, 2013 except in the following areas:

- The open waters of Breton and Chandeleur Sounds as described the double-rig line in R.S.56:495.1.(A)2 which currently remain open to shrimping.

Western Mississippi River, Barataria, Terrebonne, Atchafalaya River and Vermilion-Teche River Basins

2012 – Spring Inshore Shrimp Season

Opened at 6:00 am May 7, 2012

Closed at 6:00 am June 23, 2012 except for the following waters:

- That portion of State inside waters from the eastern shore of South Pass of the Mississippi River westward to the eastern shore of Bayou Lafourche.

Closed at 6:00 am July 9, 2012 from the eastern shore of Bayou Lafourche westward to the western shore of Vermilion Bay and Southwest Pass at Marsh Island

2012 – Fall Inshore Shrimp Season

Opened at 6:00 a.m. August 13, 2012

Closed at official sunset December 18, 2012 except for the following waters:

- The portion of state inside waters within the Terrebonne Basin south of 29°13' 00" N from -90°18'00" W westward to -90°34'00" W, and those inside waters south of 29°06'00" N from -90°34'00" W westward to -90°46'00" W

Closed at official sunset December 20, 2012 in the remainder of inside waters within these basins

Mermentau, Calcasieu and Sabine River Basins

2012 - Spring Inshore Shrimp Season

Opened at 6:00 am May 21, 2012

Closed at 6:00 am July 9, 2012 except for the following waters:

- That portion of State inside waters from the eastern shore of the Calcasieu River Channel westward to the Louisiana/Texas state line
Closed at 6:00 am July 12, 2012 in the remainder of inside waters within these basins

2012 – Fall Inshore Shrimp Season

Opened at 6:00 a.m. August 13, 2012

Closed at official sunset December 18, 2012

Offshore Shrimp Seasons

Closed at official sunset December 20, 2011 in the following waters:

- That portion of state outside waters, south of the inside/outside shrimp line from the U.S. Coast Guard navigational light off the northwest shore of Caillou Boca at 29°03'10" N and -90°5'27" W westward to the western shore of Freshwater Bayou Canal at -92°18'33" W

Opened at 6:00 am April 14, 2012 in the following waters:

- That portion of State outside waters south of the inside/outside shrimp line from the U.S. Coast Guard navigational light off the northwest shore of Caillou Boca at 29°03'10" and -90°5'27" W westward to the Atchafalaya River Ship Channel at Eugene Island as

delineated by the River Channel red buoy line
Opened at 6:00 am May 21, 2012 in the following waters:

- That portion of State outside waters south of the inside/outside shrimp line from the Atchafalaya River Ship Channel at Eugene Island as delineated by the River Channel red buoy line to the western shore of Freshwater Bayou at -92°18'33" W

Closed at official sunset December 18, 2012 in the following waters:

- That portion of state outside waters, south of the Inside/Outside Shrimp Line as described in LA R.S. 56:495 seaward a distance of three nautical miles, from the northwest shore of Caillou Boca at -90°50'27" W westward to the Atchafalaya River Ship Channel at Eugene Island as delineated by the Channel red buoy line.

Landings and Value

Although 2012 landings are not yet available, preliminary statewide brown and white shrimp landings (heads-on weight) for January-October, 2012 totaled 27.7 and 54.6 million pounds, respectively (Tables 1 and 2). Excluding 2010, brown shrimp landings through the first nine months of 2012

Table 1. Monthly Louisiana Brown Shrimp Landings (millions of pounds/heads-on weight).

	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Total</i>
2000	0.23	0.09	0.09	2.72	28.40	18.10	6.36	4.14	1.01	0.43	61.57
2001	0.12	0.06	0.05	0.43	32.50	19.50	5.95	3.12	0.86	0.32	62.91
2002	0.15	0.15	0.08	0.34	21.00	18.40	5.15	4.61	1.17	1.17	52.21
2003	0.32	0.11	0.07	0.21	26.30	19.10	5.44	4.52	1.20	0.56	57.82
2004	0.14	0.09	0.07	0.33	22.30	19.60	7.78	2.92	0.82	0.53	54.57
2005	0.17	0.15	0.06	0.08	10.70	18.40	6.65	1.93	0.27	0.35	38.76
2006	0.03	0.00	0.02	2.20	20.60	15.60	5.84	1.94	0.86	0.49	47.58
2007	0.13	0.23	0.03	0.00	12.20	22.20	6.56	2.39	0.83	0.34	44.91
2008	0.03	0.02	0.03	0.13	10.00	11.10	1.74	0.73	0.13	0.32	24.23
2009	0.08	1.00	0.04	0.42	12.70	13.10	2.39	2.84	1.03	0.81	34.41
2010	0.10	0.14	0.09	0.08	5.48	7.08	0.90	1.15	0.32	0.62	15.96
2011	0.72	0.24	0.15	0.55	12.50	15.20	5.01	1.86	1.01	0.75	37.99
2012	0.06	0.06	0.04	1.29	10.10	7.37	4.35	2.17	0.86	1.40	27.70
AVG.	0.17	0.18	0.06	0.67	17.29	15.75	4.93	2.64	0.80	0.62	43.12

*2012 Data are preliminary and subject to change

Table 2. Monthly Louisiana White Shrimp Landings (millions of pounds/heads-on weight).

	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Total</i>
2000	1.60	0.65	0.59	1.60	4.38	2.40	1.62	12.60	17.20	17.30	59.94
2001	1.99	0.69	0.61	0.96	1.61	0.95	0.58	9.20	9.06	12.20	37.84
2002	2.32	0.78	0.66	0.56	2.26	1.81	1.04	6.29	6.91	11.60	34.23
2003	2.00	0.47	0.46	0.73	3.64	2.98	1.92	11.40	11.70	13.60	48.89
2004	2.37	0.63	0.64	1.21	4.10	2.07	2.24	14.90	8.90	17.00	54.06
2005	2.72	1.11	0.51	0.86	2.10	4.10	3.47	8.97	3.97	11.10	38.90
2006	5.44	1.73	1.04	1.10	7.00	6.46	7.44	16.50	12.80	13.70	73.21
2007	2.66	1.49	0.50	0.86	4.86	4.74	2.65	8.17	8.69	12.30	46.92
2008	3.33	1.07	0.64	0.62	4.34	5.56	3.06	9.73	4.20	11.40	43.95
2009	3.23	1.88	0.40	1.77	11.00	8.40	5.36	8.86	9.94	14.00	64.84
2010	2.44	1.24	0.81	0.81	2.83	4.84	0.82	4.96	8.27	12.10	39.12
2011	3.57	1.10	0.82	2.46	6.00	4.51	2.33	4.46	5.90	9.99	41.14
2012	4.18	1.81	1.11	2.08	6.59	4.05	2.83	10.10	9.42	12.40	54.57
AVG.	2.91	1.13	0.68	1.20	4.67	4.07	2.72	9.70	9.00	12.98	49.05

*2012 Data are preliminary and subject to change

rank as the lowest total among the past 13 years examined and are approximately 38% below the 13-year average of 42.5 million pounds (Figure 4). The most significant declines occurred in May and June, which are historically the two highest landings months of the year.

White shrimp landings through September rank fourth highest among the last 13 years and are approximately 15% higher than the 13-year average. (Figure 4)

Hurricane Isaac caused considerable damage to infrastructure supporting the shrimp fishery in Jefferson, Plaquemines, St. Bernard, Orleans, St. Tammany, and St. John the Baptist Parishes. As a result, Governor Bobby Jindal formally requested the Secretary of Commerce to declare a fishery failure and enact fishery disaster assistance clauses in the Magnuson-Stevens Fishery Conservation and Management Act to assist impacted fishermen and the commercial fishing industry. However, to date, Congress has yet to authorize any funding for this assistance.

Crabs

Preliminary trip ticket landings data indicate that

blue crab landings for January through October, 2012, total approximately 37.5 million pounds and are about 1.1 million pounds above levels reported for the same time period last year and approximately 300,000 pounds or 0.9% below the 13-year average (Table 3; Figure 4).

MSC Certification

The major LDWF activity related to blue crabs in 2012 was directed to assisting the Louisiana Crab

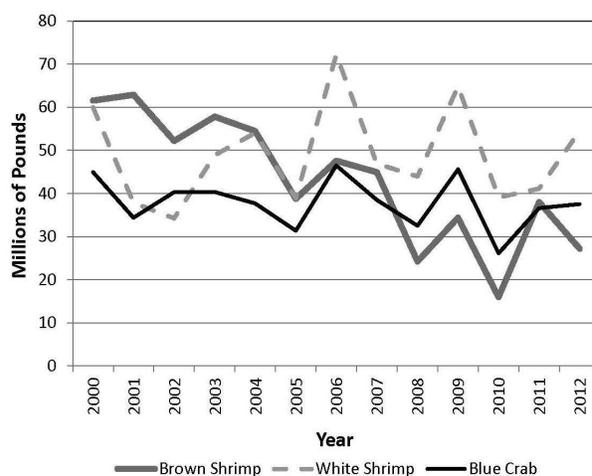


Figure 4. Louisiana's January-October commercial landings (millions of pounds) of brown shrimp, white shrimp and blue crab from 2000-2012.

Table 3. Monthly Louisiana Blue Crab Landings (millions of pounds).

	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Total</i>
2000	2.54	1.85	2.49	3.35	5.07	6.72	8.34	6.28	4.04	4.26	44.94
2001	1.16	2.02	0.90	1.55	2.90	4.66	7.01	5.00	4.58	4.61	34.39
2002	2.03	0.85	1.13	3.32	4.42	6.38	6.94	6.20	4.34	4.69	40.30
2003	2.23	2.47	1.36	2.71	4.80	6.29	7.40	4.82	4.14	4.12	40.34
2004	2.02	1.29	1.96	3.15	4.38	5.73	6.38	4.80	3.47	4.51	37.69
2005	2.13	1.19	1.09	2.26	3.97	5.48	6.08	4.64	1.53	3.00	31.37
2006	2.82	2.43	2.16	3.10	5.53	6.81	7.44	7.08	4.84	4.29	46.50
2007	2.46	2.52	1.80	2.48	4.08	5.65	6.35	5.86	3.59	3.71	38.50
2008	1.74	1.87	1.35	2.71	3.67	4.86	4.46	4.37	2.52	4.96	32.51
2009	3.50	2.55	2.13	3.47	5.66	7.12	5.93	6.36	4.40	4.36	45.48
2010	1.93	1.32	1.76	2.36	3.57	3.54	3.05	3.20	3.00	2.38	26.11
2011	1.92	1.83	1.84	2.98	3.57	5.45	5.93	5.68	3.51	3.91	36.62
2012	2.24	1.27	2.13	3.03	4.18	5.39	6.52	4.92	4.09	3.77	37.54
AVG.	2.21	1.80	1.70	2.81	4.29	5.70	6.29	5.32	3.70	4.04	37.87

*2012 Data are preliminary and subject to change

Task Force and Louisiana Seafood Promotion and Marketing Board in efforts to achieve the conditional requirements identified by the Marine Stewardship Council (MSC) in order to maintain certification of the Louisiana blue crab fishery as sustainable. In December, 2012, the LDWF initiated a coast-wide crab trap bycatch survey designed to collect and analyze data incidental bycatch in commercial blue crab traps with special emphasis on diamond back terrapins (*Malaclemys terrapin*). Trap sets will be deployed twice monthly in each coastal basin over a 30-month period to account for inter annual variation and to incorporate refinements in study design.

In March, 2013, the Louisiana blue crab fishery will undergo its first annual surveillance audit and report progress made to the certifying body on the required conditions identified in maintaining MSC certification of the Louisiana blue crab fishery.

To date, only one crab dealer in Louisiana is “chain of custody certified” and reports that sales are very successful especially for specific markets such as restaurants and certain retailers. LDWF is working on encouraging other crab dealers/processors to pursue chain of custody certifications.

Derelict Crab Trap Removal Program

Derelict crab trap clean ups were conducted in portions of St. Bernard, Plaquemines, and Terrebonne parishes in February and March 2012 (Figure 5). Over the last nine years, temporary crab trap closures and cleanups in 15 different

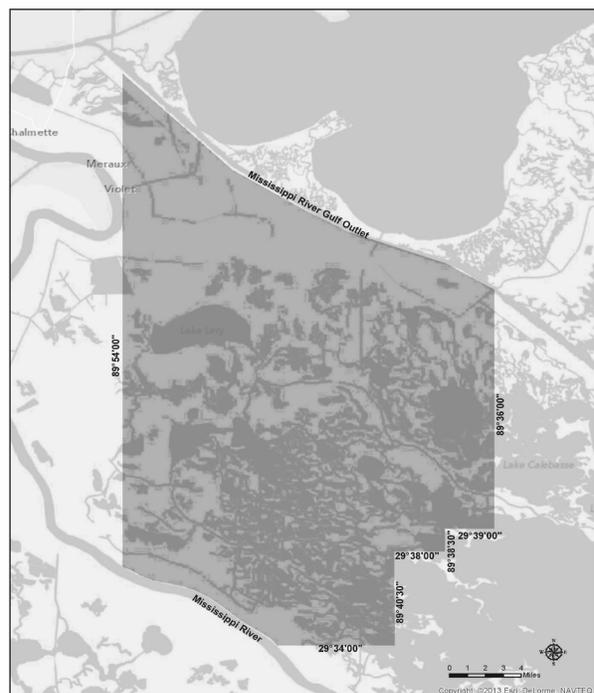


Figure 5. Commercial blue crab fishing closure area off St. Bernard/Plaquemines Parish, Louisiana.

areas have taken place, resulting in the removal and disposal of over 22,000 derelict crab traps (Table 4). One of LDWF’s partners in previous crab trap removal efforts is Louisiana Sea Grant (LSG), which helped spearhead the 2012 cleanups. The Coastal Conservation Association (CCA), Louisiana Crab Task Force, Louisiana Wildlife Federation (LWF), and Nature Conservancy also provided assistance with the cleanups.

Table 4. Total number of traps removed and volunteer effort in boat days from 2004 to 2012 (*LDWF boats not included).

Year	Traps	Boat Days*
2004	6,894	90+
2005	4,623	51+
2006	2,935	31
2007	1,498	14
2008	1,234	3
2009	788	0
2010	477	0
2011	1,100	0
2012	2,708	31
2004-2012	22,257	220+

The first crab trap closure took place in portions of St. Bernard and Plaquemines Parish over a 10-day period beginning on February 25, 2012, at 6:00 am and ending on March 5, 2012, at 6:00 am. LDWF and LSG hosted volunteer clean-up days on Saturday, February 25 and Saturday, March 3. Both volunteer days operated out of Sweetwater Marina in Delacroix Island.

The second crab trap closure took place in a portion of Terrebonne Parishes over a 10-day period beginning on March 17, 2012, at 6:00 am and ending on March 26, 2012, at 6:00 am (Figure 6). A single volunteer clean-up day was hosted on March 17 and operated out of Louisiana Universities Marine Consortium (LUMCON) in Cocodrie (Table 5).

Louisiana Crab Task Force

The Louisiana Crab Task Force met in February



Figure 6. Commercial blue crab fishing closure area in Terrebonne Parish, Louisiana.

and December, 2012. Discussions included potential changes to the serviceable crab trap law, nominees to the Louisiana Seafood Promotion and Marketing Board, labor and visa problems, and a proposed Wildlife and Fisheries Commission resolution endorsing the Louisiana Blue Crab Stock Assessment as the best available information on the fishery. This proposed resolution would allow the Commission to take necessary management actions should the blue crab stock approach the overfished or overfishing limits defined in the assessment. However, a quorum of Task Force members was not present and the resolution did not receive an endorsement from the Task Force. The Task Force also continued to discuss Marine Stewardship Council (MSC) certification of the Louisiana crab fishery, chain of custody certifications, and conditions to maintain the certification.

Mollusc Program

The Mollusc Program is responsible for the oyster (*Crassostrea virginica*) resource on nearly 1.7 million acres of public oyster seed reservations, public seed grounds, and public oyster areas. Seed

Table 5. Annual derelict crab trap closure areas, dates, and trap totals.

<i>Year</i>	<i>Area</i>	<i>Dates</i>	<i>Traps</i>
2004	Upper Terrebonne Bay Estuary	2/28-3/14	6,676
	W. Vermilion Bay	5/14-5/22	218
	2004 TOTAL		6,894
2005	Sabine Lake	2/18-2/27	4
	Breton Sound Estuary	2/26-3/13	1,941
	Middle Terrebonne Bay Estuary	3/5-3/20	2,437
	E. Vermilion Bay / West Cote Blanche Bay	5/16-5/22	241
	2005 TOTAL		4,623
2006	SW Terrebonne Bay Estuary	3/4-3/13	2,935
2007	E. Lake Pontchartrain	2/24-3/5	774
	Upper Barataria Bay Estuary	3/3-3/12	724
	2007 TOTAL		1,498
2008	Upper Terrebonne Bay Estuary	2/23-3/2	1,234
2009	Terrebonne Bay Estuary	NA	788
2010	Upper Barataria Bay Estuary	2/27-3/7	477
2011	Western Plaquemines Parish	2/26-3/5	1,100
2012	St. Bernard/Plaquemines Parish	2/25-3/5	1,961
	Terrebonne Parish	3/17-3/26	747
	2012 TOTAL		2,708
2004-2012	OVERALL		22,257

grounds are designated by the LWFC and include a large continuous area east of the Mississippi River, as well as areas of the Vermilion/Cote Blanche/Atchafalaya Bay system. Seed reservations and the public oyster areas of Calcasieu and Sabine lakes are designated by the legislature. LDWF manages four seed reservations, including one east of the Mississippi River (Bay Gardene), one in the Barataria Bay system (Hackberry Bay), and two in Terrebonne Parish (Sister Lake and Bay Junop).

Oysters provide an economic benefit to the state, and the ecological benefits of oyster reefs are very important as well. Oysters are biomonitors of the overall health of the ecosystem and provide forage and shelter habitat for a variety of fish and invertebrate species. Oysters also affect water quality through filter-feeding activities and estuarine current patterns, and may contribute to shoreline stabilization. Oysters are both economically and ecologically important; therefore, wise management of the public oyster resource is critically important to ensure that this valuable species continues to thrive in Louisiana's coastal areas.

Oyster Harvest

Traditionally, Louisiana produces about 1/3 of all oysters harvested in the U.S. and over 50% of oysters from the Gulf of Mexico states. Statewide oyster harvest in 2012 was just under 11 million pounds of meat (preliminary LDWF trip-ticket data), and was very similar to 2011 landings. However, the vast majority of the landings came from private oyster leases as approximately 10.5 million pounds (96%) was harvested. Historically, landings from private leases have comprised 60% to 80% of annual Louisiana oyster landings.

Over the years, the public oyster grounds have significantly contributed to the annual statewide oyster landings, although low abundance on public reefs again in 2012 led to a yield of just over 400,000 pounds of oyster meat. This was the second lowest harvest from public grounds during the 1961 to present time series as only the 1973 harvest of 355,000 pounds was lower. Much of the oyster production from the private leases is usually dependent upon small seed oysters (less than three inches) transplanted from the public grounds to be grown out for ultimate harvest at a legal and marketable size. The harvest of seed oysters from the public grounds, however, was also much reduced during 2012.

Oysters have been a significant part of the Louisiana economy for many years and routinely have a total economic impact on the state's economy of roughly \$300 million. In 2012, the dockside value of oysters was \$40.9 million (preliminary LDWF Trip Ticket Data), down slightly from \$41.4 million in 2011. This valuable resource is harvested from a variety of locations from bays to bayous and throughout the coast of the state.

Commercial oyster harvest in Louisiana is typically accomplished using large dredges (no greater than six feet wide) pulled behind oyster vessels called "luggers." Most of the commercial harvest from public oyster seed grounds occurs on the public grounds east of the Mississippi River in St. Bernard and Plaquemines parishes, although with recent decreases in oyster abundance in these areas, public harvest areas in Sister Lake and Calcasieu Lake have accounted for a greater share of annual public ground landings. Seed grounds and reservations are managed with the goal of providing seed oysters for transplant onto private oyster leases. However, two "Sacking Only Areas" exist east of the Mississippi River for the exclusive harvest of sack-sized oysters:

- portions of Lake Fortuna and Lake Machias and
- American/Long Bay.

Mechanical dredge harvest in Calcasieu Lake mirrors the dredge harvest in other parts of the state with the exception of dredge size, as Calcasieu dredges are limited to 36 inches in width. On occasion, however, harvest in Calcasieu Lake is still accomplished using traditional hand-tongs.

Oyster Seasons

State laws mandate that LDWF open the oyster season on Louisiana public seed grounds on the first Wednesday following Labor Day of each year and close these areas no later than April 30 of each year. However, the LWFC is authorized to extend the season beyond April 30 provided sufficient

stocks are available for harvest. The LDWF Secretary may close seasons on an emergency basis if oyster mortality occurs, or delay the season, or close areas where significant spat catch has occurred with good probability of survival, or if excessive amounts of shell in seed oyster loads occur. Management practices often use rotational openings of the four Oyster Seed Reservations in alternating years. A law change during the 2008 Louisiana Legislative Session requires that the public grounds only be opened to the taking of seed oysters between the first Wednesday following Labor Day and the second Monday in October. The seed grounds can then be opened to the taking of market-size oysters on the second Monday in October, as well as for harvesting seed oysters. The 2012/2013 oyster season was opened on September 5, 2012 in some areas, while other areas were opened at a later date (Table 6).

Biological Sampling

Management of the public oyster grounds and reservations relies heavily upon data gathered through a comprehensive biological monitoring program. This program provides quantitative and qualitative data on oyster populations and other reef-associated animals. The program also underwent significant changes in 2010 as biological sampling was significantly increased in response to the BP DWH oil spill. The increase in sampling effort was continued in 2012.

Square-meter sampling effort completed 490 individual samples at 98 stations coastwide, and included five replicates per station. These square-meter samples are collected each July and additional sampling stations were added to almost all coastal study areas (CSAs) in 2011. Square-meter data are collected using SCUBA and the data are used to measure the annual oyster stock size and for yearly season recommendations by LDWF. In 2012, the annual stock assessment estimated that approximately 1.2 million barrels of oysters (both seed and sack combined) were available on the public oyster grounds throughout the state, which

Table 6. Opening and closing dates of the public oyster areas.

<i>Public Oyster Areas</i>	<i>Season Opening</i>	<i>Season Closing</i>
All primary public oyster seed grounds east of the Mississippi River, except for the Bay Gardene Public Oyster Seed Reservation	Oct 29, 2012	Apr 30, 2013
Hackberry Bay Public Oyster Seed Reservation	Oct. 29, 2012	Nov 18, 2012
Little Lake Public Oyster Seed Grounds	Sept 5, 2012	Apr 30, 2013
Barataria Bay Public Oyster Seed Grounds	Oct 29, 2012	Apr 30, 2013
Deep Lake Public Oyster Seed Grounds	Oct 29, 2012	Apr 30, 2013
Lake Chien Public Oyster Seed Grounds	Oct 29, 2012	Nov 3, 2012
Lake Felicity Public Oyster Seed Grounds	Oct 29, 2012	Nov 3, 2012
Lake Tambour Public Oyster Seed Grounds	Oct 29, 2012	Apr 30, 2013
Lake Mechant Public Oyster Seed Grounds	Oct 29, 2012	Apr 30, 2013
Bay Junop Public Oyster Seed Reservation	Oct 29, 2012	Apr 30, 2013
Vermilion, East and West Cote Blanche and Atchafalaya Bay Public Oyster Seed Grounds	Sept 5, 2012	Apr 30, 2013
West Cove of Calcasieu Lake Public Oyster Area	Nov 1, 2012	Apr 30, 2013
Bay Gardene Public Oyster Seed Reservation, Sister Lake Public Oyster Seed Reservation, Sabine Lake Public Oyster Area, and east side of the Calcasieu Lake Public Oyster Area	Closed	

represents a 20% decrease from 2011 levels. As was the case in 2011, the majority of this resource was located in Calcasieu and Sabine Lakes.

Dredge samples were collected in all months and include three replicates per station. Dredge data are used to monitor the overall health of the oyster resource during the year and to assess recruitment of new age classes of oysters into the population. Field biologists also gather hydrological data on public oyster areas and develop harvest and fishing effort estimates by conducting boarding report surveys of oyster boats.

Dredge sampling during the fall and winter of 2012 has yielded a continuation of troubling reproductive failures in some areas of the public oyster seed grounds east of the Mississippi River in Plaquemines Parish as very few oyster spat were observed in the southern portion of the Breton Sound basin. In the northern portion of this basin (between the Mississippi River Gulf Outlet to the north and Stone Island to the south), however, sampling showed the presence of a strong spat

set in October. Continued monthly sampling has shown troubling signs of spat mortality with the loss of over 50% of these spat in December 2012 sampling. In public areas west of the Mississippi River, dredge sampling has shown normal oyster population dynamics. Data from Hackberry Bay and public oyster grounds in Terrebonne Parish indicate low oyster mortality and healthy oyster populations.

Oyster Reef Rehabilitation

Efforts to rehabilitate oyster resources on the public oyster grounds continued in 2012 as four projects were completed covering approximately 1,050 acres. Those projects are as follows:

Lake Fortuna – St. Bernard Parish

- Approximately 300-acre site in Lake Fortuna just west of Breton Sound
- Bid opening occurred on September 4, 2012 (delayed from 8/28 due to Hurricane Isaac)
- Project began on October 4, 2012 and finished on November 19, 2012
- Low bidder was Coastal Environments, Inc. at

- \$46.55 per cubic yard
- Project deposited approximately 28,630 cubic yards of crushed concrete cultch material over 300 acres of water bottoms in southern Lake Fortuna.
- Total project cost was \$1,332,657.31
- Funding source for project was the Phase I Early Restoration from the DWH oil spill disaster.

South Black Bay (Bay Crab) – Plaquemines Parish

- Approximately 200-acre site in Bay Crab just south of Black Bay
- Bid opening occurred on September 4, 2012 (delayed from 8/28 due to Hurricane Isaac)
- Project began on September 21, 2012 and finished on October 6, 2012
- Low bidder was Suncoast Contracting at \$52.95 per cubic yard
- Project deposited 20,172 cubic yards of limestone cultch material over 200 acres of water bottoms in Bay Crab
- Total project cost was \$1,068,107.40
- Funding source for project was the Phase I Early Restoration from the DWH oil spill disaster.

Sister Lake – Terrebonne Parish

- Approximately 350-acre site in the central portion of Sister (Caillou) Lake.
- Low bidder was Sun Coast Contracting at \$57.50 per cubic yard
- Low bid was under budget, so an extra 4,000 cubic yards of cultch was ordered for a total order of 37,500 cubic yards.
- Contractor completed 37,681 cubic yards on June 2, 2012.
- Contractor utilized size #57 limestone as the cultch material for the project
- Project cost was \$2,166,688.95
- Project began on May 18, 2012 and concluded on June 2, 2012
- Project utilized high-pressure water spray to deposit cultch material.

- Project typically unloads approximately 3,000 cubic yards per day and unloaded a total of 76 barges (195 feet X 35 feet).
- Funding source for project was the Phase I Early Restoration from the DWH oil spill disaster.
- July 2012 sampling showed presence of a successful oyster spat set on this new reef

Hackberry Bay – Lafourche Parish

- Approximately 200-acre site in northwest portion of Hackberry Bay, south of Snail Bay
- Low bidder was RJT Environmental Services, LLC at \$56.93 per cubic yard
- Contractor (RJT) is using size #57 limestone as cultch material
- Bids came in over-budget, so a reduction in cultch material volume from 30K cubic yards to 26,348 cubic yards was ordered.
- Contractor completed 26,086 cubic yards on May 21, 2012
- Project cost was \$1,485,084.91
- Project began on May 13, 2012 and concluded on May 21, 2012
- Project utilized high-pressure water spray to deposit cultch material
- Project typically unloaded approximately 3,100 cubic yards per day and utilized 96 total barges (120 feet X 30 feet).
- Funding source for project was the Phase I Early Restoration from the DWH oil spill disaster
- July 2012 sampling showed presence of a successful oyster spat set on this new reef

Oyster Reef Mapping Projects

No reef mapping projects occurred in 2012, although previous projects from 2010 were utilized in planning the 2012 oyster cultch planting projects indicated in the above section.

Native Stock Oyster Hatchery

Louisiana State University continued operation of an experimental oyster hatchery at the LDWF Fisheries Laboratory on Grand Isle, Louisiana in

partnership with staff biologists. The hatchery produced nearly 360 million eyed oyster larvae in 2012 as well as approximately 9 million small oyster spat. Oyster spat were deployed on public oyster seed grounds in California Bay and Mississippi Sound, while oyster larvae were released in southeast Calcasieu Lake.

Oil and Gas Monitoring Within the Public Oyster Areas

The LDWF acts as a commenting agency on all Coastal Use Permit applications received by the Louisiana Department of Natural Resources (DNR) for projects located within LDWF managed areas. The primary objective of the Oil and Gas Management Section is to monitor and minimize impacts on oyster resources resulting from oil and gas operations within public oyster areas. The section achieves this by reviewing and commenting on permit applications and requiring a water bottom assessment to be completed on each project area and proposed access route. The sampling protocol, developed by LDWF biologists, outlines what data is required to be collected for projects located in the public oyster areas and is available online at <http://dnr.louisiana.gov/crm/coastmgt/permitsmitigation/oyster/sampling-protocol.pdf>.

These assessments identify the type of bottom (soft mud, firm mud, buried shell, exposed shell, oyster reef) and the live oysters that will be impacted by the project. After the assessments are reviewed and the impacts calculated, the project can either be modified to reduce possible impacts or allowed to be permitted as proposed. In 2012, approximately 200 assessments were reviewed by section staff. Recommendation letters, which include recommended permit conditions designed to reduce impacts to oyster resources, were provided to DNR for each project.

Compensation for impacts is required as a condition of each permit issued for projects within the boundaries of the public oyster areas. The amount is calculated using the water bottom

assessments and a rate schedule developed by LDWF economists. This rate schedule is available online at <http://dnr.louisiana.gov/crm/coastmgt/permitsmitigation/oyster/rate-schedule.pdf>. In 2012, no compensation was collected for impacts due to a restructuring of program operations. State law directs LDWF to use all monies collected to restore, enhance, and manage oyster resources on the public oyster areas.

Oyster Leasing

The moratorium on the issuance of new oyster leases, at the request of Louisiana Department of Natural Resources (LDNR), remained in effect throughout 2012, except for pending oyster lease applications that were taken prior to the moratorium. There were 113 new oyster leases issued in 2012. The moratorium was requested in order to reduce the state's liability related to coastal restoration efforts. This moratorium does not affect lease renewals, and 441 renewal applications were processed.

The Oyster Lease Survey Section office is currently located at the University of New Orleans Advanced Technology Center, 2021 Lakeshore Drive, Suite 220. The section continues to maintain a website, which provides information to the public about oyster leasing in Louisiana. This website contains a searchable Geographic Information System with background maps, DHH closure lines, a database of current leases, landings and harvest statistics, and recent news articles about oysters. The website has had thousands of visits since it was developed and placed on the web in March 1998, and is available at: <http://oysterlease.wlf.la.gov/oyster/>.

Finfish Program

The primary objective of the finfish program is to make rational recommendations for the management of coastal finfish stocks based on a database of scientific information. The information in the database is collected through fishery-independent and fishery-dependent sampling. These programs are cooperative with

NMFS and the Gulf States Marine Fisheries Commission (GSMFC). The fishery-independent monitoring program is an ongoing collection of data by LDWF biologists who conduct surveys designed to sample coastal waters in an objective manner. Such surveys collect information based on geographic ranges, independent of commercial or recreational fishing operations. The Office of Fisheries fishery-dependent monitoring program collects information from fishers, processors, and observers based on methods developed by NMFS for similar programs.

Fishery-Independent Monitoring

A comprehensive monitoring program was developed in 1985 to protect or enhance these valuable resources by providing information regarding the status of fish stocks that occur in the coastal waters of Louisiana at some time during their life cycle. Three gear types are used coast-wide to sample various year classes of estuarine dependent fish.

A bag seine is used to sample young of the year and provide information on growth and movement. A gill net is used to sample juvenile, sub-adult, and adult fish and provides information on relative abundance, year class strength, movement, and gonad condition. A trammel net is used to provide information on relative abundance, standing crop, and movement. Gill net samples are collected semi-monthly from April through September, and monthly from October through March using a strike net technique. Gill nets are set in a crescent shape, open towards the shoreline and then circled several times by the sampling boat to drive those animals present into the net. Trammel net samples are taken monthly from October through March. Seine samples are taken quarterly from January through December. Hydrological data (conductivity, salinity, and water temperature) are collected with each biological sample. Samples are collected at specific locations arranged in such a manner so as to cover the beach, mid-marsh,

and upper marsh areas of all major bay systems throughout coastal Louisiana. The catch and hydrological information is summarized for each Coastal Study Area on a monthly basis to give resource managers information on the current condition of the resource. The pertinent life history information for the important species is also used in developing analytical and predictive models. During 2012, 454 (110%) seine samples, 1,925 (99%) gill net samples, and 538 (99%) trammel net samples were completed for a 99% completion rate. Those sample completion rates that were lower in 2012, were lower due mainly to inaccessibility of sampling sites during extreme weather events. Seine samples exceeded 100% due to extra sampling conducted in some areas of the state.

Fishery-Dependent Monitoring

The value of commercial landings in Louisiana exceeded \$320 million in 2012. The LDWF continues to collect commercial statistics through the Trip Ticket Program that was implemented in 1999. Through this program, commercial landings data are collected on a trip basis from wholesale/retail seafood dealers, crab shedders, and commercial fishermen holding fresh products licenses. There were over 227,000 commercial fishing trips reported in 2012, producing in excess of 1.0 billion pounds of seafood.

Beginning in May 2000, a computerized electronic trip ticket program was developed and made available to dealers. To date, roughly 233 dealers use the computerized program to submit their trip ticket data. Trip ticket information has been used to enhance the accuracy of stock assessments conducted by state and federal fishery management agencies, to extend certain inshore shrimp seasons, thereby providing additional economic opportunity to fishers, to develop a crop insurance program for oyster growers, and to estimate damages from Hurricanes Katrina and Rita in 2005 and Gustav and Ike in 2008.

Along with the collection of commercial landings data, the LDWF also conducts trip interviews of commercial fishermen. Biologists interview commercial fishermen to gather detailed information about a specific fishing trip. The federally funded program focuses on species of greatest state and federal interest.

The LDWF continues to monitor recreational fisheries through the Marine Recreational Information Program (MRIP) in cooperation with NMFS and GSMFC. This fisheries-dependent program uses dockside interviews of recreational anglers to determine catch and a telephone survey to determine effort. Table 7 represents the available 2012 data for the number of marine recreational fishing trips taken, the number of anglers participating and the numbers of red drum (*Sciaenops ocellatus*) and spotted seatrout (*Cynoscion nebulosus*) caught in Louisiana waters.

Fish Stock Assessments

In 2012, LDWF personnel 1) updated and revised the annual stock assessment of striped mullet, and 2) participated in the data and assessment workshops for the Gulf of Mexico Data, Assessment, and Review (GDAR) of blue crab.

Striped Mullet (*Mugil cephalus*) – This assessment uses a virtual population analysis (VPA-2Box version 3.05, NMFS Toolbox) to describe the dynamics of the Louisiana striped mullet stock. Yield and spawner-per-recruit analyses (YPR and SPR) are used to estimate stock status. A conservation threshold of 30% SPR has been

established by Act 1316 of the 1995 Regular Session of the Louisiana Legislature for striped mullet. Assessment results, using current (geometric mean 2008-10) fishing mortality rates (F), indicate that if $M=0.3$ (the value within the range of estimates that allows the lowest allowable harvest), the current fishery is operating below $F_{0.1}$ with yield below maximum YPR (approx. 67% of maximum), and SPR near 71%. An M of 0.6 would indicate a more lightly fished stock with the fishery operating below $F_{0.1}$, with yield being about 30% of maximum YPR and with SPR being near 90%.

Blue Crab – This Gulf-wide assessment uses non-sex-specific version of the latest Chesapeake Bay blue crab assessment model along with non-equilibrium surplus production modeling to estimate status of blue crabs stocks in the Gulf of Mexico. A review workshop is currently scheduled for early June 2013.

Finfish Management Actions

January 2012

- Secretary provided with authority to close commercial seasons of reef fishes if quota for species group is filled in federal waters.
- Secretary provided with authority to close recreational seasons of red snapper and greater amberjack (*Seriola dumerilli*) if quota is filled in federal waters.
- Louisiana set the 2012 recreational greater amberjack season with creel and size limits consistent with Federal regulations, including

Table 7. Marine recreational fishing trips taken in 2012, anglers, and numbers of targeted fish caught.

<i>Reporting Period</i>	<i>Number of trips taken</i>	<i>Number of anglers</i>	<i>Number of red drum caught</i>	<i>Number of spotted seatrout caught</i>
January – February	453,121	190,054	492,811	1,596,651
March – April	467,663	236,784	437,421	660,755
May – June	1,115,630	494,578	982,088	4,958,631
July – August	863,576	343,282	1,024,264	2,980,589
September - October	684,024	306,683	1,058,154	2,169,213
November - December	479,804	186,161	815,998	3,739,990

a June 1 through July 31 closure. Recreational fishery for greater amberjack opened January 1.

- Louisiana set the 2012 commercial greater amberjack season consistent with Federal regulations. Commercial fishery for greater amberjack opened January 1.
- Louisiana extended a closure of the recreational gag grouper (*Mycteroperca microlepus*) fishery consistent with Federal regulations. NOAA Fisheries service, after a short 2011 recreational season from September 16 through November 15, 2011, extended a temporary rule closing Federal waters to the recreational harvest of gag grouper until July 1, 2012 pending the implementation of permanent rules.
- Louisiana set the 2012-2013 king mackerel (*Scomberomorus cavalla*) commercial season consistent with federal regulations to open on July 1, 2012 and provided the Secretary with the authority to close the commercial season for king mackerel if the quota for the species is filled in federal waters.
- The commercial season for the harvest of spotted seatrout opened January 2.
- The commercial season for the harvest of small coastal sharks opened January 1, concurrent with federal opening.
- Louisiana waters closed to the commercial harvest of striped mullet with strike nets on January 16, 2012.

February 2012

- The commercial season for the harvest of large coastal sharks in Louisiana opened on February 15, 2012, consistent and concurrent with federal regulations.
- An annual Assessment of Striped Mullet in Louisiana Waters was completed and presented to the LWFC on February 2, 2012 prior to transmittal to the Louisiana Legislature. Based upon this assessment of striped mullet, for all natural mortality rates examined, if fishing mortality rates continue at

current levels, then striped mullet are not being harvested at a rate that would drive the stock below the target SPR of 30% established by the Louisiana Legislature.

April 2012

- Seasons for the recreational and commercial harvest of shark closed on April 1 at 12:01 a.m.
- The LWFC adopted a Notice of Intent to modify reef fish harvest regulations. Modifications included changes to establish consistency of seasons and bag limits with federal regulations such as: recreational bag limits for shallow and deep water groupers, commercial size limit for gag, closed season for recreational harvest of gag, closed season for recreational harvest of greater amberjack, closed season for the recreational harvest of black grouper (*Mycteroperca bonaci*), red grouper (*Epinephelus morio*), yellowfin grouper (*Mycteroperca venenosa*) and yellowmouth grouper (*Mycteroperca interstitialis*) as well as rock hind (*Epinephelus adscensionis*), red hind (*Epinephelus guttatus*) and scamp. Changes were also proposed for the definition of crew size on a vessel that holds a charter/headboat reef fish permit when that vessel is operating commercially.
- The LWFC adopted emergency rules to modify the aggregate bag limit for groupers from five to four and to modify the closed season for gag (*Mycteroperca microlepis*) to be consistent with federal regulations.
- Commercial season for the harvest of greater amberjack closed concurrent with federal regulations.

May 2012

- The LWFC adopted a Notice of Intent to modify reef fish harvest regulations to implement a weekends-only Louisiana state waters recreational red snapper season beginning on the Saturday preceding Palm Sunday and ending September 30 of each year with a recreational bag limit of three red

snapper per day at 16 inches minimum total length. A weekend would be defined as Friday, Saturday, and Sunday, with the exception of the Mondays during Memorial Day and Labor Day which would be classified as a weekend as well. The Notice of Intent also included provisions allowing the Secretary of the Department to modify the portions of this rule pertaining to red snapper recreational harvest limits and seasons if the National Oceanic and Atmospheric Administration Fisheries Service institutes sub-regional management for red snapper or as otherwise deemed necessary. Public comments on the Notice of Intent were accepted until Thursday, August 20, 2012.

June 2012

- Recreational season for the harvest of red snapper opened June 1, concurrent with federal opening.
- Recreational season for the harvest of greater amberjack closed on June 1, concurrent with federal closure.
- Commercial season for the harvest of gray triggerfish (*Balistes capriscus*) closed on June 30, concurrent with federal closure.
- The LWFC adopted a final rule in June to modify existing tuna harvest regulations. The modifications incorporate changes relative to a proposed requirement for a state issued recreational offshore landing permit when possessing, in immediate possession or on board a vessel, any of the following species: Atlantic bluefin tuna (*Thunnus thynnus*), yellowfin tuna, bigeye tuna (*Thunnus obesus*), skipjack tuna (*Katsuwonus pelamis*) and albacore (*Thunnus alalunga*). Other modifications in the final rule include reporting requirements and validation procedures for recreationally harvested yellowfin tuna. Changes in the regulations require that a written harvest report be maintained on a vessel recreationally possessing yellowfin tuna as well as require the validation of yellowfin tuna caught or possessed prior to offloading.

July 2012

- Commercial season for the harvest of small coastal sharks reopened on July 1 at 12:01 a.m. following an annual closed season.
- Commercial season for the harvest of large coastal sharks reopened on July 1 at 12:01 a.m. following an annual closed season.
- Recreational season for the harvest of sharks reopened on July 1 at 12:01 a.m. following an annual closed season.
- Recreational season for the harvest of gag opened on July 1.
- Recreational season for the harvest of gray triggerfish closed on July 4 at 11:59 p.m.
- Commercial season for the harvest of large coastal sharks closed on July 6 at 11:30 p.m., concurrent with federal closure.
- Recreational season for the harvest of red snapper closed on July 16 at 11:59 p.m.
- The LWFC adopted a Notice of Intent at its July meeting to modify regulations requiring a free Offshore Recreational Landings Permit to include all species of reef fish from the following groups: amberjacks, snappers, except gray snapper (*Lutjanus griseus*), groupers and hinds. Public comments on the Notice of Intent were accepted until Thursday, October 4, 2012.

August 2012

- Recreational season for the harvest of greater amberjack reopened on August 1, concurrent with federal opening.
- Louisiana closed the commercial season for the harvest of king mackerel on August 22, 2012 at 12:00 p.m., consistent with federal regulations.

October 2012

- Louisiana waters opened to the commercial harvest of striped mullet with mullet strike nets on October 15, 2012.

December 2012

- The LWFC adopted a Notice of Intent to

modify existing rules for the harvest of large coastal sharks. Proposed rule modifications would adopt a 36 shark possession limit consistent with federal regulations. At that same meeting the LWFC also adopted emergency rules allowing the 36 shark limit to be in effect immediately.

- Louisiana waters closed to the commercial harvest of small coastal sharks on December 31, 2012 consistent with federal regulations.
- Louisiana waters closed to the commercial harvest of spotted seatrout on December 31, 2012.
- Final rules requiring a no cost Recreational Offshore Landing Permit were published in the December 2012 Louisiana State Register. The final rule requires that recreational anglers and charter captains now have a free Recreational Offshore Landing Permit when landing tunas, swordfish, billfish, snappers (except gray), amberjacks, groupers, and hinds. Permit rules require reporting of all recreationally landed yellowfin tuna. Along with the publication of final rules requiring this permit and yellowfin tuna reporting, LDWF launched a website, a toll free phone number, an Android application and an iPhone application to facilitate permit registration and yellowfin tuna reporting. Information regarding the program can be found at www.wlf.la.gov/rolp. Public meetings were held regarding the new program, news releases were issued, and letters were sent to all reef fish and highly migratory species permitted charter/headboat operators.

The Finfish Management Program interacts with other Department, State, regional, and national personnel and agencies regarding finfish issues. The program contributes to the Gulf and Atlantic Aquatic Invasive Species Task Force that engenders cooperation on these issues for states from South Carolina to Texas and Mexico.

Habitat Program

Artificial Reefs

Artificial reefs provide resource habitat benefits while giving recreational and commercial fishermen rich and abundant fishing areas. The Louisiana Artificial Reef Program (LARP) was founded in 1986 to develop, manage, and maintain the State's artificial reef habitat. LARP provides a mechanism to convert obsolete oil and gas platforms into permanent habitat. Federal law requires oil companies to remove offshore platforms after production ceases. The Bureau of Safety and Environmental Enforcement regulates the removal of federal offshore platforms and can grant a departure from complete removal provided the structure and liability is transferred to a recognized State Rigs to Reef Program.

Since its inception, LARP has provided an opportunity for oil companies to contribute to the maintenance of fisheries habitat. Seventy oil and gas-related companies have participated in the offshore program and deployed the jackets of 320 oil and gas structures. During 2012, 26 obsolete oil and gas structures were deployed within a designated artificial reef. The multi-beam surveying of all the offshore artificial reefs and select remotely operated vehicle structural surveys were also completed in 2012.

Eight deepwater oil and gas platforms have been accepted into the deepwater reef program. Even though these reefs are in water depths in excess of 400 feet, the structure establishing the reef must maintain sufficient profile in the water column to be accepted into LARP. The deployments of the deepwater platforms undergo a non-explosive partial removal process which preserves the established biological community with minimal disturbance, maintains fishing opportunities for residents and saves money on the decommissioning of the platform. Two of these sites have been further enhanced by additional deepwater structures which were not able to be reefed in place.

LARP also manages a Special Artificial Reef Sites (SARS) program outside LARP's nine artificial reef planning areas and deepwater reef program. Seventeen SARS have been established and continue to be enhanced with additional oil and gas structures. SARS projects related to the 2005 hurricanes are nearing completion.

In addition, LARP has developed 28 inshore reefs, primarily low-profile reefs composed of shell and limestone. LARP constructed eight reefs, and 20 others were constructed in association with public conservation and private groups.

LARP, in cooperation with the Louisiana DOTD, completed the North Twin Span Reef utilizing 11,000 tons of concrete bridge rubble. Both phases of the project resulted in the creation of two 4 acre artificial reefs in Lake Pontchartrain. The new reefs provide habitat for marine fisheries species and opportunities for recreational fishers. Additional reef projects, in cooperation with the Louisiana Coastal Conservation Association, were initiated in Lake Calcasieu and Breton Sound.

Habitat Restoration and Planning

LDWF participates with other state and federal agencies in planning restoration of hazardous materials sites. Two planning activities continued in 2012: Bayou Trepagnier in St. Charles Parish and Bayou D'Inde in Calcasieu Parish. The progress on these projects has slowed as both the RP's contractors and the trustees have staff involved in the DWH oil spill cleanup and NRDA. Bayou Trepagnier has started to move forward with restoration planning and the trustees and Responsible Party are working to reach a suitable restoration project.

Statewide Hydrographic Monitoring

LDWF began collecting constant records of salinity, water temperature, and tide level in 1958. This program continued in 2012 cooperatively between LDWF and the U.S. Geological Survey

(USGS). Data are collected from 15 stations located from the Pearl River to Calcasieu Pass; details are shown in Table 8. The USGS has converted some stations to hurricane resistant hardened platforms to provide more reliable storm surge data across the Louisiana coast.

Field data are collected by USGS, and finished data are provided to LDWF. All sites collect data in near real-time (four-hour lag), and the data are transmitted via satellite from the instrument in the field to the USGS office in Baton Rouge and downloaded to LDWF's database via the Internet. Both internal and external data requests are filled from this database. Once processed, the data are used to support fishery management by, for example, determining how much suitable area of brown shrimp nursery grounds are available each year, and setting season opening dates.

Coastal Wetlands

Louisiana released the "2012 Comprehensive Master Plan for a Sustainable Coast". This master plan is revised every five years. LDWF fisheries habitat staff serves on the Framework Development Team (FDT) which is meeting quarterly in support of the 2017 revision of the plan. Members of Fisheries habitat staff continue to serve on the Fishery Focus Group that provides fishing stakeholder input to the continuing Master Plan development for 2017. Both the FDT and the Fishery focus group continue to meet to help fully implement the current plan as well as discuss current issues as they arise.

In addition, there were a number of coastal restoration projects moving through the formulation and development process. They include:

- The Myrtle Grove Diversion and Marsh Creation project
- The Morganza to the Gulf hurricane protection levee
- Pointe au Fer to Caillou Lake shoreline restoration

Table 8. Hydrographic monitoring locations across Louisiana.

<i>LDWF #</i>	<i>USGS #</i>	<i>Station Name</i>	<i>Current Status</i>
105	0738023365	Bayou Rigolets near Slidell	Online
111	07374527	Northeast Bay Gardene near Point-a-la-Hache	Online
112	07374526	Black Bay near Snake Island, Point-a-la-Hache	Online
117	3007220891501	Mississippi Sound at Grand Pass	Online
316	073802516	Barataria Pass East of Grand Isle	Online
317	07380251	Barataria Bay North of Grand Isle	Online
320	07380335	Little Lake near Cutoff	Online
327	07380330	Bayou Perot at Point Legard near Cutoff	Online
338	073802512	Hackberry Bay NW of Grand Isle	Online
417	073813498	Caillou Bay SW of Cocodrie	Online
518	07381349	Caillou (Sister) Lake SW of Dulac	Online
622	07387040	Vermilion Bay near Cypremort Pt.	Online
623	07387050	Vermilion Bay at Bayou Fearman	Online
730	08017095	North Calcasieu Lake near Hackberry	Online
731	08017118	Calcasieu River near Cameron	Online
732	08017044	Calcasieu River at I-10 at Lake Charles	Online

- Atchafalaya River diversion to Western Terrebonne
- Mississippi River Hydrodynamic/ Delta Study
- Pontchartrain Basin Barrier Protection project
- Calcasieu-Intracoastal Lock Replacement
- The Southwest Louisiana Coastal Plan
- Bayou Lamoque modifications, and
- West Shore of Lake Pontchartrain Levee.

LDWF staff also takes part in the deliberations of the Caernarvon and Davis Pond Interagency Advisory Panels. These groups advise the state about effects of operations, and possible changes in operations of these two freshwater diversion structures.

LDWF fisheries staff participates in the Environmental Work Group deliberations of each year's priority project list (PPL). The Environmental Work Group evaluates up to 11 projects per year for final recommendation to the CWPPRA Technical Committee for funding of engineering and design. Fisheries staff has worked with planning the restoration plan for Elmer's

Island which has been submitted by NMFS to CWPPRA PPL for this year.

Fisheries staff review coastal use, consistency, and 404 permit applications for possible impacts to fish resources and fish habitats. In 2012, staff have reviewed and commented on slightly over 850 permit applications. Staff also took part in a discussion with LDWF Wildlife staff, DNR, and DEQ to go to more conservative water withdrawal requirements. Staff also attended various Pre-App meetings to aid permit applicants in submitting permits that will have less habitat impacts.

Fisheries habitat staff serves as the state representative on the Aquatic Nuisance Species (ANS) panels for the Gulf States and Atlantic Regional Panel (GSARP) and the Mississippi River Basin Panel (MRBP). These panels work with state and federal partners to help implement the state and national ANS plan. LDWF fisheries staff is utilizing grants through this national plan to increase our knowledge on the spread of Asian carp in Louisiana waters. Fisheries Habitat staff

also serve as a point of contact for all ANS reports from LDWF field staff as well as the public.

Seismic Monitoring Need Update

The LDWF Seismic Section was created in 1939 specifically to protect oysters, fish, shrimp, and other wildlife from the effects of seismic exploration. Seismic exploration uses energy waves to generate a profile of sub-surface reflective layers that help define potential oil and gas traps. The energy waves can be produced by explosives detonated below the ground, air guns that emit a burst of air at the surface of water bodies, large vibrating pads placed on the surface, or other energy sources. These projects can occur in sensitive wetlands, water bodies, and uplands. Seismic agents monitor geophysical companies to protect Louisiana's fish and wildlife resources by ensuring compliance with LDWF seismic rules and regulations. During 2012, the Seismic Section monitored 24 projects throughout the state.

Research Program

Fisheries Research Lab

The Fisheries Research Lab (FRL) is a state-of-the-art research facility located in Grand Isle, Louisiana. Along with being a home base for fisheries research projects, it also serves as a place that public, state, and federal partners can utilize as well as other entities engaged in fisheries research, management, enforcement, coastal restoration, and marine education. The laboratory also supports the monitoring of Elmer's Island Wildlife Refuge and a local operations center for LDWF enforcement agents. The FRL's primary mission is to conduct research required to manage Louisiana's marine, estuarine and freshwater fisheries. Many research projects are conducted to accomplish this mission. A long-term, ongoing program the lab participates in is the Southeast Area Monitoring and Assessment Program (SEAMAP). This is a cooperative sampling program in the southeastern United States between state and federal agencies, as well as universities. Participants independently sample

using established guidelines to ensure consistent sampling throughout the Gulf. LDWF participates in four SEAMAP surveys. LDWF began conducting the SEAMAP Shrimp/Groundfish Survey in the 1980s and has continued to expand throughout the years to the extensive involvement today. Beginning in 2011, the lab introduced the SEAMAP Bottom Longline and Vertical Line surveys. In 2012, SEAMAP Plankton surveys began semi-annually. FRL staff, along with Baton Rouge personnel, plan and conduct these surveys annually. BP Near-shore groundfish and shrimp cruises are conducted monthly by FRL staff to provide fishery-independent monitoring and assessment information essential to management of Louisiana Gulf of Mexico fisheries resources in light of the oil spill. The lab also houses the LSU oyster hatchery. The facility also houses several research tank systems of various sizes designed to conduct studies or temporally hold fish. Other activities include projects for green-stick gear analysis, offshore red drum fecundity, amberjack tagging, juvenile red snapper stomach analysis, histology, trout tag retention, plankton light traps, diving/reef assemblages, and pelagic longline.

BP Nearshore Sampling

The near-shore waters of the Gulf of Mexico within the 5-40 fathom contour comprise the habitat of many of Louisiana's commercially and recreationally important species such as brown shrimp, white shrimp, red drum, red snapper, and Gulf menhaden, among many others. BP near-shore groundfish and shrimp cruises are conducted to provide fishery-independent monitoring and assessment information essential to management of Louisiana Gulf of Mexico fisheries resources in light of the DWH oil spill in a coordinated and cost-efficient program. The extensive information obtained from coordinated, fishery-independent surveys of living marine resources, such as shrimp, groundfish, reef fish, and other key recreational and commercial species is used to manage these species. Spatial and temporal distribution and abundance of

fishes in relation to measured environmental and oil impacts is also utilized by LDWF biologists to make management recommendations.

Protocols and methods were determined for sampling waters nearshore to the Louisiana coastline. Nearshore waters were divided into three zones: the Western Zone, the Central Zone, and the Eastern Zone. The geographic boundaries of each zone are listed and shown below (Figure 7).

- Eastern Zone: -88°00.00' W to -89°59.59' W
- Central Zone: -90°00.00' W to -91°59.59' W
- Western Zone: -92°00.00' W to -93°59.59' W

Each zone is demarcated by four sampling corridors corresponding to 30-minute longitudinal intervals within the zone boundaries. One longitudinal transect is selected at random within each of the

sampling corridors. A different zone is sampled monthly, such that each zone is sampled quarterly during the year. During one year, a total of 48 transects will be sampled. Samples are collected at each of eight depth strata along a transect line. Depth strata occur at increments of five fathoms. The first depth stratum occurs at five fathoms along the transect line, and the last depth stratum occurs at 40 fathoms. Thus, the total number of samples collected in a given year is 384 (48 transects x 8 depth strata).

The 125 foot R/V Blazing Seven managed by M&T Oceanographic Research, LLC was chosen and outfitted as the research vessel to complete cruise field operations. The R/V Blazing Seven is moored at the Port Fourchon Marina dock in Golden Meadow, Louisiana. Trawl surveys conducted by Fisheries Research Laboratory biologists collect information on shrimp and

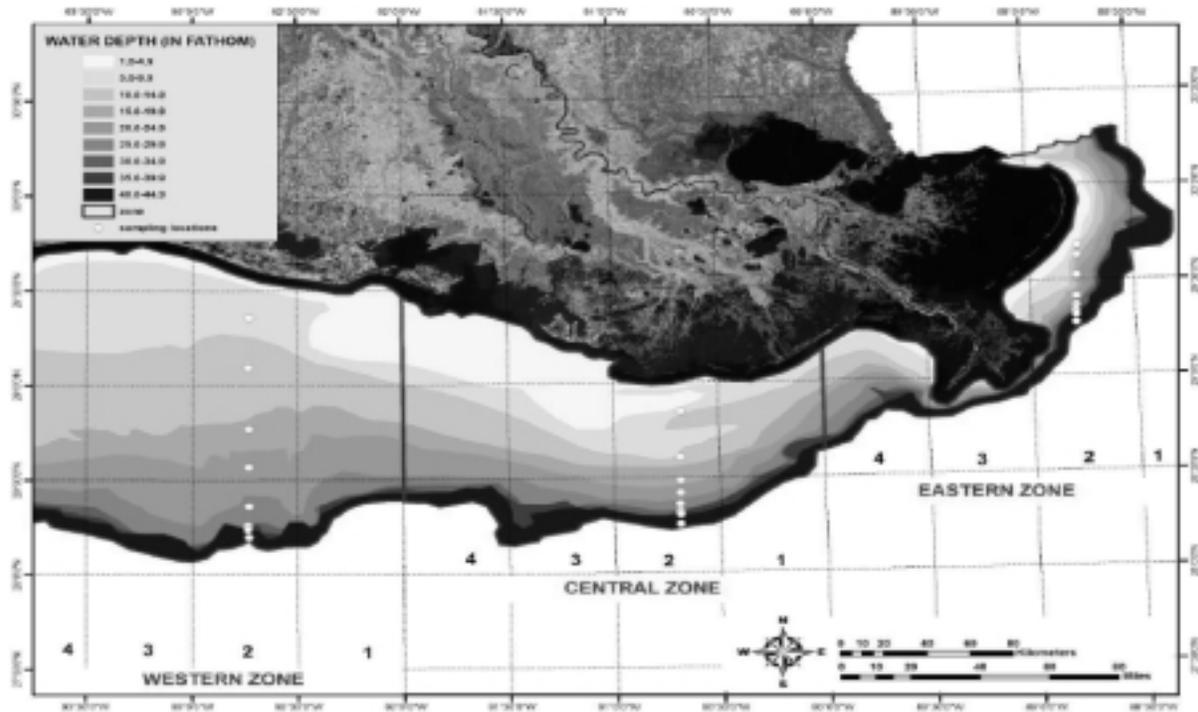


Figure 7. A schematic illustrating the sample layout for the nearshore monitoring program. The Louisiana coast is divided into 3 zones. Within each zone are 4 sample corridors. A transect line within each corridor will be selected at random. Transects will be separated by 1-minute of longitude. The dots represent 30-minute tows that will be taken with a 42' semi-ballon trawl. Each tow will be conducted along the transect line of longitude every five fathoms, beginning at a depth of five fathoms and ending at a depth of 40 fathoms.

groundfish abundance and distribution with a standard SEAMAP 42ft semi-balloon trawl. One 30-minute tow is conducted at or near three knots on the seafloor at each of the depth strata within a corridor using a 42ft trawl with 1.63 inch stretched mesh lowered into position at the selected sites with a towline to sample shrimp and groundfish species. All individuals captured by the trawl are identified to species and counted. A random subsample of 50 individuals for each species are measured for total length and weighed. All brown, white, and pink shrimp (*Farfantepenaeus duorarum*) are sexed and their degree of sexual maturation determined. FRL biologists also collect 750 grams of penaeid shrimp from each site for Seafood Safety Response tissue sampling completed by the LSU Agricultural Chemistry Laboratory in Baton Rouge and the DHH Laboratory in Metairie. In addition, FRL biologists also collect 1500 grams of penaeid shrimp collected in shallow water (30-60 feet) and 1500 grams collected in deep water (150-250 feet) for seafood testing by the LSU Food Science Center. Once collected, all samples are labeled with a collection number (e.g. FL201301), wrapped in aluminum foil, and frozen. After completion of the cruise, FRL biologists transport the frozen samples to the designated laboratories with a detailed chain of custody for testing. In addition, FRL biologists collect surface water samples from all stations and sediment samples from eight random stations for DEQ Seafood Safety Response Related testing. After completion of the cruise, FRL biologists package all water and sediment samples for shipping with detailed chain of custodies for testing.

FRL biologists participated in 11 sampling cruises in the 2012 calendar year aboard the R/V Blazing Seven. Each sampling cruise accommodated nine FRL biologists who were split into 2 four-person teams and one Chief Scientist to help as needed. Each four-person team works for 12 hours resulting in 24-hour round-the-clock sampling by LDWF personnel. The Chief Scientist adjusts schedules in order to provide any additional help

as needed for each team. The R/V Blazing Seven provides two deckhands during each shift for winch and crane operations. Randomization of zone selection resulted in the following order of sampling: Central, Eastern, and Western.

- The January 2012 cruise lasted four days resulting in the sampling of 23 stations in the Central Zone. Two cruises were made in an attempt to complete monthly sampling. Due to mechanical failure on the R/V Blazing Seven, the first cruise was cut short after sampling eight stations. Due to rough seas and inclement weather, the second cruise was cut short after sampling 15 stations. Samples were not collected in corridor three and station 1201-17 in corridor two. LDWF biologists collected 22 penaeid shrimp samples for tissue testing and both shallow and deep water penaeid shrimp samples for the LSU Food Science Center.
- The February 2012 cruise lasted five days resulting in the sampling of 30 stations in the Eastern Zone. FRL biologists performed trawl surveys at only 30 stations due to compromised bathymetry resulting in damage and tearing to trawl. LDWF biologists collected 20 penaeid shrimp samples for tissue testing and both shallow and deep water penaeid shrimp samples for the LSU Food Science Center.
- The March 2012 cruise lasted six days resulting in the sampling of 31 stations in the Western Zone. FRL biologists performed trawl surveys at only 31 stations due to site 1203-32 occurring in Texas state waters. LDWF biologists collected 14 penaeid shrimp samples for tissue testing and both shallow and deep water penaeid shrimp samples for the LSU Food Science Center.
- The April 2012 cruise lasted five days resulting in the sampling of 32 stations in the Eastern Zone. FRL biologists performed trawl surveys at all 32 stations. LDWF biologists collected 18 penaeid shrimp samples for tissue testing and both shallow and deep water penaeid shrimp samples for the LSU Food Science Center.

- The May 2012 cruise lasted six days resulting in the sampling of 31 stations in the Western Zone. FRL biologists performed trawl surveys at only 31 stations due to an underwater obstruction at site 1205-12 site resulting in the loss of sampling equipment. LDWF biologists collected 18 penaeid shrimp samples for tissue testing and both shallow and deep water penaeid shrimp samples for the LSU Food Science Center.
- The June 2012 cruise lasted one day resulting in the sampling of four stations in the Central Zone. FRL biologists performed trawl surveys at only four stations due to inclement weather and rough seas. LDWF biologists collected one penaeid shrimp sample for tissue testing.
- The July 2012 cruise lasted for five days resulting in the sampling of 31 stations in the Eastern Zone. FRL biologists performed trawl surveys at only 31 stations because site 1207-03 occurred in an area with a large number of artificial reefs and fish havens. LDWF biologists collected 19 penaeid shrimp samples for tissue testing and both shallow and deep water penaeid shrimp samples for the LSU Food Science Center.
- The August 2012 cruise lasted five days resulting in the sampling of 25 stations in the Western Zone. FRL biologists performed trawl surveys at only 25 stations due to inclement weather and rough seas. LDWF biologists collected 17 penaeid shrimp samples for tissue testing and both shallow and deep water penaeid shrimp samples for the LSU Food Science Center.
- The September 2012 cruise lasted for three days resulting in the sampling of 17 stations in the Central Zone. FRL biologists performed trawl surveys at only 17 stations due to mechanical failure of the crane on the R/V Blazing Seven. LDWF biologists collected 11 penaeid shrimp sample for tissue testing and both shallow and deep water penaeid shrimp samples for the LSU Food Science Center.
- The November 2012 cruise lasted for five days resulting in the sampling of 29 stations in the Eastern Zone. FRL biologists performed trawl surveys at only 29 stations because stations 1210-07 and 1210-08 occurred in coral reef obstructions known as the “Pinnacles” or “Alabama Alps.” There was no sample also collected at site 1210-11 after losing the trawl on an underwater obstruction. LDWF biologists collected 20 penaeid shrimp samples for tissue testing and both shallow and deep water penaeid shrimp samples for the LSU Food Science Center.
- The December 2012 cruise lasted for six days resulting in the sampling of 32 stations in the Western Zone. FRL biologists performed trawl surveys at all 32 stations. LDWF biologists collected 13 penaeid shrimp samples for tissue testing and both shallow and deep water penaeid shrimp samples for the LSU Food Science Center.

During the 2012 calendar year, FRL biologists performed 285 shrimp and groundfish trawl surveys within waters nearshore to the Louisiana coastline. In addition, FRL biologists collected 173 shrimp samples for Seafood Safety Response laboratory testing. BP Nearshore cruises are continually ongoing with a broader scope of purpose and meaning for Louisiana’s commercially and recreationally important species. The Nearshore Fisheries Monitoring project will now be conducted every other month beginning with the February 2013 cruise.

SEAMAP Vertical Line Survey

Vertical Line sampling provides fishery-independent data on the spatial and temporal distribution of both recreationally and commercially important reef fish off the coast of Louisiana. Three types of structure (upright oil and gas platforms, artificial reefs, and natural bottom) are fished. The data collected can be used to see what the CPUE for each type of structure, and in turn, CPUE data can be used in future stock assessment for Louisiana reef fish.

The Vertical Line project also incorporates a Hook Selectivity study. Lab personnel are collecting information on hook selectivity in the reef fish fisheries in order to assess the use of hook size (8/0, 11/0, and 15/0) for management purposes. The main objective is to reduce bycatch and bycatch mortality and to assess the use of hook size in reducing the catch of regulatory discards in a vertical line fishery. Sampling site selection is randomized and sampling is scheduled monthly, utilizing standard commercial harvest methods (i.e. bandit rigs).

Sites are selected randomly throughout the Louisiana waters of the gulf between the longitudes of -89°00.00 W and -91°00.00 W with water depth ranging from 60-360 feet. Data collected at each site are total length, total weight, sex, otoliths, ovaries (preserved in formalin), hook size, and environmental parameters which is currently entered in an Access database. In 2012, a total of 98 stations were sampled with eight days at sea. The total number of fish caught was 598 with 487 of the total identified as red snapper (86%). The data are analyzed during the winter months while the weather conditions limit offshore sampling for the FRL staff.

SEAMAP Bottom Longline

The SEAMAP Bottom Longline Survey is conducted to obtain fishery-independent data essential for the monitoring and assessment of Gulf of Mexico fishery resources. The data provide fisheries managers with critical information needed to monitor benthic species of teleost and shark populations in order to implement fishery regulations. The Bottom Longline Survey collects abundance and distribution information on elasmobranch and bottom feeding species with standard one nautical mile longline sets. One of three corridors is sampled (Eastern, Central, and Western) monthly, from March through October, with corridors alternately sampled monthly. Sites are randomized in each corridor by longitude and depth (longitude -89.00° W to -91.00° W, depth (1-

100 fathoms). A different set of depths is sampled monthly (Figure 8). All species are identified, weighed, counted, measured, and sexed (sharks) according to the SEAMAP Bottom Longline manual guidelines. Otolith and female ovaries are removed and processed in the lab for age and growth. Environmental parameters are collected (temperature, dissolved oxygen, conductivity, and salinity) with a Conductivity/Temperature/Depth (CTD) in conjunction with each set. Data are entered into the LDWF data management system. The final sampling cruise of the 2012 season ended in October.

The LDWF bottom longline survey produced 2,870 captures from the 95 bottom longline sets. Elasmobranchs consisted of 78% of the catch whereas teleosts consisted of the remaining 22%. Elasmobranchs were represented by 16 species and teleosts were represented by 21 species. The most frequently captured shark was the Atlantic sharpnose shark (*Rhizoprionodon terraenovae*) constituting 62% of the total shark captures, followed by the smooth dogfish shark (*Squalus acanthias*) (22%), blacktip shark (*Carcharinus melanopterus*) (7%), and the spinner shark (*Carcharinus brevipinna*) (2%). The most frequently captured teleosts was the red snapper constituting 54% of the teleost captures, followed by the king snake eels (*Ophichthus rex*) (31%), and gafftopsail catfish (*Bagre marinus*) (4%).

SEAMAP Ichthyoplankton Survey

SEAMAP ichthyoplankton surveys are conducted to provide information on the occurrence, abundance, and geographical distribution of the eggs and larvae of spring spawning fish, particularly Atlantic bluefin tuna and of fall spawning fish, particularly king and Spanish mackerel, lutjanids, and sciaenids, and which is essential to fisheries management in the Gulf of Mexico. Plankton sampling is conducted in conjunction with the National Marine Fisheries Service (NMFS) SEAMAP Spring and Fall Plankton Surveys and stations are selected from

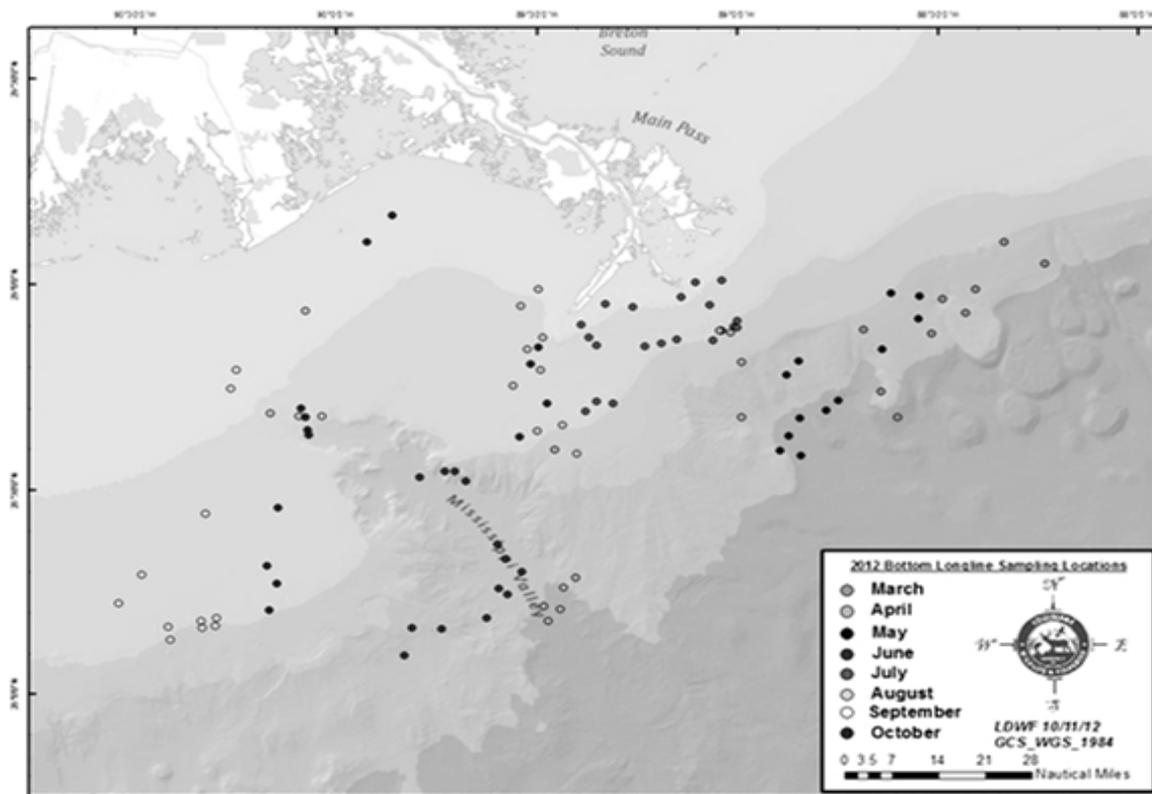


Figure 8. Sampling locations of SEAMAP bottom longline protocols for 2012.

their sampling grids. Sampling is conducted using 60cm, 0.335mm-mesh bongo and 1m x 2m, 0.950mm-mesh neuston nets. A water column profile (salinity, temperature, dissolved oxygen, conductivity) is conducted at each station using a Conductivity/Temperature/Depth (CTD) and water is collected for chlorophyll analysis at the FRL. Samples are transported back to the LDWF Fisheries Research Laboratory for preparation and transfer. Samples are then transferred to the NMFS Pascagoula, Mississippi lab for shipment to the Poland Ichthyological Laboratory for species identification.

LDWF successfully completed the SEAMAP Spring Plankton cruise for 2012. Eleven stations were sampled with bongo and neuston nets in addition to CTD collections. The cruise took place from Tuesday, May 8–May 11. LDWF also completed the SEAMAP Fall Plankton Survey

for 2012. The survey took place from September 10-12 and seven sites were sampled. At each site, environmental data collection, CTD cast, chlorophyll samples, and bongo and neuston tows were all completed. For each trip, the plankton samples were brought back to the lab transferred to ethanol and prepared for shipment to Gulf States Marine Fisheries Commission.

SEAMAP Shrimp/Groundfish Survey

The SEAMAP Shrimp/Groundfish cruise is designed to collect fisheries-independent data on shrimp, plankton, and groundfish associated with abundance and distribution west of the Mississippi River. Surveys are made in summer and fall at approximately 24 randomly assigned sample locations. Additionally, plankton samples are collected at seven set locations off the Louisiana coast and environmental parameters are recorded for each sample site (Figure 9). Shrimp and

groundfish samples are taken using a 42-ft trawl in water depths ranging from 3-40 fathoms. Plankton samples are acquired by towing 60 cm bongo and neuston nets.

Environmental data and water samples are collected via CTD rosette. Louisiana conducted its summer cruise aboard the RV Pelican from June 5-8, and sampled 29 groundfish stations in Louisiana's territorial sea and the adjacent EEZ between latitudes 28°19.24 N and 29°12.70 N and longitudes -89°21.74 W and -91°40.95 W. Louisiana also collected seven plankton stations between latitudes 28°30.00 N and 29°00.00 N and longitudes -89°30.00 W and -91°30.00 W. In addition to the summer cruise aboard the R/V Pelican LDWF conducted a side-by-side cruise aboard the Blazing Seven at the same 29 locations for data comparison. The side-by-side cruise did not include the seven plankton stations. Louisiana conducted its fall cruise aboard the R/V Pelican from Oct. 30-Nov. 2, and sampled 18 groundfish stations in Louisiana's territorial sea and the adjacent EEZ between latitudes 28°14.95 N and 29°11.14 N and longitudes -89°30.00

W and -91°30.00 W. Louisiana also collected plankton stations between latitudes 28° 30.00 N and 29°00.00 N and longitudes -89°30.00 W and -91°30.00 W. Tentative dates for the 2013 summer cruise are July 7-13 aboard the Blazing Seven.

Assessment of Fish Assemblages on Artificial Structures in the Northern Gulf Of Mexico

This project includes the development and testing of methods for evaluating species distributions, diversity, and relative abundance, as well as the actual assessment of offshore fish communities residing on artificial structures.

Three project and three control sites were surveyed in both the spring and summer, employing techniques derived from the methods described by Christy Pattengill-Semmens and Brice Semmens (1998). Roving scientific divers identified 98 species and obtained supporting samples, photos and/or video for 82% of the recorded observations. Surveyors were restricted to predetermined 15-foot depth increments, beginning with a half-circuit of the structure exterior, followed by observation of the interior. Special consideration was given to

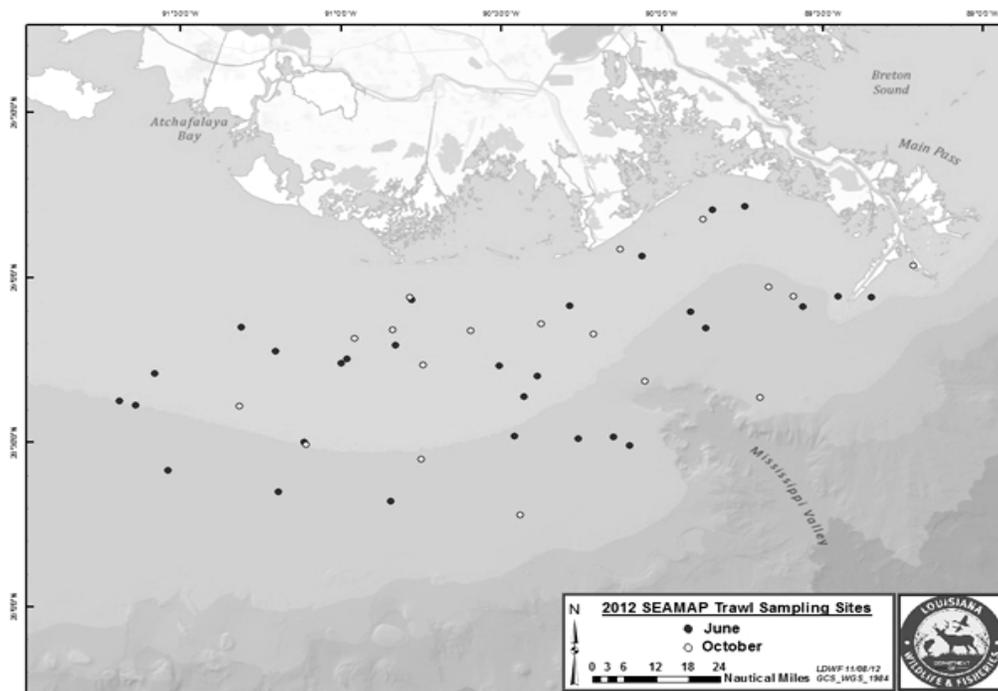


Figure 9. Location of SEAMAP groundfish trawls off the Louisiana coast in 2012.

previously undocumented species. In total, 35 diver surveys were conducted, for a combined 37 hours 40 minutes of direct observation.

This data is preliminary; the study is scheduled to conclude in December 2013. The primary goal is characterization of fish assemblages found on artificial structures, including species, spatial and temporal distribution, and estimated abundance. The project and data gathered will lay the groundwork for long-term monitoring, comparisons between standing structures, reefed structures and natural habitat, and follow on studies to better understand how artificial substrates may act as nurseries and foraging grounds for economically and ecologically important species. Based on number of lionfish (*Pterois volitans*) observations, further investigation into their distribution, rate of dispersal, and subsequent impact on Louisiana fisheries may be warranted.

Red Drum

Red drum was a highly targeted species by recreational and commercial fishermen before the controversial allocations in the mid 1980s resulting from declining population due to overfishing. Since the mid 1980s, when laws banned commercial fishermen from using purse seines, there has been minimal research done to reassess the spawning population of red drum. This project has collected biological and reproductive data to create a base and reference for development of future fisheries management regulations. The evaluation of the spawning population and reproductive biology in red drum began January 2011 to January 2013 and sampled 700 specimens in the Southeast region of Louisiana.

Green Stick

Working in conjunction with the NOAA Office of Highly Migratory Species, lab staff is characterizing catch and bycatch of green-stick fishing gear when used to target Atlantic tunas in the northern Gulf of Mexico.

The primary objective of this federally funded research is to characterize the catch and bycatch of green-stick fishing gear when used to target Atlantic tunas, particularly yellowfin tuna, in the northern Gulf of Mexico. Data collection focuses on reporting the features that contribute to the gear's success (or lack thereof) at catching target tuna species. Catch condition and release condition data are also collected to help evaluate the gear's ability to target commercial species and provide lower incidental bycatch mortality. Additionally, the characteristics of areas where green-stick gear is used successfully for Atlantic tunas in the northern Gulf of Mexico are described as well as some general economic variables of interest including fuel costs and the estimated value of landed tunas.

Sampling trips have been conducted monthly since June 2012 in open waters along steep contour lines and canyons, around oil and gas production platforms, and behind actively fishing shrimp trawl vessels in waters ranging from 160-3000ft. Four different species of tuna have been landed using the green-stick including yellowfin tuna, blackfin tuna, little tunny (*Euthynnus alletteratus*), and skipjack tuna over a total of 29 active fishing hours. All fish captured have been hooked in the jaw and all by-caught fish were alive upon release.

Staff biologists continue to report to Randy Blankinship at the NOAA Highly Migratory Species division in St. Petersburg, Florida. Efforts are currently underway to have a commercial green-stick fisherman from Florida assist LDWF biologists with sampling techniques. Monthly sampling trips are planned to continue throughout 2013.

Red Snapper Tournament Sampling

Louisiana Department of Wildlife and Fisheries was issued an Exempted Fishing Permit by NMFS in June of 2012 to allow for the collection of up to 1,600 red snapper, by recreational anglers at select fishing tournaments during closed season.

The main objectives of this project are to broaden the existing dataset on red snapper life history by collecting specimens that are not regularly sampled, and to assess the viability of single-use tags as a management tool. The LDWF has been working with the other four Gulf States fisheries departments in the execution of this project and in the collection of biological data, (including lengths, weight, sex, ovaries, otoliths, and tissue samples and the resultant age and reproductive data).

At the five tournaments sampled, 1,199 tags were handed out, resulting in 657 (55%) fish collected, 381 (32%) tags returned unused, and 161 (13%) missing tags (Table 12). Laboratory work-up of otoliths and ovaries is currently underway and will be completed in 2013. All data will then be made available for stock assessments of the Gulf of Mexico red snapper population.

T-bar and Dart-tipped Anchor Tag Retention Rates of Spotted Seatrout

The objective of this project is to compare the suitability of two types of external anchor tags for various sizes of spotted seatrout. During September 2012, LDWF biologists from the Grand Isle Fisheries Research Laboratory (FRL) collected 80 sub-legal (8-12'') and 80 legal-sized (12-16'') spotted seatrout via hook-and-line near the FRL vicinity. Collected specimens were weighed, measured (SL), and randomly assigned a tagging treatment: 2.5 cm long, numbered T-bar anchor tag; or 10.5 cm long, numbered dart-tipped anchor tag. Tagged fish were evenly distributed among four holding tanks; each tank received 10 small and 10 large T-bar tagged spotted seatrout, as well as 10 small and 10 large dart tagged fish. The project will conclude in March 2013 after which all fish will be removed and measured. Tag site will be examined for tag loss and abnormalities. Tag retention for each replicate will be calculated and statistically compared for differences in tag retention between tag and size treatments.

Tarpon Tagging

Lab staff participates in a Tarpon (*Megalops atlanticus*) DNA tagging project in partnership with the Florida Fish and Wildlife Conservation Commission and Mote Marine Laboratory. The objective is to calculate the geographic range of the Atlantic tarpon using DNA fingerprinting techniques. This project will yield valuable information relating to the recapture rates and migratory paths. This project will also provide fishery managers with necessary information needed to make decisions regarding management of this species. Louisiana submitted 26 DNA samples back to Florida with no Louisiana recaptures as of yet. The project has had 143 recaptures to date. Outreach efforts, such as Tarpon DNA Tagging Tournaments, are being planned for 2013 and will continue for this ongoing study.

Larval Fish Traps

LDWF biologists at the Grand Isle FRL will begin studying the ontogenetic movements of ichthyoplankton moving into Barataria Bay on flood tides during full and new moons in March of 2013. Sampling will take place in both Caminada and Barataria passes, which are two of the major inlets leading into the Barataria Basin. Light traps will be used in shallower, less turbulent waters, in and around the passes to sample late stage fish larvae. A close-open-close plankton net will be used to characterize the assemblages of commercially and recreationally important fish larvae entering through Caminada and Barataria Pass, as well as to investigate the vertical migration of larvae in Barataria Pass.

Histology

The Grand Isle FRL's recently installed histology section has processed a total of 914 fish gonad slides in 2012. Staff have engrossed and processed 113 slides of red drum gonads while 31 amberjack slides, 321 vertical line samples, and 232 red snapper tournament samples have been processed, embedded, cut, stained, and cover slipped. In

addition, 217 bottom long line samples were engrossed and processed, while 15 of these have been embedded, cut, stained, and cover slipped. Analysis of slides relating to fecundity studies is ongoing.

Research Tank Systems

The Grand Isle FRL designed, closed recirculation research tank systems and open flow race ways have been completed and are in use at the FRL. A recirculating tank system consisting of four 2,375gal, 10.5ft x 4ft tanks and a 600 gallon sump is pumped through two polygeyser bead filters and 4 UV sterilizers by two 5,400gph performance pro pumps. Using filtered bay water, this closed system provides over 10,000 gallons of parameter controllable water. This system is currently being used for a tag retention study on spotted seatrout and future uses will include determining the best conditions for growth of various fish species, as well as for holding, growth, and larvae/fry rearing studies. A system consisting of eight 310 gallon tanks with similar pump and filtration is currently operating and housing various Gulf and estuarine species for education and display uses. Also present are six fiberglass 165gal, 10.5ft x 30in x 12in raceway tanks which were installed as an “open” tank system. The raceway tanks, with the ability to pump a constant supply of bay water through the system, make for an ideal set-up for sorting, handling, or holding species for study.

Micro Hatchery

The micro-hatchery lab installation was completed at the FRL with the aim of producing artemia and rotifers as “first feed” for species reared at the FRL as well as supplemental food for the holding and display systems. A reverse osmosis deionized (RODI) system was installed, capable of producing up to 300 gallons of laboratory grade, 18 mega ohm water/day. RODI water is circulated throughout the two hatchery rooms for use in cleaning, calibration of instruments, and mixing of synthetic sea water for the FRL. A synthetic saltwater production system was installed consisting of two

165 gallon tanks, UV sterilizers, five micron filters, and fluidized bed bio-filters. This system produces biologically active and pH stabilized synthetic sea water ready for use in our phytoplankton and zooplankton cultures as well as the Lab’s holding, display, and research tank systems and aquaria.

Eighteen 2L separtory funnels were installed into shelves to be used as hatching vessels able to produce approximately 35 million *Artemia nauplii* per day. The use of many small funnels allows for daily adjustments in total production based on need, and/or spacing of hatching throughout a 24 hour period. Twelve, five gallon tanks are used for the continuous culture of rotifers, with each tank culture containing over 16 million rotifers. The ability to enrich rotifers, via feeding, allows for the delivery of the optimum nutrients required by the various potential species being held or cultured throughout the FRL. Mother cultures of the rotifer *Brachionus plicatilis* and the micro algae *Isochrysis galbana* are growing in the hatchery and cultures are being expanded in preparation for future project needs.

Marine Boating Access

LDWF also creates, enhances, and restores Louisiana’s inventory of public boating and fishing access sites. Access sites, such as marinas, boat launches, and fishing piers, serve as doorways to the state’s natural resources. In a cooperative effort, LDWF assists local government entities requesting financial assistance in the development and construction of boating and fishing access facilities. This program funds both freshwater and saltwater projects including the construction of boat ramps, parking areas, docks, bulk heading, and fishing piers. A total of 99 projects are complete to date, and another seven are in various stages of either planning or construction.

Fisheries and Habitat Assessment of Bayou St. John (F-131-R)

City Park is a public park located in the heart of New Orleans. It features two historical waterways

and a set of manmade lagoons that connect to Lake Pontchartrain. Bayou St. John, Bayou Metairie, and the lagoons have an estuarine influence, yet are still fresh enough to harbor freshwater fishes. The objectives of this project are to reestablish water flow through the Bayou St. John complex; to improve water quality and fisheries habitat through plantings and shoreline alteration; and determine habitat utilization by sport fish. Preliminary analysis indicates that the sonic-tagged red drum reintroduced to the system avoid the southern portion of Bayou St. John and are associated with open or moving water in areas closer to Lake Pontchartrain. Also, City Park conducted shoreline planting projects for fisheries habitat improvement and purchased a water quality monitoring system. A series of eight water quality monitoring stations has been installed along Bayou St. John and real-time data is being collected.

Fishery Management in Bayou St. John and City Park

This project was developed to assess baseline data on reintroduced red drum and native fish assemblages in Bayou St. John and City Park to determine their responses to restoration activities. In fiscal year 2011-2012 monthly nearshore seines in New Orleans City Park and Bayou St. John were completed, along with analysis of the benthic epifauna. Top species collected included inland silversides, rainwater killifish, mosquito fish, and sailfin mollies. Six acoustic telemetry receivers were deployed into Bayou St. John; 120 redfish were tagged; and six were inserted with acoustic transmitters.

Assessment of Louisiana's Marine Finfishes (F-97)

High quality data for the stock assessment for various species are essential for making management decisions. This project will determine the spawning ratio of the major recreational saltwater finfish in order to comply with legislative mandates that regulatory action be taken when the

Spawning Potential Ratio falls below 30%. The goal is to ensure that the stocks of these finfish are not over-fished. The spawning potential ratio will be determined using age, growth, and fecundity. LSU will assist with the analysis of samples. Marine Fisheries sampling crews obtain otoliths from important marine fish. Additional work is added as needed to address age, growth, and reproductive biology of selected finfishes to support stock assessment efforts. This project started on July 1, 1999 and is ongoing.

Dock sampling of yellowfin tuna for reproductive biology, feeding ecology, genetics, etc.

A total of 460 yellowfin tuna were sampled at Venice Marina. Of those samples, gonads were kept from 426, 416 stomachs, 155 fish had otoliths extracted, 236 muscle plugs for stable isotope analysis and 195 fin clips for genetics.

Sex ratio of yellowfin tuna sampled: 299 female, 156 male, 5 unknown. Size range:

Female- 28 -175 cm, mean 113.39 cm

Male – 47.5 – 196 cm, mean 120.06 cm

Unk – 88.0 – 173.99 cm, mean 119.50 cm

Satellite Telemetry of Yellowfin Tuna & Highly Migratory Sharks

In 2012, eight yellowfin tuna were fitted with Microwave Telemetry X-tags. Tags are programmed to record temperature, depth, and light-levels every 15 minutes for pre-programmed amounts of time. Tag duration has been programmed for one month, six month, and 12 month intervals. At this time, three of the tags are still deployed and recording data. Of the tags which have already transmitted, the days at large range from 11–68 days. All tuna were tagged within 60 nautical miles from the Mississippi River Delta. Data analysis is still underway for the tags that have transmitted, but preliminary results suggest that tuna have remained in the region south of Louisiana.

To investigate the movement of highly migratory sharks, Wildlife Computers Surface-Position-Only- Transmitters (SPOT) tags were attached to whale sharks (*Rhincodon typus*) (n=2), tiger shark (*Galeocerdo cuvier*) (n=5), great hammerhead shark (*Sphyrna mokarran*) (n= 5), scalloped hammerhead shark (*Sphyrna lewini*) (n= 3), bull shark (*Carcharhinus leucas*) (n=1), spinner (n=1), and blacktip (n=1) sharks. In all cases, except whale sharks, the tags were attached directly to the dorsal fin, so that the antenna extends beyond the tip of the fin. For whale sharks, the tag is attached to a tether, with a floatation device so that the tag may be towed behind the animal. When the animals surface, the tag will transmit a GPS location through the satellites overhead. All tags, except whale shark, were deployed aboard the NOAA Bottom Longline cruise on the R/V Oregon II, distributed throughout continental shelf waters from Key West, Florida to Galveston, Texas. The number of detections vary per individual, ranging from 0 – 800+. Using the Satellite Tracking and Analysis Tool (STAT), available from seaturtle.org, ARGOS location data is filtered and processed with spatial analysis options, including distance between prior locations, distance from shore, bottom topography, and environmental layers of sea surface temperature (SST) and chlorophyll (CHL).

Marine Sport Fish Tagging Study (F-124)

The Louisiana Cooperative Marine Sport Fish Tagging Program is a collaborative effort between the Office of Fisheries, the CCA of Louisiana, universities, and non-profit organizations.

Working with the angling community has proven to be an efficient and cost-effective means for collecting data. Since the program started with CCA-LA in 1987, over 9,000 anglers have participated either by tagging fish themselves or reporting a recaptured tagged fish. This has resulted in over 140,000 tagged red drum and spotted seatrout and more than 4,000 recaptures reported. In 2011, over 160 active anglers (active angler is

defined as tagging at least one fish per year) tagged 6,824 fish and reported 401 recaptured fish. Of the 6,824 tagged fish, 4,458 were red drum, 2,030 were spotted seatrout, and 336 were non-targeted species. Of the 401 reported recaptures, 302 were red drum, 73 were spotted seatrout, and 26 were non-targeted species. The recapture rate for red drum was 7% and 4% for spotted seatrout.

Participating in the Louisiana Cooperative Marine Sport Fish Tagging Program offers anglers a unique opportunity to act as citizen scientists working alongside biologists for a common goal - to improve our understanding of marine fish movements, patterns of habitat use, and estimates of population size. The program's success can be attributed to a dedicated base of volunteer anglers who serve as citizen scientists by tagging fish and providing valuable data that can be difficult and expensive to obtain by other means. Fish tagging is an exciting and rewarding way for anglers to give back to the resource they treasure. Information obtained through fish tagging can be used to evaluate the effects on fish from coastal restoration efforts, regulation changes, freezes, and hurricanes.

Louisiana Aquatic Outreach (F-136-EO)

Through outreach efforts, LDWF advises beneficiaries on stewardship and best practices in preserving the unique nature of the state's natural resources. Via a strong presence at youth recreational events, industry related expos, and other state-sponsored events, LDWF strives to align its efforts with the desires of citizens and foster a community sense of resource and habitat stewardship.

The Aquatic Outreach Program is designed to inform the public about the Sportfish Restoration Program (SFR) to show that it is a vital funding source for aquatic access, resource enhancement, and management projects in Louisiana. LDWF participated in 78 public events throughout the year to inform attendees of the department's various

SFR projects and the importance of purchasing a fishing license. An assortment of printed materials was distributed at these events, as well as SFR brochures, designed specifically to highlight the funding cycle and projects SFR funding supports.

Through participation in outreach events and distribution of educational materials, the Aquatic Outreach Program message reached over 230,000 Louisiana citizens. The Fisheries Extension staff also participated in several educational workshops, including the first annual Louisiana's Women in the Wild event, Elmer's Island Youth Festival, and numerous day camps which focused on sport fish restoration projects and giving participants a hands-on experience.

Environmental and Habitat Disaster Recovery

The Office of Fisheries strives to maintain Louisiana's abundant fishery resources and its commercial and recreational opportunities by seeking and efficiently implementing federally funded programs to aid the recreational and commercial fishing industries in recovery from natural and man-made disasters. Since Hurricane Andrew in 1992, the Office of Fisheries has received continual federal appropriations to assist the commercial and recreational fishing industries during times of declared disasters and aid these industries in recovery from the devastation. The recovery efforts include repairs to state fish hatcheries, building of artificial reefs, and grant assistance awarded to vital fishing and boating access points.

Emergency Disaster Relief Program (EDRP) 1

In response to the hurricanes of 2005, Congress authorized its first fishery disaster relief in June 2006 (Public Law 109-234). On August 25, 2006, the U.S. Department of Commerce announced the issuing of a grant to the GSMFC to aid Louisiana, Mississippi, Alabama, Texas, and Florida in rebuilding fisheries. The National Oceanic and Atmospheric Administration (NOAA) granted

funds to GSMFC for further sub-grant to the Gulf Coast states. Louisiana's sub-grant awards are: OR-RRR-020-2006-01 entitled "Reseeding, Rehabilitating and Restoring Oyster Reefs" (Job 1); OB-SGR-021-2006-01 entitled "Rehabilitating Oyster Bed and Shrimp Grounds" (Job 2); and CR-M-022-2006-01 entitled "Cooperative Research to Monitor Recovery of Gulf Fisheries" (Job 3).

Following the passage of hurricanes Katrina and Rita, fishermen from across the coast formed the Louisiana Fishing Communities Rebuilding Coalition and identified funding priorities for the recovery of Louisiana's commercial and recreational fisheries. Priorities including debris removal and the evaluation of the status and health of natural resources are addressed by this congressional appropriation.

Projects were designed to be auditable and accountable, and to include local fishing communities and parishes or other local entities to best use local resources. General planning meetings were held among project staff on a regular and continuing basis throughout the planning and implementation period. Scoping and planning meetings were held with state and federal agencies and representatives of the fishing industries to identify needs and opportunities.

Job 1: Reseeding, Rehabilitation and Restoration of Oyster Grounds—Sub-grant OR-RRR-020-206-01

Native Stock Oyster Hatchery

Louisiana State University has begun operation of an experimental oyster hatchery at the LDWF Fisheries Laboratory on Grand Isle, Louisiana. Using funds provided by the Emergency Disaster Rehabilitation Program (EDRP – Hurricane Katrina/Rita disaster), LDWF provided a \$500,000 grant to LSU to develop an additional oyster hatchery to provide increased amounts of seed oysters to the oyster industry and the public oyster

seed grounds. Plans are underway for the size, location, and partnership opportunities for this project.

Oyster Lease Data and Records Management

A contract to develop a data and records management system for the Oyster Lease Survey Section has been issued to Aero-Metric. After months of working with State Purchasing, three scanners were purchased: a large format book scanner, a medium book scanner, and a bulk scanner. Staff have been hired and/or assigned to this task and have begun scanning historical lease records and placing them in an indexed searchable database. When complete, this information may be made available online.

Biological Monitoring of Existing Cultch Plants

Biological monitoring of the cultch plants has continued throughout the calendar year, and abundance sampling was performed in July 2012 as part of the annual oyster stock assessment of public oyster areas. Abundance sampling consisted of collecting all oysters from five randomly-placed square-meter frames on the cultch plants. All cultch plants have experienced heavy commercial harvest during previous oyster seasons and abundance data shows decreases in oyster availability as compared to similar sampling in July 2010. Availability estimates based upon biological sampling ranged from 0.0 barrels per acre on the 2007 Mississippi Sound (Turkey Bayou) cultch plant to 127.1 barrels per acre on the 2008 Hackberry Bay cultch plant (one barrel = two sacks).

Job 2: Rehabilitating Oyster Bed and Shrimp Grounds—Sub-grant OB-SGR-021-2006-01

Underwater Obstructions/Wet Debris Removal

With the approval of GSMFC, funding for this task was redirected to implement cooperative research programs that enhance LDWF's ability to monitor recovery of Gulf of Mexico fisheries.

Debris Removal

Approximately 440 square miles (110 four-square mile grids) of the state's shrimp fishing grounds have been surveyed and cleared of hurricane debris at a cost of \$4.081 million. Activities under this task have been completed.

Coastal Habitat Rehabilitation and Enhancement

Two projects are being conducted by the LSU AgCenter:

- Use of Bio-Engineered Reefs for Shore Protection in Coastal Louisiana: Evaluation of Shore Protection and Ecosystem Trade-offs (contracted to LSU AgCenter) - This project compares the effectiveness, sustainability, and ecosystem effects of bioengineered oyster reefs for shoreline protection along eroding medium and low energy sheltered shorelines. Shell oyster reefs were created in Caillou Lake (Sister Lake) in the Terrebonne Basin. The experimental design consists of different reef configurations in medium and low energy sites along the lake shore. In addition, off-bottom oyster racks are also deployed. Data collected at these sites measured: oyster growth rate; cumulative mortality; incidence of *Perkinsus marinus* and MSX infections; oyster condition; spat recruitment and settlement; nekton biomass; relative shoreline position; vegetation; soil percent organic matter; and Chlorophyll. The goal is to evaluate the effectiveness of bioengineered reefs as shoreline protection measures. The project is in its third year, and a contract is in process to extend the time period through June 2012.
- Evaluating the effect of marsh management structures on nekton utilization of salt marshes: A novel approach using DIDSON acoustic imaging technology (contracted to LSU AgCenter). This project examined the effects of water control structures on nekton movement using dual-frequency identification sonar (DIDSON) acoustic imaging technology. The project specifically investigated the role of

tide stage, diel periodicity, and season on fine scale temporal and spatial patterns of nekton movement through water control structures in salt marshes. The project examined a site in Hopedale, Louisiana and several sites on Calcasieu Lake. The goal is to enhance our understanding of how fish move through these water control structures in the hopes that the findings may lead to development of structures that allow for greater movement. Findings of the Hopedale portion of the study are reported in: *Kimball ME, Rozas LP, Boswell KM, Cowan (2010) Evaluating the effect of slot size and environmental variables on the passage of estuarine nekton through a water control structure. Journal of Experimental Marine Biology and Ecology 395:181-190.*

Data Management System Improvements

LDWF issued an RFP in June of 2009 for the creation of a new Data Management System (DMS). Work on this new data management system began in July of 2010, with the full dissection of the existing system, documenting form and functionality for migration into the new DMS. The DMS has been implemented and refinements to certain processes continue.

Job 3: Cooperative Research to Monitor Recovery of Gulf Fisheries—Sub-grant CR-M-022-2006-01

Fishery-Independent Monitoring of the Gulf Fishery Stocks

LDWF contracted with the University of New Orleans to collect and enter fishery-independent data within the Lake Pontchartrain system. Sampling is conducted using standard LDWF protocols at six stations located throughout Lake Pontchartrain and include sampling for both finfish and crustaceans. These data are being used by LDWF to evaluate and manage the recovery of the estuarine fisheries following hurricanes Katrina and Rita. These data are also being used

to establish a new “baseline” to further assess any changes within this important area. Data continue to be used to assess assemblage linkages with abiotic variables as well as to examine any changes directly associated with the closure of the Mississippi River Gulf Outlet.

Developing a Commercial Menhaden Bait Industry in Louisiana

The supply of menhaden bait is a crucial component of the commercial fishing industry throughout Louisiana. The last menhaden bait supplier in Louisiana went out of business following Hurricane Katrina in 2005. Ensuring the availability of a Louisiana-based menhaden supplier is an essential component of the commercial fishing industry’s recovery.

The department issued a press release in February, 2011, to accept applications for grant fund development of a commercial menhaden bait supply for Louisiana fishermen. The deadline to submit an application was March 15, 2011. LDWF reviewed all applications for the most developed business plans, competitive amounts of working capital, and experience for the purpose of establishing a locally harvested menhaden bait operation that will offer a continual supply of bait throughout the year. After reviewing all applications, LDWF awarded grants to JB Bait Company, LLC and Louisiana Bait Products, LLC. In April 2011, both businesses signed a cooperative endeavor agreement with the LDWF. The department agreed to pay each business a maximum fee of \$1,000,000.00 provided they submit quarterly and/or final reports. The two businesses received their first payment for their detailed business plan.

In 2012, LDWF allocated an additional \$500,000 to each of the companies in an effort to bridge the gap in budget shortfalls and unexpected costs, ensuring that the project would succeed. JB Bait successfully completed some test runs of their

vessel and harvested approximately 50,000 fish while testing their nets and equipment during the 2012 menhaden season. Facilities of both companies are nearly complete and both are expected to be in full production early during the 2013 menhaden season.

Cooperative Research Surveys to Monitor Recovery of Gulf Fisheries

LDWF developed a \$15.7 million cooperative research program to monitor the recovery of Louisiana commercial fisheries impacted by hurricanes Katrina and Rita in 2005 and Gustav and Ike in 2008. Funding for this program came from a \$52.9 million federal fisheries disaster assistance grant from NOAA (NOAA Grant Number NA06NMF4540319) through the GSMFC. LDWF will provide compensation to qualified Louisiana resident commercial fishermen and wholesale/retail seafood dealers who submit completed socioeconomic surveys. These surveys were designed by LDWF economists to capture information on the recovery status of the state's commercial fisheries and fishing industries.

Eligible commercial fishermen and wholesale/retail dealers received information packets during April 2009 including instructions, application forms, and a business reply envelope. Once required forms were returned, participants received an additional packet containing the Cooperative Research Survey, detailed instructions for completing the survey, and a self-addressed business reply envelope to be used in returning the completed survey.

A universe of 4,828 potential participants was identified, including 4,433 commercial harvesters and 395 wholesale/retail dealers. A total of 3,214 participating vendors with complete surveys received funding. The total funds disbursed from this program were \$13,239,821. All completed surveys have been scanned and the data has gone through extensive QAQC checks. A final report has been written and is under review by LDWF.

EDRP2 Program

Assistance to Commercial and Recreational Fisheries Sub-Grant Acf-025-2007-02

Much of the activities for this program took place in previous reporting periods.

Economic Disaster Relief for Louisiana Due to Hurricanes Gustav and Ike

All activities for this program have been completed in prior reporting periods, through 2010.

Marine Fisheries Management

Objectives

Marine fisheries projects and activities coordinated through the Office of Marine Fisheries included:

- Design and initiate projects to collect and analyze data required for population dynamics estimates and other fisheries management projects;
- Develop scientifically-based management recommendations;
- Monitor the condition of fish stocks and the fisheries that depend upon them;
- Provide information transfer and liaison activities with regional fisheries management entities and others;
- Provide technical support to the Mississippi Commission of Marine Resources (MCMR) in developing fishery management plans, amendments, stock assessments, and technical analysis;
- Provide a state representative to serve on fisheries related boards, committees, panels, etc. as required; and
- Provide administrative services, general maintenance, locate funding sources, and other fisheries management support services as required;
- Work closely with Federal and state agencies, local fishermen, and seafood dealers on hurricane recovery efforts through the Emergency Disaster Recovery Program, designed to assist in the recovery and monitoring of the Mississippi seafood industry; and
- Conducted BP Seafood Testing Program to insure seafood safety in the aftermath of the Deepwater Horizon disaster.

Status

During 2012, public notice was given to open and close commercial seasons for shrimp, oyster, blue crab, king mackerel, red snapper, red drum, and large coastal sharks. Regional management activities included membership on the GSMFC's TCC Artificial Reef Subcommittee, TCC Blue Crab Subcommittee, TCC Data Management Subcommittee, Oyster and Arenarius Technical Task Forces, Menhaden Advisory Committee, Commercial/Recreational Fisheries Advisory Panel, Technical Coordinating Committee, and State/Federal Fisheries Management Committee.

Grant documents and proposals were prepared to secure funding for fisheries management projects under the Sports Fish Restoration Act, the Cooperative Fishery Statistics Program, the Interjurisdictional Fisheries Act and liaison with the Gulf of Mexico Fishery Management Council.

Shellfish Management Program

Objectives

Oysters, as sessile filter feeders, are more susceptible to influences of environmental conditions than mobile species. Accordingly, landings change dramatically from year to year. In addition to rainfall fluctuations, upland pollution can leave abundant supplies of oysters unsuitable for harvest. During the oyster season and throughout the year, field-sampling trips are made to oyster reef stations to collect water samples for fecal coliform analysis. Reef areas are opened and closed based on the level of fecal coliform in the water column, at the time of sampling. Oyster reefs in certain areas close after significant rainfall, or river stage events, until water quality significantly improves. Multiple stations are sampled in each reef area and clean samples must be obtained from each area

before the area reopens for harvest. Throughout the year, water quality samples are obtained to properly classify shellfish growing areas.

The Shellfish Sanitation Program is one of the most labor-intensive efforts of the department, requiring almost daily, routine water quality sampling and laboratory analysis for fecal coliform bacteria. The data are used to classify oyster-growing waters in accordance with guidelines from the National Shellfish Sanitation Program (NSSP) and to provide justification to reopen oyster reefs following closures.

For areas classified as “approved,” the geometric mean fecal coliform level, most probable number (MPN) cannot exceed 14; no more than 10% of the samples taken can exceed 43 MPN. Additionally, the FDA specifies minimum sampling frequencies at each of nearly 170 sampling stations in the Mississippi Sound. Approved areas are those in which water quality does not degrade at any rainfall level. Areas classified as “conditionally approved” are subject to frequent openings and closures, due to rain or river stage. Along with water quality monitoring, other work performed on the reefs included revitalization efforts such as reef turnover, oyster relaying, and planting cultch material.

Key Responsibilities

- Administer Emergency Disaster Recovery Programs I & II;
- Maintain program compliance with the Interstate Shellfish Sanitation Conference NSSP;
- Map Mississippi oyster reefs;
- Survey potential cultivation and cultch planting sites;
- Cultivate oyster reefs;
- Plant cultch material and management;
- Assess reef areas; and
- Participate in the Natural Resource Damage Assessment (NRDA) with MDEQ and NOAA for Mississippi oysters due to the BP oil spill.

Status

A very limited oyster season opened November 5, 2012. Through the end of December 2012, oyster harvesters landed 53,244 sacks over 3,408 trips.

Oyster harvesting waters are divided geographically into eight major areas. Through daily monitoring, these areas may open and close according to the management plan criteria. Potential cultivation and cultch planting sites were surveyed. A scannable oyster trip ticket was fully implemented and oyster check stations were computerized.

Major Accomplishments

- The fall 2012 cultch plant covered some 203 acres with approximately 20,300 cubic yards of limestone.
- The oyster reefs are continuously being monitored and assessed to determine the status of the resource. This includes the I.J. quarterly samples, 60 station intensive sampling and reef specific samples.
- The new Pass Christian Oyster Check Station was completed.

Shrimp and Crab Management

Objectives

The Shrimp and Crab Bureau managed the state’s commercial and recreational shrimp and crab fisheries. Cooperation and coordination with adjoining state marine fisheries agencies as well as regional and federal fishery authorities were integral to the success of shrimp and crab management activities. The program included monitoring and research of the shrimp and crab fisheries, coordination of the Mississippi Crab Task Force, issuing scientific collection permits, inspecting and licensing the live bait shrimp fishery, installing and maintaining constant water-quality recorder instruments, coordinating Wallop-Breaux grants with the U.S. Fish and Wildlife Service, and overseeing the Derelict Crab Trap Recycling Program. These fisheries are managed by setting seasons, gear regulations, and other management measures. Shrimp and crab biologists worked

cooperatively with federal agencies including the NMFS, USFWS, GSMFC, GMFMC, and USGS.

Cooperating state agencies and organizations included University of Southern Mississippi's Center for Marine Science; Mississippi Department of Environmental Quality; Mississippi Department of Wildlife, Fisheries, and Parks; Mississippi State University Cooperative Research and Extension Service; neighboring state marine resource management agencies; and the Institute for Marine Mammal Studies (IMMS).

Key Responsibilities

- Long-term monitoring of shrimp populations, in order to make management recommendations. Nearly 300 trawl samples were collected as part of the shrimp-monitoring program. Data collection included monitoring surface and bottom hydrological parameters at each station (salinity, temperature, and dissolved oxygen).
- Inspection of live bait shrimp operations and compilation of harvest and sales reports. The Live Bait Program included monthly compilation of Confidential Dealer Reports and licensing and inspecting live bait facilities. A trip ticket program was developed to improve data collection for this fishery.
- Support of the Mississippi Crab Task Force to allow various user groups to provide input and voice concerns. Since 2008, the task force has worked closely with the regional Diamondback Terrapin Work Group and began voluntarily placing TED gear in their traps, as well as encouraging other commercial and recreational crab trap fishermen to address potential incidental catch of this species of concern.
- Development continued on 12 constant recorder instruments across the coast for real-time hydrological monitoring. Real time data of water temperature, salinity, and stage from ten Mississippi Sound sites were available on the MDMR web site.
- Issuance of Saltwater Scientific Collection Permits. Recipients of Special Permits must first submit an application and once determined worthy of merit and the permit issued, a complete report of collection or harvesting activity must be submitted to the MDMR. Saltwater scientific collection permits were issued in a manner to protect Mississippi's marine resources while allowing legitimate research and development. Twenty-eight Special Permits have been issued over the past year.
- Coordination of Sport Fish Restoration grants continued. Current studies include DMR Artificial Reef Program, Sport Fish Studies, Sport Fish Tag and Release, and Striped Bass Population Monitoring.
- The Derelict Crab Trap Recycling Program included recording the numbers of traps and area collected as well as documented ghost fishing (capture of animals other than crabs). There were 120 derelict traps collected in 2012 and planning began for the 2013 crab trap closed season and volunteer clean up. Over 18,600 derelict traps have been collected and recycled along the Mississippi Coast, mainly through cooperation with crab fishermen and the USM Gulf Coast Research Laboratory. As a result of these intensive derelict trap removal and recycling efforts, the program again has been recognized with the First Place EPA Gulf Guardian Award.
- Deepwater Horizon Oil Spill (DWH) response consists of monthly shrimp and crab tissue sampling to ensure that Mississippi seafood is free of polycyclic aromatic hydrocarbons (PAHs) and safe for consumption. Staff coordinates response sampling with the Mississippi Department of Environmental Quality. To date, none of the total 564 seafood samples, including shrimp, crab, finfish, and oyster have been found to contain PAH concentrations above the FDA levels of concern.
- Staff responded to an unusually high number of sea turtles in the Mississippi Sound by

obtaining a grant from the National Fish and Wildlife Foundation (NFWF) to help reduce sea turtle interaction in the shrimp fishery. With funds from the NFWF, the shrimp and crab bureau was able to secure TEDs (Turtle Excluder Devices) for installation in Mississippi skimmer shrimp trawls. A total of 384 TEDs were distributed to fishermen. Shrimp and crab personnel have led 31 aerial surveys to monitor fishing, boating, and dredging effort in the Mississippi Sound and adjacent waters since the mass strandings began.

All fisheries benefited from two ongoing five-year NOAA funded Emergency Disaster Recovery Programs. Hurricane Katrina recovery and monitoring for the shrimp and crab fisheries continues in the wake of Hurricane Katrina with most projects completed or near completion.

Artificial Reef Management

Objectives

- To update coordinates and orientation of past artificial reef material deployments within Mississippi's marine waters and adjacent federal waters;
- To provide the MDMR web administrator with acquired coordinates of reef material, reef orientation, and maps and charts so that a portion of the web page can be created for the fishing community to access this information;
- To identify areas conducive for artificial reef development and enhancement both near shore and offshore within the framework of Mississippi's Artificial Reef Plan;
- To monitor artificial reef development in Mississippi's marine waters and adjacent federal waters; and
- To obtain artificial reef material from state, federal, and private entities through donations.

Status

The Artificial Reef Bureau has been working with local contractors to get donated concrete material

(concrete culverts and concrete rubble) delivered to the Gulfport staging site.

- 36 gill nets conducted on inshore artificial reefs;
- Continuing to add to Katrina Key;
- Artificial Reef staff participated 24 public outreach events to promote Mississippi's Artificial Reefs
- Pass Christian Key had one deployment, 237 tons of Concrete Rubble;
- Five Inshore Reef deployments in Jackson County, 900 cubic yards of #57 limestone;
- Artificial reef personnel worked with the Cedar Point Hatchery in Ocean Springs to help release 586 juvenile Red Snapper on Fish Haven 2.
- There were 80 juvenile reef fish habitats constructed at this time. These cage like structures are made of 3/8 inch round bar. Half will have three inch spacing and the other half will have four inch spacing at 3 with a concrete base that measures 4'X4'X6". The juvenile reef habitats will then be deployed on the state's offshore fish havens.

The Mississippi Artificial Reef Rigs to Reef Program is currently working with a petroleum industry representative on a project in the main pass area south of Mississippi. Reef permits were obtained and the deployment should begin this summer.

Mississippi has 15 permitted offshore reefs encompassing approximately 16,000 acres of water bottom. These reefs range in size from eight acres to 10,000 acres. To date, the material used for offshore reefs consists of concrete rubble, Goliath Reef Balls, Florida Limestone Pyramids, steel hull vessels (including barges), oil/gas platforms and armored personnel carriers. Mississippi permitted 67 near shore artificial reef sites. These reefs were located inshore so fishermen can take advantage of the fish that inhabit these reefs. The materials of the near shore reefs consist of limestone,

crushed concrete, concrete rubble (when water depth allows), and oyster shells. Nearshore reefs were deployed at strategic times of the year when optimum oyster spat will settle for future growth of the reef. Two methods used to monitor and update coordinates and orientation of past artificial reef material deployments were side scan sonar (used primarily offshore) and sounding with a pole (primarily inshore). Thirteen of the 16 artificial reef sites located offshore Mississippi and adjacent federal waters and two of the 67 inshore artificial reefs were surveyed using side scan sonar. Thirty-four inshore reefs were verified using pole sounding. All coordinates obtained from side scan sonar and soundings are listed on the MDMR web site and available to the public. Maps are also available upon request.

Finfish Management

Staff worked closely with appropriate federal and state agencies, various user groups, and the public. They strived to promote, conserve, and regulate these fisheries based on the best available biological, social, and economic data. Finfish fisheries dependent and independent programs with associated grants were closely monitored to ensure pre-established goals of each project were achieved. In addition to regular duties, finfish staff has worked with state and federal partners to monitor effects of the Deepwater Horizon oil spill.

Marine Recreational Fisheries Statistics Survey (MRFSS)

Objectives

- Conduct the MRFSS Survey in Mississippi for shore, charter, and private modes.
- Provide a timely and reliable database on marine recreational fishing activity.
- Identify notable changes in recreational catch and effort trends.
- Evaluate the long-term implications of management measures.
- Conduct weekly telephone interviews of charter boat operators in Mississippi.

Status

Recreational fisheries information was collected daily in all three modes through the survey. The data were processed, edited, and submitted to the GSMFC. The information provided a continuous standardized database of marine recreational catch, effort, and participation in the U.S. This data provided various fisheries councils the information necessary to make wise management decisions. Pressure estimates were submitted to the GSMFC according to schedule. These estimates, along with historical productivity, were used to estimate the number of assignments needed to achieve a given quota for each month. The MRFSS Program included a telephone survey of the charter boat fishery and weekly telephone interviews were conducted. Data was entered and sent to the GSMFC weekly. The information was used to obtain effort estimates for the charter and head boat sectors.

Marine Commercial Fisheries Statistics

Objectives

- Collect commercial fisheries landings and catch data for Mississippi;
- Collect biological data for selected, commercially important finfish species;
- Obtain boat trip information and biological statistics on migratory pelagic and reef fish such as red snapper, grouper, and amberjack (collect otoliths from red snapper); and
- Implement the trip ticket system.

Status

Fisheries landing data were collected weekly and monthly according to schedule. The data were processed, edited, and submitted to the NMFS in accordance with established data handling procedures. This data is an important part of the fisheries management process, both as an indicator of potential problem areas and as a gauge of the success of existing fisheries regulations and practices.

Information for selected pelagic and reef fish was collected from major landing sites on a monthly basis. The information was submitted to the NMFS for inclusion in its trip information system. Both state and federal fisheries managers utilized these data to properly manage valuable resources. Biological data were collected for selected, commercially important finfish species from major seafood dealers along the Mississippi Gulf Coast. Some information will be utilized in the development of both state and regional fishery management plans.

A trip ticket system was implemented on January 1, 2012. This system is used to collect commercial landings and associated information by trip. The information gathered and reported through this program is beneficial to the fishermen and fishery managers.

Sportfish Tag And Release in Mississippi Coastal Waters and The Adjacent Gulf Of Mexico

Objectives

- Continue angler-cooperative tag and release of spotted seatrout in Mississippi coastal waters, specifically to obtain data on the seasonal movement patterns of fish of legal size.
- Continue angler-cooperative tag and release of tripletail and cobia in Mississippi coastal waters and the adjacent Gulf of Mexico, in order to obtain data on seasonal movement patterns.
- Coordinate a series of workshops to provide for the exchange of information regarding the recreational fishery in Mississippi.

Status

Seasonal movement and growth of spotted seatrout were studied utilizing angler tagged and released spotted seatrout in Mississippi coastal waters. Similar trends of limited movement were observed in recaptured fish as in other years. Seasonal movement and growth of cobia were studied utilizing angler tagged and released cobia in the

Gulf of Mexico. Future recaptures will supplement these initial data and allow for the analysis of migration trends.

Seafood Technology Program Management

Objectives

- Conduct regulatory inspections of shellfish processing and transporting facilities to determine compliance with state and federal sanitation and health safety regulations;
- Provide technical advice to the Mississippi seafood processing industry to aid in compliance with seafood sanitation and health safety regulations;
- Provide technical advice to the seafood processing industry regarding new technologies and new products that add value, new markets, employment opportunities, and economic enhancement for the seafood industry;
- Provide technical advice to those interested in aquaculture and aid in creating expanded economic and employment opportunities;
- Provide technical expertise in investigating food-borne illness reports;
- Undertake research project in line with seafood industry impacts, seafood technical surveys, promotion of Mississippi seafood, seafood safety education, and sanitation training;
- Disseminate information and educate consumers and food handlers in the seafood industry about seafood safety in line with the goals of the Mississippi seafood industry;
- Promote food safety education to the public through participation in public fairs, public meetings, and events;
- Work in collaboration with the public affairs staff to develop and distribute brochures, pamphlets, and fact sheets on proper seafood preparation and handling;
- Work with the MDMR Seafood Marketing Bureau to promote Mississippi seafood products; and
- Provide administrative support to the activities of the office, department, and MCMR.

Status

A total of 7,173 technical assistance actions were provided. Some examples were:

- Collaborated with the other state agencies on seafood safety with emphasis on imported oyster product recalls, traceability investigations of food-borne illnesses, seafood dealers with mobile unit, raw seafood handling, risks on eating shellfish, and cooking seafood;
- Inspected Mississippi permitted shellfish processing, storage, and distribution facilities to determine compliance with state and federal sanitation and seafood safety regulations; to provide the public with confidence in Mississippi-inspected seafood products; and to aid in marketing Mississippi seafood products;
- Assisted in statewide economic impact studies of the seafood industry and courtesy visits to seafood retail stores and seafood processing facilities to explain the purpose of the surveys and how they will benefit the industry;
- Conducted technical assistance in the implementation of the State Vibrio management plan as it affects their daily operations and HACCP plan management;
- Participated in 42 public outreach events in different settings: trade shows, seafood festivals, school field days and career days, science fairs, conferences, and workshops;
- Collaborated with the coastal school districts and accommodating invitations to deliver lectures on marine fisheries education, stewardship, and seafood safety to elementary, middle school, and high school students;
- Distributed coloring books, brochures, posters, fact sheets, and other educational materials on marine fisheries education, coastal conservation, stewardship, and seafood safety;
- Promoted Mississippi Market Maker and collaborated with Mississippi State University to help the seafood dealers and processors in the global market; and
- Promoted seafood consumption and awareness of seafood safety through public outreach,

education, and participation at any seafood festivals, fairs, and events along the coast.

Shellfish Sanitation and Health Safety Regulatory Activities

- Inspected Mississippi-permitted shellfish processing, storage, and distribution facilities to determine compliance with state and federal sanitation and seafood safety regulations; to provide the public with confidence in Mississippi-inspected seafood products; and to aid in marketing Mississippi seafood products;
- Participated in the shellfish processing plant regulatory review and evaluation by the FDA;
- Received FDA notification that the Mississippi Shellfish Sanitation Program met NSSP requirements;
- Conducted verification and preliminary validation studies on the implementation of regulatory changes in the processing of oysters bought from the harvesters;
- Conducted food-borne illness and traceability investigation on four cases of food-borne illnesses;
- Collaborated with Mississippi State University Coastal Research Extension Service in research surveys on economic impact assessments of the Mississippi seafood restaurant industry and seafood economic surveys;
- Participated in the Gulf and South Atlantic Shellfish Sanitation Conference in Savannah, GA;
- US Food and Drug Administration successfully standardized a DMR Seafood Officer as the new State Standardized Officer for the state; and
- Technical assistance to the irradiation seafood facility established in Mississippi Gulf Coast.

Types and Number of Seafood Facilities Permitted

There were 48 seafood/sanitation processing permits issued which included 17 shrimp, nine crab and 22 oyster permits. These 48 permits represent 510 inspected seafood units. Seafood

sanitation and health safety regulatory activities conducted by the Seafood Technology Bureau include seafood facility inspections, technical assistance, and associated actions including water sample collections for testing of processing plant water source.

Conducted inspections and associated actions to determine compliance with the following sanitation and seafood health safety regulations:

- Molluscan shellfish sanitation inspections covered under the NSSP;
- Sanitation inspections on seafood species other than Molluscan shellfish to aid the industry in meeting compliance conditions when the FDA conducted official inspections;
- Conducted quarterly inspections of all permitted facilities and conducted follow-up inspections as needed, completed recertification inspections of certified dealers, and issued permits;
- Worked with seafood processors to correct deficiencies to meet FDA seafood compliance criteria;
- Worked on management criteria and forms for dealers converting selected critical limits and critical control points from under HACCP management to management under standard operating procedures;
- Prepared consolidated report of inspection results for the FDA according to NSSP requirements;
- Provided seafood dealers with copies of the new FDA Guidelines on recall procedures;
- Implemented FDA regulations on product recall procedures and provided Recall Audit forms and recall flowcharts of product recall procedures to all seafood dealers;
- Developed Hazard Analysis Critical Control Point (HACCP) plans and sanitation forms for use in Molluscan shellfish, shrimp, and crab processing facilities and seafood retailers;
- Prepared and distributed letters to Molluscan

shellfish dealers regarding updated HACCP plans;

- Formulated changes in statutory ordinance: Title 22 Part 17 REGULATION OF SHELLFISH LANDING, UNLOADING, TRANSPORTING, PROCESSING, BUYING, SELLING, OPENING, AND OTHER SHELLFISH RELATED ACTIVITIES IN THE STATE OF MISSISSIPPI to be consistent with the rules and regulation changes in the Model Ordinance of the Interstate Shellfish Sanitation Conference's National Shellfish Sanitation Program; and
- Participated at the deliberation of issues and resolutions on shellfish sanitation at the Gulf and South Atlantic States Conference.

TEXAS PARKS AND WILDLIFE DEPARTMENT
COASTAL FISHERIES DIVISION
Mike Ray, Division Director

The Texas Parks and Wildlife Department (TPWD) Coastal Fisheries Division is responsible for making management recommendations regarding aquatic resources along the Texas Gulf Coastal Plain, within Texas bays and estuaries, their watersheds and in state waters of the Gulf of Mexico from the shoreline seaward to nine nautical miles. The estimated value of fisheries within the four million acres of marine habitat exceeds \$2 billion.

Coastal Fisheries Division Objectives

Coastal Fisheries long-term vision involves Texas coastal ecosystems that are ecologically healthy and that sustain economic and recreational opportunities for 3.5 million anglers and 10 million outdoor enthusiasts. Coastal fisheries is responsible for making fisheries management, habitat conservation and water resource recommendations that support a coastal resource-based economy valued at more than \$2 billion annually. This mission is being accomplished by:

- Maintaining freshwater inflows and instream flows of sufficient quality and quantity to sustain the ecological health of Texas rivers, springs, and estuaries
- Managing and conserving the marine environment including ecosystems, resources, and habitats and provide fishing and outdoor recreation opportunities
- Facilitating the collection, computerization, summary, analysis, and reporting of routine monitoring and special study data, conducting research and coordinating cooperative projects, and recommending implementing and evaluating fisheries management measures.

Major Program Activities

Assessments for Marine Resource Management

- Provide annual status assessments of finfish,

shrimp, crab, and oyster populations and associated environmental conditions within the marine waters of Texas;

- Work with user groups of recreational and commercial anglers and others with interest in marine resources to obtain input into resource issues;
- Prepare and update long-range management plans for optimal sustainable yield of marine resources will provide consistent economic and sociological benefits to users and consumers of aquatic products while protecting the resource.

Stock Identification and Research

- Manage and enhance existing fishery populations through stock identification, life history studies, and genetic and reproductive physiology research;
- Coordinate studies to evaluate better methods to conserve and protect non-targeted aquatic species and to determine optimal uses of aquatic resources.

Fisheries Enhancement

- Maintain and enhance existing fish stocks in selected marine habitats;
- Provide continuous evaluation of the impact of fish stocking on resident populations and fishing success;
- Operate marine fish hatcheries in Corpus Christi (CCA Marine Development Center), Lake Jackson (Sea Center Texas) and Palacios (Perry R. Bass Marine Fisheries Research Station).

Artificial Reef Program

- Oversee development and maintenance of artificial reefs off the Texas coast;
- Evaluate utilization of artificial reefs by marine species, anglers, and divers.

Water Resources-Water Quantity Program

- Partner with other state agencies in statewide water planning efforts and provide resource information to stakeholder and science committees to implement Senate Bill 1 (1997), Senate Bill 2 (2001) and Senate Bill 3 (2007);
- Provide comments on water use permits and proposed water development projects in order to minimize potential impacts on environmental flows and fish and wildlife resources;
- Conduct geographic analysis of wetlands, salinity, and fisheries abundance as part of the freshwater inflow analysis.

Water Resources-Water Quality Program

- Provide comments on select discharge permits and actions affecting fish and wildlife resources, and work with TCEQ on the implementation of the Total Maximum Daily Load projects;
- Coordinate and collaborate with TCEQ and other state agencies on water quality policy and permitting activities that affect fish and wildlife resources.

Ecosystem Resources Program

- Provide information to the public on the importance of wetlands to fish and wildlife and provide recommendations to the U.S. Army Corps of Engineers (USACE) to lessen impacts on state water and fish and wildlife resources;
- Implement habitat restoration projects within the coastal plain with a goal of restoring and maintaining fish and wildlife habitat;
- Respond to spills and pollution incidents that cause mortality of fish and wildlife; pursue civil restitution for the value of the fish or wildlife damaged; and oversee restitution projects conducted by the responsible party;
- Coordinate and promote partnerships with local, state, and federal entities on research and planning efforts which maintain and restore aquatic ecosystem health and function;
- Calculate freshwater inflow needs to ensure

that estuaries, wetlands, and other coastal resources support healthy and productive fishery resources;

- Manage multidisciplinary conservation workgroups with a goal of addressing Harmful Algal Blooms (HABs), freshwater inflows and habitat threats to seagrass habitats;
- Assist local communities to conduct hands-on Coastal Expos that raise awareness of the coastal ecosystem to urban and minority populations.

Cooperation with Other Resource Management Entities

The Coastal Fisheries Division collaborates extensively with all TPWD Divisions, as well as with many public and private entities in order to perform their mandated functions.

Some federal agencies include: the U.S. Fish & Wildlife Services, U.S. Geological Survey; Environmental Protection Agency, U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration, U.S. Department of Agriculture, National Marine Fisheries Service and Natural Resource Conservation Service.

State agencies include: TCEQ, Texas Water Development Board (TWDB), General Land Office (GLO), and Texas Department of Transportation (TxDot).

Commissions and programs include: Gulf of Mexico Fishery Management Council, Gulf States Marine Fisheries Commission, Gulf of Mexico Alliance, Gulf of Mexico Program, Coastal Bend Bays and Estuaries Program, and Galveston Bay Estuary Program.

Other entities include: non-governmental organizations, conservation groups, river authorities, port authorities, industry, county and city governments, and universities.

Resource and Harvest Monitoring

Monitoring the relative abundance of adult fish in Texas bay waters was accomplished using 600-ft

gill nets with individual 150-ft sections of three, four, five and six-inch stretched mesh. Bag seines (60 ft/½-in mesh) and trawls (20 ft/1½-in mesh) are used to determine abundance of juvenile and subadult finfish, shrimp, blue crabs, and associated organisms. Oyster dredges (19½ in wide) were used to collect oyster abundance data. Inshore waters (within 9 nm) were also sampled with trawls. Total sampling effort during FY 2012 included 780 gill net sets; 2,160 bag seine tows; 2,640 bay and Gulf trawls; and 1,200 oyster dredge tows.

Relative abundance of finfish and shellfish in Texas offshore waters is monitored through long-term monitoring programs and a cooperative agreement with the GSMFC. Texas participated in the SEAMAP, a cooperative program between the Gulf States and federal government for collection, management, and dissemination of fishery-independent data and information in the southeast U.S. Data obtained from this sampling effort was used in evaluating the “Texas Closure” management measure of the GMFMC Shrimp Management Plan and to provide information on shrimp and groundfish stocks in the northern Gulf from inshore waters to 50 fm. In fulfillment of SEAMAP requirements, the TPWD collected 240 Gulf trawls in 2012.

Sport landings (private and guided boat) and associated angler activities were derived from on-site creel interviews of recreational anglers at the completion of their trips. Roving trailer and wet slip counts were used to assess relative pressure at sampling sites. Relative pressure was used to determine how often a site should be selected for a survey; higher use sites are surveyed more often than low use sites. A total of 1,049 survey days were spent to estimate landings and pressure of private and party boat fishermen.

Routine collection, editing, summarization, and publication of self-reported commercial landings data continued through a formal cooperative

statistics agreement with the NMFS and a FIN Program grant. Landings and value were obtained from commercial seafood dealers through submission of trip tickets. The TPWD collected commercial landings statistics on crab, oyster, finfish, and shrimp.

Crab Trap Cleanup Program

During the 2012 closure held February 17-26, a minimum of 24 volunteers using 10 vessels expended 192 man-hours of effort (plus additional TPWD staff time) to remove 499 derelict traps coast wide. This effort brings the total number of traps removed since the program began in 2002 to 29,552. Seventy one percent of the traps have been removed from Galveston Bay (39%) and San Antonio Bay (32%) respectively. Additionally, more than 30 donors contributed monies, materials, time, site use, promotional services, and other assistance to help facilitate the program.

Research

The Perry R. Bass Marine Fisheries Research Station (Palacios) provided information and techniques necessary for improvement of Texas fisheries management strategies. Efforts to improve management or restoration of marine species were directed toward research in life history and genetics of important recreational and commercial species. In the past year, genetic studies were initiated for alligator gar gulf menhaden and eastern oysters. Collection and processing of genetic samples from these species are ongoing. A manuscript describing the genetics of cold stunned and killed green sea turtles was completed and accepted for publication in a peer-reviewed journal. A life history study on gray snapper age, growth and reproduction was continued. Temperature tolerance studies of juvenile red drum, juvenile spotted seatrout, and larval southern flounder were continued. Temperature tolerance data were collected and analyzed for all species and reports were drafted for southern flounder, spotted seatrout and red drum studies. Otoliths were collected from red drum and spotted seatrout to estimate age structure

of Texas populations and update age-length keys for these fish. A cooperative project with the GSMFC continued to collect age and growth data on commercial and recreational catches of southern flounder, king mackerel, red snapper, greater amberjack, and black drum, red drum, spotted seatrout, gray snapper, vermillion snapper, gray triggerfish, and sheepshead. A routine fishery monitoring project using bag seines and gill nets continued in the Cedar Lakes area near the mouth of the San Bernard River.

Fish Stocking

Efforts continued to spawn and rear marine fish for stock enhancement at the CCA Marine Development Center (MDC) in Corpus Christi, Perry R. Bass Marine Fisheries Research Station (PRB) in Palacios, and Sea Center Texas (SCT) in Lake Jackson. Controlled photoperiod and temperature protocols were used to induce captive broodfish to spawn at the hatcheries. During peak spawning periods, personnel collected 1.5-2 million eggs per day. After hatching, larval fish were transferred to outdoor rearing ponds and grown to a target size of 35-40 mm TL.

During the 2012 fiscal year, a total of 17.1 million red drum fingerlings, 7.35 million spotted seatrout fingerlings averaged \pm s.e. 35.3 ± 0.5 mm TL and 34.9 ± 0.7 mm TL, respectively, were released into marine waters for purposes of stock enhancement. A total of 989,889 red drum fingerlings with a mean size \pm s.e. of 37.0 ± 2.1 mm TL were released into two freshwater reservoirs. Also, a small number (1,699) of southern flounder fingerlings averaged \pm s.e. 32.9 ± 6.0 mm TL were reared at state fish hatcheries and stocked into Texas waters.

Hatchery research included the improvement of southern flounder broodfish procurement techniques, advances in spawning captive southern flounder, gender ID, and investigations of sperm cryopreservation methods. Technical information regarding fish hatchery development was provided

to other coastal states in a cooperative effort to enhance coastal marine fisheries.

In addition to stock enhancement, each facility provided public outreach activities. Interpretive displays, touch tanks, and aquaria appeal to visitors. Sea Center Texas welcomed over 61,066 visitors in 2012. The Marine Development Center toured 1,774 visitors, and the PRB satellite pond facility received six visitors. These facilities, touted as the world's largest red drum hatcheries, represent a unique merger of fisheries science and visitor education.

Habitat Protection

In 2012, staff continued to play a significant role in initiating and implementing numerous coastal restoration projects along the Texas Coast. Staff continued to work with Natural Resource Damage Assessment (NRDA) Trustees who continued to provide information as requested for potential projects for settlement claims for Deepwater Horizon impacts. Associated Deepwater Horizon activities included participation on Gulf Ecosystem Restoration Task Force committees and the Technical Advisory Committees (Texas General Land Office) for identifying regional coastal priorities and future planning strategies.

During 2012, TPWD coastal ecologists participated in a wide variety of activities that involve protection and restoration of coastal habitats beneficial to fish and wildlife. Staff contracted with engineering firms to provide additional engineering analyses for both the Dagger and Ransom Island Restoration Project in Corpus Christi Bay (adjacent to the Redfish Bay State Scientific Area), and the Dickinson Bayou Marsh Restoration Project in Galveston County. Staff completed the first two of five years of an ongoing monitoring program to evaluate the effects on salinity and marsh health with the proposed Rollover Pass closure, in East Galveston Bay. The USACE has issued the permit to the Texas General Land Office (GLO) for closure, but construction

has not occurred in 2012. TPWD has continued to work to insure that losses to recreational fishing are mitigated through recreational alternatives in the GLO project plan.

Additional grant proposals were submitted during 2012, to restore seven acres of intertidal marsh in Dickinson Bayou and to implement the Dagger and Ransom Island Restoration Project. Project managers began work on several protection and restoration projects that received notification of funding availability during 2011. These included the Follet's Island Initiative project (over 400 acres of land acquisition), Settegast (an acquisition of the Settegast Road tract on Galveston Island by a local NGO), and Bird Island Cove- part of West Bay Estuarine Habitat Protection and Restoration Project.

TPWD staff submitted and received State Wildlife Grants during 2012. One developed an MOU with the Coastal Bend Bays and Estuaries Program for Egery Flats to determine the feasibility of marsh restoration and develop a conceptual design for restoration. Egery Flats has lost approximately 100 acres of estuarine marsh since the 1950's and has been identified (by USFWS) as a site of potential range expansion for the endangered whooping crane (*Grus americana*).

Staff participated with on-the-ground management and implementation of projects that had received funds and were in various stages of completion including the West Bay Estuarine Habitat Protection and Restoration Project and the Follet's Island Conservation Initiative. One of those projects within the West Bay project is the Starvation Gap Wetland and Water Quality Protection Project, which is nearing project planting and completion. The West Bay Estuarine Habitat Protection and Restoration Project, was identified as one of the 50 Nationally recognized America's Great Outdoors (AGO) projects (one of only two in Texas), following intertidal marsh restoration

funded by the American Recovery and Restoration Act (ARRA) (restoring 500 acres, doubling the restored acreage in West Bay). Bird Island Cove restoration project is located within the AGO project boundary and received Coastal Wetland Conservation Program grant funds awarded during 2012. The only other project to be awarded these funds was the Settegast Coastal Heritage Preserve, a land acquisition project.

Staff continued providing recommendations and ongoing project management for the Golden Pass LNG (GPLNG) beneficial use of dredged material project along the upper coast of Texas. The initial restoration target of 37.5 acres (from funds from the NOAA Hurricane Ike grant) was used as the catalyst to capitalize on the needs and efforts of all partners and resulted in 1,200 acres of marsh habitat enhanced in the J.D. Murphree Wildlife Management Area. Due to the cost savings for GPLNG, this partner has committed to working with TPWD to restore marsh associated with their future dredging cycles. Because of the potential to result in over 20,000 marsh acres restored over the next ten years, TPWD staff are working with private landowners to encourage their interest in being part of the larger restoration strategy.

The Old River Cove Shoreline Protection Project in Orange County was completed. This project constructed 2,200 feet of rock breakwater and restored five acres of tidal marsh in Sabine Lake. This breakwater will halt erosion that threatens to disrupt the hydrology of the freshwater tidal marshes in the Old River Cover Unit of the Lower Neches Wildlife Management Area.

Project planning continued with the project alternative modeling being completed for the Keith Lake Fish Pass Project. The interagency workgroup has selected the preliminary design to move forward to the U.S. Army Corps of Engineers (USACE). Design and engineering of the channel modification have occurred, with permitting and construction to follow with USACE funding.

TPWD continues to lead a multi-agency workgroup that focuses on developing and implementing restoration projects to ensure the long-term health of marshes in the Salt Bayou system; works as an active partner in the Galveston Bay Habitat Conservation Blueprint (restoration goal of over 29,000 acres); and works with other partners with coastwide conservation and restoration planning and implementation.

Ecosystem Resources Program staff spent significant time reviewing 257 Section 404/10 permit applications directly impacting coastal natural resources. Staff continued to work with the Wildlife Division and other land managers to elevate the effectiveness of mitigation projects on department managed and privately held lands. Staff served as Natural Resource coordinators to review TPWD projects for potential fish and wildlife impacts. Staff reviewed applications for permits to introduce fish, shellfish, or aquatic plants into public waters to ensure no exotics species were introduced.

In 2012, ERP staff became actively involved in discussions with the USACE regarding how oyster relocation is considered throughout the permitting process in Texas. Additional discussions within TPWD also began, to review existing criteria for relocating aquatic plants and shellfish within Texas coastal waters. Staff participated in various Inter-agency Coordination Teams (ICT) as well as participation on the Mitigation Bank Interagency Review Team (IRT). for federal projects administered by USACE. Participation provided the primary input for the State regarding the impact to fish and wildlife resources from the projects to the federal government and project proponents. Staff responded to the USACE information request regarding Coastal Preserves being recognized as Critical Resource Waters. This included the criteria used to determine what qualifies an area to be considered for the Texas Coastal Preserve System and the criteria used by TPWD to determine that

the preserves have particular environmental or ecological significance.

Ecosystem Resources Program staff was also involved in numerous planning groups including the Dickinson Bayou Watershed Planning Group, the Gulf of Mexico Alliance water quality committees and in the multi-stake holder Executive Councils and subcommittees of the Galveston Bay Estuary Program, the Salt Bayou Workgroup, Coastal Bend Bays Foundation and the Coastal Bend Bay and Estuaries Program. ERP participated in the Habitat Committee and the Southern Flounder subcommittee for the Gulf States Marine Fisheries Commission. The TPWD has played a lead role in the Gulf of Mexico Alliance in technical advisory committees and in establishing regional sediment management as a tool for coastal restoration and maintenance and in changing the federal standard to recognize dredged material as a coastal resource.

Staff continues to work with land trusts and land conservancy organizations working on projects along the coast. These organizations include the Texas Nature Conservancy, Legacy Land Trust, Coastal Bend Land Trust, Scenic Galveston, Galveston Bay Foundation, Trust for Public Land, Friends of Galveston Island State Park, Audubon Texas, Coastal Bend Bays and Estuaries Program, Ducks Unlimited, Gulf Coast Joint Ventures, and the Conservation Fund. These efforts assisted our conservation partners in receiving grant funds to acquire significant land tracts for conservation and outdoor recreation in Galveston, Chambers, and Brazoria counties.

Staff continues to provide coordination and assistance with fish and wildlife assessments due to algal blooms, low dissolved oxygen, and pollution events. As in most years, the majority of reported fish kills were caused by seasonal low dissolved oxygen events. Low dissolved events were primarily attributed to biological respiration and/or algal decay due to sewage releases and nonpoint

source pollution. A red tide (*Karenia brevis*) bloom occurred on the upper coast in August 2012. This was a relatively short-lived bloom and impacts lasted less than one week in duration. While concentrations were not high enough to cause water discoloration or aerosol affects, fish kills did occur along a 95-mile segment of the Gulf beachfront. Due to the presence of *K. brevis*, upper coast bays remained closed to shellfishing throughout much of August. Staff provided daily and weekly website updates that provided information such as the geographic extent of the bloom, commercial shellfish closures, information about the biology of the bloom species, and public health concerns. Other blooms of *Dinophysis acuminata* and *Heterosigma akashiwo* occurred on the upper coast in 2012, causing discolored water but no other impacts.

TPWD gave invited presentations on drought impacts to fish and wildlife at the 14th World Lake Conference, Colorado Water Conservation Board Drought Conference, Texas Association of Medicine, Engineering Science and Technology and the University of Texas Drought Symposium. TPWD also participated in planning a workshop entitled “Drought Impact and Recovery in Texas Estuaries” held in January 2013.

TPWD continued hosting the multi-agency Texas Seagrass Monitoring workgroup which is moving forward in refining a proposed statewide seagrass monitoring program. The workgroup has also completed writing and editing proceedings for the Seagrass Conservation Plan Review Workshop held in 2009 and is preparing to distribute it to the three state agencies that endorsed the original plan. This document will present the progress made in the implementation of the Seagrass Conservation Plan since 1999 and make recommended updates for the agencies to consider incorporating into their operations moving forward.

On March 1, 2012, the Chairman of the Texas Parks and Wildlife Commission (TPWC) invited

various representatives of recreational anglers and associated organizations to participate in a Coastal User Working Group (working group). The charge of this working group was to develop recommendations to protect seagrass and to reduce user conflict in Texas’ bays and estuaries and to tender a report to the TPWC by September 28, 2012. After multiple meetings the group developed nine recommendations (seven were assigned a high priority) to protect seagrass and five recommendations (all assigned a high priority) to reduce user conflict along the Texas coast. The working group felt the highest priority for protecting seagrass was for the state of Texas to develop a statewide regulation protecting seagrass. Six other high priority seagrass protection recommendations were developed including the production of detailed maps depicting seagrass locations, the development of tide indicators, and the creation of a seagrass awareness campaign similar to those employed by the Texas Parks and Wildlife Department (TPWD) in the past for aquatic invasive species. Examples of some of the high priority user conflict recommendations include the development of a code of ethics, lowering the minimum age required for boater education, and working with other agencies to allow for more effective rookery signage to be placed near bird nesting islands.

Artificial Reef Program

The Artificial Reef Program created several new reef sites. It was responsible for maintaining 66 permitted reef sites, eight USCG required permanent marker buoys and two mooring buoys in the Outer Continental Shelf area of the Gulf of Mexico in FY 2012. The Program received five petroleum structures and over \$1.1 million in donations. All five structures were towed to existing reef sites. Three other petroleum donation agreements were signed during FY 2012 and are in various stages of completion. The proposed planning zones in the Mustang and Matagorda protraction areas were approved by the Bureau of Safety and Environmental Enforcement (BSEE)

in September 2012. This was a two-year project that now enables the reef program to create new reef sites within the planning zones as the Idle Iron policies limited the creation of new reefing areas and forced the oil companies to tow any donations to existing reef sites.

The expansion of the George Vancouver Liberty Ship reef (BA-336) from its current 40 acres to 160 acres occurred May 3, 2013. An archeological survey completed January 18, 2012 as part of the expansion application to the USACOE. Overall, nearshore reef work included the reefing of 42 prefabricated pyramid reefs and 125 concrete culverts at the George Vancouver Liberty Ship reef site (BA-336).

The reef program continued funding projects through the \$1.5m Coastal Impact Assistance Program grant received last year for several nearshore reefing projects. Three interagency biological monitoring contracts were signed with TAMU-Galveston, TAMU-Corpus Christi, and UT-Brownsville. All three universities will conduct monitoring on nearby artificial reefs.

The TPWD Artificial Reef Program offshore biological monitoring began the three-day dive trips in September and October 2011, and continued in March, May, June, and July 2012. Scientific divers from other institutions assisted in our monitoring and logged over 840 volunteer hours.

The program reached some of its public relations goals in FY 2012 by launching a TPWD Facebook page for the Artificial Reef Program. The reef program posts status updates pertaining to reefing that occur and any news related to the program. So far, the public has responded favorably and our “like” count continues to grow. Progress continued on the design of a new TPWD Artificial Reef website to make it easier for the public to obtain information on the program and is expected to go live in early FY13.

Water Resources

The Water Resources Branch coordinated TPWD non-voting members on each of the seven coastal Regional Water Planning Groups (RWPGs) established under Senate Bill 1. TPWD participates by providing to the RWPGs information and technical assistance necessary to protect natural resources in those regions. TPWD also reviews and provides comments regarding regional water plan documents and the draft State Water Plan. The fourth cycle of five year regional water planning commenced in 2012 and included review of revised regional and state water planning rules.

TPWD participated as a member of the Lower Colorado River Authority’s Water Management Plan (WMP) Advisory Committee. LCRA’s Water Management Plan governs how LCRA operates its reservoirs to provide water to cities, rice irrigators and Matagorda Bay. The LCRA Board forwarded recommendations, with modifications, to TCEQ for approval February 2012. The TPWD has also negotiated a settlement agreement with the Brazos River Authority (BRA) to protect environmental flows in the Brazos River Basin as part of BRA’s Systems Operation permit. In November 2012, BRA submitted the required Systems Operation Permit Water Management Plan to TCEQ, culminating a fast-tracked coordination effort with TPWD and other agencies.

In 2007, the Texas Legislature passed Senate Bill 3 (SB3) which established a statewide, stakeholder-driven process to protect environmental flows. The final outcome of the process will be protected environmental flow regimes that will help ensure healthy rivers, streams, and estuaries for Texas. TPWD staff has and will continue to provide technical expertise to develop technical guidance and provide support necessary to identify environmental flow regimes adequate to support sound ecological environments. On April 20, 2011 the TCEQ Commission adopted Environmental Flow Standards for the Sabine-Neches and Trinity-San Jacinto Basin Bay Areas. TPWD submitted

comments stating concerns regarding the adequacy of the adopted standards. These standards are to be revisited no later than 2021. On August 8, 2012 the TCEQ Commission adopted Environmental Flow Standards for the Colorado-Lavaca and Guadalupe, San Antonio, Mission, and Aransas Basin Bay Areas. TPWD submitted comments in support of the stakeholder recommendations. Stakeholder Committees for the Brazos and Nueces Basins have submitted their environmental flow regime recommendations to TCEQ. TCEQ has until March 2014 to adopt Environmental Flow Standards for these Basins. TPWD submitted comments in support of the stakeholder recommendations. The Rio Grande (Upper and Lower) Basin Bay Expert Science Teams have submitted their environmental flow recommendation reports. The Stakeholder Committee did not meet the December 2012 deadline to submit its recommendation to TCEQ. TCEQ has until March 2014 to adopt Final Environmental Flow Standards for these Basins. TPWD submitted comments in support of the science committee recommendations.

TCEQ has initiated a Water Quality Standards revision and anticipates adopting a revised rule in 2013. Nutrient criteria and site-specific contact recreation criteria continue to be a focus for the state.

A TPWD-TCEQ interagency technical group that was formed in 2000 continued their process to discuss, revise, and implement changes regarding how biological information is used in the Texas Surface Water Quality Standards. The group continues to address priorities for developing bioassessment tools, the inherent variability in biological measurements of fish and benthic assemblages, and coastal issues related to tidal streams.

Numerous documents pertaining to permits and water quality issues were reviewed during the period January 1, 2012 through December 31, 2012. Efforts ranged from reviewing and commenting on

individual draft permit applications to commenting on and/or helping draft policies and rules with regulatory agencies. Reviews were made and information and comments were provided to the regulatory agencies for protection of sport fish and their habitats in saltwater.

In 2012, the Texas Commission on Environmental Quality (TCEQ) began discussion of the 2013 revision of the Texas Surface Water Quality Standards. Estuarine numeric criteria for nutrient parameters are expected to be proposed in either 2013 or 2016. TPWD staff has begun considering nutrient levels appropriate to maintain a healthy fishery and has participated in TCEQ work groups. A TPWD-TCEQ interagency technical group that was formed in 2000 continued their process to discuss, revise, and implement changes regarding how biological information is used in the Texas Surface Water Quality Standards. In this reporting period, the group focused on review of existing data for tidal streams and development of metrics to assess aquatic life use from fish and benthic assemblages.

Department staff coordinated with staff of the TCEQ to develop Texas' first coastwide seagrass monitoring pilot project in 2010-2011 and participated in presenting results to the statewide Seagrass Monitoring Work Group in May 2012. In 2012, staff developed probabilistic sampling methods and quality assurance documents for a larger "Phase 2" pilot sampling project.

Department biologists remained actively involved in the Total Maximum Daily Load (TMDL) and Watershed Protection Plan (WPP) processes with TCEQ and the Texas State Soil and Water Conservation Board. The TMDL process is designed to allocate pollutant loads to impaired waterbodies from point and nonpoint sources in the watershed. Watershed Protection Plans are efforts to develop and implement plans to reduce pollutant loads to acceptable levels. In addition, to address potential revisions to the contact

recreation standards, TCEQ has initiated numerous Recreation Use Attainability Analyses (RUUAs). The focus this year continued to be department participation in TMDLs, WPPs, RUAs and work groups to address impairments arising from excess bacterial loadings. Staff members participated in technical advisory groups or other meetings related to dissolved oxygen in Armand Bayou, dissolved oxygen in the Arroyo Colorado, bacteria in Copano Bay, bacteria in Orange County, dissolved oxygen in Dickinson Bayou, dioxin and PCBs in the Houston Ship Channel, and bacteria and dissolved oxygen in Oso Bay and Oso Creek.

Aquaculture remains a significant issue in Texas. Legislation requires that TCEQ, the Texas Department of Agriculture, and TPWD maintain a Memorandum of Understanding (MOU) that ensures agency coordination and that the department is informed and involved in all aspects of licensing, permitting, and response to emergency situations. Efforts in the past year focused on review of applications for coverage under TCEQ's aquaculture general permit and Texas Department of Agriculture aquaculture licenses.

Department staff members have provided information and technical advice on a number of state initiatives. One example is the Clean Rivers Program. Biologists served on steering committees that address water quality problems, monitoring and coordination in each of the state's river basins. In addition, staff participated in a national review of requirements related to seawater desalination, which has the potential to affect water quality and sport fish habitat.

Legislative and Regulatory Changes

Legislative Actions: The Texas Legislature was not in session during 2012.

Texas Parks and Wildlife Commission (TPWC) Rule-making: One new rule regarding saltwater fishing was approved by the TPWC.

1. An amendment to §57.975, concerning Freeze Event Closures, clarified that no person may take, or attempt to take, aquatic life in an affected area during a freeze closure. The previous rule specifically prohibited the take of fish by hook and line, pole and line, or throwline in an area closed during a freeze event. There had been some confusion on the part of anglers who interpreted the current rule to allow the harvest of fish by hand, dip net, or other means that are not specifically prohibited under §57.975. This interpretation is erroneous. The amended rule, therefore the new rule clearly states that it is unlawful to take, attempt to take, or possess fish caught in public waters of this state by any device, means, or method other than as authorized, and devices that are unlawful under §57.973 would still be unlawful in an area that has been closed due to a freeze event.

NATIONAL MARINE FISHERIES SERVICE, SOUTHEAST REGION
NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
Roy E. Crabtree, Regional Administrator

NOAA Fisheries' mission is stewardship of the nation's living marine resources. Through conservation and wise use, these resources and their habitats can be effectively and efficiently managed to maximize national benefits without jeopardizing future options.

NOAA Fisheries administers programs to conserve, protect and manage living marine resources in a way that ensures they continue as functioning components of marine ecosystems, afford economic opportunities, and enhance the quality of life for the American public. These programs include services and products to support fishery conservation and management, protected species and habitat conservation, stewardship of international marine resources, law enforcement activities, marine fisheries research, seafood inspection and more.

NOAA Fisheries' Southeast Regional Office is located in St. Petersburg, Florida. The Southeast Regional Office plans, organizes, and implements marine resource conservation and management through a range of domestic and international programs and provides program planning and evaluation, budgeting, technical and administrative support to regional fishery management councils. The Southeast Regional Administrator represents NOAA Fisheries' Assistant Administrator with state conservation agencies, recreational interests, commercial industries, consumers, environmental groups, and the general public.

NOAA Fisheries' Southeast Fisheries Science Center is centered in Miami, Florida, and has laboratories in Panama City, Florida; Beaufort, North Carolina; Pascagoula and Stennis Space Center, Mississippi; and Galveston, Texas. The

Science Center conducts multi-disciplinary research programs to provide management information to support national and regional programs and to respond to the needs of regional fishery management councils and other user groups. The Science Center develops science to support stock status determinations and environmental assessment and environmental impact statements for management plans and/or international negotiations, and pursues research to answer specific needs related to habitat conservation, aquaculture, fishery engineering, marine mammals, endangered species, fishery oceanography, food sciences, and fishery economics.

Fishery Conservation and Management

The Southeast Regional Office's Sustainable Fisheries Division works with the Gulf of Mexico Fishery Management Council to conserve and manage marine fishery resources in federal waters of the Gulf of Mexico under the authority of the Magnuson-Stevens Fishery Conservation and Management Act. The main objective of this program is to maintain healthy fish stocks important to commercial, recreational, and subsistence fisheries to increase long-term economic and social benefits to the nation from living marine resources.

Gulf Shrimp Fishery

Annual Texas Closure

The annual closure of the shrimp fishery in the western Gulf of Mexico allows brown shrimp to reach a larger (and more valuable) size before harvest, preventing discard and waste of brown shrimp smaller than the preferred market size.

During 2012, commercial shrimp fishing in federal waters off Texas was closed May 15 through July 15.

Relaxation of a Shrimp Effort Restriction

The red snapper rebuilding plan requires NOAA Fisheries to implement a time-area closure, as needed, to constrain shrimp effort (and associated bycatch mortality of red snapper) to a threshold level. This closure is to occur within a designated area of the north-central and western Gulf of Mexico, where high juvenile red snapper bycatch occurs. Implemented through Shrimp Amendment 14, this effort reduction threshold was to be relaxed in 2012 - from 74% less than the average effort during 2001-2003 to 67% less than the average effort during that time frame. This change became effective May 11, 2012, and will allow the shrimp fleet about 5,800 more fishing days in the affected areas. No area closures were required in 2012 because shrimp effort in 2011 was 68% less than the baseline average effort during 2001-2003.

New Bycatch Reduction Devices (BRDs)

The same rulemaking that relaxed the shrimp effort restriction also certified two new versions of the Composite Panel BRD. The Composite Panel was provisionally certified through May of 2012; these two modifications to the BRD allowed for permanent certification. One modification added a cone behind the BRD to help turn the fish back toward the openings, and the other modification added a large-mesh panel to the top of the cod end behind the BRD to allow additional ways for fish to escape.

Annual Catch Limits & Accountability Measures

The Magnuson-Stevens Fishery Conservation and Management Act of 2006 established new

requirements to specify annual catch limits and accountability measures for most managed fisheries. The final rule implementing the Gulf Council's proposed annual catch limits and accountability measures for royal red shrimp, red drum, and numerous reef fish species became effective in January 2012.

Reef Fish Fishery

Grouper/Tilefish Individual Fishing Quota (IFQ) Program

In 2012, there were 665 shareholders as of December, and annual landings, in gutted weight (pounds [lb] or million pounds [mp]) are summarized in Table 1.

Red snapper Individual Fishing Quota (IFQ) Program

In 2012, there were 407 shareholders as of December, and fishermen landed 3.36 million pounds gutted weight of red snapper, or 98% of the 3.71+ million pound gutted weight red snapper quota.

Effective January 1, 2012, all U.S. citizens or permanent resident aliens are eligible to receive transfers of Gulf of Mexico Red Snapper IFQ shares or allocation. The Gulf Council is considering modifying the program to require shareholders to use all or some portion of their allocation, or be subject to losing their shares. The Council also is considering re-establishing a requirement to possess a Gulf commercial reef fish permit to receive shares or allocation under the program. The Council specified a control date of January 1, 2012, for the Red Snapper IFQ Program, to inform

Table 1. Annual landings of for the Reef Fish complex in gutted weight in pounds (lbs) or million pounds (mp).

Species/Complex	Landings	Quota	%
Gag	523,138 lb	567,000 lb	86%
Red grouper	5.37 mp	5.22 mp	97%
Other Shallow Water grouper	298,102 lb	410,000 lb	59%
Deep-water grouper	966,100 lb	1.02 mp	86%
Tilefish	451,121 lb	582,000 lb	78%

current and potential future participants that they may consider additional restrictions limiting participation.

Red Snapper Total Allowable Catch Increase for 2012

Effective May 30, 2012, NOAA Fisheries increased the red snapper acceptable biological catch (ABC) from 7.185 million pounds to 8.08 million pounds for 2012, and set a season closure date of 12:01 a.m. July 11, 2012. We later extended this closure date six days because Tropical Storm Debby disrupted fishing efforts in June.

Reef Fish Amendment 32

Reef Fish Amendment 32 established a rebuilding plan for gag, reduced the harvest of gag to end overfishing, increased the red grouper catch limit and bag limit, and modified management of other shallow-water grouper species. NOAA Fisheries approved the amendment on January 24, 2012, after a public comment period, and the final rule implementing the amendment took effect March 12, 2012. Two supplemental rules proposed and finalized in 2012 corrected accountability measures established in Amendment 32, as well as some inconsistencies created by the final rule implementing the Generic Annual Catch Limit Amendment.

Reef Fish Amendment 34

Reef Fish Amendment 34 eliminated the income requirement for reef fish permits and increased the maximum number of crew members to four on dual-permitted vessels. NOAA Fisheries approved the amendment on October 5, 2012, after a public comment period, and the final rule implementing the amendment took effect November 19, 2012.

Reef Fish Amendment 35

Reef Fish Amendment 35 reduced greater amberjack annual catch limits and targets and established a 2,000 pound commercial trip limit in response to a 2011 stock assessment update indicating the stock is not rebuilding as scheduled.

Greater amberjack have been in a rebuilding plan since 2003; however, the stock remains overfished and undergoing overfishing. NOAA Fisheries approved the amendment on October 3, 2012, after a public comment period, and the final rule implementing the amendment took effect on December 13, 2012.

Reef Fish Amendment 38

Amendment 38 modified post-season recreational accountability measures for shallow-water groupers, changed the trigger for accountability measures, and revised the framework procedure. NOAA Fisheries requested comments on the amendment and proposed rule on October 12, 2012, and October 19, 2012, respectively.

Quota Monitoring Fishing Year 2012

- Recreational Red Snapper: Federal waters opened June 1 and closed July 17, 2012. Preliminary estimates of recreational harvest during this open season indicate between 5.6 and 5.8 million pounds were landed, against a quota of 3.959 million pounds.
- Recreational Greater Amberjack: NOAA Fisheries reduced the greater amberjack recreational quota to 1,368,000 pounds whole weight in 2012 to account for a 2011 quota overage. Preliminary data indicate recreational fishermen landed 1,220,965 pounds whole weight in 2012.
- Commercial Greater Amberjack: NOAA Fisheries reduced the greater amberjack commercial quota to 237,438 pounds in 2012 to account for a 2011 quota overage. Preliminary data indicate commercial fishermen landed 308,281 pounds by the time we closed the fishery on March 1, 2012. We will reduce the 409,000-pound quota in 2013 to compensate for the overage.
- Recreational Gray Triggerfish: An interim rule reduced the 2012 recreational quota to 217,100 pounds, and established in-season closure authority for restricting recreational harvest. Preliminary data indicate recreational

fishermen landed 282,061 pounds by the time we closed the fishery on June 11, 2012.

- **Commercial Gray Triggerfish:** NOAA Fisheries reduced 2012 quota to 60,900 pounds through an interim rule. Preliminary data indicate commercial fishermen landed 73,398 pounds by the time we closed the fishery on July 1, 2012. We will reduce the 60,900-pound quota in 2013 to compensate for the overage.

Spiny Lobster Fishery

Spiny Lobster Amendment 10

Amendment 10 established annual catch limits and accountability measures for the Gulf of Mexico and South Atlantic spiny lobster fisheries, removed four species from the fishery management plan, revised the framework procedure and protocol for cooperation with Florida, modified tailing permit requirements, modified restrictions on retaining undersized lobsters, and authorized Florida to remove derelict traps in federal waters. NOAA Fisheries approved the amendment on November 17, 2011, and the final rule implementing the amendment took effect January 3, 2012.

Spiny Lobster Amendment 11

Amendment 11 created new closed areas to reduce the impacts of lobster traps on protected *Acropora* coral species. NOAA Fisheries approved the amendment on July 16, 2012, after a public comment period, and the final rule implementing the amendment took effect August 27, 2012.

Coastal Migratory Pelagic Fisheries: King and Spanish Mackerel, and Cobia

Coastal Migratory Pelagics Amendment 18

On December 15, 2011, NOAA Fisheries approved Amendment 18. A final rule implementing these regulations was published in the *Federal Register* on December 29, 2011, effective January 30, 2012. The rule established ACLs and AMs for Gulf of Mexico and South Atlantic king mackerel, Spanish mackerel, and cobia. The rule also removed four species from the management plan, established

migratory groups for cobia, and revised the framework procedure.

Quota Monitoring Fishing Year 2011-2012

- On January 21, 2012, NOAA Fisheries closed the southern Florida West Coast subzone to commercial gill net fishing for king mackerel.
- On February 1, 2012, NOAA Fisheries increased the trip limit in the Florida East Coast subzone to 75 fish and, on March 13, 2012, we closed that subzone to commercial hook-and-line fishing for king mackerel.
- On February 26, 2012, NOAA Fisheries closed the Florida West Coast southern subzone to commercial hook-and-line fishing for king mackerel.
- On August 30, 2012, NOAA Fisheries decreased the trip limit in the Florida West Coast northern subzone to 500 pounds and, on October 5, 2012, we closed that subzone to commercial hook-and-line fishing for king mackerel.
- The Gulf of Mexico did not close to commercial hook-and-line fishing for Spanish mackerel during the 2011-2012 fishing year.

Quota Monitoring Fishing Year 2012-2013

- On August 22, 2012, NOAA Fisheries closed the Western zone to commercial hook-and-line fishing for king mackerel.
- On August 30, 2012, NOAA Fisheries decreased the trip limit in the Florida West Coast northern subzone to 500 pounds and, on October 5, 2012, we closed that subzone to commercial hook-and-line fishing for king mackerel.

Ongoing Activities Under Development in 2012 in Cooperation with the Gulf Council

- Reef Fish Amendment 28 (red snapper allocation)
- Reef Fish Amendment 33 (reef fish individual fishing quota program)
- Reef Fish Amendment 36 (red snapper

- individual fishing quota program adjustments)
- Reef Fish Amendment 37 (triggerfish rebuilding plan)
- Reef Fish Amendment 39 (regional management of red snapper recreational fishing season)
- Sector Separation Amendment (allocation between for-hire and private recreational groups)
- Reef Fish Framework Action (vermilion and yellowtail snapper harvest levels and venting requirements in the reef fish fishery)
- Coastal Migratory Pelagics Amendment 19 (sale of bag limit caught fish and latent permits)
- Coastal Migratory Pelagics Amendment 20 (zones, quotas, trip limits for mackerels and cobia)
- Generic Dealer Reporting Requirement (electronic weekly reporting by dealers)
- Framework for Headboat Electronic Reporting (electronic weekly reporting by headboats)
- Generic Amendment 4 (oil/gas platforms and other artificial structures as Essential Fish Habitat)
- Shrimp Framework (cost-sharing for the electronic logbook program)
- Shrimp Amendment 15 (stock status criteria and royal red shrimp catch limit)

Socioeconomic Studies

Through a NOAA Fisheries Education Grant, NOAA Fisheries worked with Florida high school students to collect personal perspectives on the local marine environment and fishing through a project titled “Cortez Villages Voices from the Fisheries.” We initiated work on a network analysis of fishery data which will examine how linkages between fishermen, communities, and species have changed over time. Also, we collaborated with NOAA Fisheries’ Northeast Fisheries Science Center to develop community vulnerability indices, which measure the social vulnerability of a community to fishery and environmental stresses for 2,900 Gulf of Mexico and Atlantic communities.

Protected Resources

The Southeast Regional Office’s Protected Resources Division conserves, protects and recovers marine mammals and endangered and threatened species under the authority of the Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA). Through policy, management and public outreach, this program strives to ensure the recovery and survival of protected marine species for future generations in Gulf of Mexico waters.

Conservation Measures for Calendar Year 2012

- On May 4, 2012, NOAA Fisheries announced that a petition from the Center for Biological Diversity to list the dwarf sea horse as threatened or endangered under the ESA, along with information in our files, presents substantial information indicating the petitioned action may be warranted, and initiated a status review of the species to determine if the petitioned action is warranted.
- On May 10, 2012, and May 18, 2012, respectively, NOAA Fisheries requested public comments on a proposed rule and supporting document that would require all skimmer trawls, pusher-head trawls, and wing nets (butterfly trawls) to use turtle excluder devices in their nets. From May through July, we held seven public hearings on this issue in Morehead City, North Carolina; Larose and Belle Chasse, Louisiana; D’Iberville, Mississippi; Bayou La Batre, Alabama, and Port Orange and Miami, Florida. On November 27, 2012, we announced our determination that the proposed action is not warranted at this time based on a review of newly collected data, and that we plan to continue observer effort to evaluate the potential effects of the skimmer trawl fisheries on sea turtle populations as well as explore additional technological solutions to address sea turtle bycatch in those fisheries.
- On October 10, 2012, NOAA Fisheries announced that a petition from the WildEarth

Guardians to list Nassau grouper under the ESA, along with information in our files, present substantial information indicating the petitioned action may be warranted, and initiated a status review of the species to determine if the petitioned action is warranted.

- On December 7, 2012, NOAA Fisheries published for public comment a proposed rule to list or up-list under the ESA nine species of reef-building coral in the Southeast Region, six of which occur in the Gulf of Mexico.
- Additional measures include:
 - Completed year three of a five-year monitoring study designed to estimate Gulf sturgeon mortality.
 - Funded the last year of a three-year section 6 grant to the Gulf Coast Research Laboratory for ongoing Gulf sturgeon research in the Pascagoula River.
 - Conducted a community town hall meeting in Slidell, Louisiana, regarding a lone, sociable, dolphin in a residential canal to educate the public on how to safely and responsibly view the dolphin.
 - Conducted public outreach following the issuance of three Notice of Violation Assessments in Florida for illegally feeding dolphins under the MMPA.
 - Completed the Florida Fish and Wildlife Conservation Commission’s ESA Section 6 Cooperative Agreement.
 - Participated in a partnership meeting with the Florida Fish and Wildlife Commission, NOAA Office of Law Enforcement, and NOAA’s Office of General Counsel regarding dolphin feeding issues and strategies in Florida.
 - Coordinated with Mississippi/Alabama Sea Grant on soliciting a Request for Proposals for dolphin/fishery interaction research in the Southeast Region.
 - Participated in the Cape Coral’s Burrowing Owl Festival and provided educational information on bottlenose dolphin conservation and the Dolphin SMART

program.

- Planned, implemented and executed two Dolphin SMART trainings in Clearwater and Ft. Myers, Florida.
- Coordinated with NOAA’s office of Law Enforcement to investigate shootings and other intentional acts of retaliation against bottlenose dolphins.

National Resource Damage Assessment

- NOAA Fisheries participated in Natural Resource Damage Assessment discussions to identify potential early restoration projects for impacts to Gulf sturgeon resulting from the Deepwater Horizon oil spill event. Given challenges with decommissioning Pearl River sill, we did not put forth any Gulf sturgeon project.
- NOAA Fisheries participated in weekly/bi-weekly calls of the Marine Mammal Technical Working Group.

Biological Opinions Completed

- Biological opinion requested by the Bureau of Ocean Energy Management, which evaluates the effects of the “Authorization of Dredging the Gulf of Mexico Sand Mining areas using Hopper Dredges for the Town of Longboat Key’s Beach Renourishment Project” in Manatee and Sarasota Counties, Florida, on five species of sea turtles and smalltooth sawfish.
- Biological opinion requested by the Bureau of Ocean Energy Management and New Orleans Corps of Engineers, which evaluates the effects of the “Lease of Offshore Sand Resources to Louisiana Office of Coastal Protection and Restoration for Cameron Parish Barrier Shoreline Restoration Project in Cameron Parish, Louisiana” on five species of sea turtles and smalltooth sawfish.
- Biological opinion requested by the Mobile District Corps of Engineers, which evaluates the effects of the “Creation of a Beneficial Use Site surrounding Round Island in Jackson

County, Mississippi” on four species of sea turtles, Gulf sturgeon and Gulf sturgeon Critical Habitat.

- Biological opinion requested by Jacksonville District Corps of Engineers, which evaluates the effects of the “Authorization of Dredging of an Access Channel within Big Carlos Pass, Lee County, Florida” on five species of sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Seawall Removal/Installation Project in Fort Myers, Lee County, Florida” on five species of sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Seawall Installation Project in Cape Coral, Lee County, Florida” on sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of a “Seawall Installation Project in Matlacha, Lee County, Florida” on sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Authorization of In-water Construction Activities within Peace River in Port Charlotte, Charlotte County, Florida” on sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Reconfiguration and Expansion of Two Existing Marinas at San Carlos RV Park, Fort Myers Beach, Lee County, Florida” on sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers,

which evaluates the effects of the “Seawall Installation Project in Port Charlotte, Charlotte County, Florida” on sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.

- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of a “Dock Extension Project in Punta Gorda, Charlotte County, Florida” on sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Reconfiguration of an Existing Marina in Lee County, Florida” on sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Galveston District Corps of Engineers, which evaluates the effects of the “Freeport Harbor Channel Improvements Project in Brazoria County, Texas” on loggerhead, hawksbill, Kemp’s ridley and green sea turtles.
- Biological opinion requested by the Jacksonville district Corps of Engineers, which evaluates the effects of the “Tampa Bay Navigation Project in Hillsborough County, Florida” on five species of sea turtles, smalltooth sawfish, Gulf sturgeon, and six species of whales.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Edgewater Drive Bridge Expansions in Charlotte County, Florida” on sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Installation of a Jet Ski Ramp within Smalltooth Sawfish Critical Habitat in Charlotte County, Florida” on sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Mobile District Corps of Engineers, which evaluates the effects of the “Bayou Casotte and Lower

Pascagoula Sound Channel Widening Project in Jackson County, Mississippi” on five species of sea turtles, Gulf sturgeon and Gulf sturgeon critical habitat.

- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Access Channel for the Laguna Shores Residential Development” in Lee County, Florida, on five species of sea turtles, smalltooth sawfish, and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Installation of a Single-Family Dock and a Concrete Seawall and Cap with Associated Riprap Revetment” in Charlotte County, Florida, on sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Installation and Replacement of a Concrete Seawall and Fill an Upland-cut Boat Notch” in Lee County, Florida, on five species of sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “10-year Authorization for Maintenance Dredging of Mexico Canal” in Bay County, Florida, on Gulf sturgeon critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Replacement of an Existing Fishing Pier and Installation of a Docking Facility” in Manatee County, Florida, on smalltooth sawfish and five species of sea turtles.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Replacement of Two Bridge Spans of the Boca Grande Causeway” in Charlotte County, Florida, on

sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.

- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Installation of a Riprap Seawall” in Charlotte County, Florida, on smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Installation of a Concrete Seawall and Cap” within smalltooth sawfish critical habitat in Lee County, Florida” on sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Dredging of an Existing Boat Slip within a Marina Basin” in Lee County, Florida, on five species of sea turtles, smalltooth sawfish and smalltooth sawfish critical habitat.
- Biological opinion requested by the Mobile District Corps of Engineers, which evaluates the effects of the “Reconstruction of Old Highway 90 Fishing Pier” in Harrison County, Mississippi, on five species of sea turtles and Gulf sturgeon.
- Biological opinion requested by the New Orleans District Corps of Engineers, which evaluates the effects of the “Creation of 6.5 Miles of Shoreline Protection along a Portion of Lake Borgne” in St. Bernard Parish, Louisiana, on five species of sea turtles, Gulf sturgeon, and Gulf sturgeon critical habitat.
- Biological opinion requested by the New Orleans District Corps of Engineers, which evaluates the effects of the “Implementation of an Ecosystem Restoration Plan” in southeastern, coastal Louisiana, on five species of sea turtles, Gulf sturgeon and Gulf sturgeon critical habitat.

Habitat Conservation and Protection

The Southeast Regional Office’s Habitat

Conservation Division interacts with federal, state, and local officials, private sector, non-governmental organizations and interested citizens to fulfill federal mandates to conserve, protect and restore habitats supporting managed fish stocks, protected resources and healthy ecosystem functions. To accomplish these objectives in the Gulf of Mexico, four offices strategically located in Florida, Louisiana, and Texas apply NOAA's authorities to manage and influence the outcome of actions that may adversely affect essential fish habitat (EFH) and other fishery resources and, ultimately, the production of important commercial and recreational fisheries. Program activities focused on a suite of actions intended to promote an ecosystem-based approach to management, including:

- EFH consultations (defined by the Magnuson-Stevens Fishery Conservation and Management Act) and Fish and Wildlife Coordination Act reviews for federal projects and programs.
- Pre and post-application planning and monitoring.
- Federal Energy Regulatory Commission consultations.
- National Environmental Policy Act consultations.
- Partnerships and coordination (e.g., marine fisheries commissions, fishery management councils, regional ocean partnerships, and various state-federal interagency partnerships and groups).
- Science-management coordination and outreach.

In addition to consulting on federal projects and programs, NOAA Fisheries engaged on interdisciplinary planning teams developing federal fishery management plans, amendments, and associated environmental review documents by providing habitat information and EFH reviews of these documents. Also, we participate on Habitat Advisory Panels and the Ad Hoc Artificial

Substrate Advisory Panel established by the Gulf Council.

In 2012, various recreational sectors voiced concerns about the removal of oil and gas structures in the Gulf of Mexico. NOAA Fisheries is actively engaged in activities responding to these concerns. As the Gulf Council began considering fixed petroleum platforms and artificial reefs as potential EFH, we advised and briefed Council members and responded to numerous inquiries from stakeholders and federal agencies. We are supporting NOAA's participation on an interagency working group convened by the White House Council on Environmental Quality addressing decommissioning offshore infrastructure. Understanding the perspectives of various constituency groups on offshore platforms removal and reefing decommissioned rigs is an objective of this working group. Also related to oil and gas, we completed a new programmatic EFH consultation with the Department of Interior's Bureau of Ocean Energy and Management and Bureau of Safety and Environmental Enforcement for oil and gas development activities in the Gulf of Mexico during 2012-2017.

NOAA Fisheries continued to provide BP/Deepwater Horizon-related support including:

- Providing project summary documents to the Natural Resource Damage Assessment Team assisting development of the priority restoration project lists for each Gulf state.
- Reviewing and commenting on draft environmental review documents.
- Participating on the RESTORE Act Council's Regulatory Obstacles Work Group and various NOAA activities concerning planning and implementation of the RESTORE Act.
- Participating in the Gulf Task Force's Interagency Restoration Assessment Team and assisting in developing a draft report to the Gulf Task Force.

NOAA Fisheries provided technical assistance through field inspections, meetings, public hearings, informal discussions, and document review. We also conducted EFH consultations and provided recommendations to sequentially avoid, minimize, and offset adverse impacts to EFH and other fishery habitats. Fiscal year 2012 accomplishments in the Gulf of Mexico region include:

- Reviewing over 1,600 individual proposals to construct in coastal waters or wetlands.
- Providing pre-consultative technical assistance on over 60 projects.
- Providing detailed technical advice, recommendations or EFH conservation recommendations on over 200 consultations initiated by federal action agencies.
- Reviewing 25 environmental review documents.

NOAA Fisheries continued to be involved in activities promoting conservation, restoration, enhancement, creation and preservation of coastal wetlands, riverine habitats and nearshore areas utilized by important commercial and recreational fish species. We increased engagement in regional partnerships to leverage resources and capabilities to conserve habitat and promote stewardship. These partnerships include the Southeast Aquatic Resources Partnership, the Gulf of Mexico Alliance, the Northern Gulf Institute, and the NOAA Gulf of Mexico Regional Collaboration Team. Partnership activities include:

- Serving as the Federal co-lead to the Gulf of Mexico Alliance's Habitat Conservation and Restoration Priority Issues Team, helping to ensure all elements and deliverables of the Gulf of Mexico Foundation contract were completed on schedule.
- Working on the Gulf of Mexico Alliance's Regional Sediment Management Workgroup, which produced a peer-reviewed special issue on Gulf Regional Sediment Management

Planning in the Journal of Coastal Research.

- Participating in numerous Gulf of Mexico Alliance-sponsored meetings and conference calls, as well as the Gulf of Mexico Alliance all hands meeting.
- Participating in numerous Southeast Aquatic Resources Partnership-sponsored meetings, including the Steering Committee, the Science and Data Committee, and the Communications and Outreach Committee.

In addition to serving on the Gulf of Mexico Alliance's Regional Sediment Management Workgroup, NOAA Fisheries promotes the beneficial use of sediments from dredging activities across the Gulf of Mexico. We are engaged on Beneficial Use efforts with Texas, Louisiana, Mississippi and Alabama. We co-authored a paper entitled, "Beneficial Use of Sediments from Dredging Activities in the Gulf of Mexico" (Parson, L.E., and Swafford, R. 2012. In: Khalil, S.M., Parson, L.E., and Waters, J.P. (eds), Technical Framework for the Gulf Regional Sediment Management Master Plan, Journal of Coastal Research, Special Issue No. 60, 45-50.)

NOAA Fisheries has successfully planned many large-scale habitat restoration projects, including projects being funded under: (1) Coastal Wetlands Planning, Protection and Restoration Act, (2) Mississippi Coastal Improvement Program, (3) Southwest Coastal Louisiana Feasibility Study, (4) Louisiana Coastal Area Ecosystem Restoration Study, (5) Greater New Orleans Hurricane Storm Surge and Risk Reduction Project, and (6) the Mississippi River-Gulf Outlet Ecosystem Restoration Study. We continue assisting the U.S. Army Corps of Engineers with hurricane recovery and protection efforts by providing technical assistance and expedited reviews of proposed levee and flood control projects and participating in long-term restoration planning. The following accomplishments relate to the Coastal Wetlands Planning, Protection and Restoration Act:

- Completed a \$43M construction contract for the NOAA-led Pelican Island restoration project, which created 227 acres of dune and Gulf shoreline and over 350 acres of intertidal saline marsh.
- Completed engineering and design activities on the Grand Liard Marsh and Ridge restoration project, which would create more than 300 acres of saline marsh, nourish 140 acres of existing marsh, and create 34 acres of maritime ridge habitat. The project is anticipated to be awarded in the 3rd quarter of fiscal year 2013.
- Continued engineering and design activities for the Chenier Ronquille barrier island restoration project, which would create more than 120 acres of dune habitat and more than 250 acres of saline marsh habitat.
- Sponsored four Priority Project List 21 candidate projects for consideration of engineering and design funding.

NOAA Fisheries continues to partner with the Galveston Bay Foundation and the National Fish and Wildlife Foundation to implement small landowner living shoreline projects in Galveston Bay, and initiated a habitat mapping and prioritization project with the Mobile Bay National Estuary Program and NOAA's Coastal Services Center. Other major activities included:

- Providing technical support and local expertise to the NOAA Scientific Support Coordinator and the Regional Response Teams during several hazardous material incidents and exercises.
- Working closely with the Florida Department of Transportation throughout the bridge and highway project planning process to minimize project delays and ensure early consideration of measures to conserve NOAA trust resources.
- Participating in ecosystem planning activities through active participation in subregional partnerships, including the Mississippi Coastal Improvements Program, Louisiana Coastal Protection and Restoration Program, Louisiana

Coastal Area Feasibility Study, Florida's Subcommittee on Managed Marshes, National Estuary Programs in Texas, Louisiana, Alabama, and Florida, and a variety of similar planning activities.

Diadromous fish are significant fishery resources, serving as a key food source for many commercial and recreational species, as economically important fisheries themselves, and as a critical ecological function linking freshwater, estuarine, and marine environments. Fish passage is a crucial component to rebuilding and sustaining diadromous species. NOAA Fisheries has two notable fish passage accomplishments for the Gulf of Mexico in 2012.

- We supported fishery restoration in the Apalachicola-Chattahoochee-Flint River Basin by working with the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Florida Fish and Wildlife Conservation Commission, Georgia Department of Natural Resources, and The Nature Conservancy to use the U.S. Army Corps of Engineers' navigation lock at Jim Woodruff Dam, on the Georgia-Florida border, to pass Alabama shad, striped bass, and Gulf sturgeon upstream during their spring migration runs. The practice, known as "conservation locking," began informally in 2005 and provides these species with access to historic spawning grounds occurring in upstream reaches of the Chattahoochee and Flint Rivers. In 2012, these agencies signed a Memorandum of Understanding formalizing their commitment to use conservation locking as a means to restore anadromous fish populations within the basin. The 2012 population estimate for Alabama shad exceeded 122,000; the largest since conservation locking began. Radio tracking and otolith studies indicate shad are migrating upriver, particularly into portions of the Flint River believed to be important for spawning.
- We supported restoration of American eel

populations within the Sabine River Basin by completing a settlement agreement with the Sabine River Authorities of Texas and Louisiana to provide a fishway at the Toledo Bend Hydropower Project. This fishway is part of a broader settlement agreement allowing the Federal Energy Regulatory Commission to renew the license for operation of this hydropower project in a timely manner and is the first ever eel passage provided along the Gulf of Mexico. In addition to providing American eel with access to historic nursery habitat, the settlement agreement amends the water release schedule at the Toledo Bend Dam to provide seasonal flows suitable for protecting downstream habitats used for spawning and maturation by several fish species.

Outreach is critical to teach current and future generations of the benefits of habitat conservation and protection and educate state and federal agencies of the importance of EFH. NOAA Fisheries actively engages in habitat conservation outreach by:

- Conducting poster sessions and making formal and informal presentations at scientific, management and constituent meetings.
- Addressing students of all ages in classrooms throughout the region.
- Working with state efforts, such as the Florida Fish and Wildlife Conservation Commission Kid's Fishing Clinics, to teach children about the vulnerability of marine ecosystems, fishing ethics, environmental stewardship, angling skills and safety.
- Producing reports and brochures for intra and inter-agency coordination.
- Conducting training sessions on NOAA Fisheries' role in the regulatory process.
- Responding to requests for information from private citizens, news media, and local, state and federal agencies.

Cooperative Agreements and Grants

In Fiscal Year 2012, the Southeast Regional Office's Grants Office allotted \$28,511,748 to 74 grants and cooperative agreements with states, universities, non-profit agencies and for-profit institutions as follows:

- Regional fishery management councils: \$8,964,185 to conduct fishery management activities in accordance with the Magnuson-Stevens Fishery Conservation and Management Act.
- Southeast Area Monitoring and Assessment Program: \$4,053,522 to fund 13 cooperative agreements.
- State-Federal Cooperative Fisheries Statistics Program: Ten awards totaling \$1,200,661.
- Interjurisdictional Fisheries Program: One award for \$233,181.
- Atlantic Coastal Fisheries Cooperative Management Act Program: Four awards totaling \$728,052.
- Atlantic Coastal Cooperative Statistics Program: Three grants totaling \$303,277.
- Marine Fisheries Initiative Program: Eight new awards totaling \$958,311 and ten previous multi-year awards totaling \$1,045,018.
- Cooperative Research Program: Six new cooperative agreements totaling \$1,131,386.
- Unallied Science Program: Seven awards totaling \$846,815.
- Gulf States Marine Fisheries Commission: One award for \$7,133,725 to coordinate activities of the Fisheries Information Network.
- Gulf States Marine Fisheries Commission: One award for \$106,000 for economic research.
- South Carolina Department of Natural Resources: \$840,963 for work on the Marine Resources Monitoring, Assessment and Prediction program.
- Blue Fin Tuna Research Program: Five new awards totaling \$721,652.
- NOAA Recruiting, Training, and Research Program: One award for \$245,000.

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL *Dr. Steve Bortone, Executive Director*

The Gulf of Mexico Fishery Management Council is one of eight regional fishery management councils established by the Fishery Conservation and Management Act of 1976 (now called the Magnuson-Stevens Act).

The Council prepares fishery management plans designed to manage fishery resources from where state waters end, out to the 200-mile limit of the Gulf of Mexico. These waters are referred to as the Exclusive Economic Zone, or EEZ.

The Council consists of 17 voting members: the Southeast Regional Administrator of NMFS (or his designee), the directors of the five Gulf state marine resource management agencies (or their designees), and 11 members who are nominated by the state governors and appointed by the Secretary of Commerce. Terms are for three years and members can serve a maximum of three consecutive terms. In addition, there are four non-voting members representing the U.S. Coast Guard, U.S. Fish and Wildlife Service, Department of State, and the Gulf States Marine Fisheries Commission.

The Council meets five times a year at various locations around the Gulf Coast. Prior to taking final action on any proposed rule change, scoping workshops and public hearings are held throughout the Gulf.

Public testimony is also heard during the meeting at which final action is scheduled. Proposed rule changes are then submitted to NMFS for further review and approval before implementation.

When reviewing potential rule changes, the Council draws upon the services of knowledgeable

people from other state and federal agencies, universities, and the public, who serve on panels and committees.

Panels and committees include Advisory Panels, Scientific & Statistical Committees, and Stock Assessment Panels.

Advisory Panels (APs)

Panel members include recreational and commercial fishermen, charter boat operators, environmentalists, distributors, seafood dealers, and consumers who are knowledgeable about a particular fishery.

Scientific and Statistical Committees (SSCs)

Committee members include economists, biologists, sociologists, and natural resource attorneys who are knowledgeable about the technical aspects of fisheries in the Gulf who advise the Council on annual catch limits, acceptable biological catch, and other stock conditions.

Socioeconomic SSC

Committee members include sociologists, anthropologists, and economists who advise the Council of social and economic impacts or conditions.

SEDAR Workshop Pool

Members include biologists who are trained in the specialized field of population dynamics, and who participate in the stock assessment process.

A review of AP and SSC membership is conducted every two years to fill vacancies on panels and committees. The Council will make appointments to these panels and committees in April 2013.

Fishery Management Plans (FMPs)

In 2012, the Gulf Council addressed a variety of issues through the development and implementation of various management plans and amendments.

Shrimp

After hearing an update on the conditions of the Texas shrimp stocks, an economic analysis, and public comment, the Council again recommended maintaining the Texas shrimp closure for 2012. The closure helps protect juvenile shrimp migrating from the bays to the Gulf of Mexico, allowing the shrimp to grow to a more valuable size.

In February, the Council convened a Shrimp Stock Assessment Workshop to evaluate the data used in a recent stock assessment and determine whether data uncertainties acknowledged/reported are within normal or expected levels.

The Council also began discussions about cost alternatives for funding electronic logbooks in the shrimp fishery.

Reef Fish

After receiving the results of a gray triggerfish update stock assessment that show the stock is overfished and experiencing overfishing, the Council requested an interim rule to reduce the stock's annual catch limit.

The Council also initiated Reef Fish Amendment 37 to address the issue in the long term.

Public hearings for were held around the Gulf, and in October, the Council took final action on the amendment, which:

- Modifies the gray triggerfish rebuilding plan;
- Establishes annual catch limits and annual catch targets;
- Establishes both a commercial and recreational fixed closed season during peak spawning (June 1 through July 31);

- Establishes a commercial trip limit of 12 gray triggerfish;
- Establishes a 2-fish per person bag limit within the 20-reef fish aggregate bag limit;
- Allows NOAA Fisheries to close the recreational fishery if the annual catch target is reached; and,
- Adds an overage adjustment to the accountability measure if the annual catch limit is exceeded and the stock is overfished.

The Council took final action on Reef Fish Amendment 34, which increases the crew size limit for dual permitted vessels when fishing commercially, and eliminates the income requirement for permit renewal.

Also approved was a regulatory amendment that addresses the 2013 gag season, and eliminates the February 1 through March 31 shallow-water-grouper closed season shoreward of the 20 fathom break.

An amendment to revise shallow-water grouper accountability measures was also approved in 2012.

Regional management of recreational red snapper was discussed, and a draft scoping document will be presented to the public in early 2013. The document examines:

- Defining regional boundaries;
- Allocation among regions;
- Program Administration; and,
- Accountability Measures.

Discussion regarding a for-hire days-at-sea pilot program for red snapper led the Council to direct staff to begin developing a scoping document. The proposal would allow for-hire vessels to optimize their use of available red snapper fishing days.

The Council continued its review of the Commercial

Red Snapper IFQ program. The IFQ program was implemented January 1, 2007 through Amendment 26 to the Reef Fish Fishery Management Plan.

The Magnuson-Stevens Fishery Management Act requires the Council to include provisions for the regular monitoring and review of the operations of the program, including determining the progress in meeting the goals of the program and the Magnuson Act, and any necessary modifications of the program to meet those goals, with a formal detailed review five years after program implementation.

Consistent with the Magnuson Act, the Council requires a five-year review of the program.

Discussions about a Commercial IFQ program for the remaining reef fish species – red porgy, vermilion snapper, greater amberjack, gray triggerfish, lesser amberjack, almaco jack, and banded rudderfish – have been postponed.

The Council also postponed discussions regarding: how to address overage adjustments to the red snapper fishery; allocation issues; and potential sector separation until after the red snapper benchmark assessment results become available in the summer of 2013.

The council took final action on Reef Fish Amendment 35 to adjust the annual catch limit for greater amberjack and to establish a 2,000 pound commercial trip limit.

Finally, the Council requested an emergency rule to increase the 2012 annual catch limit for vermilion snapper to avoid an early closure. In addition, they initiated a framework action to set the vermilion annual catch limit. The framework includes an action to modify or eliminate the venting tool requirement.

Sustainable Fisheries/Ecosystem Management

After several reviews and public meetings, the

Council approved a generic joint amendment with the South Atlantic Council that requires a universal dealer permit to purchase all federally-managed species, except South Atlantic coral, South Atlantic Sargassum, Gulf of Mexico coral and coral reefs, and penaeid shrimp species.

The amendment also requires dealers to report purchases weekly, via computer or Internet. “No purchase forms” must also be submitted via the same process.

Coastal Migratory Pelagics

The Council continued working on Coastal Migratory Pelagics Amendments 19 and 20, which address issues such as limiting the sale of fish caught under a bag limit, changes to permit requirements, modifying commercial zone boundaries, establishing a transit provision, and requiring vessel zone declarations. A series of scoping workshops were held around the Gulf in March.

Coral

The Council convened its Coral SSC to provide guidance to Council staff on two projects that are part of a NOAA Coral Reef Conservation Program grant.

The first project involves development of a publicly accessible spatial database of Gulf of Mexico corals and related fisheries information.

The second project is a workshop of respected coral experts and managers to examine the interrelationships between corals and fisheries relative to long-term trends in coral condition. Planning for the Coral Workshop was ongoing in 2012. The workshop is scheduled for May 20-22, 2013.

Red Drum

The Council continued its discussion about a possible red drum fishery in the Gulf EEZ.

Spiny Lobster

The Council completed and took final action on Joint Amendment 11 to the Spiny Lobster Fishery Management Plan. The amendment addresses a Biological Opinion that concludes that spiny lobster trap fishing puts sea turtles, smalltooth sawfish, and staghorn and elkhorn corals at risk.

Southeast Data, Assessment, and Review (SEDAR)

The SEDAR process is a three-step process for conducting stock assessments. It consists of a Data Workshop to compile available data, a Stock Assessment workshop to prepare the actual assessment, and an Assessment Review Workshop to provide an independent review of the assessment, conduct additional analyses if necessary, and make recommendations regarding the status of stock and acceptable biological catch levels.

SEDAR activities in 2012 included Data Workshops for Spanish mackerel, cobia, and red snapper. The Council's SSC also reviewed assessments for yellowtail snapper, vermilion snapper, and gray triggerfish.

Additionally, three SEDAR Steering Committee meetings took place as follows:

- May 18, 2012: Webinar
- August 7, 2012: Conference Call
- October 3, 2012: Webinar

Data Collection

The Council directed staff to work with the Southeast Fishery Science Center to develop an amendment to require electronic reporting for for-hire-charter vessels. The intent is to improve the timeliness and accuracy of fisheries data in the for-hire sector.

Outreach and Education

Outreach efforts continued to improve in 2012. The Council's Facebook presence grew by 50%.

Blog readership and App downloads are also on the rise at roughly 15,000 and 27,000 respectively.

Outreach via scoping workshops and public hearings is augmented with online video presentations and comment forms.

Finally, a stakeholder communications survey was developed in 2012, and is awaiting approval by the Office of Management and Budget. The survey will be administered and analyzed in 2013.

Law Enforcement Advisory Panel

The Law Enforcement Advisory Panel met jointly with the Gulf States Marine Fisheries Commission's Law Enforcement Committee twice to consider the status of amendments and other regulatory actions.

They also reviewed and approved the 2011-2012 Operations Plan and Joint Enforcement Agreements.

Other

The Gulf and South Atlantic Councils created a Joint Ad Hoc Goliath Grouper Steering Committee to find ways to collect information for a goliath grouper stock assessment. The committee met in early 2012 and developed a four-part work plan to:

1. Conduct a stakeholder survey to determine the public's expectations.
2. Hold a stakeholder workshop.
3. Present survey and workshop results to both Councils, along with a list of goals for the Councils to refine.
4. Hold a science workshop to provide experts the opportunity to offer suggestions on how to achieve goals.

An Ad Hoc Artificial Substrate Advisory Panel was also formed to assist the Council as they consider designating fixed petroleum platforms and artificial reefs as essential fish habitat.

UNITED STATES FISH AND WILDLIFE SERVICE

Roger Schulz, Deputy Assistant. Regional Director for Fisheries in the Southeast

The Fisheries Program of the U.S. Fish and Wildlife Service (Service) has played a vital role in conserving and managing fish and other aquatic resources since 1871. Today, the Fisheries Program is a critical partner with States, Tribes, other Federal agencies, other Service programs, private organizations, public institutions, and interested citizens in a larger effort to conserve these important resources. Reversing the decline of fish and other aquatic species populations in coastal waters requires approved management plans and assessment information to identify, prioritize, and evaluate management actions. In dealing with trust species, the Fisheries Program conducts planning and assessment in cooperation with State, Tribal, and Federal agencies with jurisdiction over these fish stocks. Existing fisheries councils and commissions, such as the Gulf States Marine Fisheries Commission, the Gulf Fishery Management Council, the Gulf of Mexico Alliance, the Lower Mississippi River Conservation Committee, and the Southeastern Aquatic Resource Partnership help define these priorities. The Fisheries Program continues to expand its involvement with conservation partners along the Gulf to ensure that habitat and species-based management decisions occur in a science-based, biologically-driven, landscape-oriented, and adaptive conservation framework. Focal species of interjurisdictional fish and other aquatics that are found in coastal waters and rivers flowing into the Gulf would include: striped bass, paddlefish, Gulf sturgeon, pallid sturgeon, alligator gar, and a number of imperiled mussels. The Fisheries Program has a proven track record in working with its Federal and State partners to address fish and aquatic resource needs in the southeastern United States. Additionally, the Fisheries Program works with the Service's Coastal Program, Contaminants

Program, National Wildlife Refuges and the Wildlife and Sport Fish Restoration Program.

Capacity

The Service Fisheries Program is multi-faceted. It has numerous components all working together to preserve America's aquatic resources. The Fisheries Program in the Southeast Region has a network of seven Fish and Wildlife Conservation Offices (FWCOs), 14 National Fish Hatcheries (NFH), a Regional fisheries Center, a Fish Health Centers (FHC), and a Fish Technology Centers (FTC) and offices to support the Aquatic Invasive Species (AIS) Program. A cadre of over 90 dedicated biologists, technicians, managers, maintenance workers, and administrative staff work together to address restoration, recovery, mitigation, fish passage, fish habitat, and assessment and monitoring of fish and other aquatic organisms. These facilities and employees provide a network that is unique in its broad on-the-ground geographic coverage, its array of technical and managerial capabilities, and its ability to work across political boundaries and embrace a national perspective.

In the Southeast Region, fishery mitigation of Federal water development projects is the responsibility of the Chattahoochee Forest NFH, GA; Dale Hollow NFH, TN; Erwin NFH, TN; Greers Ferry NFH, AR; Norfolk NFH, AR and Wolf Creek NFH, KY. These hatcheries provide between six and seven million fish annually to meet the current mitigation requirements. Many of the fishery mitigation hatcheries have incorporated non-traditional activities into their mission to address emerging aquatic resource needs involving listed aquatic species. This has allowed those hatcheries to address specific landscape scale

issues identified by recovery and restoration plans and, in the process, has provided a means for increasing the expertise and science capacity of station personnel to address these issues.

The Southeast Region has eight warmwater hatcheries (Bears Bluff NFH, SC; Edenton NFH, NC; Mammoth Spring NFH, AR; Natchitoches NFH, LA; Orangeburg NFH, SC; Private John Allen NFH, MS; Warm Springs NFH, GA; and Welaka NFH, FL). Warmwater hatcheries address long-term restoration and recovery efforts for key species such as alligator gar, American shad, freshwater mussels, Gulf striped bass, lake sturgeon, paddlefish, and southern walleye. These hatcheries support recovery and restoration efforts for listed and non-listed species and interjurisdictional fish. Many warmwater hatcheries have the capacity to address captive propagation and refugia for fishes and other aquatic species (i.e. mussels). Additionally, much expertise is available at these facilities to assist LCCs in recovery and restoration efforts for these priority species.

Fish and Wildlife Conservation Offices provide assistance with the management of fishery and aquatic resources on and off Service and Tribal lands, and assist in coordinating fisheries management activities with cooperating State fishery agencies through the Fishery Management Councils and Interstate Fisheries Management Commissions. Additionally, FWCOs direct their efforts and time in working with Landscape Conservation Cooperatives, support for inventory and monitoring, working with other Service programs to assist in recovery efforts and listing efforts, implementing recovery actions, collecting monitoring and habitat data for species proposed for listing and those already listed, to mention a few. The Service operates seven FWCOs in the Region: Appalachian FWCO, Tennessee; Baton Rouge FWCO, Louisiana; Lower Mississippi River FWCO, Mississippi; Panama City FWCO, Florida; Peninsular Florida FWCO, Florida; South Atlantic FWCO, North Carolina; and Wadmalaw Island

FWCO, South Carolina. In addition to FWCOs, restoration and research is also conducted by the Warm Springs Regional Fisheries Center, and the four units administered by the Regional Fisheries Center: Warm Springs FTC, Warm Springs FHC, and Warm Springs NFH. These facilities provide state of the art research and technology to restore imperiled aquatic resources and provide support not only to the Fisheries Program, but also to other Service programs such as Ecological Services and National Wildlife Refuges, and State partners.

Partnerships

The Southeast Aquatic Resources Partnership (SARP) has pulled together 14 State fish and wildlife agencies, the Gulf and Atlantic States Marine Fisheries Commissions, the Gulf of Mexico and South Atlantic Fishery Management Councils, NOAA Fisheries and the Service. The National Fish Habitat Action Plan that has been developed through the National Fish Habitat Initiative (NFHI) is a science-based, voluntary, and non-regulatory partnership that will function through the National Fish Habitat Board and a set of regional Fish Habitat Partnerships. For the Southeast Region, the Fisheries Program will deliver this action plan primarily through the Southeast Aquatic Resources Partnership (SARP). SARP developed the Southeast Aquatic Habitat Plan (Plan) which represents a blueprint for the cooperative conservation of Southeastern streams, rivers, lakes/reservoirs, estuaries, and coastal marine habitats to support aquatic resources for sustainable public use. This Plan is the centerpiece of the Fisheries Program's strategy for aquatic habitat conservation and management in the Southeast Region. The Plan guides a Region-wide effort to fulfill the goals set forth in the National Fish Habitat Action Plan. The Lower Mississippi River Conservation Committee (LMRCC) provides platform for landscape conservation efforts to restore aquatic species along the Lower Mississippi River Basin. Over 240 Lower Mississippi River habitat restoration projects have been identified as part of the multi-State, Service, and Army Corps

of Engineers “Restoring America’s Greatest River Plan.”

Fish and mussel populations impacted by climate change will be the focus of funding from the National Fish Habitat Initiative, National Fish Passage Program, and the Aquatic Invasive Species Program. These landscape conservation efforts, both on and off Federal land, should significantly improve the ability of aquatic species to adapt to changing climates and they are likely the key to their survival. The LMRCC and the SARP have the tools in place to fully implement a positive outcome for impacted fish and aquatic populations. The Gulf of Mexico Alliance is a partnership formed between the five Gulf of Mexico states, with Federal agency support, focused on sharing science, expertise and financial resource to better protect the health of the Gulf of Mexico. The Fisheries Program is the Service representative on this Alliance.

Anadromous Fisheries Restoration

Under the Gulf States Marine Fisheries Management Plan (FMP), the Service is working to restore populations of striped bass along the entire Gulf Coast. Anadromous populations of Gulf Coast striped bass historically occurred in most Gulf rivers, but habitat degradation and alteration have led to severe population declines. The goal of this FMP, working with many state partners, is to restore and maintain striped bass throughout the Gulf of Mexico region and to establish self-sustaining populations of striped bass in at least 10 coastal rivers. This species is recognized as being of tremendous economic, social, and recreational consequence.

The 30th Annual Morone Workshop was held this year in February in Chattahoochee, Florida. Work for the upcoming field season was discussed including research plans for the summer and restoration of at least one selected thermal refuge. In addition, the Apalachicola-Chattahoochee-Flint (ACF) Gulf striped bass technical committee is

planning to work with population modelers this summer to refine population objectives for Gulf striped bass. Following this population modeling session, decision makers will meet in the fall to set population and recovery objectives for Gulf striped bass and then a final updated Draft of the “Apalachicola-Chattahoochee-Flint (ACF) Gulf Striped Bass 5-year Management Plan” with the defined objectives will be sent for approval to each agency signatory. The technical team consists of representatives from the Service, the states of Georgia, Florida, and Alabama.

Gulf of Mexico sturgeon is a threatened anadromous species of Gulf Coast river systems. Stocks have been greatly reduced throughout much of its range through over-fishing, dam construction, and habitat loss. Service activities focus on addressing high priority action items identified in the Gulf Sturgeon Recovery/Management Plan; including threats to habitat, life history stages, marine movement and habitat use, and projects dealing with population assessments in major Gulf Rivers using tagging and telemetry. In 2012, Gulf sturgeon were collected and tagged in six Florida panhandle river systems by the Panama City Fish and Wildlife Conservation Office (PCFWCO) to gather distribution, habitat and movement data and to evaluate recovery. In addition, the PCFWCO worked closely with the Gulf sturgeon recovery lead in developing a new monitoring plan for Gulf sturgeon and in vetting the first draft of updated recovery criteria for the species. The Panama City office also participated in the larger NRDA Gulf sturgeon work plan intended to evaluate the effect of the Deepwater Horizon oil spill on the species. This study should be complete in spring of 2013.

Coastal Fisheries Restoration/Assessments

The Service’s Coastal Program is charged with a mission to protect and recover threatened and endangered species, migratory birds, marine mammals, interjurisdictional fish species, and other species of concern by supporting voluntary restoration, enhancement, management, and

protection of high-priority coastal habitats. The Coastal Program works with willing partners to provide technical assistance and to provide and leverage financial support to accomplish habitat improvement projects that benefit Federal trust species and their habitats on both private and public lands. Within the Southeast Region, and specific to the Gulf of Mexico, the Coastal Program has a dedicated office and one or more staff at: Panama City, Florida (Florida Panhandle Office); Tampa, Florida (Tampa Bay Office); and Vero, Beach, Florida (South Florida Office).

The Service's Contaminants Program works with partners to prevent contamination and maintain healthy ecosystems; identifies contamination that adversely affects the health of fish, wildlife, and their ecosystems; and acts as Federal trustee for fish and wildlife injured by contamination, negotiating settlements from polluters to restore lost resources and their benefits to local citizens. A total of 37 National Wildlife Refuges perpetually protect and manage thousands of acres of coastal wetlands in each of the five Gulf States. These refuges provide critical nursery habitat for most of the commercially and recreationally important fish and shellfish species in Gulf fisheries. Additionally, most of these refuges also provide access to and opportunity for coastal recreational fishing.

Habitat Protection and Enhancement

The Service's Fish Passage Program and Fish Habitat Program have implemented a number of projects that will help reverse the decline of fish populations in Gulf coastal waters. These projects will continue to restore valuable wetland habitat and stream habitat within the Gulf coast. Through the National Fish Habitat Action Plan, the States will continue to lead the implementation of the Fish Habitat Action Plan, in cooperation with the Service and other key partners. Efforts are directed at implementing on-the-ground cost-share projects identified by Fish Habitat Partnerships. For the Southeast Region, the delivery of fish habitat project will be primarily through the SARP.

SARP has taken a comprehensive approach to watershed conservation, considering the aquatic flora and fauna within the integrated landscape. SARP, through its partners, conducted cumulative geospatial habitat assessments to help identify the highest priority basins in which to conduct habitat restoration activities. The goal of the Fish Passage Program is to restore native fish and other aquatic species to self-sustaining levels by reconnecting fish habitat that has been fragmented by barriers.

The Panama City Field Office completed an unpaved road stream crossing inventory and threats assessment for the Chipola River watershed. The threats assessment was conducted via GIS stream data, land cover data, and aerial imagery. Threats to aquatic resources were identified and assessed and a threats model was validated for accuracy. The analyses identified 140 out of 1,810 stream miles as potential threats. This work will enable prioritization of restoration efforts in the watershed as the Chipola River will be a priority focus of the office in 2013 and for the next five years.

A spatially-explicit model of the distribution and abundance of imperiled freshwater mussels is being developed for the Apalachicola and Chipola rivers. Preliminary results have demonstrated the ability to identify mussel habitat using side scan sonar-based information, and comprehensive efforts to sample mussels in all available mesohabitats in the river have revealed more accurate abundance estimates for several species.

Deepwater Horizon Oil Natural Resource Damage Assessment

The Deepwater Horizon oil spill posed grave risks to a number of significant Service resources. Within the potentially impacted area there are 38 federally-listed species protected under the Endangered Species Act, 29 of those are endangered. There are more than 400 avian species that migrate, winter, or remain resident through the Gulf coastal area. In addition, the Service manages 36 National Wildlife Refuges along the Gulf Coast from Texas to

Florida's peninsula that cover nearly three million acres of freshwater, tidal, and terrestrial habitats along hundreds of miles of shoreline. These lands support extensive recreational use and cultural resources as well as fish and wildlife and their habitat. Through the end of the calendar year, some 275 miles of shoreline of Department of Interior lands were impacted to one degree or another by oil, especially at Bon Secour and Breton National Wildlife Refuges, and the Gulf Islands National Seashore. The Baton Rouge Fish and Wildlife Conservation Office (BRFWCO) represented the Service on the Fish Technical Workgroup (TWG) that conducted Pre-assessment and Assessment phases of injury assessment to fish and aquatic organisms. The work group planned and managed over 18 Pre-Assessment and Assessment Phase work plans to quantify and characterize oiling in marsh edge, sandy shoreline, near shore substrate, and submerged aquatic vegetation habitats. The TWG also conducted organismal injury assessments on oysters, whale sharks, sargassum, and Gulf sturgeon.

Aquatic Invasive Species Program

Invasive species are a part of the landscape and are expanding in the Southeast. While many are found in Florida, every Southeastern State has at least one exotic species, including aquatic and terrestrial plants and animals. Recognizing the importance of this issue, the Southeast Region has taken a leadership role in raising public awareness of the importance of this issue and implementing appropriate management and control measures, where and when appropriate. Over 150 exotic fish species occur in the Southeast Region. Invasive species, such as zebra mussels, Asian carp, Asiatic clams, Asian swamp eels, purple loosestrife, Eurasian water milfoil, water hyacinths, giant salvinia, apple snails, and hydrilla, to name a few, have been introduced into water bodies in many southern rivers, ponds, and wetlands. Increasing temperatures may enlarge the area of the Southeast vulnerable to establishment of populations of tropical aquatic invasive species

currently restricted to south Florida. The role of the Southeast Region's Aquatic Invasive Species (AIS) Program is 1) provide leadership in National Invasive Species Act (NISA) implementation, 2) prevention of invasive species introductions, 3) protection and monitoring of invasive species populations, 4) control/eradication of invasive species, and 5) provide education and outreach to the public and our partners. The Fisheries Program within the Southeast Region currently devotes a portion of one FTE to this effort. Field support to the AIS Program is also provided by various Fisheries field stations.

The Fisheries Program has been an active participant in the Aquatic Nuisance Species Task Force, Gulf and South Atlantic Regional Panel, and the Mississippi River Basin Panel. The mission of the Aquatic Nuisance Species Task Force is to 1) prevent the introduction and dispersal of aquatic nuisance species; 2) monitor, control and study such species; 3) conduct research on methods to monitor, manage, control and/or eradicate such species; 4) coordinate aquatic invasive species programs and activities of members and affected State agencies; and 5) educate and inform the general public and program stakeholders about the prevention and management/control of these species. The Regional Panels coordinate at the regional and State level on aquatic invasive species issues.

Highlights of Service Efforts in the Gulf Coast Region in 2012:

- ***The Service provided support to 5 State ANS Plan (GA, TN, KY, LA, SC) to implement their State Plan (prevention, control, eradication, and technical assistance with State Plan Development for AL and MS.***
- ***Mississippi Bight Lionfish Response Unit: A Joint Taskforce to Combat Lionfish Populations in the Gulf of Mexico (\$27,264):*** Participants are Gulf Islands National Seashore; Alabama Department of Conservation and

Natural Resources; Mississippi Department of Marine Resources - Artificial Reef and Invasive Species Programs; U.S. Fish and Wildlife Service - Northern Gulf Coast Coastal Programs; and Gulf States Marine Fisheries Commission.

The Mississippi Bight Lionfish Response Unit (MBLRU) is a multi-jurisdictional task force designed to implement a lionfish monitoring and control program through manual removal activities, education, and outreach in the marine waters between Pensacola, FL and the Mississippi River Delta. The MBLRU will establish a lionfish monitoring program at established sites in the near coastal waters between Pensacola, FL and the Mississippi River Delta to monitor and track invasion; removal of lionfish encountered during normal sampling operations; coordinate reporting activities with an established USFWS hotline for reporting and integrate the ability to report sightings through the MBLRU's website; establishment of a "Strike Team" to harvest lionfish at locations beyond regular sampling sites reported to the MBLRU; engage in outreach activities in the region to help inform the public about the seriousness of the lionfish invasion.

- **Refinement of NAS Data for SARP Use (\$20,000):** Although the USGS NAS database has many records for the Southeast Aquatic Resources Partnership (SARP) region (>35,000 including >11,000 fish), it has been determined that these data may not be at a fine enough scale, temporally diverse, and accurately georeferenced enough to suit SARP's modeling purposes. The Service proposed to add more point location data for nonindigenous aquatic species in the SARP region in order to make it more suitable for their needs. Efforts will focus on the priority taxonomic group, species, or areas SARP deems necessary for their project. The Service will obtain more detailed data by contacting museums, state agencies, and

other aquatic species data holders. These data will be entered into the USGS NAS database and then made available to SARP via custom queries.

- **Phylogeographic Analyses to Identify Dispersing, Reproducing and Founding Populations of Asian Tiger Shrimp (\$17,000):** This study proposes to genetically analyze *P. monodon* specimens captured as part of a larger coordinated study with State and Federal partners from the Southeast Region. Genetically characterizing *P. monodon* will help to provide information on the founding population size, location, and source population(s). To date, DNA has been successfully extracted from 23 of 95 collected specimens. Work has begun on mitochondrial control region marker development and genetic diversity quantifications. Additional 100-200 samples are expected from cooperators in the coming year. With further funding, we will assess the genetic divergence of the sequences to help to determine whether a reproducing population is present in US waters. Additionally, the number of related or isolated populations throughout the Southeast will be addressed, providing information on larval dispersal mechanisms. This information, along with transport currents and other dispersal mechanisms will be used to help in forecasting future distribution patterns. When available, gut content samples will be analyzed using DNA barcoding primers to determine the taxonomic species or family of the prey items. The Gulf and South Atlantic Regional Panel of the Aquatic Nuisance Species Task Force has convened a group of interested participants to track and study this invasion. The State agencies involved in the panel are also concerned about the potential impacts of this species to both the ecology and economy.
- **Biology and Ecology of Non-native Aquatic Species in Florida (\$30,000):** The project includes conducting laboratory experiments on environmental tolerance of non-native fishes

and gathering field-based data that set the laboratory experiments in a regional context. Species of interest to the USFWS include, but are not limited to, the Bullseye snakehead, Mayan cichlid, African Jewelfish, Walking catfish, Sailfin catfish, Asian swamp eels, and many tilapia species. Work will continue on developing and testing rapid response coordination to non-native marine fishes and reporting the lessons learned.

Wildlife and Sport Fish Restoration Program Assistance to State Fish and Wildlife Agencies

The Service's Wildlife and Sport Fish Restoration Program (WSFR) continued to administer Pittman-Robertson Wildlife Restoration Act and Dingell-Johnson Sport Fish Restoration Act funding to the Gulf of Mexico States to conserve, protect, and restore fish, wildlife, their habitats, and the hunting, sport fishing and recreational boating opportunities they provide. Funding was made available to the Gulf of Mexico States through the following WSFR fisheries-specific grant programs: Sport Fish Restoration Program, State and Tribal Wildlife Grant Program, National Coastal Wetlands Conservation Grant Program, Clean Vessel Act Grant Program, Boating Infrastructure Grant Program, and the Endangered Species program.

Sport Fish Restoration Program

The Sport Fish Restoration Program (SFR) assists State fish and wildlife agencies with marine and freshwater sport fish management, boating access, aquatic education and sport fish restoration outreach projects. States utilize SFR funds to conduct surveys on sport fish and their associated habitats and research to determine answers to key questions such as genetic relationships among selected fish populations, life history, angler participation and other data that provide baseline information to help states manage sport fish and their aquatic habitats. SFR education grants provide funding for States to encourage individuals to conserve aquatic environments and to teach individuals how to enjoy the resources through activities such as

fishing or boating. SFR funds are also used to provide public access to aquatic resources through the construction of boating ramps and fishing piers.

State and Tribal Wildlife Grant Program

The State and Tribal Wildlife Grant Program (SWG/TWG) provides funding to States and Tribes for the development and implementation of programs that benefit wildlife and their habitats, including species that are not hunted or fished. Some Gulf Coast States are engaged in sturgeon research and management including tracking, critical habitat identification, and population evaluation. For example, Louisiana will determine fish assemblages and landscape influences in the Pontchartrain Basin in order to update monitoring databases for the Southeastern Aquatic Resources Partnership and Louisiana Heritage Program. Under the Tribal Wildlife Grant Program, funds have been awarded to several Tribes in the Southeast Region including the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, and the Poarch Band of Creek Indians. Funds are used to help Tribes better manage their lands for wildlife conservation. Tribes have also used funds to conduct habitat restoration and biological assessments as well as create wildlife management plans with grant funds.

National Coastal Wetlands Conservation Grant Program

The National Coastal Wetlands Conservation Grant Program provides funds to all Coastal States to carry out coastal wetlands conservation projects for restoring habitats and acquiring coastal wetland tracts. Funds are awarded to projects that successfully compete with each other and rank at the top of a national competition. Funds are used for land acquisition and restoration plans in coastal wetlands habitat and maritime forests to protect fish and wildlife and their habitats

Clean Vessel Act Grant Program:

The Clean Vessel Act Grant Program (CVA) provides funding for States to build pump-out

and dump stations for disposing vessel sewage from recreational boats. The program further encourages marina owners to implement clean marina programs and activities that protect water quality. The program also provides funding for States to conduct outreach to boaters, marinas and the general public about the importance of keeping sewage out of our waters. Fiscal Year 2012 grants were awarded to Mississippi, Alabama, and West Florida for coastal marine and inland freshwater projects.

Boating Infrastructure Grant Program

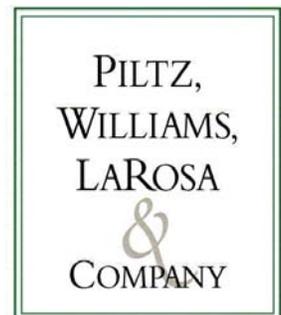
The Boating Infrastructure Grant Program (BIG) provides grant funds to the States, the District of Columbia, and Insular Areas to construct, renovate, and maintain tie-up facilities with features for transient boaters in vessels 26 feet or more in length, and to produce and distribute information and educational materials about the program. There are active BIG projects in the Gulf of Mexico States. In FY 2012, Alabama and Louisiana received awards.

Endangered Species Grant Program:

The Endangered Species Grant Program provides grants to Gulf of Mexico States to participate in a wide array of voluntary conservation projects for candidate, proposed, and listed species. States can use grant funds to acquire lands and develop habitat conservation plans for species in need. The Gulf of Mexico States did not submit FY 2012 applications for projects to benefit threatened or endangered coastal marine or estuarine fish species.

For additional information, contact Linda Kelsey,
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Financial Statements
Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi
December 31, 2012



CERTIFIED PUBLIC ACCOUNTANTS
A Professional Association

Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi

Financial Statements

December 31, 2012

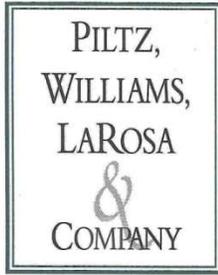
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Independent Auditors' Report

Board of Commissioners
Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi

We have audited the accompanying financial statements of Gulf States Marine Fisheries Commission as of and for the year ended December 31, 2012, and the related notes to the financial statements, which collectively comprise Gulf States Marine Fisheries Commission's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the modified cash basis of accounting described in Note A; this includes determining that the modified cash basis of accounting is an acceptable basis for the presentation of the financial statements in the circumstances. Management is also responsible for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position – modified cash basis of the governmental activities, each major fund, and the aggregate remaining fund information of Gulf States Marine Fisheries Commission, as of December 31, 2012 and the respective changes in financial position – modified cash basis, thereof for the year then ended in accordance with the basis of accounting as described in Note A.

Basis of Accounting

We draw attention to Note A of the financial statements, which describes the basis of accounting. The financial statements are prepared on the modified cash basis of accounting, which is a basis of accounting other than accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to that matter.

Other Matters

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise Gulf States Marine Fisheries Commission's basic financial statements. The management's discussion and analysis and budgetary comparison information on pages 4-9 and 22-23, which are the responsibility of management, are presented for purposes of additional analysis and are not a required part of the basic financial statements. The schedule of expenditures of federal awards is presented for purposes of additional analysis as required by U.S. Office of Management and Budget Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations*, and is also not a required part of the basic financial statements.

The schedule of expenditures of federal awards is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated in all material respects in relation to the basic financial statements as a whole.

The management's discussion and analysis and budgetary comparison information have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated August 8, 2013, on our consideration of Gulf States Marine Fisheries Commission's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance.

That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Gulf States Marine Fisheries Commission's internal control over financial reporting and compliance.

A handwritten signature in black ink, appearing to read "R. Williams, L. L. L. P.", with a stylized flourish at the end.

Certified Public Accountants

Biloxi, Mississippi
August 8, 2013

Section I

Management's Discussion and Analysis

Management's Discussion and Analysis

This discussion and analysis of the Gulf States Marine Fisheries Commission's (the Commission) financial performance provides an overview of the Commission's financial activities for the year ended December 31, 2012. Please read it in conjunction with the Commission's basic financial statements and notes to the financial statements, which are found in Section II.

Using This Annual Report

This discussion and analysis is an introduction to the Commission's basic financial statements, which comprise three components: 1) the commission-wide financial statements, 2) governmental fund financial statements, and 3) notes to the financial statements. This report also contains other supplementary information in addition to the basic financial statements.

Commission-Wide Financial Statements (Reporting the Commission as a Whole)

The commission-wide financial statements are designed to be similar to private-sector businesses in that all commission activities are consolidated. These statements combine fund financial resources with capital assets and long-term obligations. The notes to financial statements provide detailed support to individual balances and classes of transactions found in the various statements. The required and other supplemental information (see Section III) provides information about the Commission's operating activities as compared to its budget, as well as certain other schedules required by *Government Auditing Standards*.

The Statement of Net Assets-Modified Cash Basis reports on all of the Commission's assets and liabilities, with the difference between the two reported as net assets. You can think of the Commission's net assets as one way to measure the Commission's financial health, or financial position. Net Assets are divided into the following two basic categories: Net assets invested in capital assets, net of related debt and net assets unrestricted and available for spending. Over time, increases or decreases in the Commission's net assets are one indicator of whether its financial health is improving or deteriorating. The Statement of Activities-Modified Cash Basis measures the annual change in the net assets displayed on the Statement of Net Assets-Modified Cash Basis. Assets and liabilities are measured using current values. One notable exception is capital assets, which are stated at historical cost less an allowance for depreciation.

Net assets – net assets may serve over time as a useful indicator of government's financial position. In the case of the Commission, assets exceeded liabilities by \$832,738 as of December 31, 2012. As of December 31, 2011, assets exceeded liabilities by \$772,043.

Of the Commission's net assets, \$217,009 (26%) reflects its investment in capital assets (e.g. land, buildings, mobile equipment, furniture and equipment, and leased property under capital leases, less any related debt used to acquire those assets that is still outstanding). The Commission uses these capital assets to conduct its programs; consequently these assets are not available for future spending.

Gulf States Marine Fisheries Commission
Management's Discussion and Analysis
December 31, 2012

The following table presents a summary of the Commission's net assets for the year ended December 31, 2012 and 2011.

	December 31,	
	2012	2011
Current assets	\$ 489,137	\$ 432,907
Noncurrent assets		
Post Employment Health Plan investment account	128,959	97,261
Property and equipment, net of accumulated depreciation	217,009	244,121
Total noncurrent assets	345,968	341,382
 Total assets	 835,105	 774,289
 Current liabilities	 2,367	 2,246
 Net assets		
Investment in capital assets, net of related debt	217,009	244,121
Unrestricted	615,729	527,922
Total net assets	\$ 832,738	\$ 772,043

Changes in net assets – The Commission's total revenues for the year ended December 31, 2012 were \$28,181,541. The total cost of all programs and services was \$28,120,846. The Commission's total revenues for the prior year ending December 31, 2011 were \$30,529,503; and the total cost of all programs and services were \$30,327,112. The following table represents a summary of the changes in net assets for the year ended December 31, 2012; and the prior year, in comparison, for the year ending December 31, 2011:

Gulf States Marine Fisheries Commission
Management's Discussion and Analysis
December 31, 2012

	December 31,	
	2012	2011
	<u>2012</u>	<u>2011</u>
Revenues		
General revenues		
Member state appropriation	\$ 90,000	\$ 157,500
Council activities	35,000	35,000
Other income	50,576	890
Interest income	755	874
Dividend income	2,905	2,001
Rent income	-	5,040
Post employment health plan revenue	20,608	-
Registration fees	16,270	13,990
Unrealized gain (loss) on investments	8,185	(2,390)
Program revenues		
Collection & dissemination of recreational and commercial fisheries information network	5,343,965	6,224,946
Interjurisdictional fisheries management	252,019	238,909
Coordination of recreational fisheries programs	176,778	207,900
Collection & dissemination of fishery-independent data and information	243,296	220,086
SEAMAP Supplemental	-	17,017
Review and formation of habitat information	31,241	60,904
Study of aquatic nuisances	53,495	84,352
Fish and wildlife support services	71,407	48,731
Emergency disaster recovery program I	9,841,585	11,635,137
Emergency disaster recovery program II	5,814,940	5,131,760
Economic data program	1,474,274	383,150
Oil disaster recovery program	3,578,869	2,052,686
Stock Assessment Enhancement	1,075,373	4,011,020
Total revenues	<u>28,181,541</u>	<u>30,529,503</u>
Expenses		
Programs	27,909,496	30,189,170
General and administrative	211,350	137,942
Total expenses	<u>28,120,846</u>	<u>30,327,112</u>
Change in net assets	60,695	202,391
Net assets, beginning	772,043	569,652
Net assets, ending	<u>\$ 832,738</u>	<u>\$ 772,043</u>

Fund Financial Statements (reporting the Commission's major funds)

The fund financial statements provide information about the major individual funds. A fund is a fiscal and accounting entity with a self-balancing set of accounts that the Commission uses to keep track of specific sources of funding and spending for a particular purpose.

The Commission's basic services are reported in the funds, which focus on how money flows into and out of those funds and the balances left at year-end that are available for future spending. The fund financial statements provide a short-term view of the Commission's general operations and the basic services it provides. Fund information helps determine whether there are more or fewer financial resources that can be spent in the near future to finance the Commission's programs. These funds are reported using the cash basis, which measures cash and all other financial assets that can readily be converted to cash. The Commission's funds include the General and Special Revenue funds.

Notes to the Financial Statements

The notes provide additional information that is essential to a full understanding of the data provided in the Commission-wide and fund financial statement. The notes to the financial statements are a required part of the basic financial statements.

Budgetary Highlights

The Commission establishes its budget to reflect financial conditions such as increases and decreases in operating revenues and expenses, and also to increases, decreases and availability of federal funding for operating and capital needs. As noted in the notes to the financial statements, it is the practice of the Commission to prepare its budget on the modified cash basis of accounting.

Capital Asset Administration

At the end of the current year ending December 31, 2012, the Commission had \$217,009, net of accumulated depreciation invested in facilities, equipment and automobiles. This amount reflected a net decrease (including additions, deletions and depreciation deductions) from the prior year of \$27,112. As of December 31, 2011, the Commission had \$244,121 invested in facilities, equipment and automobiles, net of accumulated depreciation.

Long-Term Debt

At the end of the current fiscal year, the Commission had no outstanding debt as all obligations were satisfied. The Commission has encountered no problems in obtaining financing as needed.

Significant Transactions

In September 2006, the Commission was selected by the National Marine Fisheries Service (NMFS) to administer a program that authorized \$127.7 million for the Emergency Disaster Recovery Program (EDRP I). The program focused primarily on the assessment and restoration of the marine fishery resources that were damaged by the multiple disasters of 2005. Conditions for the use of the \$127.7 million required that not less than \$38 million be used for oyster rehabilitation; and that not less than \$7 million be used for cooperative research. The remainder was to be used as deemed necessary by the respective states for habitat restoration of other appropriate resource recovery efforts, as approved by the funding agency. The funds were to be used for projects that were approved by the funding agency in the years 2006-2011. A no-cost extension was approved in September 2012 to extend the project until August 2013.

Further assistance for the Gulf States was provided by Congress in 2007, with a second appropriation in the amount of \$85 million for additional Emergency Disaster Recovery Program (EDRP II). The Commission was selected by the National Marine Fisheries Service (NMFS) to administer this program. The objective of this program is to provide assistance to impacted fishermen and fishery related industry. The intent of this appropriation was not only to provide opportunities for relief to those businesses, industries and individual commercial fishermen who lost income as a result of the disasters of 2005, but also to add further impetus in the stabilization of the Gulf of Mexico fishing heritage and its resulting contributions to the Gulf economy. The funds were to be used for projects that were approved by the funding agency in the years 2006-2011. A no-cost extension was approved in October 2012 to extend the project until September 2013.

Again, in September of 2010, in the aftermath of the Deep Water Horizon oil disaster in the Gulf of Mexico, Congress appropriated an additional \$15 million to aid in fisheries recovery. This program focuses primarily on "re-marketing" Gulf products in response to negative perceptions of the quality and availability of Gulf seafood brought on by the closure of Gulf waters for nearly five months. Specific actions currently being implemented include the establishment of a Gulf of Mexico Seafood Marketing Coalition to develop intermediate marketing strategies and long range plans aimed at regaining Gulf market shares and increasing product prices. It also involves third party certification of the sustainability and quality of Gulf products, the facilitation of a web based marketing program for use at the producer level, and expanded seafood testing opportunities to continually provide "Gulf Safe Seafood" assurances. The Oil Disaster Recovery Program (ODRP) will be funded by GSMFC via contracts with States, NGOs, State Health and Educational Institutions and where necessary professional service agencies through August 2015.

Also, during the year 2010, the Stock Assessment Enhancement Program (SAE) was created in response to the BP Deepwater Horizon disaster. Congress allocated \$10M to conduct an expanded stock assessment of the fisheries of the Gulf of Mexico. Such expanded stock assessment shall include an assessment of the commercial and recreational catch and biological sampling, observer programs, data management and processing activities, the conduct of assessments, and follow-up evaluations of such fisheries. The funds (\$6.15M) were appropriated to the Commission via a cooperative agreement in October 2010 and will be used to fund a variety of activities including state trip ticket operations, menhaden port sampling, implementation of for-hire logbook Program,

Gulf States Marine Fisheries Commission
Management's Discussion and Analysis
December 31, 2012

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biological sampling, and expansion of fishery-independent sampling in the Gulf of Mexico. These activities will be conducted from 2011 to 2013.

Economic Expectations

The Commission receives the majority of its revenue from the administration of contracts and grants related to fisheries resource management. The Commission expects continued growth in these services. Most costs associated with administering these agreements have been reasonably stable (allowing for inflation). The Commission has been working diligently to moderate these costs where possible. The Commission's prudent use of resources continues to position it well in providing services to its customers and member states of Texas, Louisiana, Mississippi, Alabama, and Florida.

Requests for Information

This financial report is designed to provide a general overview of the Gulf States Marine Fisheries Commission's finances for all those with an interest in the Commission's finances. Questions concerning any of the information in this report or requests for additional information should be addressed to the Senior Accountant, Gulf States Marine Fisheries Commission, 2404 Government Street, Ocean Springs, Mississippi 39564.

Financial Statements

Gulf States Marine Fisheries Commission
Statement of Net Assets - Modified Cash Basis
December 31, 2012

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Assets	Governmental Activities
Current assets	
Cash in bank	\$ 489,137
Noncurrent assets	
Post employment health plan investment account	128,959
Property and equipment, net of accumulated depreciation	217,009
Total noncurrent assets	<u>345,968</u>
Total assets	<u>835,105</u>
Liabilities	
Current liabilities	
DHHS payable	46
Payroll taxes payable	1,254
Section 125 cafeteria plan payable	1,067
Total current liabilities	<u>2,367</u>
Net assets	
Investment in general fixed assets, net of related debt	217,009
Unrestricted	615,729
Total net assets	<u><u>\$ 832,738</u></u>

The Accompanying Notes are an Integral Part of the Financial Statements.

Gulf States Marine Fisheries Commission
Statement of Activities - Modified Cash Basis
For the Year Ended December 31, 2012

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	Expenses	Charges for Services	Operating Grants and Contributions	Net (Expense) Revenue and Change in Net Assets <u>Governmental Activities</u>
Functions/Programs				
Primary government:				
Programs				
Collection & dissemination of commercial and recreational fisheries information	\$ 5,340,376	\$ -	\$ 5,343,965	\$ 3,589
Interjurisdictional fisheries management	251,997	-	252,019	22
Coordination of recreational fisheries programs	176,669	-	176,778	109
Collection & dissemination of fishery - independent data and information	243,381	-	243,296	(85)
Review and formation of habitat information	-	-	31,241	31,241
Study of aquatic nuisances	67,438	-	53,495	(13,943)
Fish and wildlife support services	37,287	-	71,407	34,120
Emergency disaster recovery program	9,849,488	-	9,841,585	(7,903)
Emergency disaster recovery program II	5,814,857	-	5,814,940	83
Economic data program	1,474,166	-	1,474,274	108
Oil disaster recovery program	3,578,464	-	3,578,869	405
Stock assessment enhancement	1,075,373	-	1,075,373	-
Total	<u>27,909,496</u>	<u>-</u>	<u>27,957,242</u>	<u>47,746</u>
General and Administrative				
Local administration	136,882	16,270	90,000	(30,612)
Council activities	34,918	-	35,000	82
Texas parks and wildlife department travel	39,550	-	50,000	10,450
Total	<u>211,350</u>	<u>16,270</u>	<u>175,000</u>	<u>(20,080)</u>
Total primary government	<u>\$ 28,120,846</u>	<u>\$ 16,270</u>	<u>\$ 28,132,242</u>	<u>27,666</u>
General revenues				
Other income				576
Post employment health plan revenue				20,608
Interest income				755
Dividend income				2,905
Unrealized gain (loss) on investments				8,185
Total general revenues				<u>33,029</u>
Change in net assets				60,695
Net assets, beginning				<u>772,043</u>
Net assets, ending				<u>\$ 832,738</u>

The Accompanying Notes are an Integral Part of the Financial Statements.

Gulf States Marine Fisheries Commission
Statement of Assets, Liabilities and Fund Balances-Cash Basis
Governmental Funds
December 31, 2012

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	Special Revenue Funds						Total Governmental Funds
	General Fund	RECFIN/ COMFIN Fund	EDRP Fund	EDRP II Fund	ODRP Fund	Other Funds	
Assets							
Current assets							
Cash in bank	\$ 489,091	\$ -	\$ 25	\$ 21	\$ -	\$ -	\$ 489,137
Noncurrent assets							
PEHP investment account	128,959	-	-	-	-	-	128,959
Total assets	<u>\$ 618,050</u>	<u>\$ -</u>	<u>\$ 25</u>	<u>\$ 21</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 618,096</u>
Liabilities							
Current liabilities							
DHHS payable	\$ -	\$ -	\$ 25	\$ 21	\$ -	\$ -	\$ 46
Payroll taxes payable	1,254	-	-	-	-	-	1,254
Section 125 cafeteria plan	1,067	-	-	-	-	-	1,067
Total liabilities	<u>2,321</u>	<u>-</u>	<u>25</u>	<u>21</u>	<u>-</u>	<u>-</u>	<u>2,367</u>
Fund Balances							
Fund balance - assigned for							
post employment health plan	128,959	-	-	-	-	-	128,959
Fund balance - unassigned	486,770	-	-	-	-	-	486,770
Total fund balances	<u>615,729</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>615,729</u>
Total liabilities and fund balances	<u>\$ 618,050</u>	<u>\$ -</u>	<u>\$ 25</u>	<u>\$ 21</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 618,096</u>

The Accompanying Notes are an Integral Part of the Financial Statements.

Gulf States Marine Fisheries Commission
Reconciliation of the Governmental Funds Statement of Assets,
Liabilities and Fund Balances - Cash Basis
to the Statement of Net Assets - Modified Cash Basis
December 31, 2012

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Total fund balances - governmental funds	\$ 615,729
Amounts reported for governmental activities in the statement of net assets - modified cash basis are different because:	
Capital assets used in governmental activities are not financial resources and therefore are not reported in the funds, net of accumulated depreciation	<u>217,009</u>
Total net assets - governmental activities	<u><u>\$ 832,738</u></u>

The Accompanying Notes are an Integral Part of the Financial Statements.

Gulf States Marine Fisheries Commission
Statement of Revenues, Expenditures and Changes in Fund Balances - Cash Basis
Governmental Funds
For the Year Ended December 31, 2012

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	Special Revenue Funds						Total Governmental Funds
	General Fund	RECFIN/ COMFIN Fund	EDRP Fund	EDRP II Fund	ODRP Fund	Other Funds	
Revenues:							
Member state appropriation	\$ 90,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 90,000
Other income	576	-	-	-	-	50,000	50,576
Interest income	755	-	-	-	-	-	755
Dividend income	2,905	-	-	-	-	-	2,905
Post employment health plan revenue	20,608	-	-	-	-	-	20,608
Grant income	-	5,343,965	9,841,585	5,814,940	3,578,869	3,412,883	27,992,242
Registration fees	16,270	-	-	-	-	-	16,270
Unrealized gain (loss) on investments	8,185	-	-	-	-	-	8,185
Totals	139,299	5,343,965	9,841,585	5,814,940	3,578,869	3,462,883	28,181,541
Expenditures							
Personal services and benefits	77,237	481,794	89,269	38,584	173,831	690,765	1,551,480
Professional services	318	4,576,071	9,735,030	5,755,209	3,301,630	2,411,885	25,780,143
Other purchased services	30,385	247,794	18,809	16,538	93,476	264,795	671,797
Supplies and materials	1,830	34,717	6,380	4,526	9,527	33,334	90,314
Totals	109,770	5,340,376	9,849,488	5,814,857	3,578,464	3,400,779	28,093,734
Excess (deficiency) of revenues over (under) expenditures	29,529	3,589	(7,903)	83	405	62,104	87,807
Other financing sources (uses)							
Interfund loans	58,278	(3,589)	7,903	(83)	(405)	(62,104)	-
Net change in fund balances	87,807	-	-	-	-	-	87,807
Fund balance - beginning	527,922	-	-	-	-	-	527,922
Fund balance - ending	<u>\$ 615,729</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 615,729</u>

The Accompanying Notes are an Integral Part of the Financial Statements.

Gulf States Marine Fisheries Commission
Reconciliation of the Governmental Funds Statement of Revenues,
Expenditures and Changes in Fund Balances - Cash Basis
to the Statement of Activities - Modified Cash Basis
For the Year Ended December 31, 2012

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Net changes in governmental fund balances	\$ 87,807
Amounts reported in the statement of activities are different because:	
Governmental funds report capital outlays as expenditures. However, the statement of activities - modified cash basis reports depreciation to allocate those expenditures over the life of the assets. Capital assets purchased amounted to \$0 and depreciation expense amounted to \$27,112.	<u>(27,112)</u>
Change in net assets of governmental activities	<u>\$ 60,695</u>

The Accompanying Notes are an Integral Part of the Financial Statements.

Note A – Summary of Significant Accounting Policies

Operations – The Gulf States Marine Fisheries Commission was formally created with the consent of the 81st Congress of the United States granted by Public Law 66 and approved May 19, 1949. Congress authorized an interstate compact relating to the better utilization of the fisheries of the Gulf of Mexico. Parties to the agreement are the states of Alabama, Florida, Louisiana, Mississippi and Texas. The Commission's office is centrally located in Ocean Springs, Mississippi.

The Commission receives and expends such sums of money as shall from time to time be appropriated for its use by the participating governing authorities, and makes application for and receives and expends funds available under appropriated Federal Programs. The Commission may also receive and expend funds from any other sources not "prohibited by law".

The financial reporting entity – Gulf States Marine Fisheries Commission is a quasi-governmental corporation governed by a 15 member board. The Commission has no reportable component units.

Basis of accounting – The accompanying financial statements have been prepared on the modified cash basis of accounting. That basis differs from generally accepted accounting principles because the Commission has not recognized balances, and the related effects on earnings, of grant receivables from third party agencies and of accounts payable to vendors.

The Commission reports the following major governmental funds:

General Fund – This is the Commission's primary operating fund. It accounts for all financial resources of the Commission, except those required to be accounted for in another fund.

RECFIN/COMFIN Fund – This is the fund that is the Commission's program to collect, manage, and disseminate statistical data and information on the commercial and recreational fisheries of the Gulf of Mexico.

Emergency Disaster Recovery Program (EDRP) Fund – This is a program fund through which Federal Fisheries Disaster funds appropriated by Congress are distributed to assist the Gulf States in the restoration of damaged marine resources and to provide assistance to impacted fishermen.

Emergency Disaster Recovery Program II (EDRP II) Fund – This is an additional program fund through which Federal Fisheries Disaster funds appropriated by Congress are distributed to assist the Gulf States in the restoration of damaged marine resources and to provide assistance specifically to impacted commercial fishermen; small business and industry; domestic product marketing; and, seafood testing.

Oilspill Disaster Recovery Program (ODRP) Fund – This is a program fund through which Federal Fisheries Disaster funds appropriated by Congress are distributed to assist the Gulf States to improve marketing and public relations, secure seafood source certifications, sustainability certification and develop quality assurance through seafood testing.

Gulf States Marine Fisheries Commission
Notes to Financial Statements
(Continued)

All other governmental funds not meeting the criteria established for major funds are presented as other governmental funds.

Additionally, the Commission reports the following non-major governmental fund types:

Special Revenue Funds – Special revenue funds are used to account for the proceeds of specific revenue sources that are restricted for specific projects or programs. The funds' principal revenue sources are grants and contracts from various federal and member state agencies.

Basis of Presentation – The Commission's basic financial statement consists of government-wide statements, including a statement of net assets and a statement of activities, and fund financial statements, which provide a more detailed level of financial information.

Government-wide Financial Statements:

The Statement of Net Assets and Statement of Activities display information about the Commission as a whole. They include all funds of the reporting entity. Governmental activities generally are financed through taxes, intergovernmental revenues and other non-exchange revenues.

The Statement of Net Assets presents the financial condition of the governmental activities of the Commission at year-end. The Government-wide Statement of Activities presents a comparison between direct expenses and program revenues for each function or program of the Commission's governmental activities. Direct expenses are those that are specifically associated with a service, program or department and therefore clearly identifiable to a particular function. Program revenues include charges paid by the recipient of the goods or services offered by the program and grants and contributions that are restricted to meeting the operational or capital requirements of a particular program. Revenues, which are not classified as program revenues, are presented as general revenues of the Commission with certain limited exceptions. The comparison of direct expenses with program revenue identifies the extent to which each governmental function is self-financing or draws from the general revenues of the Commission.

Fund Financial Statements:

Fund financial statements of the Commission are organized into funds, each of which is considered to be separate accounting entities. Each fund is accounted for by providing a separate set of self-balancing accounts that constitute its assets, liabilities, fund equity, revenues and expenditures/expenses. Funds are organized into one major category: governmental. An emphasis is placed on major funds within the governmental category.

Fixed assets – Fixed assets are recorded at actual cost. Contributed assets are reported at the estimated fair value at the time received. The Commission has adopted a policy of capitalizing assets with an acquisition cost of \$5,000 or more. Depreciation is computed on the straight-line method over the estimated useful lives of the underlying assets.

Gulf States Marine Fisheries Commission
Notes to Financial Statements
(Continued)

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Investments – Investments in equity securities with readily determinable fair values and all investments in debt securities are measured at their fair market value in the Statement of Net Assets–Modified Cash Basis. The unrealized gain or loss on investments is reflected in the Statement of Activities–Modified Cash Basis.

Income taxes – The Commission is exempt from income taxes as a governmental entity and is classified by the Internal Revenue Service as a governmental organization.

Long-term liabilities – Long-term liabilities are the unmatured principal of notes or other forms of noncurrent or long-term general obligation indebtedness. Long-term liabilities are not limited to liabilities from debt issuances, but may also include liabilities on lease-purchase agreements and other commitments. Long-term liabilities should not be reported as liabilities in governmental funds; but should be reported in the governmental activities column in the government-wide Statement of Net Assets.

Equity classifications

Government-wide Financial Statements:

Equity is classified as net assets and displayed in three components:

1. Invested in capital assets, net of related debt – Consists of capital assets including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes or other borrowings that are attributable to the acquisition, construction or improvement of those assets.
2. Restricted net assets – Consists of net assets with constraints placed on the use either by (1) external groups such as creditors, grantors, contributors, or laws or regulations of other governments; or (2) law through constitutional provisions or enabling legislation.
3. Unrestricted net assets – All other net assets that do not meet the definition of “restricted” or “invested in capital assets, net of related debt”.

Fund Financial Statements:

Governmental fund equity is classified as fund balance. Fund balance is further classified as nonspendable, restricted, committed, assigned, or unassigned.

Estimates – The preparation of financial statements in conformity with the modified cash basis of accounting requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

Gulf States Marine Fisheries Commission
Notes to Financial Statements
(Continued)

Note B – Concentration of Credit Risk

The Commission has maintained bank accounts at one financial institution. The account balances at December 31, 2012 may be shown as follows:

Description	Carrying Amount	Bank Balance
Regular accounts	\$ 489,137	\$ 571,677

The bank balances at December 31, 2012 are categorized as follows:

Amount insured or collateralized with securities held by the Commission or its agent in the Commission's name	\$ 250,000
Uncollateralized, or held by the pledging financial institution's trust department or agent in the financial institution's name	321,677
Total bank balance	\$ 571,677

Note C – Investments

Investments:

Except for nonparticipating investment contracts and for participating interest-earning investment contracts and money market investments that had a remaining maturity at the time of purchase of one year or less, investments are reported at fair value which is based on quoted market price. Nonparticipating investment contracts such as repurchase agreements and nonnegotiable certificates of deposit are reported at cost. Participating interest-earning investment contracts and money market investments that had a remaining maturity at time of purchase of one year or less are reported at amortized cost.

Investments made by the Commission that are included on the statement of net assets are summarized below. The investments that are represented by specific identifiable investment securities are classified as to credit risk by the categories described below:

Category I – Insured or registered or for which the securities are held by the Commission or its agent in the Commission's name.

Category 2 – Uninsured and unregistered for which the securities are held by the broker or dealer's trust department or agent in the Commission's name.

Category 3 – Uninsured and unregistered for which the securities are held by the broker or dealer, or by its trust department or agent but not in the Commission's name.

Gulf States Marine Fisheries Commission
Notes to Financial Statements
(Continued)

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Investment Type	Category			Reported Amount	Fair Value
	1	2	3		
Van Kampen Inter Corp Invt 45, 5 shares		X		\$ 5,404	\$ 5,404
Invesco VK Equity & Inc Fund A, 9,968.361 shares		X		91,609	91,609
Lord Abbett Short Dur Inc Fund C, 4,444.938 shares		X		20,803	20,803
Cash		X		11,143	11,143
Totals				<u>\$128,959</u>	<u>\$128,959</u>

Note D – Property, Plant and Equipment

The Commission's land, depreciable property and equipment may be stated as follows:

	Balance 12/31/11	Additions	Deletions	Balance 12/31/12
Restricted				
Vehicles	\$ 84,670	\$ -	\$ -	\$ 84,670
Office equipment	590,699	-	5,180	585,519
Totals	<u>675,369</u>	<u>-</u>	<u>5,180</u>	<u>670,189</u>
Unrestricted				
Land	20,000			20,000
Buildings	182,817			182,817
Office equipment	28,975			28,975
Totals	<u>231,792</u>	<u>-</u>	<u>-</u>	<u>231,792</u>
Less accumulated depreciation				
Restricted	566,378	22,542	5,180	583,740
Unrestricted	96,662	4,570		101,232
Totals	<u>663,040</u>	<u>27,112</u>	<u>5,180</u>	<u>684,972</u>
Governmental activities				
Net property and equipment:				
Restricted	108,991	(22,542)	-	86,449
Unrestricted	135,130	(4,570)	-	130,560
Totals	<u>\$ 244,121</u>	<u>\$ (27,112)</u>	<u>\$ -</u>	<u>\$ 217,009</u>

Note E – Retirement Plan

The Commission has a tax sheltered annuity plan for all employees that have been employed for at least six (6) months. The Commission contributes seven (7) percent of each eligible employee's base pay with the amounts being fully vested upon payment by the Commission. The total expense for the year ended December 31, 2012 was \$79,508.

Gulf States Marine Fisheries Commission
Notes to Financial Statements
(Continued)

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Note G – Post Employment Health Benefits

During a prior year the Commission established a post employment health plan for its employees. The plan is available to any employee with at least ten (10) years of service, but less than twenty-five (25) years.

Upon separation from service 50% of the employee's unused sick leave hours are multiplied by 50% of the employee's hourly pay rate at the separation date to determine a value which will be transferred to a medical savings account

At December 31, 2012 eleven (11) employees would qualify for this benefit. Assuming that all eleven (11) separated from service at that date, and utilizing their current sick leave hours and rates of pay then the computed value is \$91,079. During the current year the Commission invested \$22,264 to continue funding this benefit. This investment is shown on the Statement of Net Assets – Modified Cash Basis at its current market value of \$128,959.

Any employee with twenty-five (25) years or more of service is provided full health insurance coverage in lieu of the above. This coverage is provided from date of separation until death.

Note H – Risk Management

The Commission is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The Commission carries commercial insurance for these risks. Settled claims resulting from these risks have not exceeded insurance coverage in any part of the past three fiscal years.

Note I – Subsequent Events

Management has evaluated subsequent events through August 8, 2013, the date on which the financial statements were available to be issued.

Section III
Supplemental Information

Gulf States Marine Fisheries Commission

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Budgetary Comparison Schedule

For the Year Ended December 31, 2012

	Budget			Actual			Over (Under) Budget
	Operating Fund	Grant Funds	Total	Operating Fund	Grant Funds	Total	
Revenues:							
Member state appropriation	\$ 112,500	\$ -	\$ 112,500	\$ 90,000	\$ -	\$ 90,000	\$ (22,500)
Other income	-	-	-	576	50,000	50,576	50,576
Interest income	-	-	-	755	-	755	755
Dividend income	-	-	-	2,905	-	2,905	2,905
Post employment health plan revenue	-	-	-	20,608	-	20,608	20,608
Grant income	-	15,147,051	15,147,051	-	27,992,242	27,992,242	12,845,191
Registration fees	-	-	-	16,270	-	16,270	16,270
Unrealized gain (loss) on investments	-	-	-	8,185	-	8,185	8,185
Totals	112,500	15,147,051	15,259,551	139,299	28,042,242	28,181,541	12,921,990
Personal costs							
Salaries	57,102	1,119,843	1,176,945	59,940	1,056,719	1,116,659	(60,286)
Payroll taxes	4,391	87,409	91,800	4,495	81,767	86,262	(5,538)
Health insurance	7,861	271,816	279,677	7,509	239,279	246,788	(32,889)
Retirement expense	3,925	75,949	79,874	4,283	75,225	79,508	(366)
Post employment health plan expense	-	-	-	1,010	21,253	22,263	22,263
Totals	73,279	1,555,017	1,628,296	77,237	1,474,243	1,551,480	(76,816)
Maintenance/Operations							
Office supplies	500	56,873	57,373	620	29,140	29,760	(27,613)
Postage	500	35,589	36,089	168	10,397	10,565	(25,524)
Travel - committee	-	307,115	307,115	-	255,975	255,975	(51,140)
Travel - staff	10,000	127,685	137,685	9,669	75,991	85,660	(52,025)
Telephone	700	38,850	39,550	527	28,149	28,676	(10,874)
Office equipment	-	11,387	11,387	-	-	-	(11,387)
Copying expense	500	67,374	67,874	713	27,527	28,240	(39,634)
Printing expense	500	17,010	17,510	44	12,331	12,375	(5,135)
Meeting costs	12,921	68,500	81,421	9,756	84,298	94,054	12,633
Subscriptions & dues	3,000	1,300	4,300	1,607	3,768	5,375	1,075
Automobile expenses	3,000	7,516	10,516	285	9,089	9,374	(1,142)
Insurance	2,000	20,605	22,605	699	22,930	23,629	1,024
Maintenance	1,500	139,515	141,015	429	136,332	136,761	(4,254)
Professional expenses	500	112,570	113,070	318	2,849,360	2,849,678	2,736,608
Contractual	-	12,526,300	12,526,300	-	22,930,465	22,930,465	10,404,165
Utilities	2,000	26,055	28,055	589	18,149	18,738	(9,317)
Janitorial	1,000	27,790	28,790	656	15,320	15,976	(12,814)
Courtesies	600	-	600	6,453	500	6,953	6,353
Totals	112,500	15,147,051	15,259,551	109,770	27,983,964	28,093,734	12,834,183
Excess of revenues over expense	\$ -	\$ -	\$ -	\$ 29,529	\$ 58,278	\$ 87,807	\$ 87,807

Gulf States Marine Fisheries Commission
Budgetary Comparison Schedule
For the Year Ended December 31, 2012
(Continued)

Budgetary Comparison Schedule

(1) Basis of Presentation

The Budgetary Comparison Schedule presents the original adopted budget, the actual data on the cash basis, and variances between the budget and the actual data.

Gulf States Marine Fisheries Commission
Schedule of Expenditures of Federal Awards – Cash Basis
For the Year Ended December 31, 2012

Federal Grantor / Program Title	Catalog of Federal Domestic Assistance	Federal Expenditures
U.S. Department of Interior		
Aquatic Nuisance	15.608	\$ 67,438
Sports Fish Restoration Program	15.605	176,669
Total U. S. Department of Interior		<u>244,107</u>
U.S. Department of Commerce		
Interjurisdictional Fisheries Management Plan	11.407	251,997
Recreational Fisheries Information Network (RECFIN) and Commercial Fisheries Information Network (COMFIN)	11.434	5,340,376
Economic Data Program	11.434	1,474,166
Southeast Area Monitoring and Assessment Program (SEAMAP)	11.435	243,381
Emergency Disaster Recovery Program	11.454	9,849,488
Emergency Disaster Recovery Program II	11.454	5,814,857
Stock Assessment Enhancement	11.472	1,075,373
Oil Disaster Recovery Program	11.477	3,578,464
Total U. S. Department of Commerce		<u>27,628,102</u>
Total expenditures of federal awards		<u><u>\$ 27,872,209</u></u>

Note A - Basis of Presentation

The accompanying Schedule of Expenditures of Federal Awards (the Schedule) includes the federal grant activity of the Gulf States Marine Fisheries Commission under programs of the federal government for the year ended December 31, 2012. The information in this Schedule is presented in accordance with the requirements of OMB Circular A-133, *Audits of States, Local Governments and Non-Profit Organizations*. Because the Schedule presents only a selected portion of the operations of the Commission, it is not intended to and does not present the financial position, changes in net assets or cash flows of the Commission.

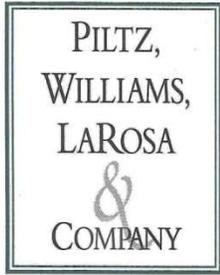
Note B - Summary of Significant Accounting Policies

Expenditures reported on the Schedule are reported on the cash basis of accounting. Such expenditures are recognized following the cost principles contained in OMB Circular A-87, *Cost Principles for State, Local and Indian Tribal Governments*, wherein certain types of expenditures are not allowable or are limited as to reimbursement.

See Independent Auditors' Report.

Section IV

Reports on Compliance and Internal Control



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Independent Auditors' Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Commissioners
Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the governmental activities, each major fund, and the aggregate remaining fund information of Gulf States Marine Fisheries Commission, as of and for the year ended December 31, 2012, and the related notes to the financial statements, which collectively comprise Gulf States Marine Fisheries Commission's basic financial statements, and have issued our report thereon dated August 8, 2013.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered Gulf States Marine Fisheries Commission's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of Gulf States Marine Fisheries Commission's internal control. Accordingly, we do not express an opinion on the effectiveness of Gulf States Marine Fisheries Commission's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

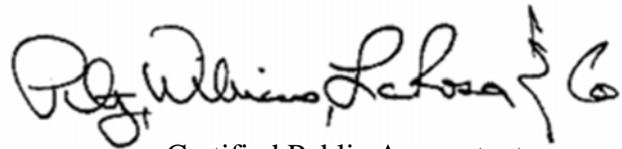
Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether Gulf States Marine Fisheries Commission's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

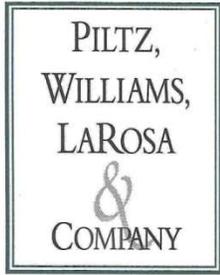
Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

A handwritten signature in black ink, appearing to read "Robert Williams, CPA". The signature is written in a cursive style with a large, stylized "R" and "W". To the right of the signature is a small, stylized logo or mark.

Certified Public Accountants

Biloxi, Mississippi
August 8, 2013



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Independent Auditors' Report on Compliance for Each Major Program and on Internal Control Over Compliance Required by OMB Circular A-133

Board of Commissioners
Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi

Report on Compliance for Each Major Federal Program

We have audited Gulf States Marine Fisheries Commission's compliance with the types of compliance requirements described in the *OMB Circular A-133 Compliance Supplement* that could have a direct and material effect on each of Gulf States Marine Fisheries Commission's major federal programs for the year ended December 31, 2012. Gulf States Marine Fisheries Commission's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

Management's Responsibility

Management is responsible for compliance with the requirements of laws, regulations, contracts, and grants applicable to its federal programs.

Auditor's Responsibility

Our responsibility is to express an opinion on compliance for each of Gulf States Marine Fisheries Commission's major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and OMB Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations*. Those standards and OMB Circular A-133 require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about Gulf States Marine Fisheries Commission's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of Gulf States Marine Fisheries Commission's compliance.

Opinion on Each Major Federal Program

In our opinion, Gulf States Marine Fisheries Commission, complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended December 31, 2012.

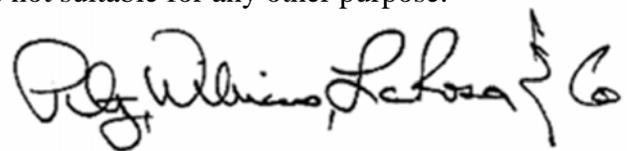
Report on Internal Control Over Compliance

Gulf States Marine Fisheries Commission is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered Gulf States Marine Fisheries Commission's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with OMB Circular A-133, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of Gulf States Marine Fisheries Commission's internal control over compliance.

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. *A material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of OMB Circular A-133. Accordingly, this report is not suitable for any other purpose.



Certified Public Accountants

Biloxi, Mississippi
August 8, 2013

Section V

Other Items

Gulf States Marine Fisheries Commission
Schedule of Findings and Questioned Costs
For the Year Ended December 31, 2012

Section 1 – Summary of Auditors’ Results

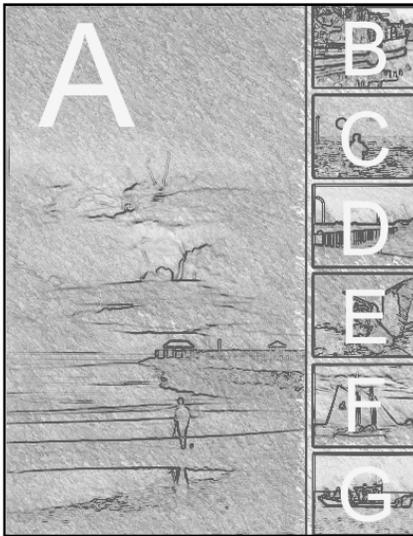
1. An unqualified opinion was issued on the basic financial statements.
2. There were no significant deficiencies in internal control disclosed by the audit of the basic financial statements.
3. The audit did not disclose any noncompliance which is material to the basic financial statements.
4. The audit did not disclose any material weaknesses in internal control over major programs.
5. An unqualified opinion was issued on compliance for major programs.
6. The audit did not disclose any findings that are required to be reported in accordance with Section __.510(a) of OMB Circular A-133.
7. The major programs were: Emergency Disaster Recovery Program I and II – 11.454
8. The dollar threshold used to distinguish between Type A and Type B Programs was \$836,166.
9. The auditee qualifies as a low-risk auditee.

Section 2 – Findings Related to the Financial Statements

None

Section 3 – Findings and Questioned Costs for Federal Awards

None



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**Gulf States Marine Fisheries Commission
2404 Government Street
Ocean Springs, Mississippi, 39564**

