

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

For the Year 2013



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 8166, 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-Fourth Annual Report
(2013)

*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.



Edited by:

Debora K. McIntyre and Steven J. VanderKooy
Gulf States Marine Fisheries Commission
2404 Government St
Ocean Springs, Mississippi 39564
(228) 875-5912
www.gsmfc.org

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 (Commission) 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
Larry B. Simpson	2013

Acknowledgements

In submitting this Sixty-Fourth 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,

Joe Gill, Jr., *Chairman*

Randy Pausina, *1st Vice-Chairman*

David Heil/Dan Ellinor, *2nd Vice-Chairmen*

Chris Blankenship, *Immediate Past Chairman*

Mike Ray/Robin Riechers, *Chairman's Appointee*

Larry B. Simpson, *Executive Director*

David M. Donaldson, *Assistant Director/Acting Director*

Table of Contents

Charles H. Lyles Award	ii
Acknowledgements.....	iii
Table of Contents	iv
Commission Roster.....	v
Active Committees.....	vi
Executive Director’s Report.....	1
Emergency Disaster Recovery Program	2
Oil Disaster Recovery Program	5
Stock Assessment Enhancement Program	12
Sport Fish Restoration Administration Program.....	13
Administration of the Gulf of Mexico Regional Panel on Aquatic Invasive Species.....	16
Southeast Monitoring and Assessment Program (SEAMAP).....	19
Habitat Program	21
Interjurisdictional Fisheries (IJF) Management Program.....	22
Fisheries Information Network (FIN).....	24
Economics Program.....	29
Alabama Marine Resources Division	34
Florida Fish and Wildlife Conservation Commission.....	41
Florida Department of Agriculture.....	61
Louisiana Department of Wildlife and Fisheries, Office of Fisheries	64
Mississippi Department of Marine Resources	105
Texas Parks and Wildlife Department.....	112
National Marine Fisheries Service, Southeast Regional Office.....	123
Gulf of Mexico Fishery Management Council	132
U.S. Fish and Wildlife Service.....	137
Report on Examination of Financial Statements, Supplemental Data, Internal Control and Compliance for the year ended December 31, 2013	143

Commission Roster

Commission Officers

Chairman: Joe Gill, Jr.

1st Vice-Chairman: Randy Pausina

2nd Vice-Chairmen: David Heil/Dan Ellinor

Commissioners

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

ALABAMA

N. Gunter Guy Jr., Commissioner
Alabama Department of Conservation
& Natural Resources
Montgomery, Alabama

Representative Steve McMillan
Bay Minette, Alabama

Chris Nelson
Bon Secour Fisheries, Inc.
Bon Secour, Alabama

FLORIDA

Nick Wiley, Executive Director
Florida Fish and Wildlife
Conservation Commission
Tallahassee, Florida

Senator Thad Altman
State Senator, District 24
Melbourne, Florida

Stephen M. Greep, Jr.
Alexander & Greep Insurance
Ft. Lauderdale, Florida

LOUISIANA

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

Senator R.L. “Bret” Allain, II
State Senator District 21
Franklin, Louisiana
Campo “Camp” Matens
Baton Rouge, Louisiana

MISSISSIPPI

Jamie Miller, Executive Director
Mississippi Department of Marine
Resources
Biloxi, Mississippi

Senator Brice Wiggins
Pascagoula, Mississippi

Joe Gill, Jr.
Joe Gill Consulting, LLC
Ocean Springs, Mississippi

TEXAS

Carter Smith, Executive Director
Texas Parks and Wildlife Department
Austin, Texas

Senator Mike Jackson
Texas Senate
Austin, Texas

Troy Bello Williamson, II
Corpus Christi, Texas

Commission Staff

Larry B. Simpson, Executive Director

David M. Donaldson, Assistant Director/Acting Director

James R. Ballard, Program Coordinator
Donna B. Bellais, Survey Coordinator
Gregory S. Bray, Programmer/Analyst
Joseph P. Ferrer, III, Systems Administrator
Robert W. Harris, Programmer/Analyst
Virginia K. Herring, Administrative Officer
Ralph E. Hode, Program Coordinator
Lloyd W. Kirk, SEAMAP Database Programmer
Ashley P. Lott, Staff Assistant
Nancy K. Marcellus, Administrative Assistant

Debora K. McIntyre, Staff Assistant
Alexander L. Miller, Program Coordinator
Cheryl R. Noble, Staff Assistant
Angela R. Rabideau, Staff Accountant
Jeffrey K. Rester, Program Coordinator
Alyce R. Ryan, Staff Assistant
Douglas J. Snyder, Survey Coordinator
Deanna L. Valentine, Data Entry Clerk
Steven J. VanderKooy, Program Coordinator

Active Committees

Executive Committee.....	Joe Gill, Jr, Chairman Randy Pausina David Heil/Dan Ellinor Mike Ray/Robin Riechers Chris Blankenship
Law Enforcement Committee.....	Scott Bannon, Chairman
State-Federal Fisheries Management Committee.....	Dale Diaz, Chairman
Menhaden Advisory Committee.....	Joe Smith, Chairman
Commercial/Recreational Fisheries Advisory Panel.....	Philip Horn, Commercial Chairman Bob Fairbanks, Recreational Chairman
Technical Coordinating Committee.....	Dale Diaz, Chairman
TCC Artificial Reef Committee.....	Jimmy Sanders, Chairman
TCC Crab Subcommittee.....	Ryan Gandy, Chairman
TCC Data Management Subcommittee.....	Christine Murrell, 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/Acting Director

They say that what does not kill you will make you stronger. If that is true, then the fisheries world should be as strong as an ox after the year we had in 2013. The fisheries arena lost several great men this year including Dr. Thomas D. McIlwain, Dr. Richard L. Leard, Mr. Larry B. Simpson, Mr. Michael C. Voisin, and Dr. Russell S. Nelson. These gentlemen collectively represented almost 200 years of experience and knowledge regarding the marine fisheries domain, and their accomplishments, far-reaching and extensive, will impact the fishery for many years to come.

While the multitude of endeavors, such as establishing a striped bass fishery along the Mississippi Gulf Coast by Tom McIlwain; navigating Mississippi through the contentious fisheries issues of the 1980s by Rick Leard; guiding and expanding the role of the Gulf States Marine Fisheries Commission for 30+ years by Larry Simpson; leading and improving not only the oyster business but the seafood industry by Mike Voisin; and developing regulations that helped bring redfish and snook back from the brink of extinction in Florida by Russ Nelson are all very significant, the importance of their contributions is something bigger. It was their passion and dedication to the marine resources of the Gulf of Mexico that made them so influential. They all cared deeply for shrimp, crabs, oysters, fish, and other resources calling the Gulf of Mexico their home and they worked tirelessly every day to ensure that those resources were sustained and managed properly. This dedication led to better management of the resources and truly moved the needle regarding the conservation of these critical natural resources.

All of these men will be profoundly missed, but their models of leadership and commitment will live on in those who had the opportunity to work with them and learn from their examples. Thank you Tom, Rick, Larry, Mike, and Russ; you may be gone, but you will never be forgotten.

EMERGENCY DISASTER RECOVERY PROGRAM

Ralph E. Hode, Fisheries Disaster Program Coordinator

The Emergency Disaster Recovery Program (EDRP) was established by the Gulf States Marine Fisheries Commission (Commission) in 2006 in response to a marine fisheries disaster declaration by Secretary Carlos Gutierrez, U.S. Department of Commerce. Fisheries disaster declarations were made in 2005 following Hurricanes Katrina and Rita which destroyed significant portions of the marine fisheries industry and related habitat in the northern U. S. Gulf of Mexico (Gulf). 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 an appropriation in 2006 in the amount of \$127M for fishery resource restoration and recovery (EDRP I) and second, an additional appropriation in 2007 in the amount of \$85M for economic assistance to the recovering industry (EDRP II). The Commission served in a coordination capacity and worked collaboratively with NOAA Fisheries to oversee the distribution and use of these appropriations.

Both grant programs effectively came to conclusion in 2013 with the completion of planned work programs and projects, the final reimbursement of costs incurred by individual states under these programs, and the completion of comprehensive final reports.

Resource Recovery – EDRP I

A total of 17 sub grant agreements were finalized during 2013 under the Resource Recovery Grant reflecting expenditures of nearly \$2.8M for the year; and cumulative expenditures over the past seven years of nearly \$127.8M. Of the overall expenditures within the program, nearly 40% went to restoration of the Gulf region’s oyster habitat and related fishing grounds. Another 23% was used in restoration of finfish, shrimp, and other shellfish habitat through activities such as shoreline stabilization, artificial reef restoration, debris removal, and marsh reconstruction. The remaining

37% was dedicated to cooperative research aimed at developing information to assist state marine fishery agencies in making sound management decisions for immediate restoration and long-term resource development.

These program components were individually beneficial to impacted fishermen, as many were engaged to providing catch data and other relevant information that is necessary for sound management decisions, participation in oyster relays and cultch planting, and debris removal from area waterways and inshore/nearshore nursery grounds.

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

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

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

At the end of the grant period, 99.94% of all programmed expenditures within the Resource Recovery Grant were utilized. Combined spending amounted to \$127,686,315 (including administrative costs), leaving approximately \$76.6 thousand out of an appropriated \$127,732,970 unused. The majority of the unused funds was seen in an eleventh hour failure of commercial oyster lease restoration activities where faltering environmental conditions (high salinities) discouraged further lease improvements.

Significant Accomplishments during the 2013 Year

Physical or programmatic accomplishments during 2013 dimmed in comparison to previous years where work effort was measured by the number of

tons of reef materials installed or the number of square miles from which storm debris was removed. Progress during the year 2013 was seen primarily in the administrative arena as agencies closed out existing contractor agreements, completed planned projects, monitored results of previous work, and developed summary analyses of lessons learned – all while plans were being made for follow-up activities necessary to ensure continued resource recovery.

Oyster Restoration Component

Oyster restoration during 2013 primarily reflected efforts throughout all five states to complete projects originally scheduled for earlier completion, but which were delayed because of issues beyond the control of the respective state agencies. By the end of September 2013, however, all states had completed work that was programmed under this component and most had completed final invoicing and preparation of final comprehensive reports.

Progress at the resource and management level proper was seen in the completion of planned cultch plants and oyster relays, continued research and growth of oyster larvae at select state hatcheries, completion of planned research facility rehabilitation, and completion of planned oyster habitat mapping projects.

Habitat Component

Habitat restoration during 2013 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. Likewise, all states had completed work that was programmed under this component and most had completed final invoicing and preparation of final comprehensive reports by September 2013.

Progress at the habitat restoration level proper was seen in the completion of additional oyster cultch plants that were scheduled under this component, completion of the monitoring and evaluation of wave attenuation and shoreline stabilization demonstration projects, continued collaboration with sister agencies in monitoring aquatic invasives and protected and/or endangered

species; and continued expansion and monitoring of newly installed hydrological and meteorological stations in inshore and nearshore areas.

Cooperative Research Component

By the end of 2013, cooperative research activities as programmed under this component were completed in all five states. While a number of individual activities were finalized during the year, many activities established the basis for continued research or resource recovery activities – the cost of which are being funded through alternative sources.

Significant activities conducted under this component during the year included continued analyses of commercial trip tickets, continued independent inshore sampling, completion of economic recovery evaluation of coastal marinas and boat launches, completion of demonstration assistance projects to foster alternative marine fisheries business opportunities - such as commercial bait industries, continued collaboration and support of coastal research facilities and programs - including long term spawning and stock rearing activities, continued monitoring and enhancement of offshore and inshore artificial fishing reefs, and completion of select research projects - such as oyster, crab and finfish larval distribution and disbursement studies.

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 financial assistance to the Gulf fishing industry to restore and shore up the industry economy during its recovery period. Under this program, economic assistance was made available to shrimpers who were compliant with bycatch 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; for enhanced seafood testing and health

and safety outreach; and to support marketing initiatives that promote wild caught Gulf seafood products.

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

<i>Category</i>	<i>Funded Amount*</i>
<i>Assistance for Bycatch Reduction Compliance</i>	<i>\$1,844,750.00</i>
<i>Assistance to Fishermen</i>	<i>\$49,970,339.00</i>
<i>Assistance to Business and Industry</i>	<i>\$27,703,720.00</i>
<i>Domestic Product Marketing</i>	<i>\$1,926,046.00</i>
<i>Seafood Testing</i>	<i>\$6,064,000.00</i>

* As amended based on changing needs during the recovery process

A total of 15 sub-awards were completed by November 2013, reflecting combined expenditures over the six-year grant period of \$84.9M including administrative costs.

Nearly 99.9% of the funds programmed under this grant were utilized, with less than \$24,000 having remained unused and most of which was seen in the seafood testing component and in the administrative component.

Significant Accomplishments during 2013

The year 2013 ended with expenditures of \$5.3M, which was consistent with spending over the previous two years. Nearly 80% of the 2013 effort was dedicated to assistance to fishermen – most of which involved completion of contracted services by area fishermen, or assistance to business and industry through activities which enhanced fishing opportunities, such as additional cultch plants or improved waterfront access.

Assistance to Fishermen and Assistance to Business and Industry

Work within these categories in 2013 included completion of oyster rehabilitation initiatives which made use of local fishermen to restore public reefs; completion of artificial reef restoration activities that were beneficial to both fishermen

and the industry; and completion of equipment acquisitions and installations that were necessary to complete state research facilities renovations.

TED and BRD Compliance

Most of the TED/BRD direct assistance funding that was made available under this element was completed by the end of 2008. However, 2013 accomplishments included outreach and education activities that stressed the importance of bycatch reduction at both industry and academic/institutional levels.

Domestic Products Marketing

Approximately \$895,000 in expenditure were utilized through this element during 2013 as both Louisiana and Mississippi completed planned activities, such as support for the Lake Pontchartrain Seafood Museum and participation in regional and national events, such as area seafood festivals, sponsorships of children’s fishing rodeos, and the Boston Seafood Show - all of which help to promote Gulf products.

Seafood Testing

Activities completed under this element in 2013 included closeout of planned testing activities, continued public seafood health and safety education activities, closeout of planned support for the Gulf of Mexico Alliance, and completion of the Mississippi Waterfront feasibility study.

As the post-Katrina and Rita Disaster Recovery programs come to an end, the members of the Board of the Commission take this opportunity on behalf of the five Gulf States, to express their gratitude to the U.S. Congress and to NOAA Fisheries for the recovery funding opportunities made available through these supplemental grants. There is little doubt that the storms of 2005 left their marks on the marine fishery industries of the Gulf Coast. There is also little doubt that, without the financial assistance made available by Congress in the aftermath of these storms, the Gulf Coast commercial seafood industry and related recreational and tourism industries would have been the last economic and cultural aspects of the Gulf Coast to return to pre-storm character.

OIL DISASTER RECOVERY PROGRAM (ODRP)

Ralph E. Hode, Fisheries Disaster Program Coordinator

The Oil Disaster Recovery Program (ODRP), which was authorized by Congress October 1, 2010, continues to move forward in all of the elements as approved by the ODRP Ad Hoc Committee which consists of the Marine Directors from each of the five Gulf States. Twenty three sub-awards, contracts, or contract amendments, are currently in place which address Marketing, Sustainability and Traceability; Seafood Testing, and an expanded Kemp's Ridley assessment.

Marketing Element

The Gulf Seafood Marketing Coalition (Coalition), under the guidance and direction of the Gulf & South Atlantic Fisheries Foundation, Inc. (GSAFF), continues to promote Gulf seafood through multiple venues calling on the expertise of its professional consulting team with advice and oversight from the Coalition membership.

Retail and Restaurant Activities

Additional funding was approved by the Ad Hoc Committee in 2012 for enhanced partnerships with the retail sector. The program was well received throughout 2013, with partnerships having been implemented with HEB in Texas; Rouses in Louisiana, Mississippi and parts of Alabama; and Hannaford's in the northeast. The Coalition also worked with a number of other retailers across the country for point of sale partnerships. Retailers such as Fairway Markets, Wegmans, Schnucks, Kroger, Publix, Safeway (a possible partnership with TABASCO), Fish City Grill, Red Lobster, Whole Foods, and Seasons 52 were included. Expectations are that this growing interest will result in additional partnerships during 2014.

Under the partnerships, Point of Sale Materials (POS); resource guides addressing species seasonality, flavor, texture, cooking and similar information; as well as counter cards, door clings, ice picks, logo clings, recipe cards, and in-store training guides, were provided by the Coalition to promote Gulf products. In turn, participants agreed

to utilize products verified (traceable seafood) to be from the Gulf.

Concurrently, GSAFF and Gulf States Marine Fisheries Commission (Commission) staff worked collaboratively in support of a Mississippi Hospitality and Restaurant Association (MHRA) initiative to promote traceable wild caught Gulf shrimp using the Commission's Gulf Trace program and the Gulf Seafood Marketing Coalition logo. The MHRA received funding from BP with the objective of promoting Mississippi restaurants which utilize traceable wild caught Gulf products. Expectations are that this initiative will be conducted again in 2014.

Additionally, the Coalition will have a presence at the 2014 Boston Seafood Show where the emphasis will be on "What the Coalition is doing" in its efforts to promote Gulf products.

Public Relations Activities

Media relations continued through 2013 with the Coalition's media consultant creating a Gulf presence through media opportunities such as segments with "FOX and Friends", an American early morning TV show which features morning news plus a variety of segments including interviews and public interest stories; and "Eating Well", a magazine that focuses on healthy recipes, healthy eating and healthy cooking. The latter is expected to release early in 2014 featuring New Orleans Chef Brian Landry. A similar project with the Florida "The Daily Buzz" featuring Chef Justin Timineri and Gulf shrimp is also expected in 2014. Plans were also put in place in 2013 for a one-on-one familiarization (FAM) tour with representatives from Southern Living Magazine to provide firsthand experiences involving the seafood culture of the Gulf and to show how Gulf products are harvested and processed.

Matte releases which influence public perception and knowledge about Gulf seafood were prepared

during the year for release/distribution during the 2014 annual program of activities. These reflect subjects such as special recipes, trends, and activities, or points of interest that emphasize Gulf products. Through September 2013 a total of 504 matte releases had been distributed to newspapers, magazines and other media across the U.S. and were seen by an estimated 38M readers.

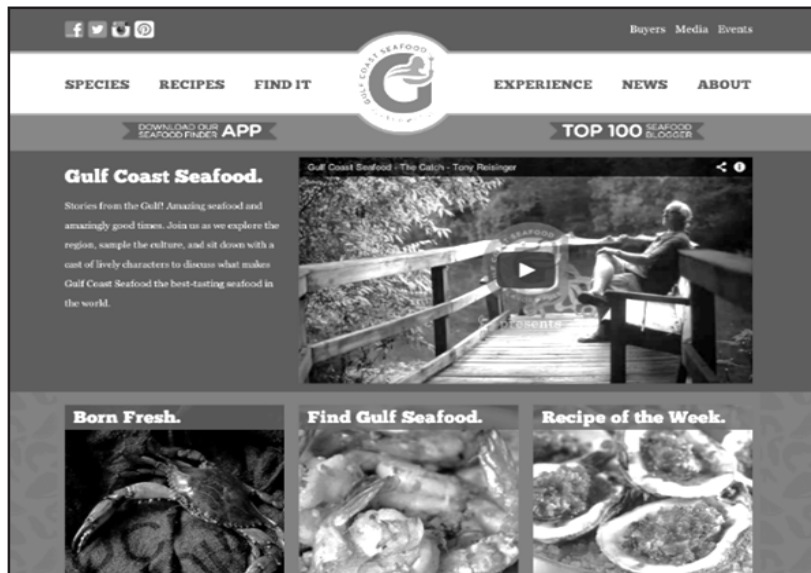
Media crisis management is another area where the Coalition actively promoted Gulf seafood by addressing negative or unfounded media reports. Both digital and written materials that refer to the fact that Gulf seafood is monitored daily; and, where negative or unfounded materials appear, appropriate responses are collaboratively developed with the guidance of the Coalition’s Executive Committee and its media consultant. In 2013 under this element, articles pertaining to *Vibrio* and the Gulf oyster were well addressed via qualified feedback from the scientific sector as well as the industry proper and included a fact sheet on oysters and a toolkit to effect positive scientific based media responses. While the *Vibrio* concern appears to have subsided for the time being, the Coalition’s media consultant continues to monitor the issue and will respond as necessary.

Coalition Website, Social and Creative Activities

The Marketing Coalition website was revitalized in 2013 to include a new smartphone based “**Find it**” feature which provides a listing of retail stores, restaurants, and wholesalers that carry Gulf Coast seafood by geographical areas, an **Enhanced Recipe Finder** that provides hundreds of recipes developed by local chefs and connoisseurs of Gulf seafood, and **Spotlight Videos** in which Gulf Coast personalities share their unique coastal experiences.

Six videos were developed to provide insight into the culture of seafood in the Gulf. They feature well recognized people like Tony Reisinger, a

Texas Sea Grant marine biologist who shares his love of art and seafood; Chris Hastings who is a James Beard Award winning chef and restaurateur who provides his “...expert take on why Gulf Coast Seafood’s distinct flavor is superior”; Duke Bardwell, as he reminisces and sings the praises of the world’s best seafood; and Chef John Folse and fellow Gulf Coast restaurateur Bob Baumhower who share experiences which introduced them to the world’s best seafood. The most recent videos include Martha Foose and John Currence, also James Beard Award winners, who recall their



experiences as they prepare specialty dishes, and Tucker Fitz-Hugh and Martie Duncan, final four contestants in The Food Network Star, a reality television series produced by and aired on the Food Network in the United States that awards the winner his or her own series on the Food Network. All of these videos have been professionally prepared and each tells a unique and enticing story about Gulf seafood with hints about the culture here on the Gulf Coast.

Social and Creative activities also continue to be an integral component of the Gulf Marketing initiatives and involve management and maintenance of the Coalition’s social media activities. This element is responsible for content management of the Coalition’s website as well as for collaborative content management involving both the state and regional public relation agencies. It is through

this collaboration that the efforts of individual state marketing and public relation strategies are recognized as an integral element of the regional marketing initiative.

Web Based Marketing – Market Maker

MarketMaker is a national partnership of land grant institutions and State Departments of Agriculture dedicated to the development of a comprehensive user interactive database of food industry marketing and business data. It is currently one of the most extensive collections of searchable food industry related data in the country. The site was created in 2004 by a team from University of Illinois Extension with the intention of building an electronic infrastructure that would more easily connect food producing farmers with economically viable new markets.

Market Maker became a program of choice under the Oil Disaster Recovery Program in 2011 to enhance opportunities for seafood harvesters, micro or specialty added value processors, or seafood distributors to connect with other retail or wholesale businesses across the region or country. According to studies conducted by Dr. Ben Posadas of the Mississippi State University Extension Service in 2013, the number of businesses registered in the program in the Gulf States increased from approximately 93,000 in 2010 to nearly 222,000 in 2013.

Inclusion of the Gulf marine seafood component has contributed to increased usage of the Gulf sites, and is unique not only to the Gulf, but also to the overall national Market Maker program. According to the study, use of the MM website for the marketing of local seafood products is most pronounced in the five Gulf States and use of the program appears to be gradually increasing as seafood specialty businesses take advantage of no-cost advertising opportunities. Participants include local retailers, fishing guides, and charter boat services, as well as smaller wholesale distributors, and promoters of value-added products originating from the Gulf.

Facilitation and outreach for the program is

provided in part through the ODRP by the Sea Grant Colleges - Extension Services across the Gulf.

Port Direct Marketing

Louisiana Direct Seafood is a marketing initiative administered by the LSU Ag Center in collaboration with Louisiana Sea Grant. Their original mission was to help stabilize coastal fishing communities that were faltering because of the need to compete with imported seafood prices and increased costs per unit of effort at the harvest level. The initiative focused not only on freshness and availability of product to consumers, but also on delivery of high quality products that demanded premium prices.

The Delcom Direct initiative was a collaborative effort with the City of Delcambre, Louisiana and its port community to revitalize a faltering seafood based economy. It ultimately became a catalyst for the development of the Louisiana Direct Seafood Program through which the Delcambre model has been utilized in additional areas of south Louisiana to make fresh seafood readily available to area residents and businesses. Additional opportunities of this nature are being explored in the Cameron area in southwest Louisiana.

The revitalization of the Port of Delcambre, Louisiana and the evolution of a Vermillion Bay Sweet brand, a select shrimp peeled and packaged for niche markets, are seen as measurable successes stemming, in part, from funding through the ODRP marketing initiative. Most recently, a Vermillion Bay Sweet Black Drum has been introduced into



area restaurants and supermarkets such as Rouses and Whole Foods. As a result, a species, which for many years was considered a side catch with little commercial value, is now demanding premium prices.

Culinary Events

Other events funded through the ODRP under the Marketing element include the annual Oyster Industry Council meeting and promotion in Washington, DC and the annual Great American Seafood Cook-Off (GASCO) in New Orleans, Louisiana. Both elements are managed by the LDWF Foundation through the Louisiana Seafood Promotion and Marketing Board. The third and final event hosted by the Louisiana Oyster Industry Council was completed in January 2013. The final GASCO event was completed in New Orleans at the Louisiana Foodservice and Hospitality Expo in August 2013.

Sustainability and Seafood Traceability

Element

The sustainability certification and seafood traceability element of the ODRP is designed to meet current demands upon the industry for assurances that Gulf products are both sustainable (as measured against accepted standards) and that they originate from the waters of the U.S. Gulf of Mexico. Actions which are currently in place to meet these demands are described below.

GAP Analysis Component

State Assessment

The GAP analysis component of the ODRP was developed to examine how well Gulf marine fishery resource management programs and stock assessment systems are aligned with guidelines developed by the Food and Agricultural Organization of the United Nations' (FAO) Code of Conduct for Responsible Fisheries, as well as federally mandated standards under the Magnuson–Stevens Fishery Conservation and Management Act of 1976 to prevent overfishing. This analysis focuses on the assembly and provision of information, which when compared to these guidelines and regulations, provides a measure of sustainability for Gulf fisheries. Included with this responsibility is the identification of “Actionable Items” that

may be necessary to achieve a sustainable rating suitable for eco-labelling purposes based on FAO criteria.

To date, regulatory and management information/data for all five Gulf states, as well as NOAA Fisheries, has been collected as part of the GAP analysis and is being assimilated in matrix format for comparisons against FAO guidelines. Preliminary data reports are being forwarded to both the Commission as well as Audubon's Gulf United for Lasting Fisheries (G.U.L.F.) for use in development of Marine Advancement Plans (MAPs) which are expected to offer alternatives for compliance solutions and voluntary plans of action that may be used to address industry weaknesses defined in the GAP analysis. Both the GAP contractor (Ocean Trust, LLC.) and the sustainability certifications contractor (Audubon Nature Institute) are expected to work collaboratively to interpret findings developed as a result of the GAP analysis. Final state assessments are being analyzed and final GAP reports and findings continue to be developed with an expected completion date set for June 2015.

Gulf Seafood Trace Program

Gulf Seafood Trace (GST) has been making waves since its rollout in March 2012 and has come a long way in educating consumers about electronic traceability and engaging the industry in efforts to help communicate that U.S. Gulf of Mexico seafood is safe and sustainable. As of the end of 2013, 38 processors, 19 dockside facilities, and eight distributors were enrolled in the program and were actively providing trace information via Trace Register on products arriving at the docks and making their way to the consumer. Twelve of these had joined since March 2013. Additionally, there were 987 fishing vessels which had landed product at docks and entered catch into the electronic trip ticket system that was subsequently sent downstream via Trace Register. Current indications are that, through the end of 2013 over 66M lbs of seafood had been collectively traced through the program, up 22M lbs since March 2013. In some cases, GST has helped increase business by 18%.

Various partnerships have also been formed since the program’s inception, including one with the Gulf Seafood Marketing Coalition, which has proven to be very successful in engaging customers and putting electronic traceability at the forefront of consumer education. Since February 2013, this partnership has produced three promotions with supermarket chains such as HEB Foods, Rouses, and Hannaford Foods.

The Coalition and GST also partnered with the Mississippi Hospitality and Restaurant Association (MHRA) to provide electronic traceability and assurance for a dining campaign that promoted Gulf seafood in Mississippi restaurants. The “*Every Shrimp Has a Tale*” dining campaign ran from September 8, 2013 through November 23, 2013 with 55 participating restaurants. The promotion was the first of its kind, integrating a multi-faceted marketing campaign and electronic traceability at the restaurant level. A total of 11,515 lbs of traceable Gulf shrimp was purchased throughout the promotion, and consumers had the ability to scan a Quick Reference (QR) code located on various marketing materials to trace their shrimp’s trail from its origin in the Gulf all the way to their plate. The results were successful and encouraging as MHRA reported positive feedback from both participants and the grant sponsor.

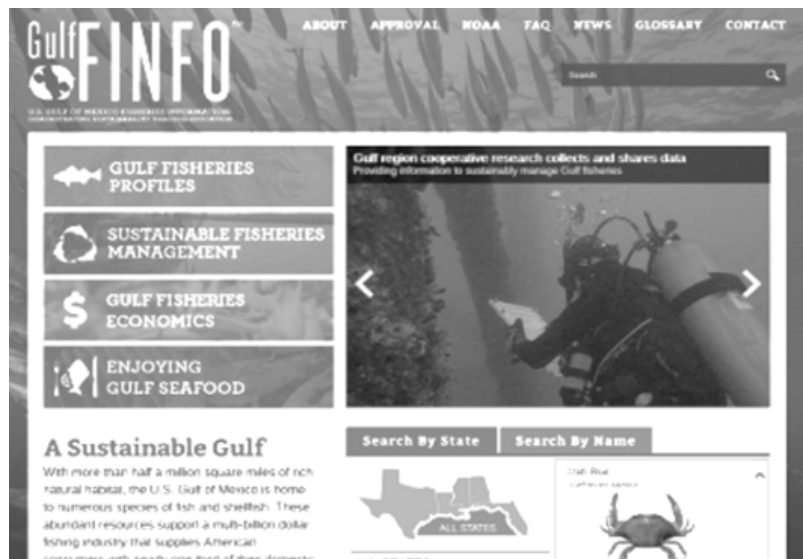
Outreach via various platforms has been performed by GCR Inc., including videos, presentations, certificates, letters, and surveys. The GST “*Your Seafood Has a Story*” video won two bronze Telly Awards in 2013 and has been promoted via press releases and social media. Outreach via presentations included the Louisiana Restaurant Association Expo and the Hancock County Chamber of Commerce.

Beyond outreach and partnerships, GST consistently educates the public through social media. Facebook and Twitter advertising campaigns were performed to help draw attention to the program and potentially enroll more

businesses. Website updates were completed in 2013 as well as a revamped homepage to include a “Who’s on Board” page.

Gulf Fisheries Information – FINFO

In 2013, the Gulf saw a milestone with the activation of a one stop web based information portal. The Commission worked with the five Gulf States’ fishery management agencies to create a website that will serve as a web-based portal for all harvested Gulf species, putting credible, easy to understand, science-based information about Gulf seafood in the hands of consumers, buyers, and industry members alike. Justification for the project was found in the fact that there is need to carry the same level of federal fisheries information that is currently contained in NOAA’s FishWatch to the state and regional level for state waters of the Gulf of Mexico. The site will provide a comprehensive source for Gulf fisheries information including species descriptions, harvest information, landings, economic contributions, management plans/regulations, population statistics, and marketing efforts; and will also include links back to individual state web pages and/or informational sites. By broadcasting the status of the Gulf fisheries through the presentation of reliable data



and science, the site will communicate the hard work and success of the agencies tasked with fisheries management and promotion.

While the site continues to be enhanced, it was officially completed by the end of 2013 in time for a programmed roll-out at the Boston Seafood Show in March 2014.

Sustainability Certification – Audubon Nature Institute’s G.U.L.F.

Maintaining and improving market share by demonstrating consistent advancement towards sustainability in accordance with standards developed by the Food and Agricultural Organization of the United Nations’ (FAO) Code of Conduct for Responsible Fisheries Management (RFM) is the goal of this initiative. This approach to defining sustainability is becoming an increasingly acceptable “interim alternative” to full sustainability certification. The objective of this program is to create achievable, affordable, and market-accepted avenues to sustainability through the creation of Marine Advancement Plans (MAPs) for Gulf of Mexico marine fisheries.

This is being accomplished through a recently executed contract with the Audubon Nature Institute’s Gulf United for Lasting Fisheries (G.U.L.F.). Under this agreement, G.U.L.F. is working in collaboration with other Gulf institutions for the development of information programs aimed at communicating sustainability to a broad cross-section of Gulf fisheries industry and the community at large, and the positioning of select fisheries for independent entry into those activities necessary for third party sustainability certifications where desirable and reasonably achievable.

Both G.U.L.F. and Commission staff worked collaboratively for several weeks in an effort to clearly define a course of action and expected end products in order to ensure non-duplication of effort, collaboration between this initiative and other ongoing ODRP initiatives, and broad-based stakeholder involvement, including state marine agencies. G.U.L.F. expects to develop at least ten MAPs with the support of industry, management, and the retail/distributor sectors over the next two years. In order to ensure state management involvement and collaboration, individual MAP development proposals will be

endorsed by the ODRP ad hoc committee prior to initial development. Development will begin with consultation and input from key decision makers, scientists, and fishery managers at the state level. The first of these initiatives began with the blue crab industry in Alabama and is expected to move to Mississippi, Florida, and Texas during the remainder of the grant period.

Concurrently, G.U.L.F. developed a web-based public information portal in 2013 which addresses the status of select fisheries within the Gulf, including those undergoing improvement and those undergoing full certification. It is expected that the website will serve as an information base for the retail sector as it considers the level of sustainability for wild-caught Gulf products that may be acceptable under varying individual company requirements for certifications.

Seafood Testing Element

As part of the overarching mission to effect change in the perception of Gulf seafood, testing contracts were executed under the ODRP with the Mississippi State Chemical Laboratory (MSCL) in Starkville, Mississippi and with the Alabama Department of Public Health, Bureau of Clinical Laboratories (ADPH-BCL) in Montgomery, Alabama for the installation of necessary equipment, supplies, training and analysis of Gulf seafood samples. The purpose of seafood testing is to ensure the quality of Gulf products and to provide data on which sound management decisions are made.

A combined total of 885 tests have been conducted by the Alabama lab since the testing program began in October 2011 with 226 having been conducted during the past five months. Important and integral to the Alabama testing component was the acquisition of a Liquid Chromatograph (LC) during the past six months that replaced outdated equipment in the lab, enhancing the lab’s capabilities to rapidly respond to coastal testing needs.

MSCL continues in its collaborative effort with the Mississippi Department of Marine Resources (MSDMR) and the Mississippi Department of Environmental Quality (MSDEQ), to conduct

tests on Mississippi seafood. Samples consisting of shrimp, crab, oysters, and finfish continue to be collected by the MSDMR and sent to MSCL on a monthly basis. A combined total of 569 samples have been collected and tested from Mississippi waters since 2011; with 178 of these having been collected in the past five months.

The goal of these investigations is to gather long-term information on the levels of PAHs and Corexit® in Gulf seafood following the *Deepwater Horizon* oil spill. To date, a total of 1,454 samples have been tested from both Alabama and Mississippi waters. Both labs report that levels of contaminants detected through 2013 were below the FDA public health Levels of Concern (LOCs). Further, reports from the Alabama Lab indicate that “... *the four matrixes investigated remain at levels similar to those detected in the commonly consumed processed foods on the market. In addition, there is an insignificant concentration difference between PAHs detected in the oyster samples for the current study and the 10-year historical data from the NOAA Mussel Watch program.*”

Indications are that similar tests are being conducted by the remaining Gulf States independently of the ODRP.

Other Elements

Kemps Ridley Stock and Shrimping Interaction Assessment

A preliminary review of findings of the Kemps Ridley Stock Assessment was presented to the Commission Technical Coordinating Committee (TCC) in March, 2013. During the report, Dr. Galloway indicated that, while there is evidence of both increased abundance and mortality, the study did not include the 2012 shrimp landings, which were unavailable at the time and which would have added further credibility to the study’s projections. The final report was completed in June, 2013, and has been posted on the Commission website.

During the October 2013 meeting, the ODRP ad hoc committee approved additional funds to re-run the model to include the 2012 shrimp landings, and to fund the cost of a 2014 Kemps tagging and aging project at the Rancho Nuevo nesting grounds. The

tagging program was approved in order to further assess age distribution in the Gulf and to better improve nesting predictions.

Analysis of offshore and inshore shrimping effort was completed in December 2013. Preliminary findings indicated that:

- Total offshore effort in 2012 was 70,505 nominal days fished as compared to 66,641 nominal days fished in 2011
- Total inshore effort in 2012 was 31,615 nominal days fished as compared to 55,027 nominal days fished in 2011 - a decrease of 23,412 nominal days

(Note: Due to the lack of shrimping effort data for 2012, the 2013 model assumed that 2012 effort would be the same as in 2011. In fact, 2012 offshore effort increased by nearly 4,000 nominal days while the inshore effort decreased.)

The report indicated that the model will be re-run in the first quarter of 2014, taking into account the 2012 shrimping effort and anomalies in temporal nesting characteristics that appeared between 2009 and 2012.

ODRP Budget Summaries - 2013

The ODRP program is currently 62.6% into the grant time period and approximately 54% (\$8,077,099) into budgeted expenditures (\$14,985,000). Contracts for the development of Marine Advancement Plans, an expanded Kemps ridley stock assessment, Phase II of both the FINFO project, and the GAP analysis reflected minimal spending because they are relatively new and associated costs have been low.

All other elements and/or sub-components, including the traceability component and its related outreach element, both traditional and non-traditional marketing components, and seafood testing appear to be on schedule in terms of time and budgeted expenditures.

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

The Stock Assessment Enhancement (SAE) Program 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 were appropriated to the Commission via a cooperative agreement in October 2010. In 2013, 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 assess 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 pogy, snowy grouper, speckled hind, and Warsaw grouper. In 2013, FIN samplers collected over 20,000 otoliths from almost 25 species.

SPORT FISH RESTORATION ADMINISTRATION PROGRAM

James R. Ballard, Program Coordinator

The Gulf States Marine Fisheries Commission (Commission) provided administrative support for the “Sport Fish Restoration Administrative Program,” FWS Grant Agreement No. GS-96-Segment 16. The Commission 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 Commission 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 continued 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 provided the opportunity to address issues of national scope and importance. Currently the two Subcommittees are working on revising their 2004 publication “*Guidelines for Marine Artificial Reef Materials: Second Edition*”.

Gulf-wide Artificial Reef Monitoring Program

The Program Coordinator worked 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 man-made disasters in the future, and to understand how their reefs are functioning over time, compared to natural reefs.

At their March 2013 meeting in Tampa, Florida, the Artificial Reef Subcommittee discussed which gear types to incorporate into the standardized protocol. They ultimately decided to incorporate vertical longline, side-scan/multibeam sonar, Chevron traps with GoPro cameras, camera array, and bottom longline (where permissible). The Program Coordinator acquired examples of sampling protocols currently being used in the Gulf, utilizing the different gear types listed above, and will use these examples to draft the standardized sampling protocol. Once drafted, it will be provided to the Subcommittee for their review.

Artificial Reef Website and Bibliography Database Activities

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

Invasive Species Activities

The Program Coordinator continued to work in conjunction with the National Aquatic Nuisance Species Task Force (ANSTF) to determine appropriate actions and roles for the Commission and its member states in addressing invasive species issues. In addition, the Commission provided administration for, and participated 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 Commission continued to host the GSARP's website. The website address is <http://www.gsarp.org>. It can also be accessed by going to www.gsmfc.org and clicking on "Aquatic Invasive Species Program" in the description of the Sport Fish Restoration Administration Program. During 2013, 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

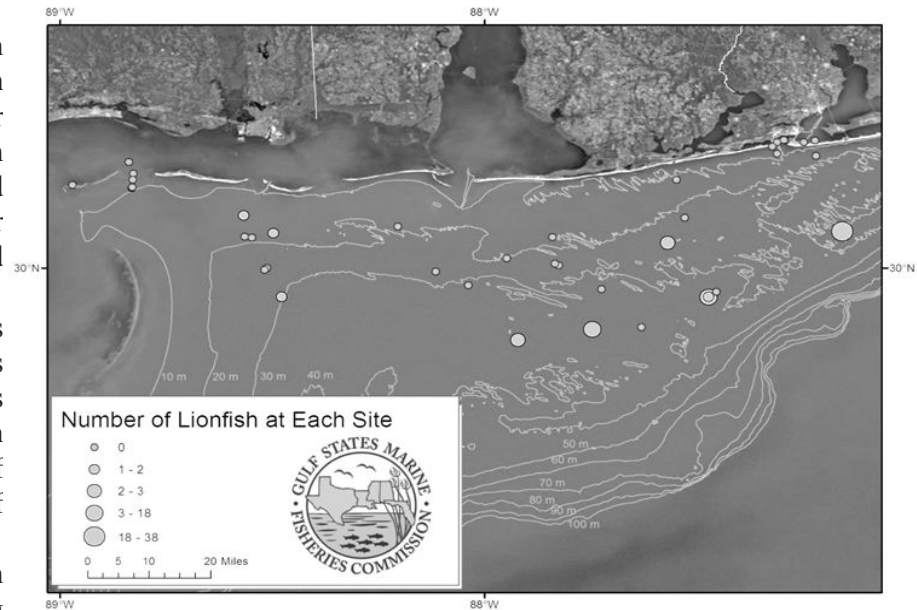
The Program Coordinator secured funding for the Mississippi Bight Lionfish Response Unit (MBLRU) through a USFWS branch of invasive species proposal. This new project was a cooperative effort between the Commission, Mississippi DMR, Alabama DNR, the National Park Service, and the U.S. Fish and Wildlife Service. The objectives of this new project were to:

1. Establish a lionfish monitoring program at 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.

In the time period covered by this report, the group conducted over 50 dives to monitor and track the invasion, and removed 76 lionfish between Pensacola, Florida and the Mississippi River Delta. All data collected from these dives, including information about the density and richness of associated species from the diver surveys, was entered into a database developed by and housed at the Commission. Preliminary analysis and mapping of this data was conducted. One of the resulting maps is provided below. Outreach materials (example provided below) have been developed and distributed to dive shops, boat access points, and marine agencies across the project's range to help with outreach about the seriousness of this invasion and to facilitate reporting.

Due to unforeseen problems with staffing at the Mississippi DMR, they were unable to carry out



their component of the project. Because of this, that portion of the grant and Mississippi's sub-award was extended to provide them with adequate time to conduct the dives in the western range of the study area.

The goal of this project was to give managers a

ATTENTION SPEARFISH HUNTERS!

HELP PROTECT THE GULF OF MEXICO

PLEASE KILL LIONFISH
(*Pterois volitans*)

INVASIVE LIONFISH:
Native to Indo-Pacific region
Have few, if any, natural predators
Feed on young snapper and grouper
Extremely rapid rate of reproduction
Larvae drift into new areas with current
Cause large declines in native fish stocks

TO REPORT SIGHTINGS:
report.invasive@mblru.org
or
1 877-STOP-ANS

For more information please visit the Mississippi Bight Lionfish Response Unit website:
http://www.mblru.org

CAUTION
Sharp Spines on Top and Bottom Fins Can Cause Painful Stings
Seek Medical Help if Stung

Native Fish With Similar Features
Sea Robin
Gulf Tomcod
Sargassum Fish

Associated Meetings	
3/6-7/2013	Joint GSMFC's and ASMFC's Artificial Reef Subcommittees Meeting
3/19-21/2013	GSMFC Annual Spring Meeting
9/10-12/2013	American Fisheries Society Annual Meeting
10/2-3/2013	Gulf and South Atlantic Regional Panel on Aquatic Invasive Species Meeting
10/14-17/2013	GSMFC Annual Fall Meeting
11/5-7/2013	Aquatic Nuisance Species Task Force Meeting

clearer picture of where we stand in regards to the invasive lionfish population in northern Gulf waters, and provide much-needed information for future management decisions.

The preliminary year of this pilot project was a great success. Not only was the group able to address the majority of the project's objectives, but there were also unanticipated benefits as a result of it. For example, in the state of Alabama, coordination was enhanced between DNR fisheries staff and marine law enforcement personnel, resulting in the leveraging of law enforcement staff-time and their resources (boats and dive equipment) to carry out the dives. This coordination also benefited the law enforcement division, providing their staff with the dive time needed to maintain certifications. Because of all of the beneficial results realized by a relatively small amount of money, the Program Coordinator is working on securing funding to support this project for another year to assess any changes in lionfish density at the sites visited in 2013.

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 once during 2013 on April 10-11 in Atlanta, Georgia. The fall meeting of the GSARP that was scheduled for October 2-3, in Raleigh, North Carolina, had to be cancelled at the last minute due to the government shutdown. As a result, the Gulf States Marine Fisheries Commission (Commission) hosted the Aquatic Invasive Species in the Southeast meeting with all of the non-federal members of the panel. This meeting was held to maintain the program's consistency and to ensure that all of the money that had already been spent on travel and in contracts with the hotel would not be wasted.

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 Commission, 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 Commission 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 GSARP members collaborated 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 207 and in 2013 there were approximately 400. The decrease in 2012 was most likely the result of reporting fatigue, as opposed to less individuals being collected. The rebound in reports in 2013 represents an increased effort in outreach to the shrimping industry on the importance of reporting collections of *P. monodon*, and shows that this species is still being collected in high numbers. Along with increasing in abundance, it appears that *P. monodon* 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 set up a tissue repository and started to run genetic analyses on the samples to get a better understanding of the population genetic structure. The preliminary results of this analysis showed very little genetic variation, suggesting that individuals of the population are highly related or inbred. The group plans 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) of the National Aquatic Nuisance Species Task Force (ANSTF) coordinated by the Commission's ANS Program Coordinator continued to develop the "National Invasive Lionfish Prevention and Management Plan" (Plan). The ILCAC is made up of 22 members from federal and state agencies, universities, NGOs, and the pet trade industry. The ILCAC is currently completing their final review of the Plan and when complete, they will send it to the ANSTF for review. The vision of the plan would be to serve as a guide to the ANSTF and other interested parties involved in managing lionfish and natural resources in U.S. waters.

The Commission's database manager has developed a new database to house data collected during the 2011 TexRAT in Galveston. Next he will merge the old database that has all of the data from the MS/AL RAT with this new one. Once that is complete, the Program Coordinator will work on acquiring and entering the data from the RAT that was carried out in Louisiana. This will provide one central location for all RAT data that has been collected in the Gulf States.

Invasive Species Traveling Trunk

Three trunks were produced and made available to the public at no charge through a subcontract that was completed in 2012. Since the trunks were made available in July of 2012, they have been utilized by over 25 different organizations ranging from federal and state agencies, schools, and NGOs that have presented the enclosed material to thousands of people across the U.S. The reviews have all been very positive, and there is still demand to utilize the trunks.

GSARP Member States ANS Management Plans

Georgia, Louisiana, Mississippi, South Carolina, and Texas completed plans and are actively implementing them. Alabama's plan was conditionally approved pending incorporation of some minor recommendations from the ANSTF. Florida has a completed plan, but it has not been approved by the ANSTF. North Carolina was in the preliminary stages of formulating their plan.

Logistical and Administrative Support for the GSARP Committees and Work Groups

The GSARP had several work groups directed toward providing advice and guidance on selected subject matter. These groups required meetings and/or telephone conference calls from time to time, and the Commission 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 were the responsibility of the staff.

The panel's Rapid Response Work Group drafted a new rapid response plan that incorporates the Incident Command System and elements of other

plans used across the country. The Work Group went through several reviews and drafts of this new plan and hopes to have it finalized in 2014.

Subcontract Awards

1. 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 260 primers were designed for screening and are 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. This project was completed at the end of 2013 and the Principal Investigator (PI) will be providing a final report to the GSARP at their 2014 spring meeting.

2. Reproductive Sterility as a Tool for Prevention and Control of Invasive Aquatics:

Throughout the early part of this project, the PI found that the potential for generating radiation-induced sterility in apple snails for the purpose of producing sterile aquarium snails is low because of the high mortality associated with the dose of radiation required to make apple snails reproductively sterile. Consequently, in 2013, two genetic approaches were undertaken to generate sterile snails. In one approach, drugs affecting chromosome stability were injected into the gonad of snails in an attempt to produce sterile triploids. In a second approach, genetic recombination was used to produce chromosomal translocations conferring sterility as an alternative to radiation.

Thus far, attempts to generate polyploidy snails by drug injections into the gonad have proven to be unsuccessful. Colchicine injections into

the gonad cause changes in ploidy within the gonad (as measured by flow cytometry of treated cells post-treatment); however, this did not cause changes in the ploidy of progeny generated from these snails. These negative results may be a consequence of the drug having toxic effects on the gonad tissue such that affected germline cells are killed, or it may be that drug concentration and timing are not sufficiently optimized to see the effects of chromosome changes in the progeny.

The second approach to sterility involved a new method to create chromosome translocations without radiation, using genetic recombination. This required that specific DNA sequences were introduced into the snail genome in order to cause breaks and rearrangements in chromosomes at specific locations. As a first step in this process, studies in 2013 focused on techniques to get DNA into the snail germline. Thus far, lipotransfection of DNA into gonad cells was attempted with two different DNA sequences, but neither was detected in the genome of snails (either in gonad tissue or in progeny of treated snails). This was not unexpected because the efficiency of DNA transfer into cells (cells of all types, not just mollusk cells) is low even under optimal conditions. This project was completed at the end of 2013 and the PI will provide a final report to the GSARP at their 2014 spring meeting.

Associated Meetings	
April 10-11, 2013	Gulf and South Atlantic Regional Panel on Aquatic Invasive Species Meeting
October 2-3, 2013	Aquatic Invasive Species in the Southeast Meeting
November 6-7, 2013	National Aquatic Nuisance Species Task Force Meeting

SOUTHEAST MONITORING AND ASSESSMENT PROGRAM (SEAMAP)

Jeffrey K. Rester, Program Coordinator

In 2013, SEAMAP operations continued for the thirty-second 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 2013 activities included SEAMAP information services and program management.

The SEAMAP Winter Plankton Survey took place from February 1 - 28, 2013. NOAA Fisheries collected ichthyoplankton samples at 107 SEAMAP stations. The objectives of the survey were to assess the occurrence, abundance, and geographical distribution of the early life stages of winter spawning fishes from mid continental shelf to deep Gulf waters; measure the vertical distribution of fish larvae by sampling at discrete depths in the water column using a one-meter Multiple Opening and Closing Net Environmental Sensing System (MOCNESS); and sample the size fraction of fishes that are under-represented in bongo and neuston samples using a juvenile (Methot) fish trawl.

The SEAMAP Spring Plankton Survey was conducted from May 1 - 29, 2013. One hundred thirty-seven stations were sampled by NOAA Fisheries, Mississippi, and Louisiana during the survey. The objectives of the survey were to collect ichthyoplankton samples for estimates of the abundance and distribution of Atlantic bluefin tuna larvae, and collect environmental data at all ichthyoplankton stations.

The Inshore Bottom Longline Survey was conducted monthly from March through October. This nearshore survey targeted shark and finfish species within the shallow waters of the north central Gulf of Mexico. The objectives of the survey were to collect information on coastal shark and finfish abundances and distribution with

a one-mile longline and to collect environmental data. Mississippi sampled 48 stations from March through October and Alabama sampled 24 stations during the same period. Louisiana sampled 58 stations from March through September. Texas sampled 20 stations from June through September 2013.

In 2013, Louisiana and Alabama conducted vertical longline sampling for reef fish. In Alabama, a total of 12 grids were fished per survey. Vertical longline reels were baited with Atlantic mackerel and were fished for five minutes. Fish were retained and processed for age and fecundity. All fish were sacrificed for otoliths at stations deeper than 60 m. In water depth less than 60 m, stations were assigned as tag and release or collection sites. Sixty-six stations were completed in May and August 2013 off Alabama. In Louisiana, the sampling frame was 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 was sampled quarterly in a rotation. Within these sampling blocks, there was a possibility of randomly selecting 40 different corridors within the block. The actual sites were randomly selected within the corridor boundary and sampled at the chief scientist's discretion. The sites roughly consisted of artificial reefs, natural bottom, and petroleum production platforms. During 2013, Louisiana sampled 150 stations from February through October.

NOAA Fisheries and Florida conducted reef fish sampling from April through August 2013 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 used video stereo cameras and chevron fish traps to sample reef fish populations. In August 2013, Florida sampled 71 stations on the west Florida shelf.

NOAA Fisheries conducted reef fish sampling in April through June 2013 and completed 312 stations.

The overall sampling strategy during the 2013 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 June 3 to July 14, 2013. Florida, Alabama, Mississippi, Louisiana, Texas, and NOAA Fisheries sampled 392 trawl stations during the survey. This was the thirty-second 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 provided 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 Survey was conducted in August and September 2013. NOAA Fisheries sampled 160 stations; Alabama sampled three stations; Louisiana sampled nine stations; and Mississippi sampled seven 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 from October through December 2013. Vessels from Texas, Louisiana, Mississippi, Alabama, Florida, and NOAA Fisheries sampled 289 stations in 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.

HABITAT PROGRAM

Jeffery K. Rester, Program Coordinator

During 2013, the Habitat Program Coordinator continued work on the Gulf States Marine Fisheries Commissions (Commission) Blue Crab Technical Task Force as the habitat representative. In July, the habitat section was completed, detailing blue crab habitat throughout the Gulf of Mexico along with a section detailing threats to these habitats.

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.

During 2013, the Program Coordinator continued to provide management of this project as well as GIS expertise. A final report was released in June 2013. Results from the project revealed that, based upon data beginning in 1966, the number of nests increased exponentially through 2009 when 19,163 nests were observed at the primary nesting beaches in Mexico. In 2010, the observed numbers of nests plummeted to 12,377, a 35% reduction. Prior to 2010, the average rate of increase had been on the order of 19%. In 2011 and 2012, the preliminary estimates of nests observed were 19,368 and 20,197, respectively. Researchers estimated that the female population size for age 2 and older Kemp's ridleys in 2012 was 188,713 turtles. Researchers assumed that females comprise 76% of the population; therefore, the total population of age 2+ Kemp's ridley is estimated to have been 248,307 turtles.

The final report recommended that a current size distribution of nesting turtles was needed and would greatly enhance the ability to quantify a maturity schedule by age. Additionally, researchers wanted to tag an additional 300 new Kemp's ridley sea turtles and examine all nesting females encountered for previous tags. Researchers also wanted to obtain the 2012 Gulf of Mexico shrimp fishing effort and revise the stock assessment model with updated 2012 shrimping effort data and 2013 sea turtle nesting data. The Commission funded this effort in August 2013. Work continued on this project, and the revised stock assessment should be completed in early 2014.

Section 1604 of the RESTORE Act authorizes the National Oceanic and Atmospheric Administration, in consultation with the U.S. Fish and Wildlife Service, to establish and administer the Gulf Coast Ecosystem Restoration Science, Observation, Monitoring, and Technology Program. The program is commonly known as the NOAA RESTORE Act Science Program. The purpose of this program is to increase understanding of the Gulf of Mexico ecosystem and support its long-term sustainability, including its fish stocks, habitats, wildlife, and fishing industries.

The NOAA Science Advisory Board released a Federal Register Notice in 2013 requesting nominations for a working group to advise NOAA's RESTORE Act Science Program. The working group will provide independent guidance and review of the NOAA RESTORE Act Science Program, offering advice and recommendations to NOAA on the types of research, monitoring, observations, and technology development this program should support. The working group will also provide a mechanism for coordination between the multiple organizations conducting RESTORE-related science within the Gulf of Mexico. In October 2013, the Habitat Program Coordinator was appointed as the Commission representative to the working group.

I NTERJURISDICTIONAL 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 (FMPs).

During 2013, 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 is in the process of being finished following the completion and acceptance of SEDAR32A Gulf Menhaden Stock Assessment in 2013. As a result of the assessment, the Menhaden Advisory Committee (MAC) proposed adoption of the reference points of F35% and F30% for management of Gulf menhaden in the draft FMP, not as caps or quotas. In the event that the target was exceeded two years in a row, an immediate request would be made for an update to the stock assessment. In addition, if the threshold was exceeded in a single year, an update would be automatically requested. Finally, a benchmark assessment would be requested to include in the SEDAR or other assessment schedule on a five year cycle, in conjunction with the FMP revision. The Commission approved inclusion of the draft reference points in the FMP revision at their meeting in October 2013. The staff and the MAC continue to integrate the results and recommendations from the assessment into the FMP. There are minor editorial items throughout the nearly complete

document and it is expected that the Commission review could begin in early 2014.

The third installment of the Blue Crab FMP began in late 2011. The regional stock assessment has been completed as GDAR01 Blue Crab Stock Assessment and approved by independent reviewers from the Chesapeake. The GDAR01 Review Workshop for blue crabs took place in June, 2013, and the Final Report was released to the public on September 10. It was determined that the Gulf's blue crab population was neither overfished nor was overfishing occurring. The analysis treated the Gulf as two individual populations – an Eastern stock (Florida), and a Western stock (Alabama, Mississippi, Louisiana, and Texas). The reviewers were very complimentary on the overall assessment and the quality of the analyses conducted. It is anticipated that the FMP draft will be ready for review in early 2014. In addition to the first Gulf-wide stock assessment, the FMP includes an extensive sociology section as well as a more refined economics section, thanks to the completion of both the TTF's socio-economic survey of the Gulf crab industry and the Commission's Processor/Dealer survey conducted for the shrimp industry in 2012.

The Flounder TTF continued its update of the Gulf and Southern Flounder FMP. It was agreed by the Commission's Stock Assessment Team and the TTF that there still was not adequate dependent data to conduct a formal stock assessment. Instead, the most recent Louisiana assessment and the TPWD's current flounder assessment would be used as proxies. It is expected that this FMP revision should be completed by late fall or early in 2014.

In accordance with The Gulf of Mexico Cooperative Law Enforcement Strategic Plan, the Commission 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). 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 2013-2014*, the long standing 'red book' *Law Summary for 2012-2013*, and the annual compilation of the Gulf States' *License and Fees*.

Program administration in 2013 included financial and logistic 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 Commission IJF Program staff continued to provide numerous copies of existing FMPs, profiles, amendments, revisions, and other information upon request.

Electronic copies of all new Commission 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 regional management documents. The Program also houses programmatic reprints and support literature in the Commission's bibliography database available via the Commission 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 Commission website and provides keywords and complete abstracts when available. In addition, the Commission is hosting the Gunter Library Reprint Collection of the Gulf Coast Research Lab which is also searchable through the webpage.

FISHERIES INFORMATION NETWORK (FIN) *David M. Donaldson, Data 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: Commercial Fisheries Information Network (ComFIN) and 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 (NMFS) 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; implementing a marine commercial and recreational fishery data collection program; establishing and maintaining a commercial and recreational fishery data management system; and supporting 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 2013 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 2013. Major issues discussed during this meeting included:

- Identify and continue tasks to be addressed in 2013 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;
- Develop the 2014 FIN Operations Plan which presented the year's activities in data collection, data management, and information dissemination;
- Discuss data management issues;
- Review activities and accomplishments of 2013;
- Continue evaluation of adequacy of current marine commercial and recreational fisheries programs for FIN and develop recommendations regarding these programs;
- Review findings of and receive recommendations from technical work groups for activities to be carried out during 2014;

- Prepare and submit a proposal for financial assistance to support activities of the FIN; and
- Continue 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 March and October 2013 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 redesign, 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 2013 to discuss status of biological sampling activities; discussion of web-based commercial landing reporting; SEFSC data peer review report; adding/modifying codes to FIN DMS, federal trip ticket editing system; new MRIP intercept survey methods; status of recreational choice experiment survey; fish tags for the red snapper fishery, FINFO website; update on GMFMC Private Recreational AP meeting; status of metadata data compilation; and review of 2012 commercial data.
- The Commercial Technical Work Group met (via conference call) in April 2013 to determine the need for trip-level commercial data in the U.S. Virgin Islands.
- The FIN Data Collection Plan Work Group met (via conference call) in May 2013 to review 2012 and 2013 otolith and length data collection and processing activities, and to develop recommendations for necessary lengths and otoliths for FIN priority species.
- The annual Otolith Processor Training

Workshop was held in May 2013 to conduct otolith reading and review of FIN priority species, discuss the various reference sets, storage of otolith issues and standardized format for reporting APEs.

- The State/Federal Fisheries Management Committee met in August 2013 to determine the activities for inclusion in the 2014 FIN cooperative agreement.
- In addition, 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 provided for the coordination, planning, and administration of FIN activities throughout the year as well as recreational and commercial information for the FIN participants and other interested personnel. This is a continuation of an activity from the previous year.

Collection, Management, and Dissemination of Marine Recreational Fisheries Data

This task provided for the conduct 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 coasts). The states also conducted weekly telephone calls to a 10% random sample of the Louisiana, Mississippi, Alabama, and Florida (east and west coasts) 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.

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, an 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 2013, there were 795 commercial dealers and processors utilizing this program. This is a long-term data collection activity.

Gulf of Mexico Shrimp Fleet Effort using Electronic Logbooks

This task implemented a monitoring program for the Gulf of Mexico shrimp fleet effort using electronic logbooks (ELB) and generated effort

estimates using the monitoring data collected via these units. In addition, LGL will provide documentation of all data collection, QA/QC and estimation protocols, provide historic raw and data and data products, and collect ELB units from all vessels. This project was funded via monies from the Southeast Fisheries Science Center.

Headboat Sampling in Texas, Alabama, and Florida

This task validated catches and trip reports from headboat personnel participating in the Gulf of Mexico Headboat Pilot Study. Additional duties included; collecting biological samples and effort data from headboats which operate primarily in the Exclusive Economic Zone from ports along the coasts of Texas, Alabama, and Florida. This project was funded via MRIP monies.

Survey of Recreational Boat Fishers in the U.S. Virgin Islands

This task determined if the U.S. Virgin Islands boater registration lists can be used to efficiently contact recreational anglers and obtain information regarding the boat-based recreational fishery. A pilot survey will be conducted and the information will be used to estimate the total number of recreational fishers by island and the type and frequency of use/ownership of gear used in recreational fishing. The overall goal of MRIP in the U.S. Virgin Islands is to obtain catch and effort information on the removal of all marine resources (finfish, conch, lobster, whelk, and other invertebrates) by recreational anglers by species and geographic area. This project was funded via MRIP monies.

Internet-based Angler Logs as a Source of Fishery-dependent Data

This task provided guidelines for the establishment and upkeep of panel-based e-logs that are consistent with MRIP goals and augment rather than compete with MRIP data. By providing guidelines for minimum data requirements and standards for considered inclusion in stock assessments, expectations by users and developers can be realistically set. The process facilitates a leadership role for MRIP data collection programs and sets

standards for electronic reporting systems developers wishing to provide meaningful data for inclusion in stock assessments. This project was funded via MRIP monies.

Pilot Study of Queen Conch and Spiny Lobster Recreational Fishery in Puerto Rico

This task collected information on the recreational harvest of queen conch and spiny lobster in Puerto Rico to address several issues including magnitude (total and by location) of recreational fishery for these species; determination if conch and lobster are target species or retained/ discarded when harvesting finfishes; characterization of the catch for undersized queen conch and spiny lobster; location and time of year when queen conch and spiny lobster are harvested; number of recreational anglers harvesting queen conch and spiny lobster; and types of methods used to harvest queen conch/lobster. This project was funded via MRIP monies.

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 2013 via a variety of methods such as distribution of program documents, presentation to various groups interested in the FIN, and via the internet:

- FIN Committee. 2013. *2014 Operations Plan for Fisheries Information Network (FIN)*. No. 218 Gulf States Marine Fisheries Commission, Ocean Springs. 25 pp + appendix.
- FIN Committee. 2013. *Annual Report of the Fisheries Information Network for the Southeastern United States (FIN) January 1, 2012 - December 31, 2012*. No. 217 Gulf States Marine Fisheries Commission, Ocean Springs. 22 pp + appendices.
- Variety of informal discussions occurred throughout the year during ASMFC, the Commission, NMFS, and other participating agencies meetings and workshops.
- The FIN 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 provided 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)
- The Commission developed a home page that provides programmatic and operational information regarding FIN.

Documents are available upon request from the Gulf States Marine Fisheries Commission office.

ECONOMICS PROGRAM

Alexander L. Miller, Staff Economist

The Economics Program, formed in July 2008, continued to move forward throughout 2013 in an effort to improve economic data collection and management of recreational and commercial fisheries throughout the Gulf of Mexico (Gulf). The program is a cooperative partnership among Texas, Louisiana, Mississippi, Alabama, Florida, the Gulf States Marine Fisheries Commission (Commission), and NOAA's National Marine Fisheries Service (NOAA fisheries). The program monitors the economic performance of the fisheries of the Gulf of Mexico (Gulf) and, where feasible, 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 Commission coordinates, plans, and conducts specific economic data collection projects throughout its five member states. Economic data collection projects in development, progress, or analysis in 2013 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, 4) a marine recreational use economic survey, and 5) a stated preference choice experiment survey of anglers. Results from these studies will aid in describing the economic performance, and where feasible, 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 2013, the Commission collected 2012 economic

data from commercial inshore shrimp harvesters across the Gulf. This effort repeats, and builds on, the experiences learned from the previous economic survey of the Gulf 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 Commission website.

Data collected throughout 2013 included information on revenue, operating costs, annual expenditures, employment data, and vessel characteristics of the inshore shrimp fleet for the year 2012.

In 2012, the Commission obtained the cooperation and support of the relevant state regulatory agencies and several industry groups in each of the five Gulf States. 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 was mailed in March 2013 to 1,557 commercial license holders. In April 2013, a reminder postcard was sent to 1,263 individuals who had not responded to the first mailing. A second copy of the questionnaire was sent to 1,217 individuals in April, 2013. In May, 2013, another reminder postcard was sent to 1,102 individuals who had not yet responded to previous mailings. A third copy of the questionnaire was sent to 1,107 individuals in June, 2013. In late June, 2013, a final reminder postcard was sent to 996 individuals who had not responded to the survey. As of December 31, 2013, 437 subjects had responded to the survey.

In August, 2013, a single-page five-question questionnaire was sent to 509 individuals in the original database who did not respond to the inshore shrimp survey as part of a follow-up non-response survey questionnaire. Eighty-two questionnaires were returned.

Results from the commercial and recreational survey will be entered into a database and subsequent cleaning and analysis will occur in 2014. In addition to analyzing the economic performance of the commercial fishery, these studies also have the ability to provide an estimate of the economic contributions of the industry on 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 commercial inshore shrimp fleet from 2012 has the ability to be combined with federal economic data in order to have a representative data set for the entire Gulf shrimp fleet.

Fishing-related Businesses: Seafood Processors and Dealers

The Commission further developed its commitment to quantifying the economic performance of fishing related businesses (seafood processors and dealers) in the Gulf throughout 2013 by conducting further analysis and verification of the data, in combination with compiling the final reports for these data collections.

In preparation for the processor survey effort, a workshop was conducted to review the processor questionnaire and determine the plans for testing and deploying the survey. 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 recent natural and manmade disruptions to the industry in the Gulf. Working in cooperation with the University of Florida, University of South Alabama, Mississippi State University, Louisiana Department of Wildlife of 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 subsequently 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 Gulf in 2011

and 2012, using the aforementioned universities and approach.

Data from 106 completed seafood processor surveys from throughout the Gulf was collected and 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%, and Texas - 41%. Processor data was further cleaned, analyzed, and verified in 2013 and the results were compiled into a report using a selected sample of 66 respondents, which represented complete and useable responses.

Working with the aforementioned universities, a similar survey instrument and supporting materials, which was shorter and largely based on the processor survey, was finalized for dockside seafood dealers (first receivers) in 2011. A sampling frame was also developed using a database of seafood dealers from each of the states. In 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 20%. Throughout 2013, data from the dockside seafood dealer survey was cleaned, analyzed, and verified to produce a report of the findings.

A final report of the results from both the seafood processor and seafood dealer survey will be finalized in 2014. All figures and estimates will be presented as industry totals and averages.

Marine Angler Recreational Fishery

In 2013, the Commission and NOAA Fisheries finalized their analysis for the marine angler recreational fishery in the Gulf and Puerto Rico using data from the recent collection of saltwater anglers' expenditures on fishing trips and durable goods throughout the Gulf States and Puerto Rico.

The analysis assessed the size and economic contribution of the marine recreational fishing industry to the Gulf and the United States.

Data for the analysis was a result of collection efforts that used the MRIP intercept for trip expenditures and a mail follow-up survey for equipment and durable expenditures in Puerto Rico, West 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.

Analysis of the economic expenditures and contributions began in late 2012 and extended through 2013. The percentage of completed dockside intercept surveys throughout the Gulf States 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: Alabama: 61%, Florida: 67%, Louisiana: 87%, Mississippi: 66%, and Puerto Rico: 82%. The percentage of contact info collected via intercept surveys for the follow-up mail/web survey was as follows in each area: Alabama: 13%, Florida: 12%, Louisiana: 26%, Mississippi: 36%, and Puerto Rico: 27%. Cumulatively, the percentage of completed follow-up mail/web surveys was about 30%.

This project contributed to a national report entitled, “The Economic Contribution of Marine Angler Expenditures in the United States, 2011” that was published in 2013. A regional report is being developed for the Gulf States by the Commission and NOAA based on the analysis done for the national report and will be completed in 2014.

Marine Recreational Use

During 2013, the Commission worked with Knowledge Networks (GfK) and NOAA Fisheries to finalize data collection and move forward with analysis related to the marine recreational use survey. The Commission 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 was completed in 2013.

Over the course of the data collection, the target quota was 48,313 completed interviews in the Gulf/ Atlantic regions and 49,144 completed interviews were achieved. Similarly, for the nation as a whole (including the Gulf/Atlantic states), the targeted completes were 76,983 interviews and 80,106 completed interviews were achieved.

Data from the survey will enable Commission 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 included 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 Gulf States by the Commission 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, where feasible, the contribution of Gulf fisheries to the economy. In 2013, the research and analysis component of the economics program consisted of a contribution analysis initiative for some of 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 makes 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. To date, economic contribution analysis has been conducted using data from the Gulf inshore shrimp fleet survey and data from the marine angler recreational expenditure survey.

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

In 2013, the Commission and NOAA Fisheries collected data from anglers throughout the Gulf as part of a stated preference choice experiment mail survey. The primary objective of this project is to generate new estimates of saltwater anglers' valuation of changes in regulations for key federally and state managed recreational species on for-hire and private boat trips in the Gulf.

Addresses for the for-hire mode were collected via the MRIP dockside intercept survey in the Gulf. Addresses for the private angler mode were obtained from the private angler license database. ICF Macro administered the mail survey in 2013, including data entry and validation. The survey will be completed during the spring of 2014.

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.

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 2013. 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 Commission continued to work with NOAA Fisheries in 2013 to collect data in order to update the national interactive fisheries economic impacts tool. The Commission was also in the process of updating their website in 2013 in order to enable web users the ability to access economic information for selected Gulf fisheries. This information includes final reports as they relate to the Commission'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, 2013

as part of the Commission's 63rd annual spring meeting in Destin, Florida and in October, 2013 during the Commission's 64th annual meeting in South Padre Island, Texas.

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 52 employees cumulative of the Administrative, Enforcement, and Fisheries Sections during the 2013 fiscal year.

Significant Accomplishments

Enforcement officers conducted 12,860 hours of boat and shore patrol, 8,392 boat checks, 1,001 seafood shop inspections, 15,841 recreational fisherman checks, 7184 commercial fishermen checks, and issued 1,285 citations and warnings for illegal activities. A total of 14,853 hours was spent on administrative duties, court attendance, training, and equipment maintenance. Officers worked 6,397 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), Joint Terrorism Task Force (JTTF), and the Environmental Crimes Task Force. 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. They 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 19 cameras that are operational and shared with other state, local, and federal agencies. A Port Security Grant for \$244,000 was utilized to expand the network to 19 cameras, two of which are powered by wind and solar. 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 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. They have been utilized in surveying fishermen, SAR, and other investigations including a large barge explosion on the Mobile River.

The 2013 edition of the popular Alabama Marine Information Calendar was produced and distributed. The 2013 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 previously 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. Staff continue to encourage the registry and officers often register people in the field via their laptops.

MRD contracted with a local business to plant 2,800 cubic yards of oyster shell in the Portersville Bay area. Funding for this shell planting came in part from National Fish and Wildlife Foundation (NFWF) and matching funds from an award in a civil law suit. MRD also placed several hundred thousand seed oysters in a variety of areas to determine if it is feasible to utilize that to supplement shell planting.

MRD collected recreational fisheries data as required under a sub-award administered by the Commission. The Access Point Angler Intercept Survey (APAIS), which replaced the MRFSS (Marine Recreational Fisheries Statistical Survey) in March of 2013, is a survey of the National Oceanic and Atmospheric Administration (NOAA) where catch and effort information from anglers who fish recreationally from shore, charter vessels, and private vessels is collected. MRD staff trained for and implemented the new survey protocol during the reporting period.

The success of the electronic trip ticket computer program continues to grow. Currently, 33 Alabama seafood dealers are actively using this program. These dealers comprised 86% 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 15,425 commercial trips

reporting 23.3M lbs of seafood with a dockside value of \$48.5M.

During FY 2013, 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 completed construction of new office and laboratory facilities at Claude Petet Mariculture Center (CPMC) in Gulf Shores. Funding for construction was derived (in part) from the Coastal Impact Assistance Program (CIAP) and the Gulf of Mexico Energy Security Act (GOMESA). Equipment for the laboratory was acquired using NOAA Emergency Disaster Recovery Program (EDRP) funds. MRD also administered repairs and improvements to the Boggy Point and Cotton Bayou boat ramps in Baldwin County.

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 528 composite samples during year three 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. The Seafood marketing program utilizes, television commercials, print ads, articles, radio ads, billboards and speaker engagements to promote the use of Alabama caught seafood. MRD continued to work with the Gulf States Marine Fisheries Commission (Commission) 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 (NMFS), 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 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 IVs, five Biologist IIs, 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 105,00 copies of the 2013 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 284 otter

trawl samples, 47 seine samples, and 84 beam plankton trawl samples were collected during FY2013 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 235 net sets were conducted.

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 FY2013, 13 offshore trawl samples were collected and six 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. Ten vertical line cruises were completed sampling 78 stations. Six bottom line cruises were conducted, but two cruises were omitted due to grant funding decreasing. Red snapper continue to

dominate the catch with over 500 collected for size and age determination.

The Marine Recreational Information Program (MRIP) Surveys

During FY 2013, the Marine Recreational Statistical Survey (MRFSS) was replaced by the Access Point Angler Intercept Survey (APAIS). The APAIS is designed to minimize sampler bias by collecting interviews during predetermined time blocks around the clock, not allowing for rescheduling of assignments, and eliminating interview quotas. Funding for this project is provided through a sub-grant from the 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 the APAIS which collects data from anglers after they have completed their fishing trips and interviews charter boat captains for effort. Between October 2012 and February 2013, under the MRFSS protocol, 789 interviews were collected and between March and September 2013, under the new APAIS protocol, 1541 interviews were collected, for a total of 2330 interviews for FY 2013. Training of samplers was held in October 2012 and March 2013 for fish identification reinforcement and resolution of major issues, with regular short meetings held to address immediate issues. Training for the new APAIS protocol was held in January and February of 2013, and periodically to reinforce new procedures. 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 2013.

Otolith Sampling Program

Funding for this project is provided through a sub-grant from the Commission. 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. There were a total of 1,294 fish sampled in FY2013. 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.

Commercial Trip Ticket Program

Funding for this program is provided through the Commission. 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 Commission 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 two grants totaling roughly \$44M 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 2013 to plant 2,800 cubic yards of oyster shell in the Portersville bay area.

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), 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.

Alabama Artificial Reef Program

AMRD invested \$374,000 to increase finfish habitat in the nearshore reef zones offshore of Orange Beach and Gulf Shores, Alabama, and deployed 220 six-foot pyramid reefs and 34 low-relief anchored reefs in May 2013. The six foot pyramids were deployed in clusters of three modules per reef site to create 48 reef clusters in the R. Vernon Minton West Nearshore Reef Zone and 24 clusters in the R. Vernon Minton West Nearshore Reef Zone. The combination of the low-relief anchored reefs and the pyramid reefs will result in increased habitat complexity, additional fishing opportunities close to shore, and unique shallow water dive sites. Another project that provided unique dive/fishing opportunities was the reefing of a 270' coastal freighter (named "The LuLu"). The coastal freighter was reefed in approximately 116' of water 17 nautical miles offshore in May 2013. In addition to the coastal freighter reefing project, a 70' steel supply vessel was reefed in March 2013. Alabama Marine Resources also deployed thirty 25' pyramid reefs in July 2013. The large pyramid reefs were deployed in single-file-lines of four pyramids per line and in pairs to create several "ship" effect reef complexes. Three hundred fifty thousand dollars were invested to purchase, transport, and deploy these 25' pyramid reefs. AMRD also constructed three new reefs in the Mississippi Sound by investing \$275,000 to deploy 3-6" limestone gabion to enhance fishery important finfish habitat.

AMRD continues to actively seek opportunities to diversify the artificial reef program and conduct maintenance projects as needed. AMRD has received permits from the United States Army Corps of Engineers (COE) to perform maintenance reefing projects at all 31 of AMRD's previously constructed inshore reef sites as well as to construct two additional reefs in Weeks Bay and near Point Clear, Alabama. AMRD also has applications under various stages of acceptance from COE to repurpose the jackets of three gas platforms into offshore reefs and create three additional reef zones from 6-9 nautical miles offshore in the Gulf of Mexico.

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 were completed in FY2013 and the Division received a 32' trailer that is utilized as a portable Oyster Management Station.

Significant Problems and Solutions

Based upon the temporal and spatial abundance of the Asian tiger shrimp, *P. monodon*, encounters and reported sightings (albeit reports more candid from 2012 through 2013), 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. Also, efforts are being made by local academic institutions to acquire live specimens and conduct research regarding behavior and interactions of Asian tiger shrimp with native fauna. Ideally this research will have the ability to identify negative interactions and qualitatively evaluate the impacts of the invasion.

Like 2012 and 2013 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). Given the lack of quality lionfish reporting from the public and specimen acquisition, AMRD pursued financial support to fund outreach efforts and monitoring associated with the lionfish invasion.

Alabama Marine Resources Division received a \$9,240 sub award agreement from the Commission in December 2012 to monitor reef communities in the Gulf of Mexico, dispatch red lionfish when encountered during SCUBA surveys, increase public awareness of the lionfish invasion, and streamline the general coordination between state agencies, federal agencies, and the public. Eighteen dive surveys were completed by AMRD personnel from May 8, 2013 through July 31, 2013, 34 lionfish were dispatched, and important reef associated community assemblage data were collected. Natural limestone rock outcroppings, barges/steel ships, reef pyramids, army tanks, and 1 bridge span were surveyed during the project. A total of 138 minutes and 10 seconds of actual survey time was conducted, and depths ranged from 37' to 129' on the various reefs.

Future Plans

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 that began 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. Additionally, AMRD plans to institute a recreational and charter vessel red snapper reporting program to gather valuable red snapper landings.

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, and 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 2013 [i.e., state fiscal year 2013/2014] are summarized below.

Analysis and Rule-Making 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 2013 Florida Legislature passed one bill that allowed for four additional recreational license-free fishing days.

During the state fiscal year 2013/2014, 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.

A Restricted Species Endorsement Exemption was created for Florida's veterans wishing to enter the commercial fishing industry. The endorsement waived the income requirements for a restricted species endorsement for Florida veterans wishing to enter into commercial fishing for one year for veterans meeting certain requirements.

At the June 2013 FWC meeting, commissioners voted to let the recreational harvest of snook in Gulf of Mexico waters reopen to harvest Sept. 1 after being closed since Jan. 2010. Gulf waters were closed to harvest due to a 2010 cold kill that negatively impacted Gulf snook.

The recreational and commercial harvest of giant anemones (*Condylactis gigantea*) was closed off of Florida state and federal waters. Sand perch, dwarf sand perch, and unicorn filefish were removed from the Marine Life rule. The size limits for angelfish and butterfly fish species were applied to the recreational sector and also applied to angelfish hybrids.

A recreational harvest season for gag grouper was established for Franklin, Wakulla, Jefferson and Taylor counties, Indian Pass Apalachicola Bay, and the Steinhatchee River to be April 1 through June 30. For the rest of the Gulf of Mexico, excluding Monroe County, a July 1 through December 31 season was established to be consistent with the federal Gulf of Mexico Fisheries Management Council (GMFMC) season.

The FWC Commission eliminated the February 1 through March 31 grouper closure for black, red, yellowfin, yellowmouth, rock hind, red hind, and scamp. These species of grouper are now open year-round in state waters of the Gulf.

Consistency with the GMFMC was established for gray triggerfish. A recreational and commercial closure of June 1 through July 31 was established and a recreational two-fish daily bag limit and a commercial trip limit of 12-fish were established.

A rule was created that waived the recreational fishing license requirements for divers harvesting lionfish using specific gears and excluded lionfish from recreational and commercial bag limit requirements.

FWC Commission removed the venting tool requirement in Gulf state waters, making state regulations consistent with rules in federal waters.

A rule cleanup process has begun that will simplify rule language and improve enforceability. Nineteen chapters were amended in the first phase of this process and a general chapter has been created comprised of definitions and provisions that apply to all saltwater fishing.

The 2014 Gulf of Mexico red snapper federal recreational season will be 40 days, opening at 12:01 a.m., June 1, 2014, and closing at 12:01 a.m., July 11, 2014. State season is subject to change.

Several changes to the recreational and commercial management of swordfish in state waters were approved by the Florida Fish and Wildlife Conservation Commission (FWC). Changes to state rules approved by the Commission will allow fishermen who participate in this new commercial fishery to land and sell their catch in Florida. Additional changes include designating swordfish as a restricted species and specifying hook and line as allowable gear for swordfish harvest in state waters. Several changes to state rules are also consistent with existing federal rules, including a change to the cleithrum-to-keel (see below) minimum size limit for recreational and commercial swordfish harvest.

Tarpon and bonefish rules were amended to make them a catch-and-release-only species. However, anyone in pursuit of a tarpon IGFA record may possess a tarpon with a tarpon tag. The vessel limit was reduced to one tagged tarpon per day and a limit of one tarpon tag per person per year was established.

Outreach and Education Subsection

The Outreach and Education subsection objective is to inform the public and 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) 60,356 outreach fishing event contacts; (2) 1,169 presentation and seminar contacts; (3) 13,726 email, telephone, mail outs and in-person contacts; and (4) 221,799 website contacts during fiscal year 2012-2013.



Nine Kids' Fishing Clinics (KFC) were conducted in coastal cities throughout Florida. A total of 2,470 children, 637 volunteers and an estimated 1,498 parents attended the KFCs. 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 382 participants on fishing excursions to reinforce the KFC curriculum.

Five Ladies, Let's Go Fishing! (LLGF) seminars were conducted in five locations. A total of 198 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.

Four one-day events targeting 86 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.

Twelve events were attended by 260 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.

Partnered 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.

Distributing FWC/SFR educational literature aimed at heightening citizen awareness of and personal responsibility for protecting Florida's marine resources. 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://catchandrelease.org/Catch_and_Release_web.pdf
- 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>

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 1,537 anglers and other resource users on the coast of the Gulf of Mexico 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 77 current and future anglers. FWC staff also interacted with 2,330 stakeholders to promote Florida Fishing at the I-75 and I-95 Florida visitor centers.

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. Eight youth events were conducted with participation from 192 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.

Forty-three educational tours and 11 fishing events were conducted at the Florida Fish and Wildlife Conservation Commission's Stock Enhancement Research Facility. Five hundred and thirty-eight 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.

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 Mote Marine Aquarium, Mote Aquaculture Park Environmental Learning Center, Houston Downtown Aquarium and Environmental Learning Center, Florida Oceanographic Society, Loggerhead Marine Life Center, the Pier Aquarium, and FWC Tallahassee and Cedar Key labs. Staff also provided educational publications for public distribution at these locations. FWC loaned hatchery-raised juvenile fish to eight 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 661 hatchery-bred fish were provided to these facilities.

Commercial and Regulatory Outreach

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.

This subsection has taken the lead on the agency's lionfish efforts. On Aug, 8 and 9, 2012, several members of the agency gathered to discuss future plans for controlling lionfish populations. Staff left this meeting with a focused agency message and plan. In April 2013, a photo contest via Twitter and Instagram was conducted where anyone who submitted a photo of their lionfish catch would receive a Lionfish Control Team t-shirt, created and designed by agency community relations staff. The contest was revealed via a live Twitter chat on March 28, the first of this kind of social media effort conducted by the agency. More than 30,000 Twitter accounts were reached during the chat. Participants used the #FWCLionfish to chat and to send photos to the FWC. During the chat, FWC posted facts, asked questions, answered questions, and asked trivia for the chance to win a t-shirt. The photo contest officially started March 28 and ended April 30. During that time frame, 65 t-shirts were mailed out to participants. Staff is currently planning a lionfish symposium for October 2013. Staff also responded to at least five media calls per month in regards to the lionfish issue.

The 2012 Florida Legislature restored a reduction that was previously made in an attempt to lower FWC's operating costs and achieve a balanced budget state-wide. The restored funds allowed FWC to print and distribute copies of the recreational and commercial saltwater regulation magazines. The recreational publication was

printed and shipped to license sales agents by Griffin Publishing and the commercial regulations were designed in-house and sent to all saltwater products license holders.

During state fiscal year 2012/2013, the FWC continued commercial and started recreational saltwater fisheries regulatory assistance activities.

Three commercial fisheries newsletters were prepared and a total of 45,000 newsletters were 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 license sales agents and FWC regional offices around Florida. The recreational regulatory position has given 12 presentations to fishing clubs, solved 1339 knowledgebase

questions, and answered 1400 telephone and 1300 e-mail requests.

The agency's public information specialist sent out, on average, 65 press releases each year on subjects including season openings and closures; Commission meeting updates; regulation changes; and events such as Kids' Fishing Clinics, Women's Fishing Clinics, and Ladies, Let's Go Fishing! More than 150 media calls were responded to including calls from newspapers, local television stations, magazines, national television production companies, radio stations, and more. Responses varied from supplying basic information to conducting live and recorded television and radio interviews.

Marine Fisheries is always involved in the agency's social media efforts, including helping craft posts and responses for Facebook and Twitter, providing photos for Flickr and video for YouTube. Three promotional videos were created with the assistance of the video editing team and FWRI staff on Ladies, Let's Go Fishing! (347 views since published Sept. 27, 2012); Kids' Fishing Clinics (84 views since published July 18, 2013); and how to remove a stone crab claw (13,120 views since published Oct. 9, 2012). These were featured on YouTube and on the MyFWC.com website.

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 2013, nine 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.

Five of the nine new artificial reef construction activities took place off the Atlantic Coast and four of the nine were off the Gulf Coast. Within the Atlantic Coast activities; two construction



activities were off south central Florida (Martin and St. Lucie Counties); two construction activities occurred off northeast Florida (Flagler County and City of Jacksonville); and one construction activity took place off southeast Florida (Palm Beach County). Within the Gulf Coast activities, one artificial reef construction activity took place in the Florida 'Panhandle' area (the City of Mexico Beach), two off the Florida Big Bend located off the mouth of the Suwannee River (Taylor and Dixie Counties), and one off southwest Florida (Pinellas County). There were also five artificial reef monitoring projects under way in 2013. These various projects are summarized below.



Dixie County (Florida Big Bend, Gulf Coast)

Dixie County deployed 270 tons of limestone boulder and concrete culverts as nine patch reefs (approximately 30 tons each patch reef) within the Horseshoe Beach Artificial Reef permitted area. The deployments are located approximately 10 nautical miles west of Horseshoe Beach, Florida, at a depth of 22 feet.

The City of Jacksonville (Northeast Florida)

The City of Jacksonville deployed 800 tons of concrete bridge pieces and pilings at a depth of 75 feet within the Floyds Folly (FF) Artificial Reef Site. The materials were deployed as a single cluster in a concentrated location with an estimated 644 square feet of bottom footprint and providing a relief of less than 20 feet. The deployment location is approximately 18.5 nautical miles southeast of the St. Johns River jetties at a depth of 75 feet.

The City of Mexico Beach (Northwest Florida)

The City of Mexico Beach deployed 52 concrete modular units distributed as 12 patch reefs across three permitted sites, with two to nine modules placed at each patch reef for an average of four modules per patch reef. Two of the 12 patch reefs accounting for 18 of the reef modules were placed within the Bell Shoals artificial reef site located 2.3 nautical miles on a bearing of 244° from the Mexico Beach canal entrance. Five of the 12 patch reefs, consisting of 16 modules, were placed within

the North Reef Site located 16.8 nautical miles on a bearing of 235° from the Mexico Beach Channel. And the final five of the 12 patch reefs, consisting of 18 modules, were placed within the Bridge Rubble Reef Site located 13.6 nautical miles on a bearing of 220° from the Mexico Beach Channel.

Palm Beach County (Southeast Florida)

Palm Beach County deployed 850 tons of limestone boulders at a depth of 35 feet within the Boynton Reef Inlet Artificial Reef Site. The 3-4 foot diameter limestone boulders were stacked at least two high for approximately eight feet vertical profile. The patch reef is a single pile within the southern quadrant of the permitted area located approximately .5 nautical miles at a bearing of 36° from the Boynton Inlet, at a depth of 35 feet.

Pinellas County (Southwest Florida Gulf Coast)

Pinellas County deployed a total of 100 concrete modules, with 50 modules placed in the Treasure Island II permitted area located 26.6 nautical miles west of John's Pass at a depth of 100 feet, and 50 modules placed in the Indian Shores Reef permitted area located 11.6 nautical miles southwest of Clearwater Pass at a depth of 42 feet.

St. Lucie County (South Central Florida East Coast)

St. Lucie County deployed 2,000 tons of concrete culverts, clean concrete railroad ties, concrete light poles, and concrete storm water basins and other concrete construction materials in two patch reefs, one within the St. Lucie County Site 3 at a depth

of 100 feet located 11 nautical miles east of Fort Pierce Inlet, and the other within the St. Lucie County Site 4 at a depth of 50 feet located 5.6 nautical miles east of Ft. Pierce Inlet.

Martin County (South Central Florida East Coast)

Martin County deployed about 2,000 tons of concrete culverts, clean concrete riprap and/or other concrete modular construction materials divided among four patch reefs. Each of the four patch reefs consists of concrete materials placed as a single pile (500 tons each) about 50 feet (15.2m) apart from each other on the Donaldson Reef permitted area. The permitted site center is located approximately 4.4 nautical miles on a bearing of 50° from St. Lucie Inlet. The total footprint from the southern edge of the south patch to the northern edge of the north patch, including the adjacent open sand bottom, is approximately 315 feet (96m) wide by 318 feet (97m) in length and encompassing approximately 2.3 acres.

Flagler County (Northeast Florida Coast)

Flagler County deployed 750 tons of concrete slabs, concrete pilings, and concrete bridge materials at one location at a depth of 68 feet within the Flagler County Permit Site #3 Artificial Reef Site located 13.8 nautical miles to the southeast on a bearing of 103° from the center of the Matanzas Inlet Bridge, at a depth of 68 feet.

Taylor County (Florida Big Bend, Gulf Coast)

Taylor County deployed 120 prefabricated concrete cube modular artificial reef modules placed at 30 patch reefs of four cubes each about 200 feet apart in the NW corner of the Buckeye Reef. This reef site is located about 20.5 nautical miles on a bearing of 235° from Marker #1 at the Keaton Beach navigational channel, at a depth of 48 feet.

Artificial Reef Monitoring Projects

The FWC Artificial Reef program is also funding 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 winter 2012. The project is conducting 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 November 2013.

The FWC Artificial Reef program is also funding the University of South Florida to conduct acoustic tracking to quantify the use of artificial reefs off Pinellas County, Florida, across multiple spatial and temporal scales, using acoustic remote sensing techniques. The research project will compare whether and how participant use of artificial reefs differs with nearby, paired natural reefs. Using visual fish census techniques, the University of South Florida will quantify the seasonal dynamics of fish communities on artificial and natural reefs and examine relationships with participant use. The final report for this two-year research project is expected by March 2015.

Funding is also being provided to Florida State University to conduct a study of the functional role of artificial reefs supporting the offshore migration of reef fishes off Franklin County, Florida, in the Gulf of Mexico. Using side scan mapping and underwater video and video census techniques, Florida State University is identifying the faunal communities (i.e., fishes and macro-invertebrates), including their abundances and size distributions with particular attention on gag grouper, associated with artificial reefs compared to those on nearby, natural hardbottom habitats. Seasonal comparisons between the artificial and natural habitats are being conducted, and potential biotic (e.g., abundances of prey, competitors, and predators) and abiotic factors (e.g., structure type,

relief, surrounding seascape) driving patterns identified are being examined. The final report for this two-year project is expected by June 2014.

The FWC Artificial Reef program is also providing funding to Nova Southeastern University to examine and monitor the effects of a system of artificial reefs (FDOT Reef) in Broward County, Florida, on the trophic interrelationships between artificial reef-associated fish assemblages and the surrounding soft-bottom infauna relative to a nearby natural reef. Although previous studies have examined macroinfauna in local waters (Dodge et al. 1989, 1995), this project is the first to investigate relationships between sediment assemblages and adjacent reefs and associated fish faunas anywhere in southeastern Florida. The grantee is employing multiple methods, including field and laboratory identification, stomach content identification, and stable isotope analysis, to a range of faunal size classes to help assess the trophic contribution to the overall reef fishery productivity and enhancement. This monitoring project follows the evolution of an artificial reef and the associated infauna to help assess the changing trophic contribution of these organisms to the fish community. This is a two-year project, with the final report expected by February 2015.

The FWC and Escambia County continue annual sampling of legal-size recreationally targeted reef fish (red snapper, gray triggerfish, red and whitebone porgy, vermilion snapper, and 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 24, 2013, 11 reef fish sample collection events were completed. The 388 retained reef fish from the Oriskany Reef through sampling round 11 included eight reef fish species: 235 red snapper, 87 vermilion snapper, 28 red porgy, 15 whitebone porgy, 10 scamp grouper, five slipper lobster, three gray triggerfish, three gag grouper, one red grouper, and one bank sea bass. Some individual specimens of six of seven species

during one or more of the first 10 sampling rounds (sample round 11 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 (ppb) and the EPA Tier 1 monitoring screening threshold of 20 ppb 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 10 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 ten, 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 invertivores red porgy and whitebone porgy continued through sampling round nine 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 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. Five legal size piscivorous grouper (scamp) from the Oriskany Reef have been analyzed to date 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). Additional scamp are pending analysis in sample round 11.

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. Fifty-three reef fish specimens from sample round 10 were collected from the Oriskany Reef on April 24, 2013, (6.9 years post-deployment) are presently undergoing analysis with results expected by the end of 2013.

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

Nine wholesale dealer audits have been conducted. Two additional audits were carried over from the prior year.

Research was conducted on reported landings from 30 wholesale dealers and 50 commercial saltwater harvesting licenses. Fifty percent of the research was related to requests from FWC staff.

Twelve of those cases were FWC investigations of BP Gulf Coast and East Coast claims. The other 50% of research was requested by federal agencies (NOAA, US Fish & Wildlife, and one case for Homeland Security).

One hundred ninety-three wholesale dealers received delinquent notices for failing to submit any trip tickets during a 90-day period.

Landings information submitted by two individuals for blue crab license requalification was found to be fraudulent.

The FWC auditor assisted in a NOAA case in which three individuals were sentenced for illegally harvesting lobster having a retail value of approximately \$660,000. The NOAA case resulted in the individuals being sentenced to a cumulative 25 months in jail and two years' probation. One individual faces additional fines of up to \$250,000 while another has been ordered to forfeit a vessel valued at \$40,000, along with a trailer and equipment.

Administrative Penalty Assessments for Violations of Specified Fisheries Regulations

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

Twenty-three administrative penalties were assessed in FY 2012-2013 for a total of \$96,000. Penalties paid totaled \$11,100. Sixteen of the administrative penalties (70%) were for net violations; two (9%) were for unlawful harvest, purchase, or sale of saltwater products; one (4%) penalty was for major blue crab violations; one (4%) penalty was for major stone crab violations; and three (13%) were for other major violations.

During the 2013-2013 fiscal year, the FWC received eight petitions requesting informal administrative proceedings, and two petitions requesting formal administrative hearings. Two petitions for informal administrative proceedings and one petition for a formal administrative hearing were dismissed. Four informal administrative hearings were conducted, and three informal administrative

proceedings were conducted, where the petitioner elected the option to submit additional evidence for consideration in lieu of proceeding with an informal administrative hearing. There were no formal administrative hearings conducted during the 2012-2013 fiscal year. One petition for an informal administrative hearing and one petition for a formal administrative hearing were resolved by settlement agreement.

Retrieval of Lost and Abandoned Spiny Lobster, Stone Crab, and Blue Crab Traps

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 contracts with commercial fishermen to remove lost and abandoned traps from state waters during closed seasons.

The Derelict Trap and Trap Debris Removal Program provides 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. During the 2012-2013 fiscal year, 45 trap retrieval trips were conducted (32 trips for stone crab and lobster; 13 trips for blue crab) where a total of 4,872 traps (4,425 stone crab and lobster traps; 447 blue crab traps) were retrieved for a total expenditure of \$119,989. Additionally, 11 authorizations were issued for volunteer derelict trap cleanup events, resulting in the removal of 268 traps (one cleanup event was canceled, and one event did not provide a report).

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 forty-four Special Activity Licenses were issued, 79 license amendments were issued, seven applications were denied, and four applications were withdrawn. Forty-six percent (152) of the licenses issued or amended were for

scientific research, 35% (116) were for education and or exhibition, and 12% (39) were for redfish catch, hold and release tournament exemption permits (the remainder were for stock collection and release (ten), aquaculture brood stock collection (nine), bonefish catch hold and release tournament exemption permits (four), gear innovation (three), and non-profit corporations (one).

Florida Fish and Wildlife Research Institute

Gil McRae, Director

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.

Efforts continued 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 project to evaluate red drum spawning sites and site fidelity off the mouth of Tampa Bay was continued, using a combination of acoustic telemetry and passive acoustic monitoring.

Studies of movements, habitat fidelity, and home ranges of recreationally important reef fish species in the Florida Keys were continued, as was effort to identify and document spawning sites of the mutton snapper (*Lutjanis analis*) and other reef fish species.

A field study was continued 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 initiation of a catch-and-release mortality study and continuation of opportunistic collection of life history information from specimens made available through natural mortality events or enforcement

actions of this protected species. Additionally, the department initiated a catch-and-release mortality study for gag grouper using acoustic telemetry on the west Florida shelf. Lastly, development of a histological atlas of Florida reef fish was initiated 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.

Molluscs

Bay scallop (*Argopecten irradians*) population monitoring is ongoing with success evaluated via surveys of adult abundance and recruitment patterns. Only two of the five regions open to harvest (Homosassa/Crystal River, Steinhatchee) were classified as stable in 2013; the other three regions were classified as vulnerable to overharvest (Hernando, St. Mark's River, and St. Joseph Bay). On average, the density of scallops in open harvest areas was at 63% of the average density from the previous 10 years. There is no recreational harvest data available for bay scallops but anecdotal reports suggest effort has increased greatly in the last 10 years. None of the five regions closed to harvest were rated as sustainable. Anclote was classified as stable, and St. Andrew Bay, Tampa Bay, Sarasota Bay, and Pine Island sound were classified as collapsed populations. As a whole, the density in areas closed to harvest was at 17% of the average density in the previous 10 years.

Post-season surveys were conducted in three open-harvest areas (St. Joseph Bay, Steinhatchee, and Homosassa) and two closed-to-harvest areas (Anclote and St. Andrew Bay) to assess mortality rates during 2013. In the closed areas, total mortality

was 70% at Anclote and 100% at St. Andrew Bay. In the open areas, total mortality ranged from 11% (St. Joe Bay) to 97% (Steinhatchee); Homosassa/Crystal river was intermediate (64%).

Ancillary data to the scallop surveys describing the density of three gastropod species (tulip snails, *Fasciolaria* spp; lightning whelk, *Busycon sinistrum*; and horse conch, *Triplofusus giganteus*) in seagrass beds was published (Stephenson et al. 2013. *J. Shellfish Res.* 32: 305-313). A follow-up study will assess seasonal variation in their density in seagrass, oyster reef, and soft-bottom habitats.

The fall 2013 oyster (*Crassostrea virginica*) population assessment studies conducted by Florida Dept. of Agriculture and Consumer Services in Apalachicola Bay were below regulatory limits, prompting FWC to restrict winter harvest to weekday only during 2013-2014 winter season, as was done during the 2012-13 season. Preliminary results suggest 2013 landings were at ~ 30% of the 10-year historic average (2002-2012). A request for federal disaster declaration was made and a federal fishery disaster declared for the fishery. No funds associated with this declaration have been provided.

A study showing that biological function of oysters growing on non-reef habitat was roughly comparable to those on natural reefs was published in *Estuaries and Coasts* (Drexler et al. DOI 10.1007/s12237-013-9727-8). A study which describes a portion of ongoing Everglades Restoration monitoring provides baseline density and settlement rates of oysters in seven FL estuaries was published (Parker et al. 2013. *J. Shellfish Res.* 32: 695-708).

FWC applied for and has been awarded a grant to study appropriate cultching densities on Apalachicola oyster reefs. University of Florida and FDACS will be subcontracted for some portions of the study, scheduled to begin in 2014.

Hard clam (*Mercenaria mercenaria*) Gulf of Mexico commercial landings fell by 47%, to 3241 lbs, 26% of their 2001-2012 average landings.

Crustaceans

Florida Blue Crab

Florida has participated, over the past three years, in the Gulf Data Assessment and Review (GDAR) process. The GDAR process resulted in a successful peer reviewed region-wide blue crab stock assessment (GDAR01) that was finalized in 2013. The stock assessment serves as a platform for exploration into the structural dynamics of the blue crab population in the Gulf of Mexico. The formalized GDAR process revealed complexities and resource interrelationships throughout the region that iterative benchmark assessments on a regular schedule will build upon and result in the eventual development of regional management reference points in future management plans.

The base model of the assessment found that Gulf of Mexico blue crab stocks are currently not overfished nor are they undergoing overfishing. The population abundance in the eastern and western stocks are currently approximating the optimal abundance for achieving MSY; however the assessment model indicated that, in the last few years, the western stock has been slightly lower than that optimal abundance. Florida blue crab landings continue to be below the historic average. The years with lowest landings appear in six to ten-year intervals. The trend of landings for these lowest landing years appears to be declining over time. The stock assessment suggests that there are climate regime shifts, where the Gulf of Mexico coastal region has become warmer and drier than the years prior to 1996, and that landings lower than the historic average may be more common.

Florida is working as part of the Blue Crab Technical Task Force to finalize a fisheries management plan for blue crabs in the Gulf of Mexico. The management plan is a comprehensive review of relevant aspects of the biology, ecology, and fisheries associated with blue crabs in the Gulf of Mexico. The plan provides a framework for resource management and maintenance of a sustainable fishery. The Gulf-wide Blue Crab Fisheries Management Plan should be finalized and available for distribution in the fall of 2014.

Fisheries Genetics

Studies of genetic structure and population connectivity were completed for hogfish, sand seatrout, and spotted seatrout. Federal managers identified stock structure and stock assessment boundaries as research priorities for hogfish (SEDAR 37). A significant genetic break was identified between hogfish inhabiting the Florida Gulf Coast from the Panhandle to Marco Island and those occurring off of southernmost Florida Peninsular Coast, including the Florida Everglades, Florida Keys, and southeastern Florida Atlantic Coast to Jupiter Inlet. Additionally, hogfish comprising these two stocks were shown to be genetically distinctive from those inhabiting the coastal waters of North and South Carolina. A draft manuscript has been prepared and detailed findings have been reported to the SEDAR data-scoping workgroup.

Local populations of sand seatrout and spotted seatrout in Florida were found to be semi-discrete and largely self-recruiting on estuarine scales. Three fully discrete regional stocks of spotted seatrout have been further identified, respectively bounded in Florida waters by: 1) the western border of Florida to Apalachicola Bay, 2) east of Apalachicola Bay through southernmost Peninsular Florida to upper Biscayne Bay, and 3) Sebastian Inlet through the northeastern border of Florida. The current geographic boundaries used by FWC scientists during periodic stock assessments and other fishery evaluations are incongruent with the genetically derived boundaries; we have recommended that they incorporate the genetically derived boundaries into assessment design and implementation when appropriate.

Offshore spawning populations of red drum were sampled along Florida's Gulf Coast for the second consecutive year. During these sampling events, fin clips from more than 5,300 red drum specimens (released live) were obtained for a DNA-based capture-recapture study. To date, 2,948 of these specimens have been genotyped.

With angler assistance, genetic tracking of individual tarpon in Florida was continued. To

date, about 19,742 DNA samples from released tarpon have been genotyped. Approximately 194 of these genetically ‘tagged’ tarpon have been recaptured by participating anglers. Movement data are currently being analyzed for temporal/spatial patterns and trends. For recaptured tarpon, the majority of movements occurred within small distances (less than 10 km); however, several occurred over large distances (e.g., from the Tampa Bay area to the Florida Keys).

Genotyping assays of 414 goliath grouper from Florida Gulf, Florida Keys, and Florida Atlantic have been completed and statistical analyses are underway. In addition to analyses of genetic structure and population connectivity, genetically effective population numbers and levels of kinship and in-breeding will be evaluated.

Genotyping assays for 287 permits throughout Florida have been completed and preliminary analyses are underway. Additional specimens of permit are also being processed from Mexico and Puerto Rico. For future work, genetic collections of tilefish and several highly exploited groupers throughout Florida are underway as part of a comparative analysis of population-connectivity trends among reef-fish species exhibiting disparate life histories.

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. Work has continued on expanding Florida’s FIM program into reef areas along the coast.

During 2012-2013, preliminary numbers indicated that Florida commercial landings from 220,384 commercial fishing trips totaled approximately 84.7M lbs of fish, crab, clams (wild harvest only, excludes aquaculture), lobster, shrimp and other invertebrates worth over \$195M in dockside value. Marine life landings (live fish and invertebrates for aquaria and other uses) from 5,825 commercial collecting trips in 2012-13 amounted to 10.2M individual specimens worth nearly \$3.6M in dockside value. The top 10 species in dockside value harvested during 2012-13 in Florida were: Caribbean spiny lobster (\$25.1M), stone crab (claws: \$23.1M), red grouper (\$15.3M), pink shrimp (\$11.7M), white shrimp (\$11.4M), blue crab (including soft-shell crabs; \$10M), oysters (\$7.4M), black mullet (\$7.3M), bait shrimp (\$7.25M), and king mackerel (\$7.16M). The total commercial harvest of food shrimp in Florida was 12.7M lb (heads on; \$30.6M dockside value) in 2012-2013.

Recreational anglers made an estimated 24M fishing trips in the 2012-2013 FY. Of those trips, 62% occurred in the Gulf. Total catch for the Gulf coast of Florida was estimated at more than 90.6M fish, of which, 34.3M fish (>34M lbs) were harvested. Species of note from the Gulf, in terms of total catch (numbers of fish) included: spotted seatrout (9.9M); gray snapper (4.89M); white grunt (4.23M); red drum (2.64M); and Spanish mackerel (2.08M). In addition to ongoing dockside sampling efforts, we continue to build our at-sea data collection programs on both coasts, with an emphasis on the recreational reef fish fishery. Since the inception of the program in late 2009, more than 800 for-hire trips have been sampled alone in the Gulf, with more than 28,000 fish tagged and released.

Fisheries Data Collection

Recreational

March 2013 saw the introduction of the new MRIP Access Point Angler Intercept Survey (APAIS) sample draw. The new survey involved a departure from the old MRFSS methodology in that alternate site selection was predetermined and sites were selected as clusters (up to three sites) based on fishing pressure estimates for the cluster.

Selection probabilities for given clusters reflected fishing pressures for all sites visited rather than just the primary site. Similar to the old MRFSS, assignments were categorized as either weekday or weekend day. However, assignments are now allocated in four, six-hour time intervals for a 24-hour fishing day rather than just concentrated in peak activity time periods. The draw has proved challenging in terms of staffing (locally and regionally) because protocols are so strict that activities such as biostatistical sampling and vessel validations routinely done during a normal work day are no longer possible. NMFS S&T has worked with FWC to optimize the draw allocations regionally based on staff availability. This has proved to be an iterative process. Productivity in terms of the number of angler interviews per assignment has been and continues to be a concern for assignments during periods when few anglers are expected to complete their fishing trips (early AM and late PM). There remains the issue of accessibility of the guide fishery to the APAIS which is being addressed by NMFS with the introduction of a new boat mode which will combine for-hire and private boat interviews into a single mode. This latest methodological change is set for introduction in Wave 3 of 2014. Although the biological sampling program was not funded through FIN for 2014, we continue with limited data collection funded with Sport Fish Restoration funds and anticipate additional funding through the NFWF for at least the second half of the year. In 2014, samplers collected more than 30,000 otoliths and spines for age determination. As the early part of 2014 is anticipated to be less busy in terms of sample processing than previous years when FIN funding was in place, 2014 is seen as an opportunity to make needed changes to the database structure in terms of variables included, their formats and how the database is to be served in the future. Currently, Fisheries Dependent Monitoring staff members involved have been busy retooling the database. The major focuses include: improvements to processing efficiency, quality control of data, inclusion of biosamples from sampled at-sea trips, and improved matching of biological data (and eventual age information) to specific trip information. In late 2009, the Gulf of Mexico reef fish program began to collect

information on discards or released catch ended at the end of 2013. Over 17,000 fish were tagged over the course of the project with the majority being red snapper, red grouper, and gag. It is hoped that the program can continue in 2014 (with NFWF funding) to collect information on discards with a goal toward gaining a better understanding of release catch mortality and obtaining size information for released catch which, for red snapper and gag, make up the majority of the recreational catch.

Commercial

We are in the final stages of migration of the Trip Ticket Program databases (Marine Fisheries Information System - MFIS) from Oracle to MS SQL Server. A new SQL Server native application is in the process of being tested for production and is expected to be fully implemented by July 2014. The new system will be followed by a move to a new server located in Tallahassee. Integration with the licensing and permitting databases is an anticipated component of the new system which should help in the accuracy of matching license information with landings. License holders will be able to access their landings directly and a public query system is also being developed that will allow queries of harvest information to create basic summaries. Currently, PDFs of landings are made available for download from the website. However, updates to the landings information on the website require the periodic generation of new summaries which is a labor-intensive task. The new system would allow automatic updates as new data become available.

There has been considerable discussion on the continued use and need for paper ticket reporting. Currently, about 75% of landings information is reported electronically. However, the majority of those landings are accounted for large volume wholesale dealers and approximately 60-70% of dealers still use paper tickets. The currently used trip ticket is based on the old credit card carbon copy receipt. It has become increasingly difficult to find vendors that print this type of ticket. Moreover, desired changes to the current paper ticket to allow higher resolution trip/effort information would likely necessitate a change to the overall design of

the ticket that would also require a new imprinter design to accommodate the larger ticket. The cost of reconfiguring or replacing the old imprinter would be approximately \$80-\$100 per dealer for the imprinter and an additional 25-40% increase in printing and mailing costs. FWC has finished a cooperative effort with the NOAA HMS group to update the state species codes list to include HMS species. Also included are prohibited shark species.

The NFWF funding referred to in this report represents a joint Fisheries Dependent/Independent plan outlined in a 2012 proposal. The effort would be spread over a five-year period and would include (among others) enhancements to the current SEAMAP sampling program, enhanced or continued biological sampling (commercial and recreational), as well as continued at-sea monitoring of the recreational fishery. The award is set to commence in 2014 although no start date is available at this time.

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. Improvements continued 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 animals throughout the state of Florida, responds to fish kills and disease events, provides technical guidance and support for fish health in state stock enhancement efforts, and conducts applied research to support these efforts by asking specific questions about factors that impact fish health for the purpose of enhancing Florida's sport fishery.

During the 2012-2013 FY, the FWH group conducted necropsies (laboratory or field examinations of fish to collect health data) on 1,177 specimens that covered four project aspects: 1) health monitoring (n = 331), 2) event response (n = 123), 3) stock enhancement support (n = 392), and 4) special projects (n = 331).

Event response specimens (10.5%) were evaluated as part of fish kill investigations or other fish and wildlife health-related events. **Health monitoring** specimens (28%) 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** (28%) included sport fish collected for parasitological analysis to study parasites that may impact potential aquaculture species and experimental research. Studies described philometrid nematodes infecting yellowedge grouper (*Hyporthodus flavolimbatus*), northern tilefish (*Lopholatilus chamaeleonticeps*), Atlantic Spanish mackerel (*Scomberomorus maculatus*), scamp (*Mycteroperca phenax*), Atlantic needlefish (*Strongylura marina*), jack crevalle (*Caranx hippos*), and red drum (*Sciaenops ocellatus*). Fish examined for **stock enhancement** purposes (33%) 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 2012-2013, a total of 1,190 reports was received on FWH Fish Kill Hotline, through the FWRI website or via direct calls. Approximately 29% of reports were related to unique fish kills, while 37% referred to previously reported fish kills, and the remaining 34% fell into other categories including other wildlife mortalities.

Twenty-two sites were investigated by Fish and Wildlife Health staff for fish kills and 65 sites were investigated by other FWC field laboratory staff. A fish kill was considered an "event" when it was politically, economically, or ecologically significant. Four groups of reports were designated as events: 1) co-occurring reports of water discoloration, unhealthy mullet, and lower than normal baitfish catches in the northeast Gulf region, 2) brown tide bloom in the Mosquito and Indian River Lagoons resulting in multi-species fish kills, 3) a red tide bloom in southwest Florida resulting in 238 reports of fish kills and information requests between October 2012 and April 2013, and 4) a high profile catfish kill in Crescent Lake in Jacksonville, Florida. It is likely that stress from the blue-green algae blooms resulted in fish kills and secondary opportunistic infection.

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, specialty items were given out throughout the year, including fishing towels, stickers, reusable grocery bags, and key chains imprinted with the FKH number and the Sport Fish Restoration logo. Over 560 hours of

preparation time and 209 direct contact hours with the public were logged during outreach events.

Marine Mammals

FWC documented 392 manatee carcasses in Florida during 2012. Preliminarily, 102 of the cause of death determinations in 2012 were human-related fatalities. Eighty-one statewide manatee rescues were conducted in 2012. Of those rescues, 32 were from natural circumstances, 48 were from human-related causes, and one was from an undetermined cause.

A statewide "synoptic" survey was not flown in 2013 because of warmer than average winter weather. An important objective within the state Manatee Management Plan included improving these methods and implementing statistically sound methods to estimate the manatee population. Work progressed in developing and refining new methodology.

During the 2012-13 North Atlantic right whale calving season (December 01, 2012 –March 31, 2013) 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. Nineteen mother/calf pairs were documented during the 2012/2013 North Atlantic right whale calving season. A two year-old male right whale was reported floating dead off Palm Coast, Florida, and was subsequently recovered and necropsied in December 2012. FWC staff assisted with the necropsy which revealed that the whale died as a result of chronic entanglement in fixed fishing gear. Preliminary analysis of the gear by NOAA Fisheries Service indicated that it was nearshore fisheries trap/pot gear from the northeast U.S.

FWC documented three injured whales during the calving season. A neonate calf as well as an adult female with a calf were sighted with vessel-related injuries that likely occurred while the mother-calf pairs resided in the southeastern U.S. The third whale, a juvenile female, was sighted

with numerous entanglement wounds in various stages of healing. In collaboration with Georgia Department of Natural Resources, staff conducted 46 right whale biopsy sampling trips resulting in samples from 17 calves, one juvenile, and two adult whales.

Coastal and Marine Habitat Characterization

The coastal and nearshore marine habitats that fisheries depend on are a focus of FWRI mapping efforts. Statewide compilations of seagrass, coral/hardbottom, oyster reefs, salt marsh, and mangroves continue to be updated with the best available data. Modern technologies, such as satellite imagery, LiDAR and sidescan sonar, are being implemented to modernize habitat mapping methods. Off the Springs Coast for example, the western extent of seagrass and extensive areas of colonized hard-bottom were mapped for the first time in several decades. These map-based data provide significant baselines for seagrass extents in areas where they are most susceptible to change. These types of coastal nearshore habitat maps are viewable and made publicly available through easy to use Internet-based mapping tools.

The Unified Florida Reef Tract Map (Unified Reef Map) provides a consistent geospatial framework for management, monitoring, and characterization of the Florida reef tract from Martin County to the Dry Tortugas. The Unified Reef Map integrates many different existing benthic cover maps under a Unified Classification (UC) system which provides a common and consistent picture of the entire area while retaining the original detailed information specific to different source maps. The UC contains five levels of seafloor classification detail providing flexibility in the scope of analysis. Where mapping projects overlap spatially, data are edited to create a seamless and consistent transition. The results of this work reflect a collaborative effort between FDEP, FWC, NOAA, Nova Southeastern University, and the National Park Service.

Division of Habitat and Species Conservation

Thomas Eason, Director

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 Imperiled Species Management Section (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. Participation 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

- Development and implementation of 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 participation in Technical Working Groups (TWGs) for Natural Resource Damage Assessment (NRDA) planning. Staff is currently working with Franklin, Gulf, and Escambia Counties, and the City of Destin to provide approximately \$115,825 in funding to enhance local efforts to reduce the impact of lights on marine turtle nesting beaches.

- Participation in the development of the Department of Environmental Protection (DEP) inaugural Beach Management Agreement for beach restoration activities on the Island of Palm Beach.
- Participation 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)).
- Provision of input to 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, home owners associations, and other interested groups concerning marine turtles, lights and other impacts, and display of the Sea Turtle Lighting Trailer educational display by request.
- Administration of the Marine Turtle Permit Program and participation in a Rapid Process Improvement for the Marine Turtle Permit Program to better serve researchers working with marine turtles in Florida.
- Coordination of the transfer and release of marine turtles during rehabilitation and supervised public sea turtle releases; identification and transfer of 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 350 applications or plans, including revisions, submitted to the Florida Department of Environmental Protection's (DEP) District Offices, DEP's Division of Water Resource Management, 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).
- Participation in review of Department of Environmental Protection proposed rule revisions for Florida Statute 161 and 373 that could impact marine turtles, their nests, hatchlings and nesting habitat.
- Participation in more than 90 site inspections, including lighting inspections, as part of environmental commenting responsibilities or at the invitation of local governments and property owners.
- Conduction of public workshops at the request of local government commissions or staff.
- Participation 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 2013 Marine Turtle Permit Holder Workshop with the Sea Turtle Conservancy in Orlando for over 400 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.
- Provision of 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 loggerhead sea turtle hatchling. This decal, number 22 of a series, was distributed to local tax collectors' offices across Florida.

- 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: Staff continued to work with the county and U.S. Fish and Wildlife Service staff to complete a final revised draft of the MPP. A complete draft is expected in fall of 2013 when it will be available for public review.

- Charlotte County: FWC continues its work with the County to draft an MPP. An initial draft is expected by late fall of 2013.
- Staff produced 340 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. Several of the permit review efforts focused on maintenance and expansions of Florida ports. Implementation of the boat facility-siting 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 regarding manatees and distribute written materials to boat users. A brochure specifically designed for boaters was developed and is available for marina educational plans, called A Boater's Guide to Living with Florida Manatees.
- Flagler County (68C-22.028, FAC) – The proposed rule for coastal Flagler County was finalized last fiscal year, and was posted by March 2013.
- In advance of considering a potential rule for western Pinellas County, staff completed data review and met with County staff to discuss the data analysis. Staff also met with boating and environmental stakeholders to discuss the data analysis and to learn about local concerns. Staff plans to meet with additional groups to share our data evaluation and collect local input.
- Structure Related Manatee Deaths have totaled 210 (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 of 6.2 manatees/year (1974-2000) to a post-retrofitting average of 3.7 manatees/year (2001-2012). A milestone was reached this year when the Moore Haven Lock was retrofitted with a manatee protection device, completing the retrofitting of all known state or federal water control structures that have caused a manatee mortality. Overall, coordinated efforts are

having a significant influence on reducing structure-caused mortality at retrofitted structures.

- FWC is working with state's Water Management Districts in development of Minimum Flows and Levels (MFLs) for spring systems that provide warm-water habitat for manatees. MFLs for the following Gulf Coast springs, Manatee Springs, Fanning Springs and the Weeki Wachee Springs system have all been developed using criteria to protect winter warm-water manatee use. FWC is working with the Nature Conservancy and the U.S. Fish and Wildlife Service to identify and complete restoration and enhancement projects for Florida Gulf Coast springs systems that will improve manatee access to natural warm-water habitat at Salt Creek (Sarasota County) and Three Sisters Springs (Citrus County). FWC also worked with Mote Marine Lab to conduct an assessment of manatee warm-water habitat at Lithia Spring (Hillsborough County) and a final report on that investigation was completed in 2012.
- 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 last winter of a three winter conversion process at the FPL Cape Canaveral Energy Center. The conversion of the Cape Canaveral plant is complete and it is now generating electricity. This winter manatee use of the plant's thermal discharge and water temperatures in the warm-water refuge will be monitored to document any changes in the warm-water refuge or in manatee behavior. At the FPL Riviera Beach Energy Center the conversion is entering its last winter, and at the Port Everglades plant this will be the first full winter with an interim heating system. At each of these plants, manatee distribution data will be collected via aerial surveys and manatee movement data will be collected from satellite tagged manatees at Port Everglades. These data will provide information regarding how manatees responded to the changes in warm

water availability in southeast Florida during the winter cold season. In addition, daily health assessments at the interim warm-water refuges will be conducted to monitor manatees for cold-stress symptoms.

- 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 143 requests for printed materials. The "Ask FWC" service on the agency's website generated 6,500 hits for manatee-related questions. FWC responded directly to 71 online requests. In keeping up with today's social networks, staff worked with the agency's Community Relations Office to conduct a month-long social media manatee awareness campaign during Manatee Awareness Month (November). The campaign included a photo share promotion that encouraged the public to submit personal manatee images to the agency along with permission to use the images for educational purposes as needed.

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 of marine and estuarine habitat management through proactive coordination and participation with partners.
 5. Support of marine and estuarine habitat restoration, conservation, and protection activities.

Accomplishments

- FWC northwest regional biologists refined and developed phase I planning for an oyster and seagrass restoration 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 of about 10 acres in area 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 had initiated a three-acre living shoreline oyster and saltmarsh enhancement project in coordination with the Florida State University Marine Laboratory (FSUML) at Turkey Point. This project will enhance existing oyster reefs, augment saltmarsh habitat and improve shorebird nesting habitat on FSUML lands, and will be used by research and outreach coordinators well into the future.
- FWC worked with TNC, USFWS, NOAA, and regional and local governments to develop coordinated and prioritized watershed-level conservation projects related to RESTORE Act activities in waters from Franklin to

Escambia Counties. This effort will result in a comprehensive priority list of aquatic habitat conservation efforts supported by regional partners and directed toward a significant funding source for the conservation and restoration of estuarine marine habitats in coastal northwest Florida.

- FWC staff conducted an eighth season of 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 a 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

Kal Knickerbocker, 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 practical 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 2012/2013, 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 industry regulation and development carried out during fiscal year 2012/2013.

Aquaculture Certification Program

Chapter 597, Florida Statutes (F.S.) established the Aquaculture Certificate of Registration to recognize aquafarming 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

1,100 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, provide the aquaculturist with applicable industry updates and act as a resource for the aquaculture industry.

The Division certified 962 aquaculture facilities during FY 2012/2013. Shellfish producers (354 farmers) make up 37% of the certified farms, 273 food fish producers make up 28% of the certified farms, 189 ornamental producers make up 20% of the certified farms, with the remaining producing 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 (17%) and Hillsborough County (8%).

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 2012/2013, the Division administered 475 aquaculture leases containing about 1,106 acres and 56 shellfish leases containing about 999 acres. Aquaculture and shellfish leases are located in 16 counties, including Bay, Brevard, Charlotte, Collier, Dixie, Franklin, 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 aquafarmers 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.

Late in 2013, the Board of Trustees approved two modified lease agreements for floating oyster cages in Alligator Harbor. Utilization of the full water column allows aquaculturists to place oysters in the nutrient-dense upper layer of the water column and offers protection from common predators.

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 sales and value survey of hard clam farmers reported that 136.3M clams were sold during 2012.

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 2012/2013, 481 sampling excursions were conducted to collect and analyze 10,588 water samples for fecal coliform bacteria. There were 358 management actions to close or re-open shellfish harvesting areas in accordance with the management plans for individual shellfish harvesting areas. During FY 2012/2013, a total of 87 Shellfish Processing Plant Certification Licenses were issued and 313 regulatory processing plant inspections were conducted. Based on inspection results, 31 warning letters, and two settlement agreements were issued.

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 2012/2013, the Division collected 120,744 bushels of processed oyster shell from processors located primarily in Franklin County and collected 24,624 bushels of clam shell from processors in Cedar Key. Shell planting operations accounted for the deposition of 8,292 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 92,796 bushels of live oysters were re-planted on public reefs in Dixie, Levy, and Wakulla Counties.

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). The grant subcontract agreements were extended several times with a firm ending date of September 30, 2013. The \$4.2M 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 2012/2013, the Division began winding down the restoration activities to coincide with the remaining funds and grant deadline. Oyster reef restoration operations accounted for the deposition of 8,292 cubic yards of substrate materials on public oyster reefs in some Florida's most productive estuaries.

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 aquaculture 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.

Apalachicola Bay Oyster Harvesting License

An oyster harvesting license is required to harvest oysters from Apalachicola Bay. In FY 2012/2013, 1,790 oyster harvesting licenses were sold, representing a 12% 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.

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES (LDWF) **OFFICE OF FISHERIES** *Robert Barham, Secretary*

The purpose of the Fisheries Program is to manage living aquatic resources and their habitat, to support the fishing industry, and to provide access, opportunity, and understanding of the Louisiana aquatic resources to the state's citizens and other beneficiaries of these sustainable resources.

Objectives

- To provide high quality fishery management information through effective data collection, analysis, and information sharing.
- To be an effective, efficient steward of our renewable aquatic resources.
- To provide and enhance recreational fishing experience through improved access, opportunity, and public awareness.
- To maintain a sustainable and economically viable fisheries environment.
- To create a work environment in which all Fisheries staff are enabled and empowered to achieve the office's goals and objectives.

Organization

The Office of Fisheries structure is comprised of the following sections:

- Marine Fisheries - to manage the marine (saltwater) fisheries resources of the state.
- Inland Fisheries - to manage the inland (freshwater) fisheries resources of the state.
- Fisheries Management - to provide technical and scientific research in support of fisheries management.
- Fisheries Oversight - to provide guidance and assistance to Louisiana's valuable commercial fishing industries.
- Fisheries Extension – to provide fishery management information to the recreational fishing sector through hatcheries, improved fishing and boating access, aquatic outreach, and volunteer activities.

Ongoing Monitoring of 2010 Deepwater Horizon Oil Spill

Response and recovery efforts related to the 2010 Deepwater Horizon oil spill, continued throughout 2013. As one of the primary state agencies involved in oil spill response, Louisiana Department of Wildlife and Fisheries (LDWF) staff continued to respond to reports of residual oiling from the spill and participated in response and recovery efforts of marine mammals and sea turtles, participated in the ongoing Natural Resource Damage Assessment (NRDA), and worked to ensure that the seafood harvested in open waters tested at acceptable levels for public consumption according to standards set by the U.S. Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA). LDWF also conducted enhanced fisheries monitoring to better manage fisheries in the wake of the spill.

Fisheries Closures

Portions of state waters located around East and West Grand Terre Islands and Bay Jimmy, within the Barataria Basin, as well as a portion of state outside waters from Caminada Pass westward to Belle Pass, have remained closed to all recreational and commercial fishing except for recreational and charter boat angling (Figure 1). On June 26, 2013, LDWF immediately closed all commercial fishing and certain recreational fishing activities in additional areas of Grand Terre Islands due to the discovery of large tar mats in the intertidal and subtidal areas of the islands. These mats were located in areas that were adjacent to but not included in waters previously closed to fishing. This closure includes state outside waters seaward a distance of one-half mile from the shoreline from the southwestern shore of East Grand Terre at -89°54'04" west longitude, thence eastward along the shoreline to the southeastern shore of Grand Terre at -89°51'39" west longitude, thence eastward along 29°18'46" north latitude to -89°51'19" west longitude. Portions of state waters within the Mississippi River Delta have also remained closed to commercial fishing.



Figure 1. Areas closed to all commercial and recreational fishing except for recreational angling and charter boat angling.

However, in early December, LDWF modified the size of the fisheries closure by reopening that portion of state outside waters from one-half mile to one mile seaward of the shoreline between Caminada and Belle passes.

Enhanced Resource Monitoring

In response to the Deepwater Horizon oil spill, Fisheries biologists continued independent sampling efforts in order to both monitor fisheries resources and to document trends in Louisiana saltwater fisheries. Monitoring efforts are divided into three components: inshore, nearshore, and reef fish monitoring. The information gathered through enhanced monitoring is used to better manage these species in light of the oil spill.

Inshore Monitoring

Inshore monitoring takes place in the shallower areas around the coast where normal depths are from 1 to 30 feet. Sampling gear in this area includes seines, trammel nets, gill nets, trawls,

dredges, and square meters. All sampling is conducted following protocols established in the Marine Fisheries Field Procedures Manual.

In the case of oysters, normal sampling was increased in several coastal areas, including those areas east of the Mississippi River where confirmed reports of oil occurred. In addition to the increases in sampling sites, dredge sampling was instituted during months when dredging did not traditionally occur prior to the spill (November through February). Increases in sample replication at the sites were instituted in 2011 and continued throughout 2013.

Nearshore Monitoring

Nearshore monitoring takes place in offshore waters, where normal depths are from 30 to 240 feet. Nearshore monitoring is conducted in the three designated zones off Louisiana's coast: Eastern Zone, Central Zone, and Western Zone. Lab biologists utilize an offshore research vessel

and a variety of sampling gear to accomplish proposed work. Sampling is conducted every other month rotating zones, thus each zone is sampled biannually. Nearshore sampling provides fishery-independent monitoring (samples collected without direct reliance on commercial or recreational sectors) and assessment data essential to the management of Louisiana's marine fisheries.

Groundfish

Groundfish surveys use a 42-foot standardized trawl and perform 30-minute tows on a randomized transect, sampling eight sites per transect. Sampling is conducted along randomized transects every 5 fathoms, from 5 fathoms to 40 fathoms. Four randomized transects are sampled monthly. A different zone is sampled monthly, such that each zone will be sampled biannually during the year. All species are identified, weighed and counted, and measured according to the National Marine Fisheries Service (NMFS) Southeast Area Monitoring and Assessment Program (SEAMAP) Operations Manual. Information on environmental parameters (salinity, temperature, dissolved oxygen, wind speed and direction, wave height, precipitation) is collected utilizing a CTD in conjunction with trawl sampling. During this reporting period, six groundfish surveys were conducted, sampling a total of 151 stations (Figure 2).

Reef Fish Monitoring

The reef fish monitoring study is a collaborative effort between the Office of Fisheries and LSU. The study takes place on the natural reef habitats located on Louisiana's shelf edge bank. Many important recreational and commercial species (red snapper, grouper, and amberjack) use these areas as spawning, nursery, and foraging grounds.

Data is collected during eight 12-day cruises taken each year of the study. Acoustic and video imagery, vertical longline, fish traps, and neuston nets are all

used to collect valuable information including reef/community structure, population diversity and density, biological metrics, and larval condition.

Bottom Long Line

The Nearshore Bottom Longline Survey is conducted to obtain fishery-independent data essential for monitoring and assessment of Gulf of Mexico fishery resources. In order to standardize longline collections throughout the Gulf of Mexico, this survey follows established SEAMAP protocols. These data will provide fisheries managers with critical information needed to better monitor fisheries resources throughout the Gulf of Mexico in order to enhance fisheries management. The Louisiana coast was sampled three times this year (spring, summer and fall). Twenty specific sampling sites were randomly selected in each zone. Forty-six bottom longline stations off the Louisiana coast were sampled by LDWF during March through July (Figure 3). A total of 1,421 fishes were captured. Elasmobranchs comprised 75.6% of the catch and teleosts the remaining 24.3%. Elasmobranchs were represented by 15 species and teleosts were represented by 15 species. The most frequently captured shark was the Atlantic sharpnose shark constituting 64.8% of the total shark captures, followed by blacktin

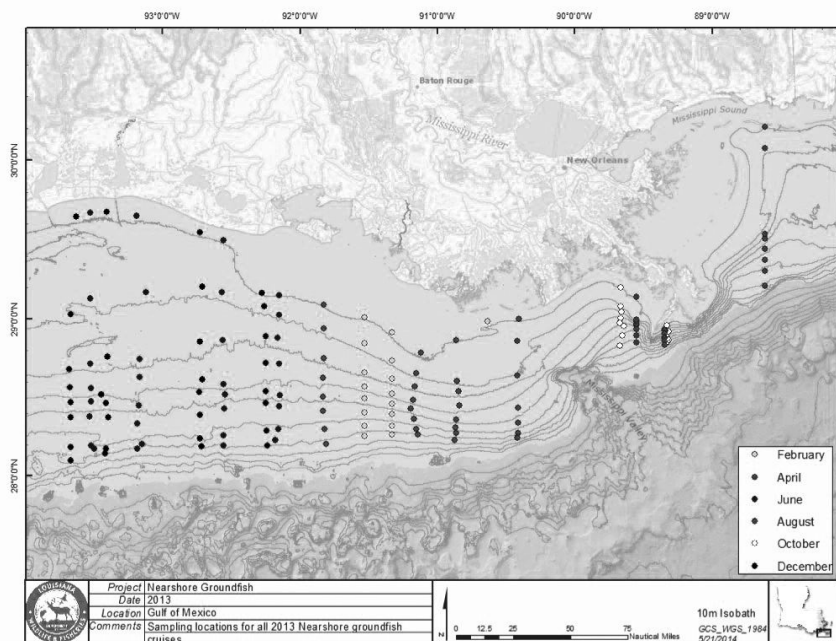


Figure 2. Randomized Site Locations of 2013 Nearshore Groundfish ranging from south of Mobile Bay to south of Calcasieu Bay.

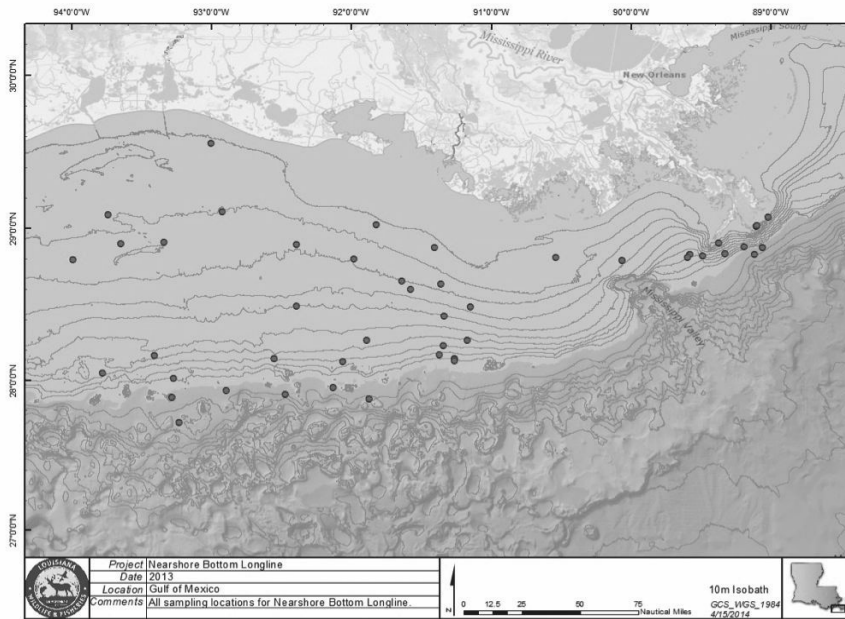


Figure 3. Randomized site locations of 2013 Nearshore Bottom Longline.

shark (15.5%), and *Mustelus* sp. (5.5%). The most frequently captured teleost was red snapper constituting 45.5% of the teleost captures, followed by red drum (26%), and gafftopsail catfish (11%). Red snapper lengths ranged from 400-999 mm with a mean size of 600-699 mm. Six hundred and thirty-three sharks were tagged with either a dart or metal tag.

Vertical Line

The Nearshore Vertical Line Survey is conducted to provide fishery-independent data on the spatial and temporal distribution of recreationally and commercially important reef fish species along Louisiana's coast and the adjoining Exclusive Economic Zone (EEZ). The Nearshore Vertical Line Survey was conducted every other month from April through October. The sampling universe was divided into three equidistant longitudinal zones (Eastern zone: 89.00°- 89.39°, Central zone: 89.40°- 90.19°, and Western zone: 90.20°- 91.00°). Sampling stations were drawn from a pre-established station universe with predetermined depth ranges and structure types. The sites roughly consisted of 23% artificial reefs, 3% natural bottom, and 74% petroleum production platforms. The depths from which the sites were selected were 60-120 feet (5%), 120-180 feet (27%), and 180-360% (19%). In 2013, 159 vertical line stations

were sampled. Seven hundred and fifty-four fish were landed, of which 684 (91%) were red snapper (Figure 4).

Marine Mammal and Sea Turtle Stranding and Rescue Program

The LDWF Marine Mammal and Sea Turtle Stranding and Rescue Program is the first responder to all marine mammal and sea turtle strandings in Louisiana and continues to receive and investigate all reports. This program has developed into a core part of continued monitoring and research to these federally protected, threatened, and endangered species. Louisiana

is one of two states (Florida being the other) along the coast of the Gulf of Mexico to implement a stranding response program as a part of a state agency.

Fisheries biologists work closely with our federal counterparts and staff at the National Oceanic and Atmospheric Administration (NOAA)/NFMS and the U.S. Fish and Wildlife Service (USFWS) to investigate the cause of strandings and deaths. At this time, all sea turtle carcasses are recovered for necropsy to be performed by a NOAA veterinarian. Where logistically possible and appropriate, marine mammal carcasses are also recovered for necropsies performed by trained LDWF staff including a veterinarian, or are necropsied in the field. LDWF Fisheries staff also conduct routine beach surveys, respond to calls from the public, and coordinate with other agencies to respond to all strandings in a timely manner.

Since the onset of the 2010 Deepwater Horizon oil spill response, LDWF staff have responded to more than 700 live and dead sea turtles, including incidental captures. Since the onset of the Northern Gulf of Mexico Unusual Mortality Event (UME) in February 2010, over 600 live and dead marine mammals have been investigated along

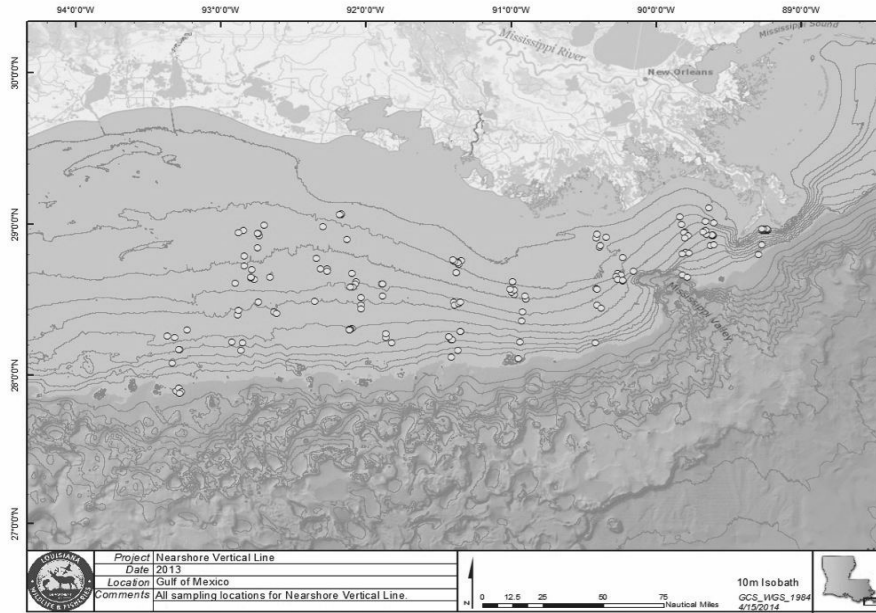


Figure 4. Randomized site locations of 2013 Nearshore Vertical Line.

the Louisiana coast. This accounts for 50% of the total marine mammal strandings occurring along the Northern Gulf of Mexico including the UME area. LDWF staff have responded to multiple live stranded sea turtles, transporting them to our partnered rehabilitation center. In turn, LDWF staff has released a successfully rehabilitated Kemp's Ridley along the coast of Louisiana as pictured to the right.

Beginning in February 2010 to present day, the Northern Gulf of Mexico is enduring the longest and largest UME in its history. A UME is defined as: "a stranding that is unexpected; involves a significant die-off of any marine mammal population; and demands immediate response" (NOAA). All response, recovery, and sampling of marine mammals and sea turtles are carried out under established guidelines and protocols as advised by NOAA/NMFS and USFWS.

LDWF has assisted with the NRDA Live Dolphin Health Assessments conducted in Barataria Bay, a region that has seen a large number of marine mammal strandings since the spill. Dolphin Health Assessments have been conducted in 2011 and 2013 in Barataria Bay and staff are preparing for these assessments to be conducted again in June 2014. LDWF staff have participated in Live Dolphin

Health Assessments carried out in Mississippi Sound. Staff also participated in follow-up monitoring of dolphins sampled during the Barataria Bay Dolphin Health Assessments, which has included photo identification, fecundity surveys, satellite tracking, and VHF tracking.

LDWF is the lead stranding response organization in the state of Louisiana. In conclusion, LDWF has played a vital role in protecting and monitoring the marine mammals and sea turtles that inhabit the waters of Louisiana. These efforts

are critical to monitoring populations, behaviors, and mortalities along the coast of Louisiana while under enhanced sampling protocols associated with the Northern Gulf of Mexico UME.

Tissue Testing For Seafood Safety

Following the Deepwater Horizon oil spill, state and federal officials worked to address seafood safety concerns about the consumption of fish from Gulf of Mexico waters. While fisheries closures implemented in both state and federal waters were aimed at preventing seafood products that may have come into contact with oil from the Deepwater Horizon oil spill from entering the market, additional measures were undertaken in order to ensure that the seafood being harvested in waters off Louisiana's coast met the thresholds set by FDA for safe seafood consumption.

In May 2010, LDWF began collecting, testing, and analyzing seafood tissue samples for polyaromatic hydrocarbons coast-wide on a regular, ongoing basis. In March 2011, LDWF combined its efforts with the Louisiana Department of Health and Hospitals (DHH), Louisiana Department of Agriculture and Forestry (LDAF), and Louisiana Department of Environmental Quality to create The Louisiana Seafood Safety Plan which calls

for collection of and testing samples from inshore species, nearshore reef fish, and pelagic species in addition to corresponding water and sediment samples. The samples were collected, transported, and tested based on protocols agreed upon by the FDA, EPA and the Gulf States.

Since sampling onset, over 3,500 tissue samples of crabs, finfish, and shrimp from coastal Louisiana have been tested for hydrocarbon contamination, along with corresponding sediment and water samples in many cases.

For 2013, LDWF collected 704 composite samples (44 crab, 94 shrimp, and 566 finfish) of seafood for testing. DHH was responsible for collecting all oyster samples. A website is available for the public to access the results of those samples (www.gulfsource.org). All of those samples tested below the FDA-established levels of concern.

Natural Resource Damage Assessment Activities

Since the Deepwater Horizon oil spill, Office of Fisheries staff has worked in coordination with state and federal trustees on a NRDA. This coordination included conference calls, work plan development, work plan review, data QA/QC, and many meetings to develop an injury assessment. Staff participated in Technical Work Groups on fish, oyster, submerged aquatic vegetation, marine mammals, and sea turtles, in addition to assessments on shoreline, water column, nearshore benthic, lost human use, and response injury. LDWF staff assisted with vessels and staff time in the spring 2013 Nearshore Oyster Sampling Plan, 2013 Oyster Quadrat Abundance Monitoring Plan, 2013 Oyster Recruitment Monitoring Plan, Marine Mammal and Sea Turtle Prey Sampling Plan, and a Dolphin Health Assessment Plan.

Early Restoration Efforts

In April 2011, BP committed to fund up to \$1B for Early Restoration of resources in the Gulf of Mexico from the impacts of the Deepwater Horizon oil spill prior to the completion of the NRDA. As a part of this process, following agreement between BP and the NRDA Trustees and public review and comment, the Louisiana Oyster Cultch project was funded through the Early Restoration process. The

project calls for the construction of six oyster cultch plants and an oyster hatchery to restore oyster resources injured as a result of the spill. In the spring of 2013, approximately 40,000 cubic yards of limestone were placed on a site in Mississippi Sound near 3-Mile Pass (St. Bernard Parish) and just over 18,000 cubic yards of limestone were spread over suitable water bottoms in Drum Bay (St. Bernard Parish).

On April 1, 2013, the notice was given to start the construction of the NRDA oyster hatchery on Grand Isle, Louisiana. The new hatchery building is intended to help augment oyster production on the early restoration cultch plants. The structure will be similar construction to the adjacent LDWF Marine Lab facility including pre-stressed concrete piles, floor decking and wall panels, and standing seam metal roofing. Construction is ongoing at this time and is scheduled to be completed in the second half of 2014.

Resource Management

Louisiana's fisheries resources benefit all constituent groups in Louisiana, across the Gulf Coast, and throughout the nation. The Louisiana Constitution of 1974 provides the framework to protect and enhance habitat and to ensure sustainable commercial and recreational fisheries. Fisheries biologists collect the basic ecological data needed to efficiently and effectively manage fisheries resources to benefit all constituent groups.

LDWF is responsible for managing Louisiana's fisheries, maintaining healthy fish populations, and habitat for the benefit of Louisiana's residents and visitors, both of today and tomorrow. Responsible fisheries management starts with sound scientific information about fish populations and the ecosystems in which they live, as well as the fisheries that harvest them. LDWF biologists use a variety of methods to gather this information, including examining fishermen's catch (fishery-dependent data) and conducting scientific studies (fishery-independent data).

Monitoring

Monitoring fisheries, both fresh and saltwater, is a crucial component of resource management.

Important biological data is collected specific to each type of sampling. In addition, hydrological data (conductivity, salinity, and water temperature) are collected with each biological sample, as are wind direction and speed. The information gathered during monitoring efforts, such as fisheries independent sampling, gives biologists and administrators the information essential to manage each fishery appropriately; openings, closures, limits, and emergency actions are based upon monitoring data.

Shrimp Sampling

The long-term objectives of the shrimp fishery research program are to assess and monitor shrimp stocks and to evaluate shrimp fishery impacts on other fisheries and protected species. Each species requires an annual assessment of the condition of the stock, the fishery, and sectors of the economy that are impacted by changes in either. The assessments are also needed so that LDWF can determine whether or not a stock is overfished.

Inshore shrimp sampling continued throughout state, inside and outside state waters, and provided data crucial to setting both the opening and closing dates for the spring and fall shrimp season in inside waters and in closing and reopening portions of state outside waters to shrimping. Beginning in spring, both the frequency and number of 6-foot trawl sampling stations was modified. Stations located in Lake Pontchartrain, and Barataria and Terrebonne basins were grouped in a series of strata and sampled using a randomly stratified sampling design. Six-foot trawl sampling was partially discontinued in the Vermilion/Teche River and all of the Mermentau/Calcasieu/Sabine River basins as 16-foot trawl sampling provided data more appropriate in monitoring shrimp recruitment, distribution, growth, and abundance. With the expansion of the state's territorial sea seaward to 9 nautical miles, LDWF began conducting all shrimp sampling in state outside waters using 20-foot balloon trawls. During 2013, 142 6-foot trawl, 2,749 16-foot trawl, and 260 20-foot trawl samples were collected by LDWF.

Oyster Sampling

Management of the public oyster grounds and

reservations relies heavily upon data gathered through a comprehensive biological monitoring program. Nearly 500 square-meter samples are collected each July, and over 3,000 dredge samples are collected during each calendar year.

Square-meter data is used to estimate the annual oyster stock size and for yearly oyster season recommendations by the Office of Fisheries. Dredge data is 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 commercial oyster vessels.

Annual Oyster Stock Assessment

The 2013 oyster stock assessment results indicated an increase in statewide oyster resource availability on the public oyster seed grounds, although stocks continue to remain at some of the lowest levels in the last 20 years.

Sustainable Oyster Shellstock Modeling

Under contract and through collaboration with LDWF, a research team led by Dr. Tom Soniat at the University of New Orleans (UNO) continues to refine and test a sustainable oyster shellstock model for the public oyster areas of Louisiana. This computerized model provides a potential management tool for fisheries management with the goal of conserving the oyster reef base. Oyster stock assessment sampling in 2013 provided model input data such as estimates of reef mass (grams per square-meter) and size-frequency of oysters. Utilizing additional data on oyster growth, mortality, and estimated commercial harvest rates, the model estimates the amount of oyster harvest that can be allowed while preserving the reef mass. The model was tested for the second straight year in Hackberry Bay during the 2013-2014 oyster season. Based on the model guidance, the oyster season was closely monitored and closed once these harvest thresholds were met. Although model guidance was produced for all other public oyster areas, the commercial harvest season was only modified for Hackberry Bay.

Fouling and Disarticulation Studies

Originally begun in the spring of 2013, LDWF biologists from CSA 7 performed an additional round of tray studies in the fall of 2013 in lower Calcasieu Lake to gather data on fouling and disarticulation rates of oysters through time. As oyster mortality estimates are important to stock size estimates and successful oyster management, accurately determining how long an oyster has been dead is necessary. Methods of estimating oyster mortality can vary and may include techniques such as counting boxes (box = two oyster valves gaped open, but still attached at the hinge), or counting “recent” dead (counting both boxes and single valves that appear to have died since the time of the previous sampling event). The LDWF oyster management program uses the “recent” dead method, but determinations of “recent” can sometimes be subjective. Therefore, the fouling study was developed to provide photographic examples of the appearance of the inside of oyster shells in a temporal context. The disarticulation portion of the study was developed to determine the temporal integrity of the oyster box (i.e. how long before a box breaks apart into separate valves).

Preliminary data generated from these studies continues to be analyzed to provide guidance to future studies. Initial studies in the spring of 2013 showed that barnacles were the most common member of the fouling community in the trays. During the fall 2013 study, oyster spat were the most successful at colonizing the shells within the study trays and, on average, covered approximately 31% of the shell surface area after 56 days. An educational manual of photographs continues to be developed to more accurately determine length of time since oyster mortality.

For the disarticulation study during the fall of 2013, initial disarticulation was low, which was in contrast to the same study performed in the spring of 2013 when 24% of the boxes disarticulated after just seven days. After 56 days in the fall of 2013, approximately 32% of boxes had disarticulated compared to 29% in the same time-span during the spring 2013 study. The disarticulation trays will remain in the water until all boxes have disarticulated.

Vessel Monitoring System

In an effort to better manage public oyster beds, the Office of Fisheries has implemented the Vessel Monitoring System (VMS) Pilot Program, which requires oyster vessels fishing on public seed grounds to have a VMS provided by the Office of Fisheries. VMS is a GPS system that utilizes satellites to indicate where a vessel is located at all times, providing valuable data on fishing effort by location. By covering costs associated with the purchase, installation, and operation of VMS, important information can be gathered through the pilot program and recommendations can be made to the Louisiana Wildlife and Fisheries Commission (LWFC) regarding greater utilization of this public resource.

In August 2012, the bid for VMS services was awarded to Pole Star/Absolute Software Inc. Shortly after, seed ground permit holders were notified of the new VMS requirement and informed how to schedule an installation. VMS installations began during the fall of 2012 and are expected to be completed the summer of 2014.

Since 2012, LDWF has mailed several notifications to permit holders informing them of the mandatory VMS requirement. Correspondence was sent to vessel owners who did not have a VMS unit installed on their vessel or who had not scheduled a VMS installation. The final notification in 2013 was mailed to 186 vessel owners that did not have a VMS unit installed on their vessel.

To better track VMS installation records, LDWF created a database to verify information and track VMS installation dates in 2013 to assist Pole Star/Absolute Software, Inc. and its sub-contractor, Imtech Marine. Table 1 provides a summary of the status of installations as of December 2013.

Detailed analysis of the VMS data began in June 2013 and will continue into FY 2013-2014. LDWF intends to use the data to develop advanced fishing effort models to assist in public seed ground stock assessments. Initial assessments of the data being collected are promising.

Table 1. Installation status of VMS in oyster vessels fishing on public oyster seed grounds as of December 2013.

<i>Status of Installation</i>	<i># of Vessels</i>
<i>VMS Installed/Verified</i>	<i>113</i>
<i>VMS Installed/Not Verified</i>	<i>42</i>
<i>Scheduled</i>	<i>75</i>
<i>Awaiting Scheduling</i>	<i>27</i>
<i>Declined Installation</i>	<i>17</i>

The project is being funded through a Federal Community Development Block Grant (CDBG) in cooperation with the Office of Community Development. The entire cost of data collection will be covered for the two-year pilot study. After two years, the project will be reassessed along with future funding options.

Oyster Hatchery and Research

Fisheries continued its partnership with the Louisiana SeaGrant Bivalve Hatchery in oyster restoration work by utilizing hatchery-reared oyster larvae and spat (spat are oysters that are smaller than 25mm). During the 2013 calendar year, LDWF and the SeaGrant Hatchery deployed approximately 34M oyster spat and over 566M oyster larvae on suitable water bottoms within the Calcasieu Lake Public Oyster Area in southwestern Louisiana. Biological sampling of these plantings has shown poor results, however, as no significant difference in spat numbers can be found in planted areas as compared to surrounding reefs. Additional larvae and spat are planned to be deployed on appropriate public oyster grounds during 2014 as both hatchery and deployment methods continue to be developed for the purpose of increasing spat survival in planted areas.

Remote Setting Program

Since the 2010 Deepwater Horizon oil spill, Louisiana’s public oyster seed grounds have experienced significantly lower levels of successful oyster reproduction (oyster spat set). Spat set is a key indicator of the overall oyster population’s stability because it shows the recruitment of young oysters into the population. In response, LDWF developed the Remote Setting Program to increase

oyster production levels through the following activities:

- Stockpiling of cultch material.
- Deploying and subsequently “seeding” cultch material with oyster larvae.
- Setting oyster larvae onto cultch material.
- Placing set material into on-shore tanks that can be used for future deployments.

LDWF worked closely with Plaquemines Parish on the Remote Setting Program and utilized the Buras Boat Harbor as the program’s work site. Funding for the project comes from LDWF, the Coastal Protection and Restoration Authority (CPRA), and a CDBG through Plaquemines Parish. Site improvements and the construction of work areas and remote setting tanks are currently in the planning phase; however, the site is currently used as a storage and loading site for cultch material being deployed under the program. LDWF is also collaborating with the Coalition to Restore Coastal Louisiana to collect and stockpile oyster shell at the Buras site. Oyster shell is the material of choice for setting larval oysters.

One component of the Remote Setting Program was designed to deploy cultch material to certain pre-selected sites using contracted private oyster vessels (Table 2). Beginning in December 2012, properly equipped oyster vessels were loaded with material using an aggregate conveyor at the Buras facility. In 2013, 6,149 tons of material were deployed at four different sites. For participation and services provided through the program, contractors were compensated \$50 per ton and \$6 per mile. This portion of the program targeted the Hackberry Bay, Black Bay, and Lake Fortuna areas.

2013 Remote Setting Program Numbers Update of Reef Acreage East of Mississippi River (CSA 1-North and CSA 1-South)

Table 2. Remote setting program numbers.

<i>Total Vessels Participating</i>	<i>15</i>
<i>Total Material Deployed</i>	<i>6,149.385 tons</i>
<i>Total Payments Invoiced</i>	<i>\$329,833.65</i>

Based upon recent water bottom assessments utilizing side-scan sonar in 2010 and 2011, an extensive effort was initiated to update reef acreage ('reef' refers to dense or scattered shell) on public grounds east of the Mississippi River. Historic reef acreage has been utilized for stock assessment calculations since the original water bottom assessments were performed in the mid-1970s.

This initiative was completed in 2013 and is being incorporated into the 2013 oyster stock assessment. For CSA 1-North, reef acreage increased from approximately 20,400 to 22,400 acres. Reef acreage in CSA 1-South increased from approximately 16,600 to 27,700 acres.

Finfish Sampling

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. The fishery-independent monitoring program is an ongoing collection of data by Fisheries biologists in the field, conducting surveys designed to sample coastal waters in an objective manner. The surveys collect information based on geographic ranges independent of commercial or recreational fishing operations.

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

1. A bag seine is used to sample young of the year and provide information on growth and movement. More significantly, these samples provide information on the forage species and ecological components of marsh-edge and shoreline habitats throughout the coastal zone. Seine samples are taken quarterly during the first month of the quarter.
2. A gill net is used to sample juvenile, sub-

adult, and adult fish. It provides information on relative abundance, year class strength, movement, and gonad condition. Gill net samples have been collected semi-monthly from April through September, and monthly from October through March using a strike net technique.

3. A trammel net is used to sample juvenile and sub-adult fish. It provides information on relative abundance, standing crop, and movement. Trammel net samples are taken monthly from October through March.

During 2013, the fishery-independent finfish sampling program collected 1,096 gill net samples, 403 seine samples, and 404 trammel net samples. Sample information for 2013 includes a redesign in fishery-independent finfish monitoring sampling frequency based upon internal statistical analysis.

Commercial Harvest

Louisiana produces nearly one-quarter of the seafood in the continental United States. Louisiana comes in second only to Alaska in terms of commercial fishing production and is home to three of the top six commercial fishing ports in the country. Seventy-eight percent of the seafood production in the Gulf of Mexico comes from Louisiana shrimpers, crabbers, oyster harvesters, and fishermen. Nearly 13,000 commercial fishermen and over 1,500 seafood dealers/processors and brokers register each year to provide the nation with fresh seafood.

Implemented in 1999, LDWF utilizes the Trip Ticket Program to collect commercial seafood statistics. 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 almost 250,000 commercial fishing trips reported last year producing approximately 190M lbs of seafood.

Beginning in May 2000, a computerized electronic trip ticket program was developed and made available to dealers. To date, roughly 200 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 providing additional economic opportunity to fishermen.
- to develop a crop insurance program for oyster growers.
- to estimate damages from hurricanes Katrina and Rita in 2005.

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

Shrimp are the state’s most valuable fishery. In 2013, preliminary shrimp landings measured approximately 62.1M lbs (all species combined/heads off weight). Brown shrimp landings comprised approximately 39% of 2013 landings. White shrimp landings in 2013 measured nearly 36.7M lbs (heads-off) weight (Figure 5).

Preliminary Louisiana commercial blue crab landings for 2013 totaled approximately 38.5M lbs (Figure 6).

Louisiana regularly leads the nation in the production of oysters and continues to account for approximately one-third of the nation’s oyster landings. Among the Gulf States, Louisiana consistently ranks first in landings, accounting for over 50% of all oysters landed (Figures 7 and 8).

Recreational Harvest

In 2013, LDWF monitored recreational fisheries through the Marine Recreational Information Program and creel surveys in cooperation with NMFS and the Gulf States Marine Fisheries Commission (Commission). The Marine Recreational Information Program, formerly the Marine Recreational Statistics Survey, uses dockside interviews of recreational anglers to determine catch, and a telephone survey to determine charter-fishing effort. During that year, Fisheries biologists conducted approximately 5,629 interviews of recreational fishermen along Louisiana’s coast. There were an estimated total of 4,611,997 angler trips taken. Anglers harvested

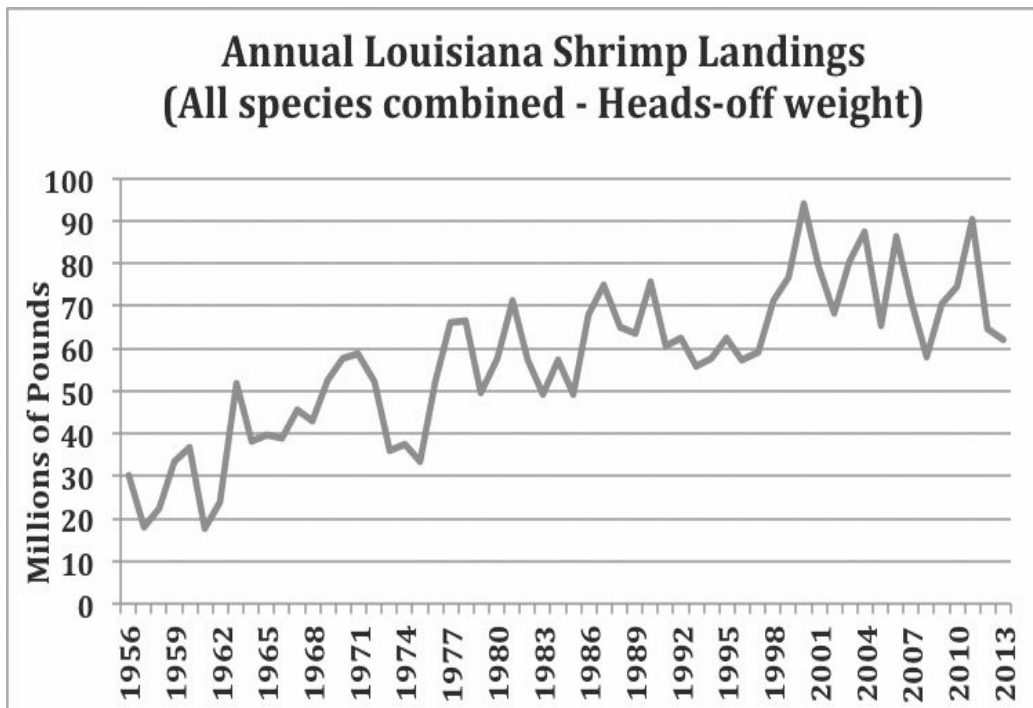


Figure 5. Annual Louisiana shrimp landings.

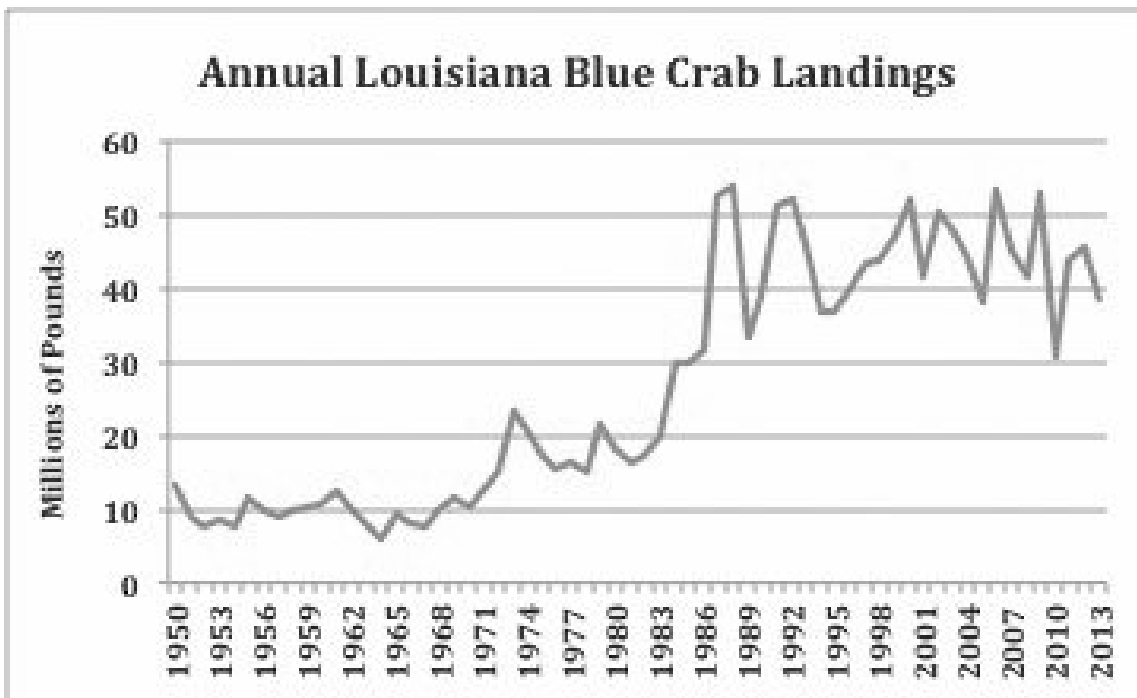


Figure 6. Annual Louisiana crab landings.

an estimated 8.9M spotted seatrout and 3.1M red drum during this time. Approximately 380 charter vessels were sampled with an estimated 124,836 charter angler trips during this time.

On Jan. 1, 2014, LDWF launched a new program, “Louisiana Recreational Creel Survey” aka LA Creel. LA Creel replaces the Marine Recreational Information Program (MRIP) developed by the National Marine Fisheries Service to collect marine recreational saltwater fisheries harvest data in Louisiana. The new program is survey driven and was designed to provide precise, real-time estimates of saltwater fish harvest. This new survey uses a combination of data collected at public fishing areas (catch rates) and phone surveys (effort) to calculate harvest estimates from various fishing activities. Below are some examples of the data collected:

- Fishing Activity (Offshore, Inshore, Charter)
- The number of anglers on the trip
- General location where they anglers fished
- Whether or not the anglers were fishing in a tournament
- If the fishing trip is complete at time of interview or not
- Number of fish harvested, identified to species.

Assessments

Fisheries management involves sampling, analysis, and development of recommendations to renovate and enhance fish populations. Information collected is used to evaluate the status of the fisheries through stock assessments, monitoring trends, and the benefits of regulations.

A stock assessment of striped mullet in Louisiana waters was produced and presented to LWFC for transmittal to the Louisiana Legislature in February 2014. This assessment uses a statistical catch at age model to estimate annual time-series of spawning stock biomass and fishing mortality rates. Spawner and yield per recruit analyses were used to estimate the impact of fishing pressure on potential yield and spawning potential of this stock in Louisiana.

Staff also began work on stock assessments of black drum, southern flounder, and sheepshead in Louisiana waters. These assessments will explore various age-structured models appropriate to the available data. Final reports will be available in FY 2014-2015.

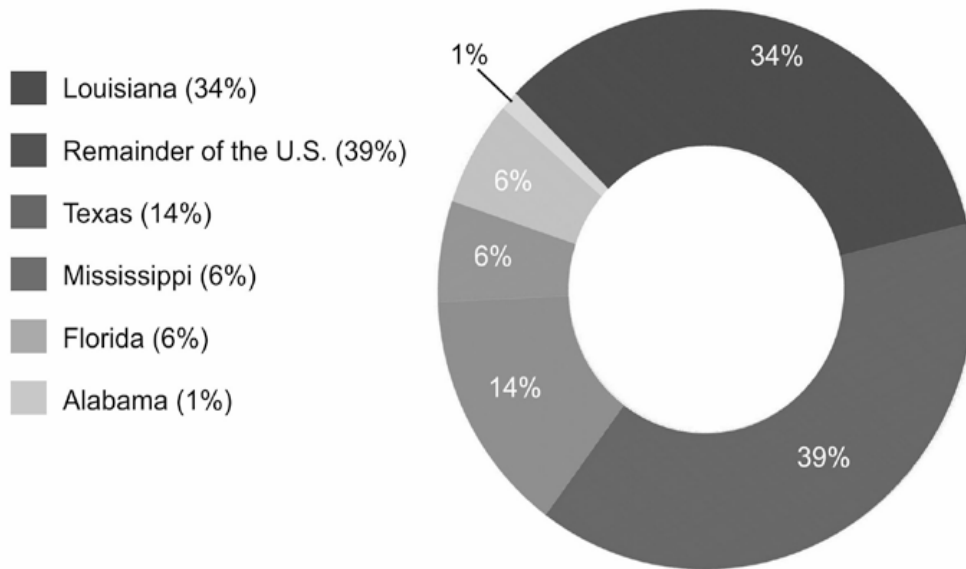


Figure 7. Percentage contribution to average annual landings of all oysters in the United States during the time period of 1997-2013.

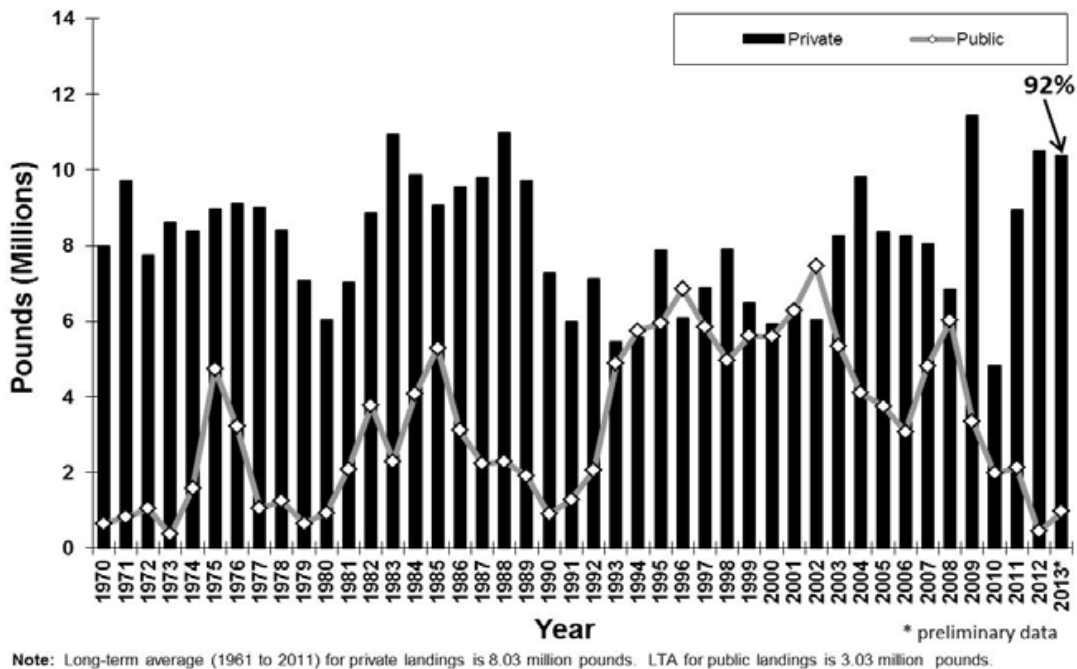


Figure 8. Historical Louisiana oyster landings from private oyster leases and public oyster areas.

Marine Fishery Management Plans

LDWF will begin developing new and updating existing fishery management plans to provide a mechanism to strategically implement science-based management recommendations for resolving fisheries issues. The goal of these plans is to ensure long-term conservation and sustainable

use of these fisheries resources for the maximum environmental, social, and economic benefit to the state and its citizens and visitors.

LDWF has developed a document to guide the development of future fishery management plans with reference to applicable principles

and standards of the United Nations Food and Agriculture Organization Code of Conduct for Responsible Fisheries. A first draft of a revised pilot fishery management plan for Louisiana blue crab will be completed by the summer of 2014 with an estimated completion date of August 15, 2014. The fishery management plan will also be complemented by a United Nations Food and Agriculture Organization-based self-assessment.

Management Recommendations

Through utilization of the previously mentioned recreational and commercial sampling techniques, fisheries managers then analyze the resulting data to develop recommendations to renovate and enhance fish populations. The information collected is used to produce recommendations for setting seasons and harvest limits, and to monitor the species found in an area over time.

Shrimp Management

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 Lake 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.

Based on analysis of historic data, as well as data generated from biological sampling conducted by Fisheries biologists, the following shrimp management recommendations were made to the Secretary of LDWF and the LWFC. These measures were implemented during 2013.

Lake Pontchartrain and Portions of Mississippi River Basins

2013 - Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 27, 2013 from the MS/LA state line westward to South Pass of the Mississippi River.

Closed at 6:00 a.m. July 18, 2013 except for the following waters:

- 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.

2013- Fall Inshore Shrimp Season

Opened at 6:00 p.m. Aug. 12, 2013.

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

2013 – Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 13, 2013 in the following waters:

- That portion of state inside waters from the eastern shore of Bayou Lafourche westward to the western shore of Vermilion Bay and Southwest Pass at Marsh Island.
- That portion of state outside waters extending 3 nautical miles seaward from the shoreline from the Atchafalaya River Ship Channel at Eugene Island as delineated by the Channel red buoy line westward to the western shore of Freshwater Bayou Canal at -92°18'33" west longitude.

Closed at 6:00 a.m. July 4, 2013 from the eastern shore of Bayou Lafourche westward to the Atchafalaya River Ship Channel at Eugene Island as delineated by the Channel red buoy line except for the following waters:

- That portion of state inside waters south of 29°15'00" seconds north latitude from 90°18'00" west longitude westward to -90°34'00" west longitude, and those inside

waters south of 29°07'00" north latitude from -90°34'00" west longitude westward to -90°50'30" west longitude.

Closed at one-half hour after sunset July 6, 2013 from the Atchafalaya River Ship Channel at Eugene Island as delineated by the Channel red buoy line westward to the western shore of Freshwater Bayou Canal.

Closed at 6:00 a.m. July 18, 2013 in the remainder of these waters.

2013 – Fall Inshore Shrimp Season

Opened at 6:00 p.m. Aug. 12, 2013 from the Atchafalaya River Ship Channel Buoy Line eastward to the eastern shore of South Pass of the Mississippi River.

Opened at 6:00 a.m. Aug. 12, 2013 from the Atchafalaya River Ship Channel Buoy Line westward to the western shore of Vermilion Bay and Southwest Pass at Marsh Island.

Closed at official sunset Dec. 18, 2013

Mermentau, Calcasieu, and Sabine River Basins 2013 - Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 27, 2013 from the western shore of Vermilion Bay and Southwest Pass at Marsh Island westward to the LA/TX state line.

Closed at 6:00 a.m. July 9, 2013.

2013 – Fall Inshore Shrimp Season

Opened at 6:00 a.m. Aug. 12, 2013

Closed at official sunset Dec. 18, 2013.

Offshore Shrimp Seasons

Closed at official sunset Jan. 7, 2013 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 3 nautical miles, from the Atchafalaya River Ship Channel at Eugene Island as delineated by the Channel red buoy line westward to the western shore of Freshwater Bayou Canal at -92°18'33" west longitude.

Opened at 6:00 a.m. April 16, 2013 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 3 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.

Opened at 6:00 a.m. May 13, 2013 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 3 nautical miles, from the Atchafalaya River Ship Channel at Eugene Island as delineated by the Channel red buoy line westward to the western shore of Freshwater Bayou Canal at -92°18'33" west longitude.

Closed at official sunset Dec. 18, 2013 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 9 nautical miles, from the Atchafalaya River Ship Channel at Eugene Island as delineated by the Channel red buoy line westward to the western shore of Freshwater Bayou Canal at -92°18'33" west longitude.

Blue Crab Management

Management of the blue crab fishery strives for the maintenance of the stock while providing for long-term benefits to the fishery. Key objectives of management include:

- Conservation, restoration, and enhancement of habitat essential to blue crabs.
- Reductions in juvenile blue crab incidental mortality, wasteful harvesting practices within the fishery, and conflicts among crab fishermen and other user groups.
- Enhancement of social and economic benefits derived from resource use.
- The assessment of biological, social, and economic impacts of existing and proposed fisheries management regulations affecting the fishery.

These objectives are met via licensing, record keeping, and reporting requirements, and minimum size limit, time, gear, and area restrictions.

Louisiana's annual commercial blue crab landings have typically been above 40M lbs since 1997 with landings from 2002 through 2009 averaging 47.4M. However, there have been notable decreases including reductions related to hurricanes Katrina and Rita in 2005, and in the years since the 2010 Deepwater Horizon oil spill, landings are still below the 2002-2009 average of 47.4M lbs. Inception of the LDWF Trip Ticket Program in 1999 has significantly increased the ability to monitor trends in blue crab catch rates coast-wide as well as among estuarine basins.

Finfish Management

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.

The following management recommendations were made to the LDWF secretary and LWFC and implemented during 2013:

January 2013

- Commercial fishery for small coastal sharks opened at 12:01 a.m. Jan. 1, 2013.
- Commercial fishery for non-sandbar large coastal sharks opened at 12:01 a.m. Jan. 1, 2013.
- All Louisiana waters closed to the commercial harvest of striped mullet with a mullet strike net on Jan. 15, 2013.
- 2012-2013 commercial king mackerel season was set consistent with federal season.
- The LWFC set the 2013 recreational greater amberjack season with creel and size limits consistent with federal regulations, including the June through July closure.
- The LWFC set the 2013 commercial greater amberjack season consistent with federal regulations, including the adoption of emergency rules to implement the 2,000 lbs commercial trip limit.

- Commercial fishery for spotted seatrout opened on Jan. 2, 2013.

February 2013

- The annual stock assessment for striped mullet was presented to the LWFC for transmittal to the Louisiana Legislature.
- The final rule modifying state reef fish harvest regulations to implement a weekend only Louisiana state waters recreational red snapper season beginning on the Saturday preceding Palm Sunday and ending Sept. 30 of each year were published in the Louisiana State Register on Feb. 20. The season will allow 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 of Memorial Day and Labor Day which would also be classified as a weekend. The rule also includes provisions allowing the Secretary of LDWF to modify the portions of that rule pertaining to red snapper recreational harvest limits and seasons if the NOAA Fisheries Service institutes sub-regional management for red snapper or as the secretary otherwise deems necessary.

April 2013

- Louisiana waters closed to the recreational and commercial harvest of all sharks on April 1, 2013, consistent with a state closed season.

May 2013

- The LWFC, at its May meeting, adopted a Notice of Intent to allow for a traversing agreement with Mississippi that allows anglers who hold a Mississippi recreational fishing license to possess certain species of fish (reef fish, highly migratory species, coastal migratory pelagic species, and triggerfishes) harvested from the federal EEZ while crossing Louisiana territorial waters within defined traversing corridors. Public comment was accepted through July 12, 2013.

June 2013

- Louisiana modified its recreational red snapper season on June 1 at 12:01 a.m. to be consistent with the federal season. Louisiana waters opened daily to the recreational harvest of red snapper with a two-fish bag limit.
- Louisiana modified its recreational red snapper

season on June 29 at 12:01 a.m. to revert back to the previously established state recreational red snapper season that opened on March 23, 2013.

July 2013

- Louisiana waters reopened to commercial and recreational harvest of sharks following an annual closed season.
- Louisiana waters closed to the commercial harvest of large coastal sharks at 11:30 p.m. on July 19.

August 2013

- The LWFC, at its August meeting, adopted a Notice of Intent to add gray snapper, wahoo, cobia, and dolphin to the list of species under the required Recreational Offshore Landing Permit. Public comment was accepted through Sept. 8, 2013.
- The LWFC, at its August meeting, adopted a Notice of Intent to remove the requirement of recreational yellowfin tuna harvest reporting as required under the Recreational Offshore Landing Permit. Public comment was accepted through Sept. 8, 2013.
- The LWFC, at its August meeting, adopted a Notice of Intent to modify regulations for selected reef fish. The proposed changes which include, recreational and commercial gray triggerfish limits, recreational vermilion snapper limits, shallow water grouper season changes, commercial greater amberjack trip limits and the removal of the venting tool requirement are being proposed for consistency with federal regulations. Public comment was accepted through Sept. 8, 2013.
- The LWFC, at its August meeting, adopted a Notice of Intent to create new recreational and commercial tripletail regulations. The proposed regulations include a 100 lbs commercial trip limit, with no more than one trip per day/vessel/person and a recreational bag and possession limit of five fish. Both commercial and recreational proposed regulations include a minimum total length limit of 18 inches. Public comment was accepted through Sept. 8, 2013.

September 2013

- Louisiana waters closed to the commercial harvest of king mackerel on Sept. 20, 2013

at 12:00 p.m. consistent with a closure in the EEZ.

- Louisiana waters closed to the recreational harvest of red snapper on Sept. 30, 2013.

October 2013

- Louisiana waters re-opened to the recreational harvest of red snapper on Oct. 1, 2013 and closed on Oct. 15, 2013 consistent with a supplemental fall season in the EEZ.
- Louisiana waters closed to the recreational harvest of gray triggerfish on Oct. 15, 2013 consistent with a closure in the EEZ.

November 2013

- Louisiana waters reopened to the commercial harvest of king mackerel for a two day supplemental season from Nov. 1-2, 2013 consistent with a re-opening in the EEZ.

Oyster Management

Oysters provide both important economic and ecological benefits to Louisiana. They act as barometers for the overall health of the ecosystem, providing forage and shelter habitat for a variety of fish and invertebrate species. Oysters improve water quality through filter-feeding activities, affect estuarine current patterns, and may provide shoreline stabilization. Due to their economic and ecologic importance, wise management of the public oyster resource is critically important to ensure that this valuable species continues to thrive in Louisiana's coastal areas.

The Office of Fisheries Mollusc Program is responsible for the oyster resource on nearly 1.7M acres of public oyster seed reservations, public seed grounds, and public oyster areas.

Seed grounds are designated by the LWFC and include a large continuous area east of the Mississippi River as well as area 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).

These public oyster areas are utilized heavily by the commercial oyster industry. Periodic reef rehabilitation projects (cultch plants) help maintain the productivity of the public grounds. Cultch planning provides settlement surfaces for the attachment of larval oysters by placing suitable hard material, such as oyster shells, limestone or crushed concrete on the water bottoms.

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 secretary of LDWF may close seasons on an emergency basis if oyster mortality occurs. The secretary can also delay the season or close certain areas where significant spat catch has occurred with good probability of survival, or if an excess amount of shell in oyster loads occurs. 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, as well as for harvesting seed oysters.

For the 2013-2014 oyster season, most of the public grounds opened on October 15, 2013 (Table 3). The season produced low amounts of harvest. Based on harvest estimates from fishermen interviews on the water, the public oyster areas produced approximately 97,000 barrels of oysters (seed and market-size oysters combined) during the season (one barrel = two sacks). Calcasieu Lake in southwestern Louisiana again produced a significant portion of the statewide share of the harvest as fishermen took approximately 36,000

Table 3. 2013 Oyster Season Dates

<i>Public Oyster Area</i>	<i>Season Opening</i>	<i>Season Closure</i>
<i>All primary public oyster seed grounds east of the Mississippi River, except for the Bay Gardene Public Oyster Seed Reservation</i>	<i>Oct. 15, 2013</i>	<i>April 30, 2014</i>
<i>Hackberry Bay Public Oyster Seed Reservation</i>	<i>Oct. 15, 2013</i>	<i>Oct. 20, 2014</i>
<i>Little Lake Public Oyster Seed Grounds</i>	<i>Sept. 4, 2013</i>	<i>April 30, 2014</i>
<i>Barataria Bay Public Oyster Seed Grounds</i>	<i>Sept. 4, 2013</i>	<i>April. 30, 2014</i>
<i>Deep Lake Public Oyster Seed Grounds</i>	<i>Sept. 4, 2013</i>	<i>April 30, 2014</i>
<i>Lake Tambour Public Oyster Seed Grounds</i>	<i>Sept. 4, 2013</i>	<i>April 30, 2014</i>
<i>Lake Mechant Public Oyster Seed Grounds</i>	<i>Oct. 28, 2013</i>	<i>April 30, 2014</i>
<i>Sister Lake Public Oyster Seed Reservation</i>	<i>Oct. 15, 2013</i>	<i>Oct. 25, 2013</i>
<i>Vermilion, East and West Cote Blanche and Atchafalaya Bay Public Oyster Seed Grounds</i>	<i>Sept. 4, 2013</i>	<i>April 30, 2014</i>
<i>West Cove of Calcasieu Lake Public Oyster Area</i>	<i>Nov. 1, 2013</i>	<i>April 30, 2014</i>
<i>Bay Gardene Public Oyster Seed Reservation, Lake Chien & Lake Felicity Public Oyster Seed Grounds, Bay Junop Public Oyster Seed Reservation, Sabine Lake Public Oyster Area, and east side of the Calcasieu Lake Public Oyster Area</i>	<i>Season Closed</i>	

sacks of market-size oysters. The largest harvest occurred in Sister Lake where nearly 87,000 sacks of oysters were harvested during the 11-day season.

Fisheries Research Lab

The Fisheries Research Lab is located in Grand Isle on the shore of Barataria Bay, one of the richest estuarine complexes in the Gulf of Mexico. While fisheries research is conducted throughout the state, the Fisheries Research Lab is the cornerstone for research conducted by the Office of Fisheries. This ideal location allows for the research and

monitoring of many of Louisiana's key recreational and commercial marine species including offshore species that are just a short boat ride away. In addition to historic data collected, the Fisheries Research Lab also provides Fisheries biologists with the ability to develop and conduct additional research projects, collecting vital information for the management of Louisiana's marine resources. In addition to being a home-base for fisheries research projects, the lab also staffs individuals engaged in management, enforcement, coastal restoration, and marine education.

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

This study assesses fish assemblages and encrusting communities on artificial substrates found in the northern Gulf of Mexico. The objectives are to characterize assemblages on and around these structures, map vertical and horizontal distributions, estimate relative abundance, and document species diversity at the selected sites. Data will be collected at three replicate standing structures. Platforms with similar design, relative isolation from other man-made or naturally occurring structural influences, and located within 50 miles of the Fisheries Research Laboratory (Grand Isle, Louisiana) were selected. Observations were being conducted quarterly, weather permitting, using

scientific divers to survey each structure in 15-foot depth increments, from the surface to a depth of 120 feet. Video footage and still photographs are used to both support and supplement diver observations. This study should provide a better understanding of the fish assemblages associated with artificial structures, facilitating further research into individual species' relationships with artificial reefs and the suitability of these structures as habitat for stock enhancement for target species. During 2013, scientific divers completed six dives during three total days of sampling. To date, 99 species have been documented via roving diver surveys with supporting photo and video data. This project currently has a completion date of March 2015.

Characterizing the Use of Green-Stick Fishing Gear in the Northern Gulf of Mexico

The primary objective of this project 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 (Figure 9). The pelagic longline is the primary gear type used to target commercially valuable tuna species in the northern Gulf of Mexico. This gear is known to have a high bycatch to catch ratio, which includes the taking of sea turtles, marine mammals, sharks, and billfish.

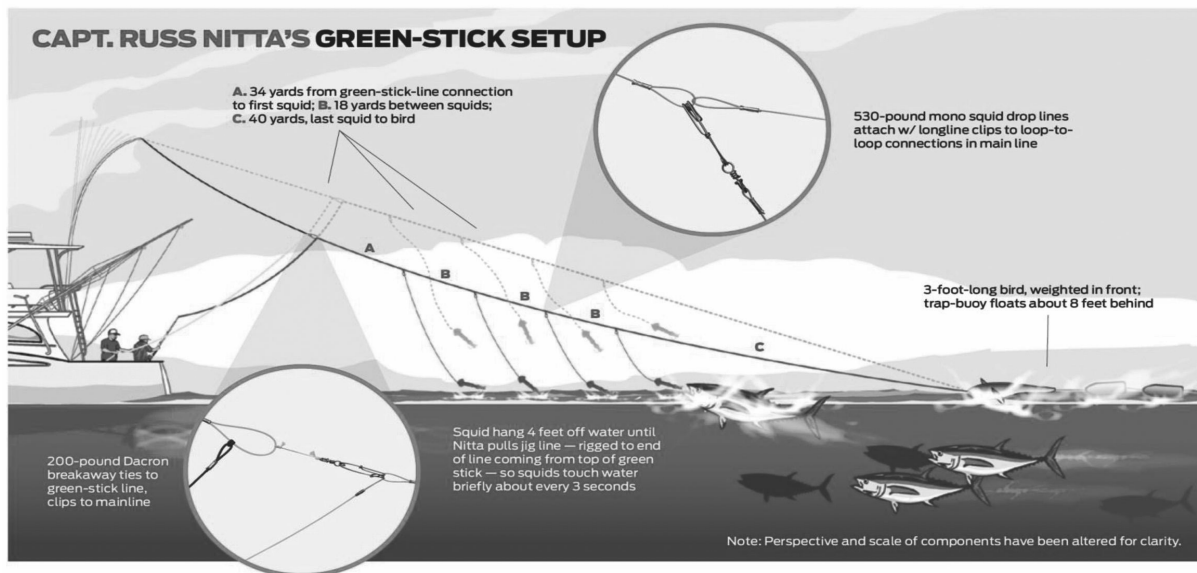


Figure 9. Description of a typical 'green-stick' rig. (illustration courtesy of Dave Shepherd, Sportfishing Magazine)

Greenstick gear was developed in order to reduce the taking of non-target species, but the efficiency of the gear has not been empirically tested in the northern Gulf of Mexico where a large commercial yellowfin tuna fishery exists. The data collected thus far by LDWF biologists will help state and federal fishery managers gain a better understanding of the gear's ability to reduce bycatch while maintaining economically viable target catch rates.

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.

During the time period covered by this report, sampling trips have been conducted 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 160-3,000 feet. Two species of commercially valuable tuna have been captured using the greenstick including yellowfin (29 individuals), blackfin (40 individuals), over a total of 34 hours 36 minutes active fishing. Other commercial species captured included mahi mahi (one individual). All fish captured have been hooked in the jaw and all bycatch fish were alive upon release. Bycatch species caught included skipjack (two individuals), almaco jack (three individuals), and great barracuda (one individual).

Fisheries biologists continue to report results to the Highly Migratory Species Division at NOAA in St. Petersburg, Florida. Additional sampling trips are planned for spring 2014.

Tarpon DNA Tagging

Fisheries Research Lab biologists are currently engaged in a tarpon DNA tagging project. The objective of this project is to calculate the geographic range of the Atlantic tarpon using DNA fingerprinting techniques. This project will also yield valuable information relating to recapture rates and migratory paths. This program will allow biologists to analyze the movement and survival

rates in what is primarily a catch-and-release fishery. Survival rates are determined by tracking tarpon using a DNA fingerprint and recapture data obtained from sampling tarpon DNA. The project will also track movement of tarpon using DNA tagging instead of standard internal dart tagging practices. The main advantage to this method is that the fish's DNA is the tag. All sampling is performed by recreational anglers.

LDWF provides kits and instruction information to anglers. Once collected, the samples are sent to the Fisheries Research Lab where the data is recorded, and the samples are then sent to a contact at the Florida Wildlife Research Institute for DNA analysis. A total of 20 tagging kits were distributed during 2013 with 56 DNA samples returned. Future plans include producing an instructional DVD, posting informative flyers at marinas, and distributing kits and brochures at outreach events and fishing tournaments.

Spotted Seatrout Tag Retention Study

The Office of Fisheries is currently involved in a long-term cooperative tagging program; this study was an effort to quantify the effects of commonly used tags for spotted seatrout. The six-month retention trial was conducted in a closed recirculation aquaculture system at the Fisheries Research Lab, and was concluded during calendar year 2013. The primary objective was to compare the survival and retention rates for sub-legal (< 12 inches) and legal-sized (> 12 inches) spotted seatrout tagged with either a T-bar or dart-tipped external anchor tag. Both size classes (small, S; large, L) of tagged fish (dart-tipped, D; T-bar, T) were randomly distributed over four holding tanks, with 40 fish per tank consisting of 10 fish per size and tag treatment. Additionally, there was a randomized, nested tagger component whereby two biologists (Tagger A and B) each tagged half of the fish in each treatment tank.

Survival was high for all treatments (average overall survival of 92.5%) with no significant differences by tag type or size class. Fish were healthy with an average weight gain of 46.1% over the entire study on a daily diet of shrimp. The overall tag retention rate was 76.9%, with no

significant differences observed for either tag type or size class. The average tag retention rate for dart-tagged fish was 77.5%, compared to T-bar tagged fish with 76.3%. The average retention rates for the treatments were 70, 78, 85, and 75% for SD, ST, LD, and LT, respectively. There was a significant difference in tag retention due to the tagger, but only for dart tags and small size-class fish. These results can be used to improve the effectiveness of the cooperative tagging program, and will help guide future quantitative studies on tag retention.

Acoustic Telemetry Tagging

The Office of Fisheries is also conducting a collaborative research project to utilize a passive acoustic receiver array to study habitat usage and movement patterns of fish in Lake Pontchartrain. The spotted seatrout acoustic telemetry study, a joint project with Louisiana State University (LSU) researchers, is currently ongoing. During calendar year 2013, 90 acoustic receivers have been deployed and maintained throughout a variety of habitats in Lake Pontchartrain, and have been recording data from passing tagged fish. Data are downloaded regularly from all receivers and will be analyzed to determine the movements, residency and habitat preferences of the spotted seatrout. The receiver array is also being utilized to cooperatively track red drum and bull sharks tagged by UNO and Gulf sturgeon tagged by USFWS.

One hundred-ten spotted seatrout have been implanted with acoustic transmitters during tagging events held in calendar year 2013, for a total of 150 tagged fish since project initiation. Of the tagged fish, 65% were in the small size group (11.5-15.5 inches TL), 32% were medium (15.5-19.5 inches TL), and 3% were large (> 19.5 inches TL). Additionally, 77% were identified as female, 10% were identified as male, with the remainder undetermined. Although the results are still preliminary, there have been over 500,000 detections on the receivers which have observed 26 fish leaving the lake (30% emigration rate) during the spring of 2013 which coincided with low salinity levels (1.5 ppt) in Lake Pontchartrain.

Pelagic Research Program

The LDWF Pelagic Research Program made substantial advancements in 2013 and continues to move forward with the use of animal tracking technology to study the movements, distribution, and habitat preferences of several key species in order to improve the data available to fisheries managers in the region.

Yellowfin Tuna Electronic Tagging

Pop-up satellite archival tags (PSAT) and internal archival tags (IA) are being used to study the movements and habitat preference of yellowfin tuna. PSATs record light-level, water temperature, and depth data. At a pre-programmed time, the tag will pop off the animal, float to the surface, and transmit the stored data through the Argos tracking system. Deployments for PSAT tags are typically limited to 12 months due to battery capabilities. IA tags record light levels, internal and external temperature, and depth data. The key distinction is that these tags are surgically implanted inside the abdomen of the fish, therefore requiring a recapture for data acquisition, and battery life can be anywhere between five to 10 years.

Yellowfin tuna for this study were captured using rod and reel on LDWF vessels in the waters adjacent to the Mississippi River Delta. After being carefully netted with a large landing net, tuna were placed on a V-shaped cradle. A hose was placed in the mouth of the fish in order to irrigate the gills and a chamois was used to cover the eyes and mouth. Curved fork length was measured. PSAT tags (Microwave Telemetry X-tag) were attached to the base of the second dorsal fin. For IA tag implantation a 2.5-cm incision was made through the skin and the muscle, on the ventral side of the fish. A piercing needle was used to make a secondary hole 1.5cm distal from the incision and to guide the fiber-optic light stalk from the tag out of the secondary hole. The body of the tag was placed into the abdominal cavity and the wound was closed with two stitches. A conventional streamer tag was placed at the base of the second dorsal fin denoting a "high dollar reward" for return of the internal tag. Tuna were released back into the water in less than three minutes.

During 2013, 83 electronic tags were successfully deployed on yellowfin tuna (12 PSAT, 71 IA). Mean size of yellowfin tuna tagged with IAs and PSATs was 104.5cm and 137.6cm, respectively. Average retention of PSATs was 19.25 days (range: 12-30 days). Modifications made to the PSAT attachment mechanism resulted in an increase in average days at large for PSAT deployments from 19.25 DAL in 2012 to 78.13 DAL in 2013. During 2013, five IA tags and three PSATs were recovered.

Yellowfin Tuna Biological Sampling

LDWF biologists collected gonads, stomachs, fin clips, and tissue from 365 yellowfin tuna throughout the year in 2013. Most samples were collected from all fish; however, at times during cleaning, the target sample is ruined or mutilated and cannot be used. Fin clips for DNA were only taken from reproductively mature fish during the spawning season. Since the samples were opportunistically collected from the recreational fishing community, all fish were above the minimum size limit of 27 inches.

In addition, young-of-the-year tunas were targeted by LDWF vessels during routine fieldwork. These young-of-the-year tuna (yellowfin, blackfin, and skipjack tunas) were collected as part of the Atlantic-wide sourcing project being conducted at Texas A&M University at Galveston (TAMUG) and funded by LDWF. LDWF is responsible for collecting these young-of-the-year tuna from the north-central Gulf of Mexico, while TAMUG coordinates collection of young tunas from other sites throughout the Atlantic basin including Africa, Brazil, Panama, USBVI, Dominican Republic, and Venezuela. Otoliths were removed from young-of-the-year tuna for trace element and stable isotope microchemistry to establish natal signatures from which stock discriminations may be based in future years.

Shark Tagging Studies

In an attempt to determine movements, distribution and essential habitat requirements for shark species in the Gulf of Mexico, electronic tags are being deployed by LDWF biologists. Data from the tagging studies will be available for incorporation into future federal management plans and

international policy for highly migratory species. Interactive websites using this data provides a unique and exciting form of educational outreach.

LDWF biologists have been working with the NMFS Mississippi Laboratories on the Bottom Longline research cruise in order to tag large coastal and pelagic shark species Gulf-wide. In 2013, 22 sharks were released from Key West, Florida to Galveston, Texas, fitted with fin-mounted SPOT tags. The target species of this research included tiger sharks (n=5), great hammerhead (n=5) and scalloped hammerhead (n=3). Blacktip (n=5), silky (n=2), bull (n=1), and spinner (n=5) were included in order to determine their suitability for SPOT tracking technology.

In an effort to better understand the large filter-feeding whale shark and its association with spawning tunas in the northern Gulf of Mexico, LDWF is using tracking technology and aerial surveys to study whale shark movement and behavior. In the summer months, large aggregations (10 to 100+) of whale sharks occur at Ewing Bank (approximately 120 miles southwest of the Mississippi River Delta) and have been documented feeding on the eggs of recently spawned bonita or “little tunny.” During the June 2013 aggregation, 25 whale sharks were documented via aerial survey and 10 were tagged with a combination of PSAT (n=5) and SPOT (n=5) tags. Eleven aerial surveys were conducted by LDWF in 2013 in support of whale shark research, covering the Ewing Bank and Mississippi Canyons regions of the north-central GOM.

Southeast Area Monitoring and Assessment Program (SEAMAP)

SEAMAP is a cooperative state, federal, and university program designed for the collection, management, and dissemination of fishery-independent biological and environmental data of the coastal waters (state and EEZ) off the Southeastern United States and Gulf of Mexico. For the past 33 years, SEAMAP has collected data on fish stocks that are managed by either state or federal governments. Louisiana takes part in four components of the SEAMAP program: shrimp/groundfish, ichthyoplankton, bottom longline, and

vertical line. The surveys are conducted by teams of five to nine Fisheries biologists who collect, work up, and enter data on all biological samples. In addition, all surveys collect environmental parameters and a water column profile, primarily using a Conductivity/Temperature/Depth rosette at each site, along with water samples collected at bottom, middle, and surface depths for chlorophyll measurements.

SEAMAP Shrimp/Groundfish Survey

The SEAMAP Shrimp/Groundfish Survey segment performed by LDWF collects information on shrimp and groundfish abundance, and distribution west of the Mississippi River using a 42-foot trawl in water depths up to 60 fathoms, with occasional sites at deeper depths. Ichthyoplankton stations are also piggybacked onto this survey at seven preselected sites to determine species composition, abundance and distribution, with 60-cm bongo nets (335- μ m mesh) and 1x2 m neuston nets (950- μ m mesh) in the central coast areas. Ichthyoplankton samples will be field processed and transferred to the NMFS Pascagoula Laboratory for transshipment to the Polish Sorting and Identification Center. Shrimp/groundfish surveys are made in summer and fall in conjunction with the NMFS SEAMAP Shrimp/Groundfish Survey, and we select stations from their randomized sampling grid. At least 24 trawl locations are sampled on each survey. Additional stations are added as feasible. Species are identified, counted, measured, weighed, and recorded; this data is submitted to the SEAMAP data management system, and near-real time data is

transmitted to NMFS as required. During summer and fall of 2013, 46 shrimp/groundfish randomly assigned locations, from latitude 28° 32' to 29° 43' and longitude -89° 29' and -93° 39', were sampled. The depths sampled ranged from 3-72 meters. Plankton samples were collected at seven set locations per survey off the Louisiana coast, ranging from latitude 28° 23' to 29° 00' and longitude -89° 29' to -91° 30' (Figure 10).

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. Ichthyoplankton sampling is conducted in conjunction with the NMFS SEAMAP Spring and Fall Ichthyoplankton Surveys, and samples are collected at stations selected from the NMFS 30-minute ichthyoplankton grids. Sampling is conducted using 60-cm bongo nets (335- μ m mesh) and 1x2m neuston nets (950- μ m mesh). Ichthyoplankton samples are field processed, preserved, and transferred to the NMFS Pascagoula

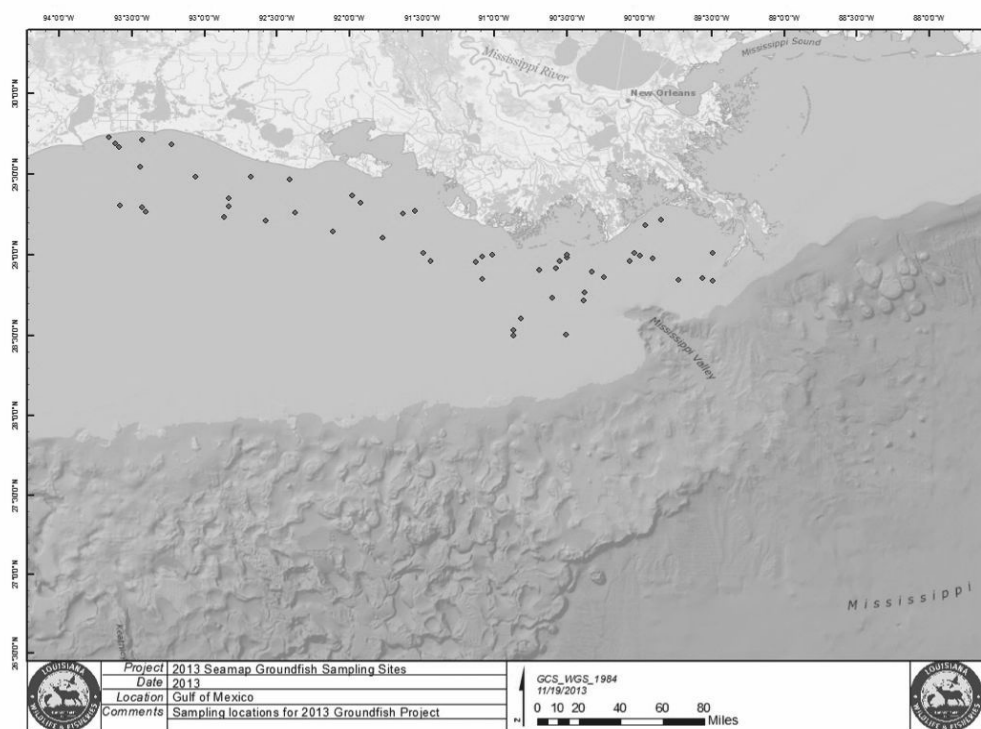


Figure 10. Randomized 2013 SEAMAP Groundfish sampling sites.

Laboratory for transshipment to the Polish Sorting and Identification Center. All station information is sent to the SEAMAP Data Manager. During the spring and fall of 2013, surveys were conducted at a total of 25 stations (latitudes 28.00°-29.32°, longitudes 88.29°-94.00°, depths 7-1650m) (Figure 11).

SEAMAP Bottom Longline Survey

The SEAMAP Bottom Longline Survey performed by LDWF collects information on the abundance and distribution of elasmobranchs and bottom feeding species with standard 1 nautical mile longline sets. LDWF coordinates with NMFS (Southeast Fisheries Science Center, Pascagoula) to generate a station universe in which bottom longline stations are proportionally allocated based on the width of the continental shelf by longitude and depth. The annual stations are divided with the intent of sampling the entire Louisiana coast once per season (spring, summer, and fall) during the months of March through October (Figure 12). All species are recorded, counted, measured for length(s), weighed, and sexed (elasmobranchs).

Sharks are tagged with dart/T-bar tags prior to their release and this information is sent to NMFS. Otoliths and female ovaries of selected reef species are removed and processed. In 2013, Office of Fisheries biologists completed a total of 58 bottom longline stations, landing 1,144 elasmobranchs (Figure 13) and 398 individuals from other various species (Figure 14). A total of 417 sharks were tagged and released.

SEAMAP Vertical Line Survey

The SEAMAP Vertical Line Survey is conducted monthly from May-October to collect information on the spatial and temporal distribution of commercial and recreational reef species off the Louisiana coast using commercial vertical line (bandit) gear. Sampling site selection is random within the three longitudinal zones, ranging in depth from 60-360 feet. Each zone is sampled quarterly in rotation utilizing standard commercial methods (Figure 15). The sites roughly consist of 23% artificial reefs, 3% natural bottom, and 74% petroleum production platforms. The data collected for each fish is the size of the hook on

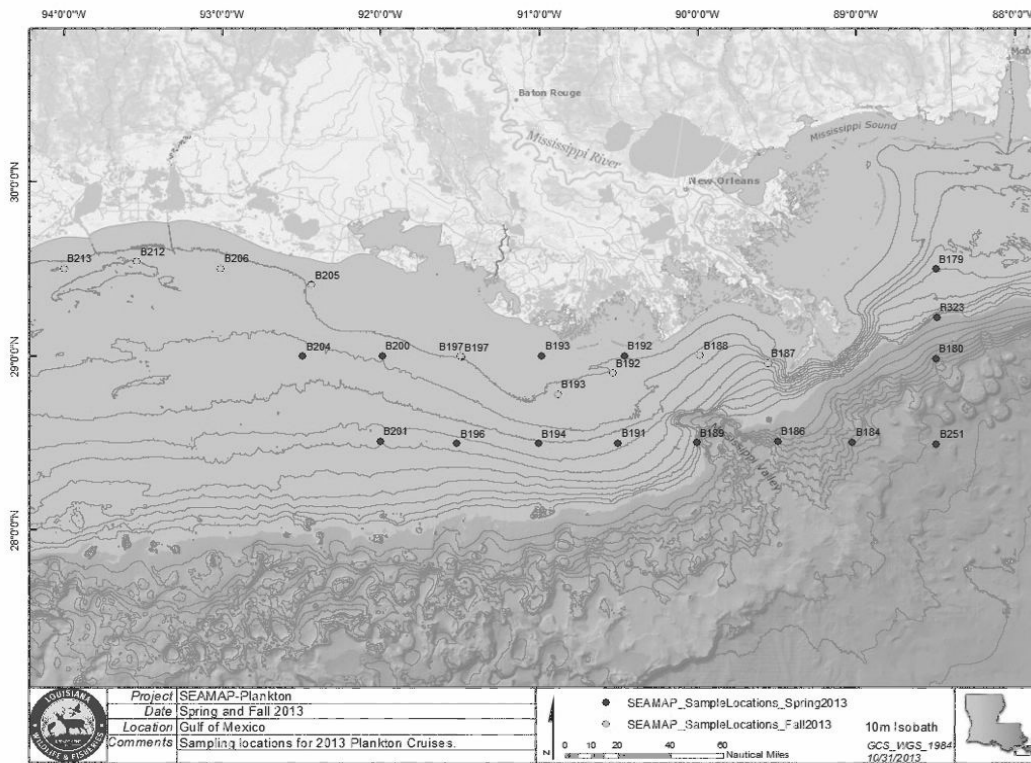


Figure 11. 2013 SEAMAP Plankton site locations selected from NMFS grid.

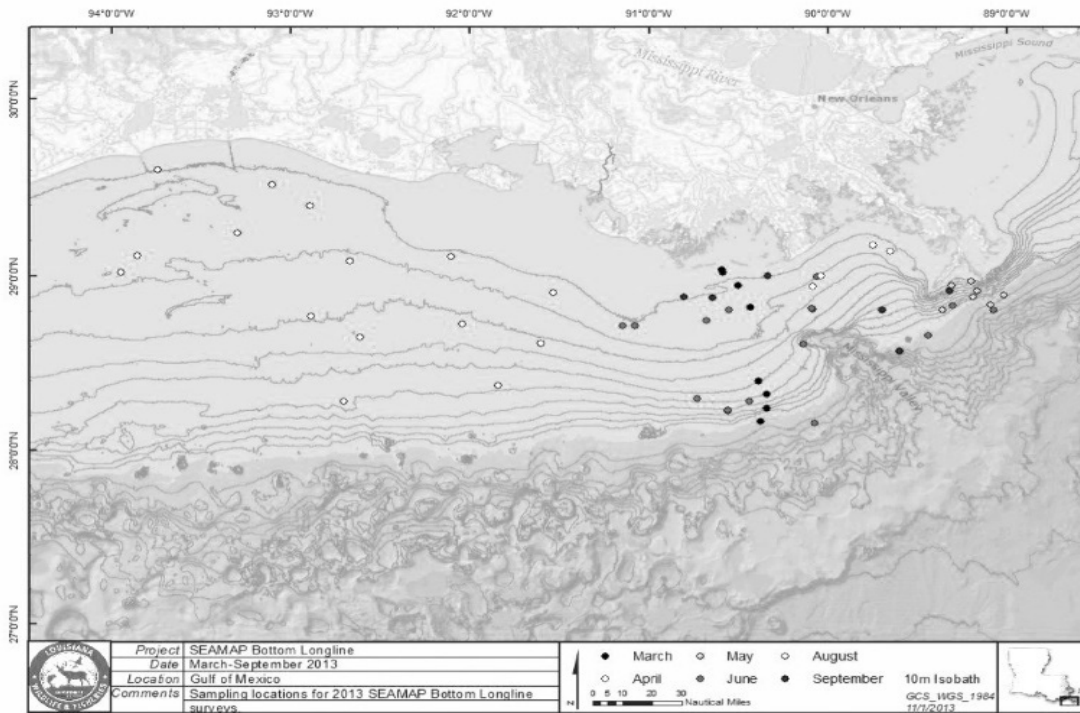


Figure 12. Randomized 2013 SEAMAP Bottom Longline Sample Locations.

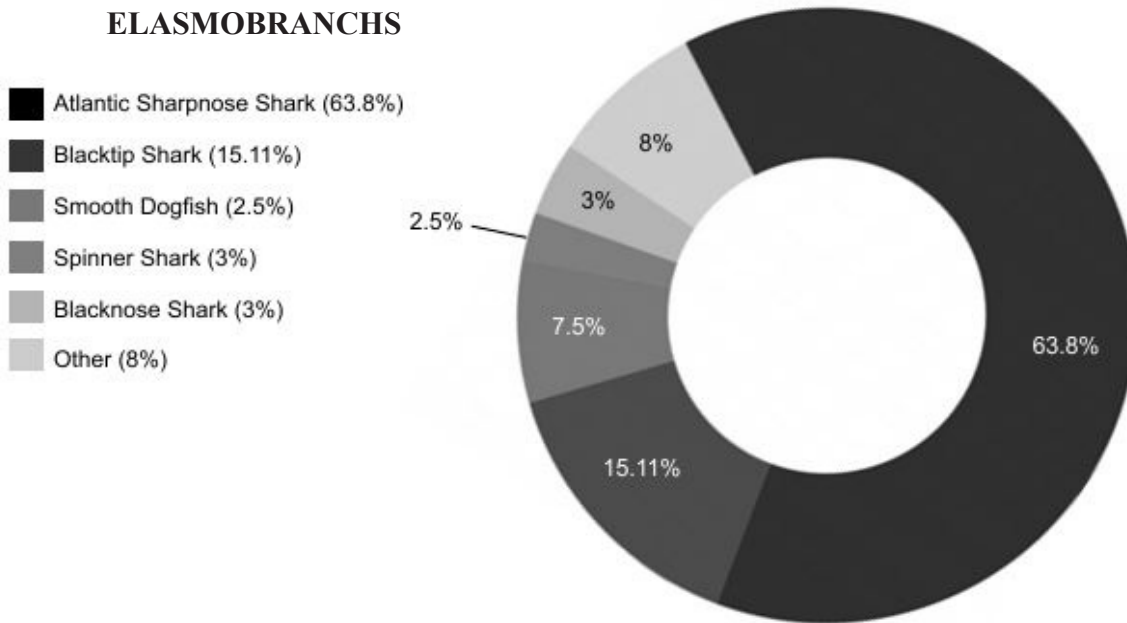


Figure 13. Illustration of the annual percentage breakdown of sharks (elasmobranchs) captured on the bottom longline sampling cruises.

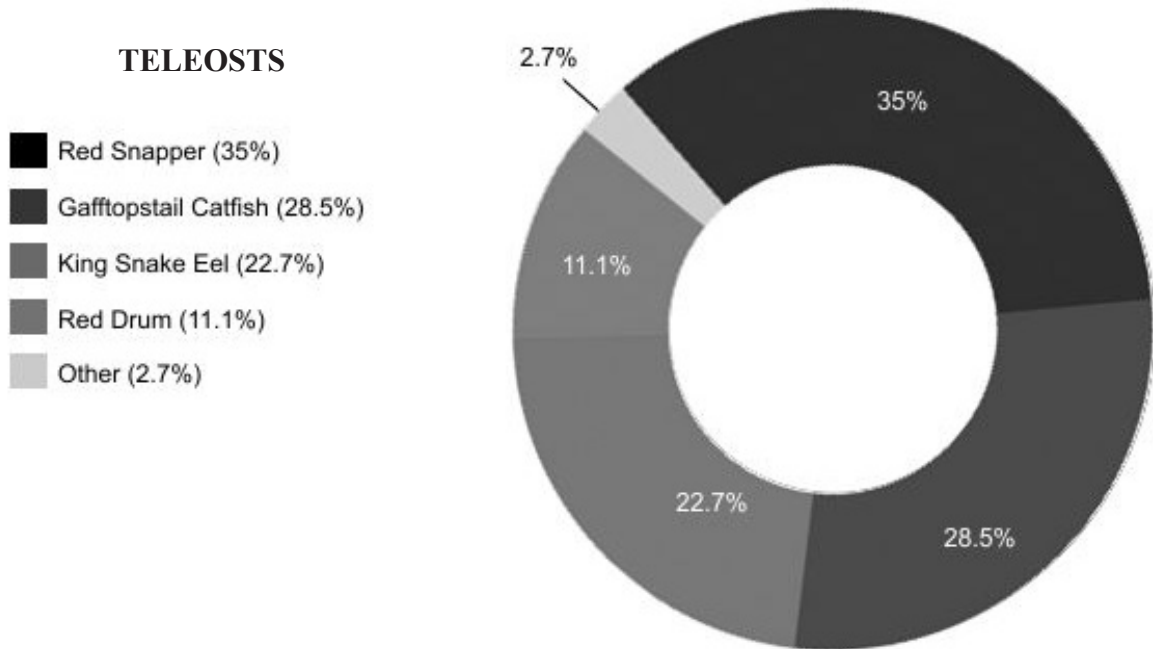


Figure 14. Illustration of the annual percentage breakdown of bony fish (teleosts) captured on the bottom longline sampling cruises.

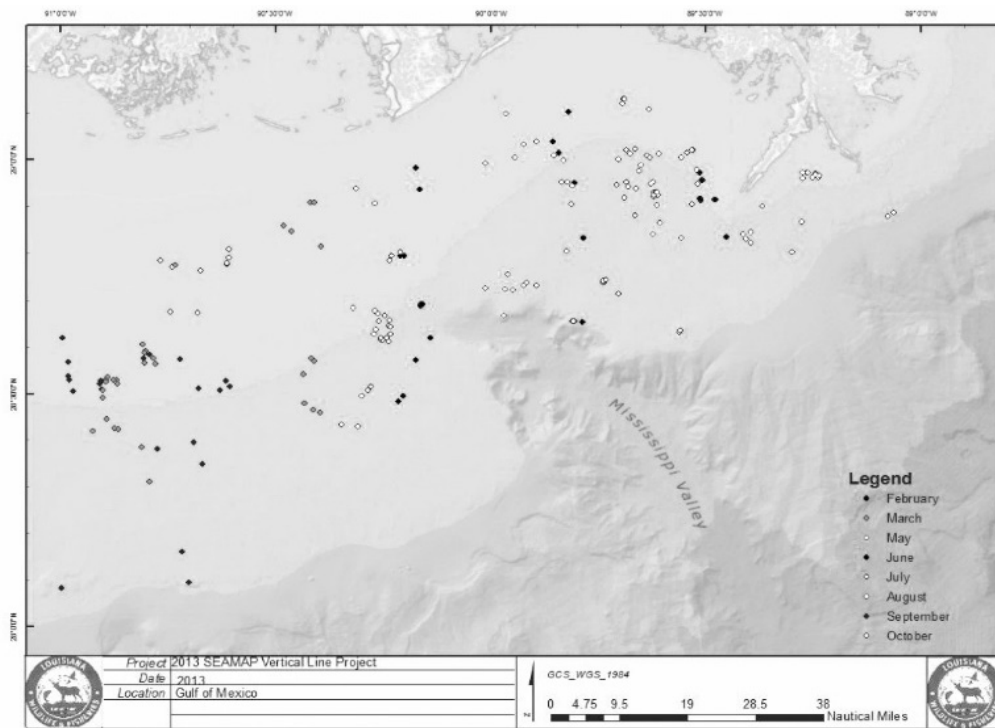


Figure 15. Randomized 2013 SEAMAP Vertical Line Sampling Sites by month.

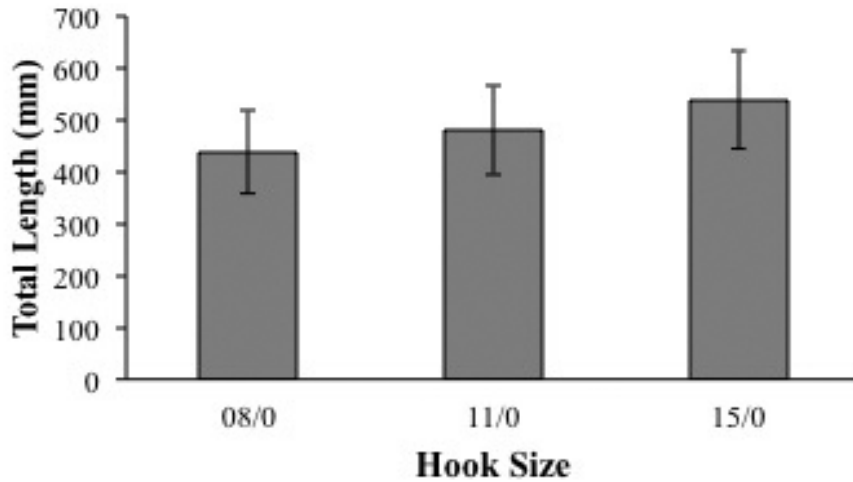


Figure 16. Mean size of red snapper captured by hook size.

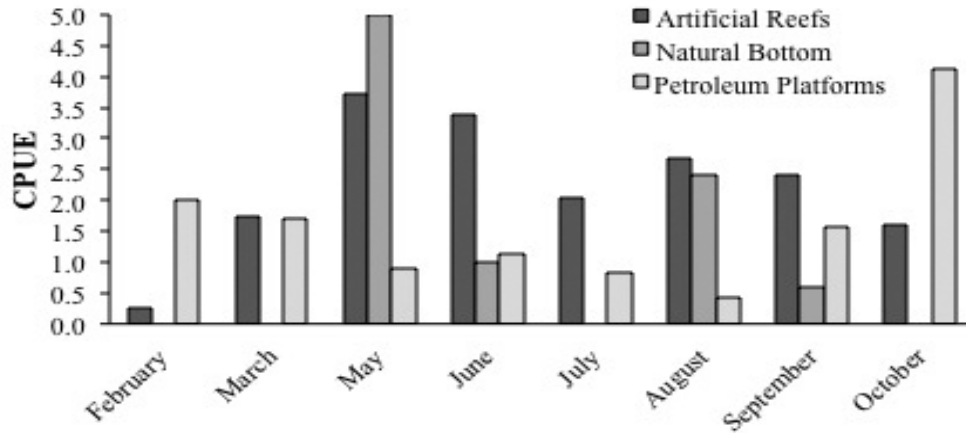


Figure 17. Catch per unit effort (CPUE) of red snapper by month and habitat type.

which it was caught, total length, total weight, and sex (Figure 16). Otoliths and ovaries are removed and processed in the lab for age and growth. In 2013, 263 vertical line stations were sampled totaling 657.5 hook hours (Figure 17). Total landings consisted of 1,165 fish, of which 1,072 were red snapper (92%).

Fishing Access and Opportunity

Louisiana is nationally recognized by anglers and fisheries professionals as a premier sport fishing destination. The Office of Fisheries strives to create, enhance, and restore our state’s inventory of public boating and fishing access sites. Access

sites, including 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 covers both freshwater and saltwater projects, and may include the construction of boat ramps, parking areas, docks, bulk heading, and fishing piers. Three access projects were completed in 2013. An additional seven projects are in the planning or construction stage.

Access

Boating Access Projects Completed

- Abbeville Public Boat Launch - Renovations to the existing parking and docking area as well as improvements to the entrance and exit ramps from the highway to provide safer access to the facility were completed.
- Leonville Boat Launch - Construction of a new facility including a 30-foot-wide boat ramp to accommodate two vehicles simultaneously was completed.
- Parish Camp Boat Ramp (Lake Bistineau) - Upgrades to an existing boat ramp and parking were completed.

Boating Access Facilities Planned or Under Construction

- Boggy Bayou Boat Launch - The proposed project includes installation of a 30-foot gangway and a new 60-foot floating dock on either side of the existing boat ramp, parking area improvements, additional lighting, and a picnic area.
- Port O’Bistineau Landing - Project plans include an extension of the existing boat ramp by 60 feet to provide convenient access to Lake Bistineau during times of low water levels. Plans also include renovations to existing structures at the facility and expansion of the parking area.
- Ferriday (Lake Concordia) Public Boat Ramp - Undergoing renovations to the existing boat ramp and dock as well as construction of a new parking area.
- Lake Pontchartrain Marina, BIG-P, Tier I - Planned renovations to 18 transient boat slips damaged during Hurricane Isaac.
- Slidell Municipal Marina, BIG-P, Tier II - Project plans include upgrading an existing facility to include accommodations for boats greater than 26 feet.
- Leeville Public Boat Launch - Project includes constructing a 42-vehicle aggregate parking area, two 30-foot wide concrete ramps, vinyl sheet piling, and a 27-foot wide access road with 20 additional parking spots.
- New Iberia City Park Enhancement - Project includes upgrading parking, boat ramp and dock facilities.

Fishing Access Projects Completed

- Grand Isle-Chenier Fishing Pier - Renovations to the existing fishing pier were completed.

Fishing Access Facilities Planned or Under Construction

- St. Tammany Fishing Pier Phase II - Project includes constructing amenities and additional wooden crossovers to connect the existing Phase I Twin Span fishing pier.

Fishing Opportunity

Louisiana’s fishery resources, including habitat, benefit all of Louisiana’s constituent groups within the state and across the Gulf Coast. Habitat stewardship and resource management provide opportunities for the public to access these natural resources.

Artificial Reefs

The Louisiana Artificial Reef Program (LARP) was created by Act 100 of the 1986 Louisiana Legislature within LDWF. Act 100 also required the formation of the Artificial Reef Development Council, development of an Artificial Reef Plan, and establishment of the Artificial Reef Trust Fund.

The Artificial Reef Development Council is comprised of the secretary of LDWF, the LSU executive director of the School of the Coast and Environment, and the executive director of SeaGrant, or their designees. The council is charged with providing guidance on policy, procedural matters, site selection, and allocation of funds to LARP. The Office of Fisheries administers and manages LARP in accordance with the National Artificial Reef Plan, Louisiana Artificial Reef Development Plan, pertinent regulations, laws, and budget allocation.

The Louisiana Artificial Reef Plan was developed and implemented in November 1987. The plan outlines the siting, permitting, and monitoring requirements of LARP. The plan centers on nine artificial reef planning areas and the conversion of oil and gas platforms into permanent marine hard-bottom habitat. The program also includes Special Artificial Reef Sites, deepwater reefs, and inshore artificial reefs. LARP works closely

with stakeholders, public and private conservation groups, and appropriate regulatory agencies when developing, maintaining, and monitoring Louisiana's artificial reefs.

In 2013, LARP enhanced 14 offshore reefs with 19 oil and gas platforms, and received \$7.9M in donations from oil company participation. To aid in future management, monitoring and development of offshore artificial reefs, a comprehensive multi-beam survey of 13 offshore reefs was conducted (along with the 66 done the year before). In addition, the St. Tammany Pier Reef was created on Lake Pontchartrain from bridge rubble generated from the demolition of the I-10 bridge spans. The California Point and Sweet Lake Reefs were created in Breton Sound and Calcasieu Lake, respectively.

Rigs-to-Reef remains a large component of LARP. Due to recent policy changes by the Bureau of Safety and Environmental Enforcement, the regulatory body responsible for offshore oil and gas structures, LARP is examining options to expand its current plan to address the removal of nearshore oil & gas structures and identifying incentives for increased oil company participation. LARP has been expanding its inshore reef program by incorporating appropriate materials of opportunity. Recycled concrete and reclaimed oyster shells are being pursued for inshore reef development across the state. A comprehensive water bottom habitat characterization and assessment survey was completed for LARP's inshore reefs to evaluate the current reefs and aid in further management of the inshore reef development.

For more information on reef locations, please visit the LARP website: <http://www.wlf.louisiana.gov/fishing/artificial-reef-program>.

Important Figures for 2013

73 Total established offshore artificial reef sites

- 47 planning area reefs
- 18 special artificial reef sites
- 8 deepwater reefs

Offshore structures converted to permanent habitat

- 336 platform jackets

- 8 drill rig legs
 - 19 oil and gas structures deployed
- 31 established inshore reefs
- created St. Tammany Pier Reef
 - created Cypremort Point II Reef
 - permitted one inshore artificial reef sites for development

Clean Vessel Program

The Clean Vessel Program provides funds to owners of recreational boating facilities for construction and renovation of boat sewage disposal facilities. The purpose of this program is to reduce overboard discharge of raw boat sewage in Louisiana's waters by providing boaters with a safe and convenient method to dispose of boat sewage. Through the program, recreational boating facility owners are reimbursed up to 75% of the costs of approved activities. Funds are also used to develop and distribute educational and promotional materials to encourage boaters to use these facilities and to promote environmentally responsible behavior.

Two pumpout stations were completed during the fiscal year:

- Pontchartrain Landing RV Park & Marina (New Orleans, Louisiana) - Two fixed boat sewage pumpouts completed October 2012.
- SeaBrook Harbor Marina (New Orleans, Louisiana) - One fixed boat sewage pumpout completed June 2013.

Clean Vessel educational activities for 2013 included the distribution of educational information at National Hunting and Fishing Day in Baton Rouge, Louisiana.

Fisheries Outreach and Education Projects **Outreach**

The Aquatic Outreach and Education Program is designed to inform the public about the programs and projects currently going on in the Office of Fisheries. Through outreach efforts, the Office of Fisheries Extension staff reached out to over 113,000 Louisiana citizens in 2013.

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.

During 2013, LDWF Extension staff made 125 public appearances at events including boat shows, school programs, community events, and outdoor festivals. Among these were the Louisiana Sportsman's Show in Gonzales and the Louisiana Balloon Festival, which together accounted for over 30,000 attendees. The Fisheries Extension staff conducted fishing workshops and youth events, several of which included scout troops. These activities focused on sport fish restoration projects and gave participants a hands-on fishing experience. Extension staff also assisted with multiple women's fishing clinics, including the Louisiana Women in the Wild Workshop held at Cabela's in Gonzales with 35 participants. This workshop focused on teaching basic fishery resource ecology, fisheries management, and understanding of the safe and ethical use of recreational fishing equipment.

Our fisheries biologists also work collaboratively with communications personnel to create promotional and educational material detailing research and fieldwork on a variety of topics relating to the conservation and management of fish, hatchery production, non-indigenous aquatic nuisance species, and other aquatic resources.

This year also saw the debut of the casting inflatable and mobile touch tank. The casting inflatable creates new ways to teach youth and adults casting techniques, while the mobile touch tank provides a hands on opportunity to learn more about Louisiana aquatic life. They provide eye-catching centerpieces to draw the public and a fun way to get people interested in fishing and finding out more about the department.

Materials and publications designed and available for distribution during 2013 included:

- Waterproof/UV-coated Fishing Regulations
- Individual Species Profile Brochures: greater amberjack, southern flounder, yellowfin tuna, black drum, red snapper
- Toledo Bend Artificial Reef Brochure
- Booker Fowler Fish Hatchery Brochure

- Newly designed Sport Fish Restoration Projects Brochure
- LDWF Directory Brochure
- Fish Catch and Release Brochure
- Fish-measuring Ruler Stickers
- Freshwater and Saltwater Pocket Creel Cards
- Sport Fish Restoration Coloring Book
- Invasive Plant and Aquatic Animal Brochures

Louisiana Cooperative Marine Sport Fish Tagging Program

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

One of the main goals of the program is to establish a volunteer marine fish tagging program. Participating in the 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 is useful for fisheries management and conservation.

Large numbers of dedicated volunteer anglers are essential to the success of any tagging study. In 2013, the tagging program was promoted at CCA and LDWF events across coastal Louisiana. Anglers interested in participating in the tagging program can submit an application by phone, mail, email, Facebook message, or in person. CCA or LDWF personnel will collect this information and assign the angler a unique ID number, tagging kit, and 10 tags to get them started. A marked increase in angler participation occurred during 2013, partially due to program promotion using the social media outlet Facebook. The "Tag Louisiana" Facebook page, which has over 1,100 friends, provides a quick and easy means of communication between

anglers and program administrators. Volunteer anglers can share the program's Facebook page with their friends and post pictures of their fish tagging efforts. Continued maintenance of the program's Facebook page has fostered a sense of camaraderie between volunteer anglers and researchers, while also increasing interest and awareness for the tagging program.

Working with the angling community has proven to be an efficient and cost-effective means for collecting data. Since the program started with CCA of Louisiana in 1987, over 12,000 anglers have participated, either by tagging fish themselves or reporting a recaptured tagged fish. This has resulted in over 139,000 tagged red drum, spotted seatrout and yellowfin tuna, and more than 5,000 recaptures reported. In 2013, 447 active anglers (active angler is defined as tagging at least one fish per year) tagged 15,293 fish and reported 778 recaptured fish. Of the 15,293 tagged fish, 8,840 were red drum, 5,225 were spotted seatrout, 95 were yellowfin tuna, and 1,133 were non-targeted species. Of the 778 reported recaptures, 585 were red drum, 136 were spotted seatrout, two were yellowfin tuna, and 55 were non-targeted species. The recapture rate was 6.6% for red drum, 2.6% for spotted seatrout, and 2.1% for yellowfin tuna. LDWF Outreach staff hosted a youth exclusive event in Grand Isle State Park on Free Fishing Weekend in June. Over 50 youth anglers competed for prizes and trophies at this event.

Louisiana Saltwater Series

The Louisiana Saltwater Series was created by the Louisiana Wildlife and Fisheries Foundation in partnership with LDWF to promote the conservation of Louisiana's saltwater sport fish resources. LDWF provides staff to help facilitate these catch, tag, and release fishing tournaments throughout the state. Through this saltwater fishing series, the Office of Fisheries and Louisiana Wildlife and Fisheries Foundation strive to enhance the resource while providing a competitive opportunity for avid fishermen and newcomers alike. The events are also used to encourage participation in the Louisiana Cooperative Marine Sport Fish Tagging Program. Data collected from the tournament entries serves as a valuable tool for Fisheries biologists to better

understand the life history and habitat of sport fish including the popular red drum.

Staff at the Audubon Aquarium of the Americas attends many of our tournaments to provide supplemental fish tagging which presents the unique opportunity to release large numbers of fish at one time and location. Aquarium staff provide technical support and information to the anglers, spectators and other participants regarding conservation and best fish handling practices.

To increase participation and awareness in the Louisiana Cooperative Sport Fish Tagging Program, each team is allowed to bring in extra fish (up to their daily legal limit) to be tagged and released. A raffle drawing is provided as an incentive to anglers who participate in bringing in extra fish. Drawings award a wide array of prizes donated by sponsors for the series.

The Louisiana Saltwater Series has been successful in tagging 912 total fish in 2013. Since its inception in 2010, the Louisiana Saltwater Series has tagged and released over 3,395 fish. Of this total, 94% are red drum. Over 238 of the total fish released have been recaptured and reported to LDWF leaving us with a recapture rate of 7%.

Because of the great success, reviews, and quality data from the red drum series, the Louisiana Saltwater Series has decided to focus solely on red drum for 2014.

Elmer's Island

Elmer's Island is a coastal refuge, encompassing 230 acres of beach and dune area, managed by LDWF. Once a privately owned commercial campground, Elmer's was closed in 2001. In 2008, the state acquired the property and reopened it to the public, though initially accessible only by boat. Repairs to the access road in 2009 allowed access to visitors by land and water. Since then, Elmer's has become a very popular summertime destination for fishing, bird-watching, picnics, water sports, and other recreational activities.

In August 2012, Elmer's Island was partially closed to the public and subsequently remained closed as

a result of residual oil that was uncovered from Hurricane Isaac and the necessary clean-up. In February 2013, beach access was allowed during weekend hours (including Fridays), with closures during the week for oil spill clean-up activity.

Elmer's Island Refuge was used during WETSHOP (an LDWF sponsored teacher workshop), to educate about coastal land loss, dune monitoring, and coastal habitat. Volunteers assisted with several beach sweeps and native planting events. CPRA submitted coastal restoration plans for the Caminada Headlands project, which will include Elmer's Island Beach.

Crab Trap Removal

The removal of derelict crab traps from fishing grounds reduces navigational risks to boaters and threats to public safety, while reducing mortality of incidental species captured in traps and potentially increasing the number of crabs available for harvest, by preventing crab mortalities in abandoned, out-of-use traps.

In January 2013, the LWFC ratified a final rule authorizing two temporary crab trap closures and derelict crab trap cleanups.

Derelict crab trap clean-ups were conducted over two 10-day periods in portions of St. Bernard and Plaquemines parishes in February and March. One of the Office of Fisheries partners in previous crab trap removal efforts, Louisiana SeaGrant helped spearhead the 2013 cleanups. The CCA, Louisiana Crab Task Force, individual volunteers, and volunteer organizations provided assistance with the cleanups.

The first crab trap closure began in a portion of Plaquemines Parish over a 10-day period from February 16-25, 2013. LDWF and Louisiana SeaGrant hosted volunteer clean-up days on Saturday, February 16, and Saturday, February 23. Both volunteer days operated out of Beshel's Marina in East Point-a-la-Hache.

The second crab trap closure took place in a portion of St. Bernard Parish over a 10-day period

beginning on March 9, 2013, at 6 a.m. and ending on March 18, 2013, at 6 a.m. A single volunteer clean-up day was hosted on March 9 and operated out of Breton Sound Marina in Hopedale.

Together, over 32 boat and 193 man days of effort were logged during the cleanup effort, resulting in the removal of over 969 abandoned and derelict crab traps.

In September 2013, the LWFC adopted a Notice of Intent authorizing a temporary crab trap closure and derelict crab trap cleanup in a portion of western Terrebonne Parish from February 15-24, 2014. The total traps removed are summarized in Table 4 and areas closed are in Figure 18.

Commercial Seafood Programs

One of the main objectives of the Office of Fisheries is to maintain the viability of Louisiana's fishing industries through programs that protect native resources and provide technical assistance to the industry, including recovery from natural and man-made disasters. Some long-term programs include the monitoring and permitting of seismic exploration and oversight of private oyster lease areas.

In addition, the Office of Fisheries is pursuing several initiatives for Louisiana's commercial fishing industry, including a seafood certification program, a seafood technology and equipment program, and a professionalization program which aims to create a more informed and efficient industry. Programs to collect and recycle used oyster shell and concrete to create artificial oyster and fishing reefs are also being developed in coordination with the Coalition to Restore Coastal Louisiana.

Seafood Certification

In 2009, LDWF reprogrammed grant money from a NOAA grant to fund certification programs for Louisiana's seafood industry.

The overarching plan for a broad certification program included five key components: seafood origin/quality certification; seafood sustainability

Table 4. Number of crab trap closures and numbers of trap removed annually.

<i>Year</i>	<i>Area</i>	<i>Dates</i>	<i>Traps</i>
2004	<i>Upper Terrebonne Bay Estuary</i>	<i>Feb. 28 -March 14</i>	<i>6,676</i>
	<i>West Vermilion Bay</i>	<i>May 14-22</i>	<i>218</i>
	<i>Total</i>		<i>6,894</i>
2005	<i>Sabine Lake</i>	<i>Feb. 18-27</i>	<i>4</i>
	<i>Breton Sound Estuary</i>	<i>Feb. 26 -March 13</i>	<i>1,941</i>
	<i>Middle Terrebonne Bay Estuary</i>	<i>March 5-20</i>	<i>2,437</i>
	<i>East Vermilion Bay/ West Cote Blanche Bay</i>	<i>May 16-22</i>	<i>241</i>
	<i>Total</i>		<i>4,623</i>
2006	<i>Southwest Terrebonne Bay Estuary</i>	<i>March 4-13</i>	<i>2,935</i>
2007	<i>East Lake Pontchartrain</i>	<i>Feb. 24 -March 5</i>	<i>774</i>
	<i>Upper Barataria Bay Estuary</i>	<i>March 3-12</i>	<i>724</i>
	<i>Total</i>		<i>1,498</i>
2008	<i>Upper Terrebonne Bay Estuary</i>	<i>Feb. 23 -March 2</i>	<i>1,234</i>
2009	<i>Terrebonne Bay Estuary</i>	<i>N/A</i>	<i>788</i>
2010	<i>Upper Barataria Bay Estuary</i>	<i>Feb. 27 -March 7</i>	<i>477</i>
2011	<i>Western Plaquemines Parish</i>	<i>Feb. 26 -March 5</i>	<i>1,100</i>
2012	<i>St. Bernard/ Plaquemines Parish</i>	<i>Feb. 25 -March 5</i>	<i>1,950</i>
	<i>Terrebonne Parish</i>	<i>March 17-26</i>	<i>750</i>
	<i>Total</i>		<i>2,708</i>
2013	<i>Eastern Plaquemines Parish</i>	<i>Feb. 16 -March 25</i>	<i>492</i>
	<i>St. Bernard Parish</i>	<i>March 9-18</i>	<i>477</i>
	<i>Total</i>		<i>969</i>
	<i>Overall</i>		<i>23,226</i>

certification; industry professionalization; electronic traceability; and seafood marketing to promote the prior.

The goal of the Louisiana Wild Seafood Certification Program (LWSCP) is to increase

sales and market potential for wild-caught Louisiana seafood. By creating an origin based brand, LDWF, in cooperation with DHH and the LDAF, has the ability to communicate to the consumers that the seafood they are consuming is caught by a licensed Louisiana fisherman, landed in Louisiana, and processed by a Louisiana processor through the entire supply chain. The ability to create a national brand that can be sought out by chefs, consumers, distributors and retail chains will increase the demand and, thereby, prices for the Louisiana seafood fishery.

In August 2012, the rules for the Louisiana Wild Seafood Certification Program were finalized and the program was officially launched in October 2012. Shortly after, a program website was launched to allow anyone interested in participating in the program and allow consumers to learn more about the program.

In April 2014, additional rules were added to improve the program, such as restaurant and retailers' proof of chain of custody, product registration, and logo usage for general marketing. In order to participate in LWSCP, applications for restaurants and retailers must contain invoices from a participating supplier for three consecutive months, and six months for annual renewal. All product packaged for retail sale must be registered with LDWF by the brand owner. Approved verbiage must accompany the LWSCP logo for general marketing such as "Ask your waiter about our certified menu item." These changes were made to improve the chain of custody and provide better knowledge to consumers of certified products available in the market place.

In addition to the rule changes, LDWF launched a new website that includes the ability to submit applications, monitor application status and access the Marketing Portal. The Marketing Portal was designed to improve the availability of certified



Figure 18. Map of derelict crab trap closures since 2004.

seafood to participating restaurants and retailers by allowing suppliers to post available certified seafood. You must be a participant to have access to the Marketing Portal.

Interested participants can submit an application on our website, <https://lwscpadmin.wlf.louisiana.gov/>. Before applying, applicants must also participate in a 45-minute training video also available through the program’s website. Once permitted, participants are given access to a participant portal where they may access program logo files and verify participation of their supply chain in the Louisiana Wild Seafood Certification Program.

Since the program’s launch, LDWF has strived to find ways to promote the program and encourage industry participation and consumer awareness. LDWF has hired marketing professionals who have worked within the industry from the docks and processors to retail and restaurants, educating the industry and gaining participation. LDWF has also created numerous Point of

Sale marketing materials for participants such as product labels, posters, door/case clings, table tents, etc. Point of Sale materials are only available to active program participants.

As of FY 2013-2014, there were a total of 160 permitted seafood businesses participating in the program.

The goal of a seafood sustainability program is to manage Louisiana fisheries in a way that provides for today’s needs without damaging the ability of the species to reproduce and be available for future generations. Many retailers worldwide have



been under increasing pressure to “prove” that the seafood they are sourcing is from sustainable fisheries. Similar requirements are beginning to be made by U.S. retailers, including Wal-Mart, Target, and Kroger - to name a few.

LDWF is seeking to certify its major fisheries through programs accepted in the private sector, such as those offered by the Marine Stewardship Council (MSC). In March 2012, Louisiana’s blue crab fishery became the first blue crab fishery in the world to receive MSC sustainability certification. The Office of Fisheries will continue the upkeep required for certification, including completion of a coast-wide crab trap bycatch study that began in January 2013, sponsoring a diamondback terrapin population assessment, and meeting the annual conditions set by the MSC standards. During 2013, the blue crab fishery underwent its first MSC surveillance audit. Scientific Certification Systems published the audit report on MSC’s website in April 2013. Scientific Certification Systems determined Louisiana’s blue crab fishery was on target for four of the six indicators that received a conditional approval and recommended it maintain the MSC certificate until the second annual surveillance audit.

In addition to MSC certification, the Office of Fisheries continues to develop its own sustainability certification program based on the United Nations Food and Agricultural Organization (FAO) and the International Standards Organization (ISO) principles and protocols. The Office of Fisheries has partnered with the Audubon Commission to develop a sustainability certification program specifically for Louisiana and the Gulf region, similar to those developed by Alaska and Iceland, which along with MSC have found acceptance in the marketplace. Concurrently, the Office of Fisheries has participated in several pre-assessments for FAO-based certification, including Louisiana blue crab, oyster, and Gulf red snapper.

Louisiana’s working relationship with Audubon Nature Institute continues to be productive and constructive. Our Gulf-wide third party sustainable seafood certification program is on track:

1. The FAO/ISO-based certification program

is making great strides, particularly with the knowledge gained through the pre-assessments. Development of a draft Gulf standard and guidelines is underway, as is the formation of a formal technical committee.

2. Development of the fishery improvement plan process is likewise well under way across the Gulf region.

LDWF is also directly engaging the FAO and other national and international partners to identify and develop best management practices for small-scale, warm-water coastal fisheries.

We are continually vetting our program with seafood buyers to ensure our program will have market acceptance, once developed. LDWF has engaged national retail organizations, both individually and through business organizations, in intense dialogue concerning their sustainable seafood needs and desires. The Office of Fisheries has also engaged non-governmental organizations outside of the Gulf region. Many of these non-governmental organizations rate sustainable seafood or otherwise provide assurance of sustainable seafood to private-sector buyers. The Office of Fisheries makes extensive good-faith efforts to explain Louisiana’s responsible fishery management practices to both groups.

As part of a comprehensive approach to sustainable and responsible fisheries management, the Office of Fisheries is developing robust fisheries management plans for our major fisheries, based on recognized best practices, including state, national, and international best practices. Work has begun on a fishery improvement plan for blue crab. The Office of Fisheries began working on a FINFO site in cooperation with the Commission and is nearing completion.

FINFO

In 2013, LDWF worked with the Commission, the other Gulf states, and a contractor (GCR) to develop an educational website, to be launched in March 2014, about the sustainability of Gulf state fisheries. GulfFishInfo.org, or Gulf FINFO, gathers information from fisheries experts from across the Gulf states and puts easy to understand,

science-based facts about Gulf state fisheries at the public's fingertips. FINFO provides a platform for state fisheries management authorities to communicate how they conserve and manage fisheries in Gulf state waters. FINFO complements NOAA's FishWatch.gov, which covers fisheries in federal waters.

LDWF assisted GCR and the Commission with several key elements leading up to site build-out and content development:

- Reviewed and edited the site's business requirements document, which determined its build-out and maintenance, including site objectives and messaging, site layout, desired content, and development schedule.
- Reviewed and edited the site's functional specifications, which determined how each feature on the site would work, and content management plan, which sets strategy and timelines for collecting, editing, and publishing the site's content.
- Prepared guidance documents with requirements for the site's content.
- Provided input on the proposed design of the site and logo.

While GCR was building the site, LDWF developed all of the Louisiana-specific content for FINFO and helped coordinate, review and edit all other state and Gulf content. This included 24 species profiles; information on sustainable fisheries management in the Gulf; Gulf fisheries economics, health, safety, and marketing information about Gulf seafood; frequently asked questions; and general introductory information about the site's purpose and site topics. LDWF met regularly with GCR and the Commission to ensure site and content development were on schedule and meeting site objectives.

Commercial Seafood Industry Professionalization

The primary goal of the Industry Professionalization Program, Louisiana Fisheries Forward (Advancing Our Seafood Industry), is to create a better-informed and more efficient commercial fishing industry. The program will provide ongoing education opportunities for fishermen and industry

participants to receive the most relevant and up-to-date information as it pertains to their industry.

The Office of Fisheries continues to work with the Louisiana SeaGrant program located at LSU to develop and launch Phase I, Year 1 for Louisiana Fisheries Forward that covers a variety of topics including fishing/boating regulations and requirements, food quality and safety practices, advanced gear technology, business planning and marketing, seafood industry economics, and vessel safety. Within Phase I, Year 1 of Louisiana Fisheries Forward, videos are being produced, to include fact sheets, field trainings are taking place, to include hands-on demonstrations, and Phase II, Year 2 is being simultaneously developed.

LDWF participated in LSU SeaGrant's 2014 Louisiana Fisheries Summit, in Houma, Louisiana, offering information to the industry on LDWF Louisiana Wild Seafood Certification, LDWF supporting grant programs, LDWF and LSU SeaGrant Louisiana seafood industry education programs, and the LDWF video unveiling of "Best Practices for Producing High Quality Seafood in Louisiana."

A collaborative effort with LSU SeaGrant, "Best Practices for Producing High Quality Seafood in Louisiana" covers proper refrigeration, sanitation and chemical use during the handling and processing of various types of seafood. The video will be available in English, Spanish, and Vietnamese. The video can/may be offered in DVD form as well as internet link form (i.e. LDWF website, Facebook, and YouTube). It was brought to our attention that many Vietnamese fishermen utilize YouTube for information and/or instruction.

As a small pilot program, the Office of Fisheries launched the Louisiana Oyster Fisheries Training series. Training meetings were held in April and June 2012. No additional Louisiana Oyster Fisheries Training series were held during 2013. However, LDWF began developing curriculum and content for a new series to be launched during FY 2013-2014. The next Louisiana Oyster Fisheries Training series (LOFTSeries III) will feature the main topic of weights and measures.

This program includes deployment of a small team (i.e. LDWF Fisheries Oversight, Enforcement, DHH and Vietnamese and Spanish interpreters) to a specific location to inform/reinforce (through education, not enforcement) requirements, expectations, and best practices. Operation Outreach is to serve the role of “help us help you” where the focus/goal is to overcome language barriers, misunderstanding of requirements, and to help our oyster industry deal with increasingly complex FDA regulations on the handling and transport to market of raw oysters.

This program began tackling issues within the oyster industry, such as lot identification, human waste disposal, and a sack size study to help standardize the sack measurement across the industry. In early 2014, a Louisiana Oyster Industry Sack Survey and Field Observation Summary was authored and presented. The survey and field observation was a collaborative effort of LDWF, DHH, LDAF, and Louisiana SeaGrant. Louisiana SeaGrant authored and presented on behalf of all entities.

As a component of Louisiana Fisheries Forward, LDWF is collaborating with the Louisiana Crab Task Force to develop and implement a Louisiana Crab Fisheries Apprentice Program. The program is currently being developed for a crab fisheries apprentice to be mentored and/or sponsored by a licensed and qualified crab fisheries professional. At this time, the program-specific details are tentative, and the model is within a developmental draft mode. The program was initiated and is being driven by the Louisiana Crab Fisheries Industry.

Seafood Technology and Equipment Program

Over the past few years the Office of Fisheries has been developing various programs associated with the Seafood Technology and Equipment Program (STEP) with the overarching goal to assist and improve all aspects and sectors of the commercial fishing industry. The improvements made available by these programs have ranged in scale from the acquisition of new, more advanced equipment on small fishing vessels to the overhaul of major components at processing plants and docks.

The first phase of STEP is the Oyster Refrigeration Program. Launched in October 2012, it offers to reimburse 50% (maximum of \$10,000) of the cost of new or existing refrigeration equipment on vessels working with white tag oysters. By the end of 2013, the Oyster Refrigeration Program had received 61 total applications; over \$160,000 was paid to applicants; and an additional \$242,000 had been allocated to eligible applications.

The second phase of the program, known as the Health Permit Compliance Program, assists docks and processors participating in LWSCP with meeting their health permit requirements, a condition required to participate in the certification program. Launched in September 2013, qualified participants are eligible to be reimbursed for 50% (maximum of \$20,000) of the cost of upgrades and/or repairs required to obtain or maintain their DHH permit. In 2013, three applications were received for the Health Permit Compliance Program.

A new program which will further the goal of STEP is the Shrimp Refrigeration Program. This program is set to launch in spring of 2014 and is designed to operate much like the Oyster Refrigeration Program. Through the Shrimp Refrigeration Program qualified participants will be eligible for to be reimbursed for 50% (maximum of \$30,000) of the cost of new or existing refrigeration equipment on-board shrimp vessels and at shrimp processing facilities and docks.

The Office of Fisheries is currently developing a more structured process surrounding the grant program provided by LDWF. This process will create a uniform timeline which will drive the application acceptance period, processing, and awarding of money. The implementation of this process will be aided by a new online grant management system that is being developed specifically for this purpose. This exciting step forward will allow the Office of Fisheries to continually assess the funding needs of the commercial fishing industry and will provide the ability to create other programs that could make grant funding available for more projects in the future.

Task Forces

The Office of Fisheries has three active task forces: Shrimp, Oyster, and Crab. The task forces memberships are currently housed under the Louisiana Seafood Promotion and Marketing Board (LSPMB), allowing for more efficiencies and the hope of greater participation by members. The Office of Fisheries enjoys a close working relationship with the task forces. Cooperation between the task forces and the Office of Fisheries is essential as we move forward with the continued management of Louisiana's natural resources.

Shrimp Task Force

During 2013, the Shrimp Task Force met on March 14, August 6, and Aug. 27, 2013. Agenda items discussed included:

- Skimmer net legislation
- Serviceable crab trap law
- Experimental gear permits
- Louisiana Wild Seafood Certification Program
- Safe Harbor program
- Statutes affecting the setting of shrimp seasons
- Management opportunities
- Louisiana hypoxia working group
- Artificial reef fund and proposed projects
- NOAA Fisheries TED testing and observer coverage programs
- Review of Seafood Processors Survey
- Proposed legislation on seafood sustainability
- Monterey Bay rating for Louisiana shrimp



Crab Task Force

The Crab Task Force continued to work with the Office of Fisheries in 2013 toward improving the Louisiana crab fishery. The task force met on Feb. 26, April 30, May 7, July 11, August 29, and December 3, 2013. Agenda items discussed

included the following:

- Enhancing professionalism In the blue crab fishery
- Proposed LWFC resolution in support of the LDWF blue crab stock assessment
- Support for Marine Stewardship Council certification of the Louisiana blue crab fishery
- Proposed legislation that would increase the minimum mesh size in blue crab traps
- Commission online social survey of commercial crab fishermen
- Review of Seafood Processors Survey
- Soft crab shedding grant opportunities
- Derelict crab trap removal program results and recommendations for future clean-ups
- Serviceable crab trap law
- Nominees to LSPMB
- Financial reports - derelict crab trap removal and crab promotion and marketing accounts
- Proposed legislation restricting harvest of immature female blue crabs
- Crab trap theft and prosecution
- Blue crab disease research funding
- Key handling and quality impacts on Louisiana blue crab and fishermen
- Proposed legislation on seafood sustainability



In March, members of the Crab Task Force met with members of the Shrimp Task Force Management Subcommittee to discuss provisions in the serviceable crab trap law and possible changes; however, no agreement on changes was reached.

Oyster Task Force

During 2013 the Oyster Task Force met on Feb.

28, March 19, May 23, July 30, September 17, and November 12. The agenda items discussed include:

- Oyster Predation by Drum Fish
- Working with Coastal District Attorneys on increasing penalties for oyster theft
- Interstate Shellfish Sanitation Conference Time/Temperature Model changes
- Summer Dermo Study
- Updates on NRDA process
- Vessel Monitoring Systems
- Cypremort Point Artificial Reef
- Status of Public Grounds
- Preliminary Stock Assessment and Season Recommendations
- Tracking Oyster Tag Color on Trip Tickets
- Alternative Oyster Culture
- Professionalism Program
- D.C. Let the World Be Your Oyster
- Interstate Shellfish Sanitation Conference Proposals



Gulf of Mexico Fisheries Management Council

The Gulf of Mexico Fishery Management Council (Council) is responsible for the management of commercial, recreational, and for hire fishing activities in the EEZ, Gulf waters from the state territorial sea out to 200 miles offshore. The Council prepares Fishery Management Plans and amendments to these plans. Methods of regulation include quotas, size limits, bag limits, seasons, trip limits, and other tools that fisheries managers employ to control both recreational and commercial harvests.

The head of each state's fisheries division has a seat on the Council, along with representatives from the fishing industry. Louisiana's seat is

assigned to Assistant Secretary, Randy Pausina. His designee for council issues is Myron Fischer, who is delegated to act in his behalf. In addition to the council seat, Office of Fisheries employees participate in advisory roles on various panels and committees: Outreach, Data Collection; Habitat Protection; and Scientific and Statistical Committees for red drum, mackerel, reef fish, shrimp, and socioeconomics. In addition, LDWF biologists are part of the SEDAR pool, a panel assigned to producing the Council's stock assessments.

A list of the Council's Fisheries Management Plans include: Reef Fish, Coastal Migratory Pelagic, Red Drum, Shrimp, Lobster, Stone Crab, Coral, Aquaculture, and Essential Fish Habitat. The Council meets five times a year to work on amendments regarding these Fisheries Management Plans.

Louisiana is considered a leader in the Council's fishery management process with creative and out-of-the-box methodology, such as the preparation of Reef Fish Amendment 39, Regional Management and alternative allocation methods. Reef Fish Amendment 39, Regional Management, is still on the table with Input from other states. Whether the amendment passes or fails, we have opened eyes nationally on alternative means of management. Through Council process, Louisiana is continuing to implement consistency in fishery-independent sampling protocols.

Socioeconomic Research and Development

The Socioeconomic Research and Development (SRD) Section was established in 1992 and currently resides in LDWF Office of Fisheries. The duties and responsibilities of the section are:

- To recommend, conduct, and coordinate economic research studies pertaining to wildlife and fisheries resources of Louisiana and the Gulf region.
- To present research findings at appropriate professional and scientific meetings, and publish results in departmental publications and peer-reviewed scientific journals.
- To provide information and support to other sections and divisions within LDWF, as well

as agencies outside LDWF, assisting them in accomplishing research needs, management tasks, and short and long-term objectives.

- To represent LDWF and Louisiana on various study groups, task forces, and committees established to study, manage, and improve wildlife and fisheries resources at the local, state, regional, and national levels.
- To administer and implement special programs.
- To perform other activities as directed by LDWF's appointing authorities.

With assistance from the various program managers within the offices of LDWF, the SRD Section prepares Fiscal and Economic Impact Statements that accompany the Notices of Intent for rules and regulations considered for adoption by the LWFC. During 2013, Fiscal and Economic Impact Statements were developed and published along with the Notices of Intent in the Louisiana Register.

The following programs, projects, and surveys were conducted in 2013.

Cooperative Research Survey Program

The Cooperative Research Survey Program was implemented in May 2009 to measure the impact and monitor the recovery of Louisiana's seafood industry from the 2005 and 2008 hurricanes. In the spring of 2009, program application forms were mailed to 4,427 fishermen and 395 dealers to measure interest in participating in the Cooperative Research Survey Program. In FY 2009-2010, surveys were mailed to 3,249 commercial fishermen and to 328 seafood dealers who applied to participate in the program. Reports based on the data collected in this program were completed in 2013.

Gulf Seafood Processor and Dealer Economic Surveys

In collaboration with the Commission, NOAA, and state agencies in Alabama, Florida, Mississippi, and Texas, the SRD staff designed a seafood processor survey and a dealer survey in the spring of 2011 to collect economic information from seafood

processors and dealers operating in the Gulf of Mexico region. The purpose of these surveys is to provide policy-makers, trade associations, and others involved in this industry with a better understanding of how this sector works and how important the seafood purchasing, processing, wholesaling, and distribution industry is to local and regional economies throughout the Gulf region. An in-person survey of seafood processors was initiated in the summer of 2011 and completed in 2012. A mail seafood dealer survey began January 2012 and was completed in October. As of June, 2013, 161 completed surveys were received. A follow-up survey of dealers who did not respond to the seafood dealers survey was mailed to 239 seafood dealers in May, 2013. This effort was continued in the summer of 2013. Analysis of the seafood processor survey data and seafood dealers' survey will be completed by fall, 2013. Results will be submitted to the Commission.

Economic Survey of the Gulf of Mexico Inshore Shrimp Fishery

Gulf of Mexico shrimp are harvested commercially from "inshore" state waters (waters within the jurisdictional boundaries of the individual states) and from "offshore" federal waters. This study examines the economic performance of active commercial shrimp harvesters who primarily operated in inshore waters of western Florida, Alabama, Mississippi, Louisiana, and Texas throughout 2012. The data collection was designed by the Commission and LDWF to track the economic status and performance of vessels holding a state shrimp license for harvesting shrimp in the Gulf. Throughout the spring of 2012, 1,557 shrimpers were randomly selected, stratified by state, from a population of individuals holding a state shrimp harvesting license for the Gulf. After two mailings and a reminder postcard, 410 surveys were returned as of June 30, 2013.

Survey of National Hunting and Fishing Day Participants

On September 22, 2012, LDWF held a public event in observation of National Hunting and Fishing Day at Waddill Wildlife Refuge in Baton Rouge. Personnel from the SRD Section collected exit

surveys of 303 participants in this event. Results of this survey were completed and sent to the LDWF Public Information Section in January 2013.

Survey of Louisiana Saltwater Series Fishing Tournament Participants

LDWF organized a series of saltwater fishing tournaments in 2012 and 2013. The SRD Section assisted personnel in the Marine Fisheries Division with the design of an online survey of participants in the tournaments held on June 12 and August 23, 2012, and June 8 and June 29, 2013.

MISSISSIPPI DEPARTMENT OF MARINE RESOURCES

Jaime M. Miller, Executive Director

Marine Fisheries Management

Objectives

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

- Submitted Bonnet Carré fisheries disaster proposal to NOAA for oysters and blue crabs;
- Completed all work and submitted final report for Emergency Disaster Recovery Programs I & II;
- Designed and initiate projects to collect and analyze data required for population dynamics estimates and other fisheries management projects;
- Developed scientifically-based management recommendations;
- Monitored the condition of fish stocks and the fisheries that depend upon them;
- Provided information transfer and liaison activities with regional fisheries management entities and others;
- Provided 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;
- Provided administrative services, general maintenance, locate funding sources, and other fisheries management support services as required;
- Worked 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 2013, 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 Gulf State Marine Fisheries Commission's (Commission) 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 (GMFMC).

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

- 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 September 30, 2013. Through the end of December 2013, oyster harvesters landed 49,545 sacks in over 3,643 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 spring 2013 cultch plant covered some 1,430 acres with approximately 120,865 cubic yards of limestone and 20,000 cubic yards of oyster shells.
- 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.

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, Commission, 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 315 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-five 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 Population Monitoring; with a project being prepared for "Assessment of Red Drum Stocks in Mississippi Coastal Waters".
 - 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 281 derelict traps collected in 2012 and planning began for the 2013 crab trap closed season and volunteer clean up. Over 18,900 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 660 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 59 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 in the wake of Hurricane Katrina was completed.

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.
- Artificial Reef staff worked at 18 public outreach events to promote Mississippi's Artificial Reefs.
- Artificial reef personnel worked with the Cedar Point Hatchery in Ocean Springs to help release 679 juvenile Red Snapper on Fish Haven 2.
- 42 National Resource Damage Assessment (NRDA) inshore reef deployments in Jackson, Harrison, & Hancock Counties 24,546.48 cubic yard of #57 limestone.
- Side scanned 11 oyster reefs for NRDA.
- Two trips with Gulf Islands National Seashore looking for lionfish.
- Collected Red Snapper for the Cedar Point Hatchery for their spawning project.
- Released 2,700 Pompano on East Ship Island.
- 26 Florida Limestone Pyramid deployed on FH-13.
- Released 2,200 Pompano on East Ship Island.
- Artificial reef personnel worked with the Cedar Point Hatchery in Ocean Springs to

help release 650 juvenile Red Snapper on Fish Haven 2.

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 69 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 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 that 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 Deep-water Horizon oil spill through continued tissue monitoring and water quality analysis.

Marine Recreational Information Program (MRIP)

Objectives

- Conduct the MRIP 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 was processed, edited, and submitted to the Commission. The information provided a continuous standardized database of marine recreational catch, effort, and participation in the marine waters adjacent to Mississippi. This data provided various fisheries councils the information necessary to make wise management decisions. Site updates and fishing pressure estimates were delivered to the Commission according to schedule. These estimates, along with historical productivity, were used to assign the number of assignments needed on a monthly basis. The MRIP Program included a telephone survey of the charter boat fishery and weekly telephone interviews were conducted. Data was entered and sent to the Commission weekly. The information was used to obtain effort estimates for the for-hire industry.

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 has been implemented and managers worked with fishermen and dealers to improve the program ensuring the delivery of timely and reliable data. This system is used to collect commercial landings and associated information by trip. The information gathered and reported through this program is beneficial to fishermen and fishery managers.

Sport Fish Studies in Mississippi Coastal Waters

Objectives:

1. Assess and monitor the populations of adult/sub-adult finfish species, including spotted seatrout (*Cynoscion nebulosus*); in Mississippi coastal waters using protocols established in previously completed work.
2. Obtain supplemental data on the seasonal abundance of adult/sub-adult red drum (*Sciaenops ocellatus*) in Mississippi coastal waters, focusing primarily on age-1 to age-5

fish.

3. Investigate species composition, seasonal abundance and movement patterns of shark species that have the potential of being taken in Mississippi's coastal recreational fishery.

Initiated as a targeted study to assess spotted seatrout stocks, Sport Fish Studies in Mississippi coastal waters assesses and monitors the populations of adult/sub-adult finfish species, including spotted seatrout (*Cynoscion nebulosus*) and red drum (*Sciaenops ocellatus*), in Mississippi coastal waters using protocols established in previously completed work. It also investigates species composition, seasonal abundance, and movement patterns of shark species that have the potential of being taken in Mississippi's coastal recreational fishery.

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 5,790 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* risk management plan as it affects their daily operations and HACCP plan management;
- Participated in 17 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 through Market Maker program and conducting Basic Seafood HACCP Training courses and Sanitation Control Procedures training sessions;

- Promoted seafood consumption and awareness of seafood safety through public outreach, education, and participation at several 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; provided the public with confidence in Mississippi-inspected seafood products; and aided in marketing Mississippi seafood products;
- Participated in the shellfish processing plant program regulatory review and evaluation by the FDA and the *Vibrio* risk management program evaluation inspections;
- 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 speckled trout new regulations and preliminary studies of marine aquaculture regulation changes;
- Provided technical assistance to the irradiation seafood processing facility and nine new certified seafood dealers in Mississippi Gulf Coast.

Types and Number of Seafood Facilities

Permitted

There were 58 seafood/sanitation processing permits issued which included 17 shrimp, nine crab, and 32 oyster permits. These 58 permits

represent 383 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;
- 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; and
- Prepared and distributed letters to molluscan shellfish dealers regarding updated HACCP plans.

TEXAS PARKS AND WILDLIFE DEPARTMENT

COASTAL FISHERIES DIVISION

Robin Riechers, 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 Texas fisheries, which rely on these 4M acres of marine habitat, support a resource-based economy valued at more than \$2B annually.

Coastal Fisheries Division Objectives

The Coastal Fisheries long-term vision is to ensure that Texas coastal ecosystems are ecologically healthy and can sustain economic and recreational opportunities for 3.5M anglers and 10M outdoor enthusiasts.

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; and
- 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 to 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.
- Provide information to the public on the importance of artificial reefs and promote their utilization by anglers and divers.
- Coordinate and promote partnerships with local and state entities on artificial reef research and planning efforts for the enhancement of marine habitat in the Gulf of Mexico.

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; 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; provide recommendations to the U.S. Army Corps of Engineers (USACE) to lessen impacts of USACE 404/10 and other projects 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; 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 (GMFMC), Gulf States Marine Fisheries Commission (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-foot gill nets with individual 150-foot sections of three, four, five, and six-inch stretched mesh. Bag seines (60 feet ½-inch mesh) and trawls (20 feet 1½-inch mesh) are used to determine abundance of juvenile and subadult finfish, shrimp, blue crabs, and associated organisms. Oyster dredges (19½-inch wide) were used to collect oyster abundance data. Inshore waters (within nine nautical miles) were also sampled with trawls. Total sampling

effort during FY 2013 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 Commission. 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 fathoms. In fulfillment of SEAMAP requirements, the TPWD collected 240 Gulf trawls in 2013.

Recreational 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 2013 closure held February 15 through March 24, when crab traps are not allowed to be used, a minimum of 112 volunteers using 43 vessels expended 896 man-hours of effort (plus additional TPWD staff time) to remove 897

derelict traps coast wide. This effort brings the total number of traps removed since the program began in 2002 to 30,449. The majority of the traps have been removed from Galveston Bay (40%) 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 continued for alligator gar and Gulf menhaden; and completed for eastern oysters. Collection and processing of genetic samples from these species is complete and data analysis for gulf menhaden is ongoing. A manuscript describing the genetics of cold stunned and killed green sea turtles was published in a peer-reviewed journal. Manuscripts on methods of genetic analysis on menhaden and red drum growth in hatchery ponds were submitted to peer-reviewed journals. A black drum genetics and ageing project was initiated, with fin clip and otolith samples collected from all Texas bays. A life history study on gray snapper age, growth, and reproduction was continued. Temperature tolerance studies of juvenile red drum and juvenile spotted seatrout were completed while studies of 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. A manuscript on temperature tolerance of juvenile spotted seatrout was published in a peer-reviewed journal. A cooperative study on juvenile red drum temperature and salinity tolerance and survival relative to fish stocking activities was initiated with Texas State University. 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 project to determine sex of alligator gar based on meristic characteristics

was completed and a manuscript was published in a peer-reviewed journal. A cooperative project with the Commission to collect age-and-growth data on commercial and recreational catches of southern flounder, king mackerel, red snapper, greater amberjack, black drum, red drum, spotted seatrout, gray snapper, vermillion snapper, gray triggerfish, and sheepshead was completed and will not be continued in 2014. 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 1.5-2M eggs per day. After hatching, larval fish were transferred to outdoor rearing ponds and grown to a target size of 35-40mm TL.

During the 2013 fiscal year, a total of 16.5M red drum fingerlings and 7.5M spotted seatrout fingerlings averaged \pm s.e. 32.1 ± 0.5 mm TL and 33.0 ± 0.5 mm TL, respectively, were released into marine waters for purposes of stock enhancement. A total of 939,899 red drum fingerlings with a mean size \pm s.e. of 32.0 ± 2.1 mm TL were released into two freshwater reservoirs. Also, a small number (112,226) of southern flounder fingerlings averaged \pm s.e. 6.4 ± 5.0 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 57,381 visitors in 2013. The Marine Development Center toured 2,213 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 2013, 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 and continued to provide information as requested for potential projects for settlement claims for Deepwater Horizon impacts. Associated activities included participation with the GLO's Technical Advisory Committees and Coastal Marine Spatial Planning efforts for identifying regional coastal priorities and future planning strategies and other regional partners for identifying projects for RESTORE Council consideration.

During 2013, 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 continued with the third year of a five-year 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 GLO for closure, but construction did not occur in 2013. TPWD has continued to work to insure that losses to recreational fishing are mitigated through recreational alternatives in the GLO project plan.

Staff participated with on-the-ground management and implementation of projects that had received funds and were in various stages of completion. Funds were awarded during 2012 to begin

restoration of seven acres of intertidal marsh in Dickinson Bayou. Additional grant proposals were submitted during 2013 for this project and for efforts to implement the Dagger and Ransom Island Restoration Project. Project managers continued work on several protection and restoration projects that received funding awards during 2011 and 2012. This included the Follet's Island Initiative project (where over 400 acres on Follet's Island were acquired by the project partners during 2013 and transferred to TPWD). Other efforts included the West Bay Estuarine Habitat Protection and Restoration Project, which has been identified as one of the 50 nationally recognized America's Great Outdoors (AGO) projects (one of only two in Texas). One of those projects within the West Bay project, the Starvation Gap Wetland, and Water Quality Protection Project, was completed with additional plantings during 2013. Staff worked on other projects located within the AGO project boundary that received Coastal Wetland Conservation Program grant funds awarded during 2012. These included the Settegast Coastal Heritage Preserve (a land acquisition project of the Settegast Road tract on Galveston Island by a local NGO), and Bird Island Cove Restoration Project.

TPWD staff began work on the Egery Flats State Wildlife Grant received during 2013. Egery Flats has lost approximately 100 acres of estuarine marsh since the 1950s and has been identified by USFWS as a site of potential range expansion for the endangered whooping crane (*Grus americana*). The MOU was finalized during 2013 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.

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 (from funds from the NOAA Hurricane Ike grant) resulted in 1,200 acres of marsh habitat enhanced in the J.D. Murphree Wildlife Management Area. This effort continues to be used as the catalyst to capitalize on the needs and efforts of all partners to restore marsh associated

with their future GPLNG dredging cycles. Because of the potential result of over 20,000 marsh acres restored over the next ten years, TPWD continues to work 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 in 2012 and enhanced by additional plantings during 2013. 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 Cove Unit of the Lower Neches Wildlife Management Area.

Planning for the project alternative modeling was completed for the Keith Lake Fish Pass Project. The interagency workgroup selected the preliminary design to move forward to the USACE. TPWD staff participated in the permit application for this proposed project. Design and engineering of the channel modification have occurred, with construction to follow with USACE permit approval and 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 (ERP) staff spent significant time reviewing 264 permit applications (mostly for Section 404/10 USACE permits) 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 TPWD issued permits to introduce fish, shellfish, or aquatic plants into

public waters to reduce risk of native biota to associated activities (e.g. construction activities to mussels, relocation activities for fish, oysters, seagrass, and *Spartina* sp., and introduction of exotics).

Staff participated in various Inter-agency Coordination Teams (ICT) as well as served on the Mitigation Bank Interagency Review Team (IRT) for federal projects administered by USACE. Participation provided the primary input for the state regarding the impacts 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.

ERP 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-stakeholder 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. Staff participated in the Habitat Committee and the Southern Flounder Subcommittee for the Commission. The TPWD staff continues to play a 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, Habitat Houston, 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. During 2013, staff investigated 81 fish kills along the coast. 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 began on the upper coast in August 2012, and increased cell counts were observed in Lower Laguna Madre and in Corpus Christi Bay during September through November. The initial bloom 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 shellfish harvest 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.

TPWD continued hosting the multi-agency Texas Seagrass Monitoring workgroup which has moved forward in refining a proposed statewide seagrass monitoring program. The workgroup completed writing the proceedings for the 2009 Seagrass Conservation Plan Review Workshop and submitted it to the three state agencies (TPWD, TCEQ, and GLO). This document presented the progress made in the implementation of the Seagrass Conservation Plan since 1999 and provided recommendations for the agencies to consider incorporating into their future operations.

Artificial Reef Program

The Artificial Reef Program created several new reef sites in calendar year 2013. It was responsible for maintaining 67 permitted reef sites, nine USCG required permanent marker buoys and two mooring buoys in the Outer Continental Shelf area of the Gulf of Mexico.

Rigs-To-Reefs Program: The Program received five petroleum structures and generated \$1,290,000 in donations. Four of the structures were towed to existing reef sites, while one was partially removed in place. There are over 50 additional platforms in various stages of negotiation, many of which are anticipated to become reefs in the near future.

Several new rigs-to-reefs deployments will occur in the newly approved planning zones in the Mustang and Matagorda protraction areas in 2014. These areas were approved by the Bureau of Safety and Environmental Enforcement (BSEE) in September 2012. After this approval, BSEE rescinded its requirement to only allow partial removals in approved planning zones. TPWD will also submit its first partial removal application outside of an approved planning zone in 2014.

TPWD plans to reef its first deep water platform in late 2014. East Breaks 110 (EB-110) is located near the Flower Gardens Banks National Marine Sanctuary in 660 feet of water. Sandridge Petroleum Company has been in negotiations with TPWD over this site for many years. The U.S. Coast Guard has authorized a 90 foot clearance without a buoy. The upper portion of the structure will be removed and scrapped, while the base will remain in place, having a 570 feet profile off the bottom. New emphasis has been placed on archeological impacts at newly permitted reef sites by the BSEE, Bureau of Ocean Energy Management (BOEM), and the USACE. All new reef sites now require an archaeology survey which is done by the petroleum companies using BSEE/BOEM survey guidelines.

Nearshore Reef Program: Over 100 ≥one-ton natural quarry rocks were deployed at Sabine Reef (HI-117) in September 2013. These rocks were delivered to a storage area in Sabine from drill

bit producers free of charge to the program. Over the years, the reef program has gained hundreds of rock for reefing operations in the Port Arthur / Sabine area.

The Corpus Christi nearshore reefing project (MU-775) began September 22, 2013. Reefing consisted of 20,000 tons of box culvert with 66 large ones being placed in an upright position, and 470 concrete pyramids (10 feet base x 8 feet tall). The Coastal Conservation Association (CCA) funded the building of 70 of the pyramids. The Saltwater-Fisheries Enhancement Association (SEA) was instrumental in locating the culverts and arranging for their transportation to the port, and promoting the reefing with the City of Corpus Christi. Both CCA and SEA were present for the reefing event.

Four Eternal Reefs were placed at Barr's reef (GA-189) in federal waters on October 25, 2013. Due to a conflict with the Texas General Land Office (GLO), Eternal Reefs are not allowed in Texas state waters as the GLO insists this would constitute the creation of an underwater state cemetery; deployment of these reefs outside state waters avoids this restriction. These deployments do not cost the program any money as Eternal Reefs covers all costs.

Staff worked on expanding nearshore reefing efforts through several proposed Natural Resource Damage Assessment (NRDA) projects totaling \$6.6M. The George Vancouver Liberty Ship reef (BA-336; aka Freeport Nearshore Reef) will receive 800-900 predesigned pyramid reefs, while 1,600 pyramids will be reefed at Matagorda Nearshore Reef (BA-439). An additional ship reef is planned for HI-A-424, 67 nm off Galveston in 135 feet of water. Public hearings will be held in early 2014 and future funding is anticipated by late 2014.

Science and Research: The TPWD Artificial Reef Program created a new interagency agreement with Texas A&M University at Galveston. The two-year agreement is to provide biological monitoring and research on nine TPWD reef sites from Freeport to Sabine using vertical longlines, diver surveys,

remotely operated vehicles (ROV), and DIDSON (acoustic technology) to determine fish biomass and the general health of the reef sites. Currently, TPWD has agreements with the University of Texas - Brownsville, Texas A&M University - College Station, Texas A&M University - Corpus Christi, and the U.S. Geological Survey. These agreements, along with the work that TPWD artificial reef staff carry out, cover all of the TPWD artificial reef sites and encompass a very distinguished biological monitoring program.

Staff completed the 2013 monitoring season with three offshore sampling trips. A new sampling protocol was implemented this season – SEAMAP’s vertical longline. The program is compiling a database of water quality, categorical abundance of fish species through roving divers’ surveys, estimates of fish lengths through video surveys, and now biological sampling through the vertical longlines. Volunteer scientific divers clocked over 600 hours conducted in 2013.

The Texas Artificial Reef Survey was conducted by Texas A&M University at College Station. About 10,000 surveys were mailed and an online website was created to take the survey. Those who did not respond online received a hard copy survey. The total mailing list included 5,000 anglers and 5,000 boaters. The purpose of the survey was to obtain socio-economic data from users of TPWD reefs from boaters/anglers. The final report is due mid-2014. A new survey to target divers is planned by TAMU-Corpus Christi in 2014.

The First Annual Artificial Reef Program Science and Monitoring Symposium is planned for January 2014. The Consortium will have presentations by the TPWD Artificial Reef Program staff as well as the TPWD contracted agencies (Texas A&M University at Corpus Christi, Texas A&M University at Galveston, US Geological Services, and the University of Texas at Brownsville).

Public Relations: The program’s Facebook page now has nearly 800 followers. The reef program posts status updates pertaining to reefings that occur and any news related to the program.

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 the five-year regional water planning period continued in 2013. TPWD has 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 its customers as well as the Colorado River and Matagorda Bay. During the summer of 2013, the LCRA discussed whether to seek emergency relief from TCEQ for required water deliveries to Matagorda Bay and the rice irrigators. TPWD submitted written comments outlining possible impacts associated with suspension of environmental flows. Ultimately LCRA opted to delay seeking emergency suspension of environmental flows but was granted emergency relief for delivery of water for rice irrigation for the third year in a row.

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. On February 12, 2014, TCEQ adopted Environmental Flow Standards for the Rio Grande, Nueces, and Brazos Basin and Bay Areas. TPWD submitted comments recommending modifications of the proposed standards.

TCEQ adopted revised State Water Quality Standards, taking effect in March 2014. TPWD staff was closely involved in the development of numeric nutrient criteria for reservoirs for the 2010 Water Quality Standards and continue to provide technical recommendations as criteria are considered for other water body types. In 2013, TPWD submitted specific recommendations to TCEQ about numeric nutrient criteria for estuaries that will protect fisheries and habitats in Texas bays. TPWD staff is also monitoring changes to how standards are set for bacteria levels in different types of water bodies.

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 setting water quality standards and assessing compliance with the standards. The group continues to address priorities for developing bio-assessment 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, 2013 through December 31, 2013. 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.

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. In 2013, the project was completed and the final report submitted to TCEQ. Phase 2 established permanent monitoring stations for coastwide monitoring, as well as permanent stations in San Antonio Bay and the Redfish Bay area. The final report analyzed cost and staffing needs, and presented recommendations for moving forward with a coast-wide monitoring program.

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 water bodies 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 (RUAAs). The focus this year continued to be department participation in TMDLs, WPPs, RUAAs, 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, dissolved oxygen in Dickinson Bayou, and dioxin and PCBs in the Houston Ship Channel.

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. The Water Quality Program coordinates the multi-divisional review of aquaculture permit

and license applications from these sister agencies.

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.

Legislative and Regulatory Changes

Legislative Actions

The following bills were passed by the 83rd Texas Legislature and signed by the Governor during the 2013 legislative session:

1. House Bill (HB) 3279 Relating to Uprooting Seagrass

HB 3279 established a law preventing the uprooting of seagrass (submerged aquatic vegetation) statewide in coastal waters. This was established as the top priority of a recent Coastal User Working Group which was charged by the Texas Parks and Wildlife Commission with looking at how to better protect seagrass habitat along the Texas Coast.

This bill requires staff to educate marine boaters and train law enforcement about seagrasses and seagrass identification. It will require additional informational brochures and boater viewed signage. Staff resources will also be impacted in time spent on affect analysis of the implementation of the bill for future education and management implications.

2. House Bill (HB) 4 Relating to Creation and Funding a Water Plan

HB 4 established the State Water Implementation Fund for Texas, a new fund to finance water projects approved in the State Water Plan and to finance education efforts directed at water development, conservation, and reuse.

The new fund would be administered by the Texas Water Development Board, and the TWDB would adopt rules providing for the use of money and the prioritizing of projects for

funding. In any fiscal biennium, not less than 20% of the fund must be used for financing water conservation, reuse, or education.

3. House Bill (HB) 11 Relating to Water Plan Funding

HB 11 appropriated \$2B from the state rainy day fund to the comptroller for deposit in the proposed State Water Implementation Fund upon passing of HB 4.

Texas Parks and Wildlife Commission (TPWC)

Rule-making

The following rules were adopted by the Texas Parks and Wildlife Commission during 2013:

1. Possession of Red Drum and Bonus Red Drum Tags

Amendment to §57.972, concerning General Rules removes the prohibition of simultaneously possessing a red drum and bonus red drum tag.

Prior to the amendment, a person could catch and retain only one red drum of greater than 28 inches in length, which must be tagged with the red drum tag from the person's fishing license, and a person may exchange a used red drum tag for a bonus red drum tag and then retain another oversize red drum; however, no person was permitted be in simultaneous possession of a red drum tag and a bonus red drum tag, or the exempt equivalents. These rules were promulgated at a time when the department was concerned about red drum populations and needed to get firm numbers concerning their harvest. Long-term department trend data indicate that oversize red drum constitute less than 3% of the total red drum harvest; therefore, there is no longer a need to obtain highly detailed harvest information or to prohibit the simultaneous possession of a red drum tag and a bonus red drum tag.

2. Bag, Possession, and Length Limits

An amendment to §57.981, concerning Bag, Possession, and Length Limits makes

it a violation of state law to possess aquatic animal life in Texas that was unlawfully taken in violation of federal law.

It is common for state game wardens to encounter persons in state waters who possess aquatic animal life that was unlawfully taken in federal waters. Prior to the amendment, such cases could not be filed in a state jurisdiction; however, increased caseloads in federal courts have caused federal prosecutors to become increasingly selective about which cases to prosecute. This has led to a perception that compliance with resource conservation regulations is unnecessary, which is injurious to Texas aquatic animal life because it is a shared resource. The amendment is necessary to encourage the angling public to comply with resource conservation regulations irrespective of jurisdiction.

3. Finfish Import License Rules

An amendment to §57.372 requires holders of a finfish import license to submit invoices electronically within 24 hours of each instance of importing, exporting, or transporting commercially protected finfish.

Prior to adoption of these amendments, the holder of a finfish import license was required to generate a shipping invoice for each shipment of commercially protected finfish that is imported, exported, or transported in Texas, and to forward that invoice to the department by the tenth day of the month following the month in which the regulated activity occurred. Staff determined that, given the prevalence of automation in the workplace, the widespread availability of affordable digital devices and the benefits to the department of increased efficiency, there is justification for requiring licensees to submit all information electronically within 24 hours.

4. Possession of Undersized Oysters

Amendments to §§58.11, 58.21, and 58.22 clarify the rules governing possession of

undersized oysters.

Prior to adoption of these amendments, department game wardens had reported scenarios in which multiple sacks of oysters were encountered onboard a vessel, but the number of sacks of “culled” (oysters that have been separated by size) versus “unculled” oysters could not be definitively ascertained. The amendments adopted eliminate confusion and create a definitive standard for purposes of compliance and enforcement.

NATIONAL MARINE FISHERIES SERVICE, SOUTHEAST REGION NATIONAL OCEANIC AND 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 (Gulf Council) to conserve and manage marine fishery resources in federal waters of the Gulf of Mexico (Gulf) 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.

Status of Gulf Disaster Requests

In 2012, Governor Rick Scott (Florida) asked the Secretary of Commerce to declare a fishery disaster for the oyster industry of Apalachicola Bay. On August 12, 2013, the Secretary informed the State of Florida that a disaster had been declared, based on the information provided by the state.

Headboat Exempted Fishery Permit

In August 2013, NOAA Fisheries issued a two-year exempted fishing permit to the Gulf Headboat Collaborative (Collaborative), beginning in 2014. The Collaborative consists of 17 headboats located throughout the Gulf. The Collaborative was issued a dedicated allocation of the recreational red snapper and gag grouper quotas (5.3146% and 2.8343%, respectively) based on the documented landings of these two species by the 17 participating headboats in 2011 compared to total 2011 recreational catch for these two species; that percentage was applied

to the allowable recreational catches for 2014 to determine their specific 2014 allocations. When NOAA Fisheries determines the 2014 federal recreational red snapper quota has been met, vessels participating in the Collaborative will be prohibited from harvesting red snapper for the remainder of the fishing year even if they have additional red snapper quota remaining.

Declarations of Overfishing

On December 9, 2013, NOAA Fisheries notified the Gulf Council that the combined commercial and recreational landings for the hogfish stock and jacks complex exceeded their overfishing limits. Finalized 2012 landings information indicated the jack complex landings exceeded the overfishing limit by 7%, and landings for the hogfish stock in 2012 exceeded the stock overfishing limit by 9%. Thus, NOAA Fisheries declared both stocks were undergoing overfishing in 2012. In 2014, NOAA Fisheries will review final 2013 landings data to determine if overfishing continued in 2013.

Gulf Shrimp Fishery

Annual Texas Closure

The annual closure of the shrimp fishery in the western Gulf 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 2013, commercial shrimp fishing in federal waters off Texas was closed May 23 through July 15.

Electronic Logbook Cost Sharing Program

Since 2007, Gulf shrimp fishermen have been required to participate in this program if selected. With the cost-sharing program, selected Gulf shrimp vessel permit holders must pay the cost of data transmission through a wireless provider. NOAA Fisheries purchased the units, and is paying for software development, data storage, effort estimation analysis, and archival activities. The final rule published December 2013.

Reef Fish Fishery

Grouper/Tilefish Individual Fishing Quota (IFQ) Program

In 2013, there were 644 shareholders as of

December, and annual landings, in gutted weight, were as follows:

<i>Species/ Complex</i>	<i>Landings</i>	<i>Quota</i>	<i>%</i>
<i>Gag</i>	<i>575,335 lb</i>	<i>708,000 lb</i>	<i>81</i>
<i>Red grouper</i>	<i>4.99M lb</i>	<i>5.53M lb</i>	<i>83</i>
<i>Other Shallow Water grouper</i>	<i>300,735 lb</i>	<i>518,000 lb</i>	<i>58</i>
<i>Deep-water grouper</i>	<i>920,034 lb</i>	<i>1.18M lb</i>	<i>82</i>
<i>Tilefish</i>	<i>440,091 lb</i>	<i>582,000 lb</i>	<i>76</i>

Red snapper IFQ Program

In 2013, there were 399 shareholders as of December, and fishermen landed 4.909M lbs gutted weight of red snapper, or 97% of the 5.054M lbs gutted weight red snapper quota.

Red Snapper Total Allowable Catch for 2013

On March 25, 2013, an emergency rule was published in the *Federal Register* that gave NOAA Fisheries the authority to set separate closure dates for the recreational red snapper season in federal waters off individual Gulf States. On May 31, 2013, the U.S. District Court in Brownsville, Texas, set aside that emergency rule and NOAA Fisheries set the Gulf-wide red snapper recreational season for June 1-28, 2013, based on an allowable catch of 8.46M lbs. Effective October 1, 2013, NOAA Fisheries increased the allowable catch to 11M lbs, and set a supplemental season for October 1-14, 2013.

Certificate of Inspection (COI) Framework Action

Effective August 30, 2013, NOAA Fisheries removed the requirement to submit a current COI from the United States Coast Guard to renew or transfer a federal Gulf for-hire permit. The rule removing that requirement also prohibited the harvest or possession of coastal migratory pelagic and reef fish species on vessels with a Gulf for-hire permit that is carrying more passengers than is specified on the face of the Gulf for-hire permit. The effect of the rule is to eliminate the restriction requiring the COI when transferring for-

hire permits, simplify the requirements to renew or transfer a Gulf for-hire permit, maintain the cap on fishing effort for the for-hire sector, and allow for-hire vessels to carry more passengers for non-fishing activities if their COI is greater than the passenger capacity on the face of their Gulf for-hire permit.

Vermilion Snapper, Yellowtail Snapper, and Venting Tool Framework Action

Effective September 3, 2013, NOAA Fisheries implemented a rule that set a 10-vermilion snapper bag limit within the 20-fish aggregate reef fish bag limit, increased the yellowtail snapper annual catch limit from 725,000 lbs to 901,125 lbs, and eliminated the requirement to use venting tools when fishing for reef fish. The venting tool requirement was rescinded because some scientific studies have questioned the usefulness of venting tools in preventing barotrauma.

Reef Fish Amendment 37

This action follows a 2012 interim rule that adjusted gray triggerfish quotas downward to end overfishing. The rulemaking made those quotas permanent, set restrictive bag limits and commercial trip limits, and adjusted the accountability measures to include paybacks for overages for both the recreational and commercial sectors. This action was effective June 2013.

Reef Fish Amendment 38

This amendment (1) modified post-season recreational accountability measures for shallow-water groupers, allowing for in-season closures; (2) changed the trigger for accountability measures to single year overages; and (3) revised the framework procedure. The final rule was effective March 1, 2013.

Framework Action to Adjust Gag Grouper Harvest Restrictions

Gag is under a rebuilding plan that allows for an increase in the recreational annual catch limit (ACL) and annual catch target (ACT) in 2013. This action revised the recreational fishing season to maintain a July 1 opening, but the closure date will be determined by projecting when the ACT is met. Given gag fishing is being constrained by

the rebuilding plan and none of the other shallow-water grouper species are overfished or undergoing overfishing, this action restricts the shallow-water grouper season closure during February and March to areas deeper than 20 fathoms. This action was effective July 2013.

Quota Monitoring Fishing Year 2013

- Recreational Red Snapper: Federal waters opened June 1 and closed July 28, 2013, based on an allowable catch of 8.46M lbs, then reopened October 1 through October 14, 2013, after NOAA Fisheries increased the allowable catch to 11M lbs. Based on the most recent landings data, including the 2013 Marine Recreational Information Program data, the recreational sector exceeded its 5.39M lb quota by 4.15M lbs. NOAA Fisheries is exploring whether a change in the survey methodology may have contributed to the overage and, if so, the relative impact of that change.
- Commercial Greater Amberjack: NOAA Fisheries reduced the greater amberjack commercial quota to 338,157 lb in 2013 to account for a 2012 quota overage. The commercial sector was closed July 1, 2013, when the quota was projected to be met.
- Commercial Gray Triggerfish: NOAA Fisheries reduced the 2013 quota of 60,900 lbs to 51,602 lbs to account for the 2012 commercial harvest exceeding the quota.
- Recreational Gray Triggerfish: NOAA Fisheries determined the 217,100 lbs quota was met during 2013, and closed the recreational sector on October 15, 2013.

Coastal Migratory Pelagic Fisheries: King and Spanish Mackerel, and Cobia

Quota Monitoring Fishing Year 2012-2013

- On January 22, 2013, NOAA Fisheries opened the southern Florida West Coast subzone to commercial gill net fishing for king mackerel. The quota was not filled before the end of the fishing year on June 30, 2013.
- On February 1, 2013, NOAA Fisheries increased the trip limit in the Florida East Coast subzone to 75 fish. The quota was not filled before the end of the fishing year on March 31, 2013.

- On March 12, 2013, NOAA Fisheries decreased the trip limit in the Florida West Coast southern subzone, and on March 17, 2013, NOAA Fisheries 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 2012-2013 fishing year.
- Coastal Migratory Pelagics Amendment 26 (permit separation)
- Framework for king mackerel in the east coast subzone (changes to trip limit increase trigger)
- Framework for Spanish mackerel (increase annual catch limits)
- Shrimp Amendment 15 (stock status criteria and royal red shrimp catch limit)
- Shrimp Amendment 16 (royal red shrimp catch limit)

Quota Monitoring Fishing Year 2013-2014

- On September 20, 2013, NOAA Fisheries closed the western zone to commercial hook-and-line fishing for king mackerel. The zone was reopened November 1-3, 2013, because the quota had not been filled.
- On September 25, 2013, NOAA Fisheries decreased the trip limit in the Florida West Coast northern subzone to 500 lbs and, on November 12, 2013, closed that subzone to commercial hook-and-line fishing for king mackerel.

Activities in Development in 2013 in Cooperation with the Gulf Council

- Generic Dealer Reporting Requirement
- Framework for Headboat Electronic Reporting
- 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 39 (regional management of red snapper recreational fishing season)
- Sector Separation Amendment (allocation between for-hire and private recreational groups)
- Adjustments for ACLs and ACTs for Grouper/Tilefish Species Complexes
- Coastal Migratory Pelagics Amendment 20A (sale of bag limit caught fish and latent permits)
- Coastal Migratory Pelagics Amendment 20B (zones, quotas, trip limits for mackerels and cobia)
- Coastal Migratory Pelagics Amendment 24 (sector reallocation)

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 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.

Biological Opinions Completed

- Biological Opinion requested by Eglin Air Force Base which evaluates the effects of "Maritime Strike Operations, Tactics Development, and Evaluation" in the Gulf of Mexico (Okaloosa County, Florida) on the five species of sea turtles, Gulf sturgeon, smalltooth sawfish, sperm whales and Gulf sturgeon critical habitat.
- Biological Opinion requested by the Bureau of Ocean Energy Management which evaluates the effects of the Issuance and Lease of Offshore Sand for Beach Re-nourishment" in Collier County, Florida, on sea turtles.
- Biological Opinion requested by the Jacksonville District Corps of Engineers which evaluates the effects of the "Construction of a Community Marina and Protective Breakwater" in Escambia County, Florida, 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 "Shoreline Stabilization and Protection" in Bay County,

Florida, 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 “Construction of a Public Fishing Pier” in Sarasota County, Florida, on five species of sea turtles and smalltooth sawfish.
- Biological Opinion requested by the Jacksonville District Corps of Engineers which evaluates the effects of the “Norriego Point Nourishment and Stabilization Project” in Okaloosa County, Florida, 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 “Installation of Riprap along a Shoreline” in Lee County, Florida, on sea turtles, smalltooth sawfish, and critical habitat for smalltooth sawfish.
- Three individual Biological Opinions requested by the Jacksonville District Corps of Engineers which evaluate the effects of “Maintenance Dredging” in Lee County, Florida, on sea turtles, smalltooth sawfish, and critical habitat for smalltooth sawfish.
- Biological Opinion requested by the Jacksonville District Corps of Engineers which evaluates the effects of the “Installation of a Seawall, Dock, and Boatlift” in Lee County, Florida, on sea turtles, smalltooth sawfish, and critical habitat for smalltooth sawfish.
- Four individual Biological Opinions requested by the Jacksonville District Corps of Engineers which evaluate the effects of the “Installation of Seawall(s) in Lee County, Florida, on sea turtles, smalltooth sawfish, and critical habitat for smalltooth sawfish.
- Two individual Biological Opinions requested by the Jacksonville District Corps of Engineers which evaluate the effects of the “Installation of Riprap” in Charlotte County, Florida, on sea turtles, smalltooth sawfish, and critical habitat for smalltooth sawfish.
- Biological Opinion requested by the Jacksonville District Corps of Engineers which evaluates the effects of “Dredging and

Installation of Docks” in Charlotte County, Florida, on sea turtles, smalltooth sawfish, and critical habitat for smalltooth sawfish.

- Biological Opinion requested by the Jacksonville District Corps of Engineers which evaluates the effects of the “Installation of a Fishing Pier” in Charlotte County, Florida, on sea turtles, smalltooth sawfish, and critical habitat for smalltooth sawfish.
- Biological Opinion requested by the Jacksonville District Corps of Engineers, which evaluates the effects of the “Installation of a Seawall and Dock” in Charlotte County, Florida, on sea turtles, smalltooth sawfish, and critical habitat for smalltooth sawfish.

Conservation Measures

- NOAA Fisheries conducted three marine mammal workshops with stakeholders in Alabama, Mississippi, Louisiana, and Texas. The purpose of the workshops was to enhance immediate and long-term conservation of marine mammals in the Gulf of Mexico by fostering regional coordination and strengthening capacity for science, management, marine mammal health, and stranding response. A similar workshop will be held in Florida later in 2014.
- NOAA Fisheries released two smart phone apps for marine mammals: (1) Dolphins and Whales 911, which provides an easy way to report marine mammal stranding events and teaches people what to do if they find a dead or live stranded marine mammal, and (2) See and ID dolphins and whales, which has a field guide to marine mammals as well as safe and responsible viewing guidelines. Both apps work on Android or iPhone and can be downloaded free on Google Play or iTunes.
- NOAA Fisheries conducted a human dimension study in Corpus Christi, Texas, to determine the knowledge, awareness, and attitudes of commercial businesses, tourists, and residents on feeding and harassing dolphins in the wild.
- NOAA Fisheries designed, produced, and installed new outreach signs specifically for fishing piers to educate anglers on why it is illegal to feed and harass dolphins in the wild.

National Resource Damage Assessment (NRDA)

NOAA Fisheries participated in calls with the NRDA Marine Mammal Technical Working Group.

Habitat Conservation

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 include:

Mississippi River Sediment Diversions

As part of their State Master Plan, Louisiana is proposing to fund the engineering, design, and/or construction of eight proposed sediment diversions using funds associated with the Deepwater Horizon spill, including NRDA; the Resources and Ecosystems Sustainability, Tourist Opportunities and Revived Economies of the Gulf Coast States Act (RESTORE Act); Clean Water Act criminal penalties; and other programs such as the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA). The consent decree for Clean Water Act criminal penalties specifies that monies through the National Fish and Wildlife Foundation will be used specifically for sediment diversion construction and barrier island creation/restoration. Recognizing the potential for sediment diversions as a tool to counteract coastal land loss in light of projected relative sea-level rise, NOAA Fisheries is actively engaging in planning and environmental compliance processes through:

- Interagency pre-application meetings;
- The RESTORE Council Louisiana Regional Regulatory Team;

- Interdisciplinary Project Delivery Teams providing technical assistance and review of National Environmental Policy Act (NEPA) documents;
- The Water Institute of the Gulf's Expert panel and other diversion related workshops;
- Permit reviews;
- EFH and ESA Section 7 consultations;
- Project monitoring and adaptive management teams; and
- An interdisciplinary team investigating possible fisheries and habitat changes resulting from the operation of sediment diversions.

Concurrently, NOAA Fisheries staff is working on the Project Delivery Team for the Corps of Engineers' Mississippi River Hydrodynamic Study and Mississippi River Delta Management Study, both of which are evaluating river sediment diversions.

Decommissioning Oil Rigs and Platforms

NOAA Fisheries continues to participate in efforts and activities responding to concerns regarding the net decrease of oil and gas structures in the shallower offshore environment of the Gulf of Mexico. Several non-governmental organizations, representing recreational fishing and diving sectors, are seeking to slow or halt the removal of "idle iron" or non-producing oil and gas structures in the Gulf of Mexico and are advocating for the designation of oil and gas structures as EFH under the Magnuson-Stevens Fishery Conservation and Management Act. In July 2013, the Bureau of Environmental Enforcement announced revisions to its Rigs-to-Reef policy to encourage reefing of materials where appropriate. NOAA Fisheries is a member of the Ad Hoc Artificial Substrate Advisory Panel established by the Gulf of Mexico Fishery Management Council to gather scientific and academic expertise on the issue, as well as input from the affected industries, including oil and gas and the shrimp trawl fishery.

Coastal Wetlands Planning Protection and Restoration Act (CWPPRA) Program

- A construction contract was awarded for the NOAA-sponsored Bayou Dupont Marsh and Ridge project located in the upper Barataria

basin. Construction of this project will be completed through a large-scale \$80M contract funded jointly by CWPPRA, state, and local Coastal Impact Assistance Program funds, and state surplus funds. This Long Distance Sediment Transport project is envisioned to establish improved corridors for moving Mississippi River sediment resources into the central Barataria basin to restore critical landforms. Construction is expected to take almost two years and provide over 70 jobs.

- Installation of vegetative plantings completed the final construction phase of the Pelican Island barrier island restoration project. The project benefits over 580 acres of barrier island habitats and restores over two miles of eroding and fragmented Gulf shoreline. The project was constructed under budget and NOAA Fisheries Habitat Conservation Division anticipates returning over \$3M to the CWPPRA program upon project closeout.
- NOAA Fisheries requested construction funding for the NOAA Fisheries-Sponsored Madison Bay Marsh Creation and Terracing project, which would benefit over 943 acres of brackish marsh and open water habitat at a total cost of \$35M.
- NOAA Fisheries sponsored two candidate projects competing for engineering and design funding among ten projects on Priority Project List 23. The NOAA Fisheries-Sponsored Island Road Marsh Creation and Nourishment Project was approved for \$3.7M of engineering and design. It was one of four projects approved and includes 383 acres of brackish marsh creation at an estimated fully funded construction cost of \$34.4M.
- The third and final construction phase of the NOAA Fisheries Delta-Wide Crevasses project progressed through final design, permitting, and contract award. This phase will proceed to construction during 2014 and consists of maintaining three existing crevasses and constructing three new crevasses in the Mississippi River Delta for approximately \$800,000.
- NOAA Fisheries developed 13 restoration projects to nominate for consideration on Priority Project List 24.

- NOAA Fisheries sponsored three projects considered for full engineering and design in fiscal year 2013. The NOAA Fisheries-Sponsored project, Cameron-Meadows Marsh Creation, was one of four projects authorized for engineering and design funding on Priority Project List 22. The total authorized budget is \$3.1M to complete full design for the restoration project. If authorized for construction, upon completion of all design tasks, the project would restore 334 acres of brackish to intermediate marsh at an estimated total cost of \$28M.
- NOAA Fisheries requested construction funding for the NOAA Fisheries-Sponsored Chenier Ronquille Barrier Island restoration project, which would benefit over 460 acres of wetlands at a total cost of \$43M.
- NOAA Fisheries nominated 15 projects for consideration on Priority Project List 23, out of a total of 56 projects nominated this fiscal year.

Habitat Conservation and Restoration Consultation Activities

- NOAA Fisheries is actively involved in conserving, protecting and restoring EFH across the Gulf of Mexico. In federal fiscal year 2013, 1,021 EFH consultations were conducted across the Gulf of Mexico: 227 in Texas, 732 in Louisiana, six in Mississippi, 15 in Alabama, and 41 along the Gulf Coast of Florida.
- NOAA Fisheries provided EFH conservation recommendations to the Corps of Engineers on a proposed project which would have an unprecedented amount of impacts to seagrass EFH (specifically, more than 28 acres of seagrass habitat). The proposed project also had less damaging alternatives available and lacked adequate compensatory mitigation.
- NOAA Fisheries continues to promote the beneficial use of dredged sediment. The Mississippi Beneficial Use Group (MSBUG), in partnership with the VT Halter Marine facility, has performed the initial phase of a planned 800-acre beneficial use site in Mississippi Sound at Round Island. The initial phase is 70 acres enclosed by an earthen

dike constructed by a clam shell dredge on a barge. The site will receive dredged material placed at intertidal elevations to aid marsh establishment. NOAA Fisheries organized and hosted a two-day interagency field trip for MSBUG members to inspect beneficial use and directed dredging projects in Texas implemented to utilize dredged sediments for wetlands restoration in both the Galveston Bay and Sabine Lake watersheds. Participants discussed project design, permitting issues, and adaptive site management.

- NOAA Fisheries worked with the Corps of Engineers Mobile District in association with the maintenance dredging of the Pascagoula Federal Navigation Project to create a 425-acre beneficial site just south of Singing River Island. Dredged material will be placed within the site to an elevation to support tidal marsh.
- NOAA Fisheries is working to further fish passage in Gulf of Mexico states. The Toledo Bend project on the Sabine River would provide passage for American eel above the dam – a first for Gulf of Mexico states.
- NOAA Fisheries is working with the Corps of Engineers on a large number of civil works projects related to providing hurricane storm surge protection and/or ecosystem restoration in Louisiana.
- NOAA Fisheries serves on interagency committees guiding progress of the civil works projects in an effort to minimize and mitigate adverse impacts to EFH and maximize wetland restoration potential.

Cooperative Agreements and Grants

In Fiscal Year 2013, the Southeast Regional Office's Grants Office allotted \$26,232,357 to 68 grants and cooperative agreements with states, universities, non-profit agencies, and for-profit institutions as follows:

- Regional fishery management councils: \$8,090,773 to conduct fishery management activities in accordance with the Magnuson-Stevens Fishery Conservation and Management Act.
- Southeast Area Monitoring and Assessment Program: \$3,747,661 to fund 13 cooperative

agreements.

- State-Federal Cooperative Fisheries Statistics Program: Ten awards totaling \$1,096,795.
- Interjurisdictional Fisheries Program: 12 awards for \$682,946.
- Atlantic Coastal Fisheries Cooperative Management Act Program: Four awards totaling \$651,417.
- Atlantic Coastal Cooperative Statistics Program: Two grants totaling \$227,672.
- Marine Fisheries Initiative Program: Five new awards totaling \$740,247 and eight previous multi-year awards totaling \$1,000,962.
- Cooperative Research Program: Three new cooperative agreements totaling \$711,002.
- Unallied Science Program: Eight awards totaling \$852,385.
- Gulf States Marine Fisheries Commission: One award for \$6,413,547 to coordinate activities of the Fisheries Information Network.
- South Carolina Department of Natural Resources: \$1,098,301 for work on the Marine Resources Monitoring, Assessment, and Prediction program.
- Blue Fin Tuna Research Program: Five new awards totaling \$698,649.
- NOAA Recruiting, Training, and Research Program: One award for \$220,000.

Gulf of Mexico Environmental Compliance Program

In response to the oil spill and building on efforts to promote the recovery and long-term resilience of the Gulf Coast region, large-scale restoration efforts are underway. Over the next several years, significant new funding under the NRDA process, the RESTORE Act, the National Fish and Wildlife Foundation (NFWF), and other sources will dramatically increase the number of conservation projects aimed at restoring the Gulf's environment and economy. The Gulf restoration enterprise poses new challenges to NOAA's capacity to timely execute its responsibilities to expedite and facilitate much-needed Gulf restoration actions.

To prepare, NOAA Fisheries is building a Gulf of Mexico Environmental Compliance Program (GoMECP) to strengthen its ability to coordinate

the work of its Protected Resources and Habitat Conservation Divisions in meeting the regulatory challenges of projects distributed across multiple federal, state, and local jurisdictions throughout the Gulf. The GoMECP is establishing a coordination framework internally, and among these entities, to ensure effective science-based decision-making, and timely execution of our regulatory responsibilities. The foundation for this approach is sound science, adaptive management processes to analyze, predict, and understand the responses of the system to proposed conservation efforts, and a framework of collaborative, transparent decision-making. Given the broad geographic scope and interconnected nature of the Gulf ecosystem, keeping track of the cumulative and possible synergistic effects of individual projects is critical to achieving a holistic and comprehensive ecosystem approach to restoration. Our goal is a balanced approach to restoration that meets project objectives and conserves NOAA trust resources.

The GoMECP is working to enhance NOAA Fisheries' environmental compliance capability and capacity, while continuing to directly engage external partners and stakeholders to maximize the utility of pre-application planning, technical assistance, and generally better-informed environmental compliance review. These activities include:

- More closely coordinating NOAA Fisheries' Habitat Conservation and Protected Resources project planning assistance, review, and consultations;
- Facilitating early engagement and collaboration with project applicants and action agencies to provide technical and project planning assistance;
- Developing complementary best management practices and project design criteria for project siting, design, construction, and monitoring to provide predictability and consistency in environmental review processes;
- Facilitating information flow (including best available science), program tracking, and reporting to support adaptive management;
- Participating on interagency regulatory compliance workgroups (e.g., RESTORE

Council regulatory compliance work group, state-specific workgroups) to improve predictability and consistency of permitting processes;

- Working with the federal and state interagency regulatory teams to encourage the use of nationwide permits, tiered programmatic consultation, and other streamlining approaches to consultation where appropriate;
- Contributing to a variety of restoration planning activities including providing input for the RESTORE Council's Comprehensive Plan for the Gulf of Mexico;
- Developing a NRDA ESA compliance planning approach to identify issues early in the process, identify opportunities to refine consultations and other regulatory requirements to streamline environmental compliance, and provide consistent staff involvement and coordination between the NOAA Restoration Center, and the Southeast Region Protected Resources Division, and General Counsel's Office; and
- Engaging the Gulf States, stakeholders, NGOs, and other agencies in environmental compliance review and planning for restoration activities proposed under NRDA and the Clean Water Act criminal penalties. These activities include:
 - Reviewing numerous proposals from the Gulf States for funding under the National Fish and Wildlife Foundation's Gulf Environmental Benefit Fund;
 - Conducting EFH assessments for numerous projects proposed by the Gulf States to provide NRDA compensation for impacts associated with the Deepwater Horizon oil spill;
 - Providing review on a variety of documents under NEPA requirements associated with early restoration activities; and
 - Developing best management practices for design, siting, and construction of restoration activities proposed for the Gulf of Mexico.

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

Doug Gregory, Executive Director

The Gulf of Mexico Fishery Management Council (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 nonvoting 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 Advisory Panels (APs) and Scientific and Statistical Committees (SSCs).

A review of AP and SSC membership is conducted every two years to fill vacancies on panels and committees. The Council made appointments to these panels and committees in April 2013.

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.

Fishery Management Plans (FMPs)

In 2013, the Gulf Council addressed a number of fishery 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 recommended maintaining the Texas shrimp closure for 2013. 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.

The Council took final action on an abbreviated framework action to establish funding responsibilities for the electronic logbook program in the Gulf of Mexico shrimp fishery.

The Council also convened its Shrimp Advisory Panel to provide input on shrimp effort data collection, and in October, the Council reviewed a new stock assessment for brown, white, and pink shrimp.

Reef Fish

This year, the Council took final action on a framework action to increase the red snapper quotas from 4.121M lbs commercial and 3.959M lbs recreational, to 4.315M lbs commercial and 4.145M lbs recreational. The Council also initiated, and later took final action on, a framework action to establish a supplemental recreational red snapper season for 2013.

During its January/February meeting, the Council requested that staff prepare a discussion paper that looks at issues related to inter-sector trading of red snapper IFQ shares. Inter-sector trading could allow both sectors to acquire and fish red snapper shares and allocation. It may also help supplement the recreational red snapper season; improve stability in the for-hire sector; and result in a more efficient allocation of red snapper between sectors. In April, the Council asked staff to develop that discussion paper into a scoping document.

A red snapper tag program was also discussed, and the Council asked the Commission to initiate discussions with individual Gulf states. Those discussions should help determine if states are supportive; what processes are necessary to begin a fish tag system; if such a program should be an individual or vessel permit system; and if the program would be for quota limitation or for data collection.

The Council also continued discussions on the Red Snapper IFQ 5-Year Review and accepted the review document as final. They then began

discussion on Reef Fish Amendment 36 to address potential modifications to the Red Snapper IFQ Program. A new Ad Hoc Advisory Panel will be formed to review the issues and advise the Council on potential changes.

A Framework Action for Vermilion and Yellowtail Snapper ACL and Venting Tool Requirements was finalized. The framework action sets a 10 fish per angler bag limit within the 20-reef fish aggregate for vermilion; increases the yellowtail snapper annual catch limit; and eliminates the requirement to have on board and use a venting tool.

Also this year, the Council discussed a Days-at-Sea Pilot Program that would give a portion of the for-hire vessels a specific number of days to fish for red snapper, allowing participants to choose what days to fish. Eight scoping workshops were held around the Gulf.

In August, the Council discussed a 2014 Red Snapper Update Assessment and possible management action.

The Council decided to move forward with a draft document for red snapper allocation – Reef Fish Amendment 28. They reviewed an options paper in August and a status report on allocation analyses in October. Amendment 28 examines the allocation of red snapper resources between the commercial and recreational sectors to increase net benefits from red snapper fishing and to improve the stability of the red snapper component of the reef fish fishery.

The Council continued to work on Amendment 39 - Regional Management of Recreational Red Snapper, and they selected preferred alternatives, including allowing individual regions to establish a maximum recreational red snapper size limit. The document examines dividing the federal recreational red snapper quota among states or regions. This division would potentially give states/regions more flexibility in choosing seasons and bag limits, but would not necessarily result in more fishing days. Under regional management, red snapper would remain a federally managed species subject to federal conservation goals, and

the Council would continue to oversee management of the stock.

The Council also began working on a preliminary draft of alternatives to modify or rescind the provision under Reef Fish Amendment 30B that requires federally permitted charter vessels and headboats to comply with the more restrictive federal regulations when fishing in state waters.

Finally, the Council reviewed previous Sector Separation documents and discussed the potential use of red snapper IFQ shares donated by the commercial sector to for-hire operators. Reef Fish Amendment 40 – Sector Separation - will include a voluntary sector separation option, and the Council will continue to deliberate this issue in 2014.

Generic Amendments

The Council convened its Ad Hoc Artificial Substrate Advisory Panel to review a draft of Generic Amendment 4, which examines whether new information exists that demonstrates artificial substrates, including fixed petroleum leg platforms and artificial reefs, provide habitat functions to federally managed species in the Gulf of Mexico and meet criteria identified and described as essential fish habitat in accordance with the regulations in 50 CFR Part 600 Part J.

Advisory panel recommendations were presented to the Council in April, and in June, the Council reviewed an options paper that examines designating Fixed Petroleum Platforms and Artificial Reefs as Essential Fish Habitat. The Council also reviewed a draft letter to Secretary Jewell objecting to the removal of petroleum platforms with the use of explosives and approved transmittal of the letter.

In October, the Council reviewed a draft Framework Action for Definition and Intent of For-hire Fishing in the EEZ, as well as a scoping document for a Generic Amendment for Default Status Determination Criteria.

Finally, the Council took final action on modifications to the Federally-Permitted Seafood Dealer Reporting Requirements. The amendment

changes the current dealer permit and reporting requirements for purchasing species managed by the Gulf of Mexico and South Atlantic Fishery Management Councils. The intent is to ensure landings of managed fish are recorded accurately and in a timely manner so ACLs are not exceeded.

Coastal Migratory Pelagics

The Council took final action on Amendment 20A (formerly 19) and continued working on Amendment 20B (formerly 20) to the Coastal Migratory Pelagic Fishery Management Plan. Amendment 20A addresses sale and permit provisions for Gulf of Mexico Spanish and king mackerel. Amendment 20B addresses season length, transit provisions, allocation, and framework procedures for coastal migratory pelagics. Final action on Amendment 20B is expected in February 2014. The Council also discussed the schedule and timing of CMP Amendment 24 – King Mackerel Allocation.

Aquaculture

In February, the Council reviewed and approved the changes to the proposed rule for the Fishery Management Plan for Regulating Offshore Marine Aquaculture in the Gulf of Mexico.

Red Drum

In April, the Council directed staff to request that NMFS and the five Gulf states develop a research plan for red drum. The Council also requested:

- The Southeast Fishery Science Center update the red drum sampling protocols found in the 2008 draft document *Recommended Age Composition and Mark-Recapture Study Sample Sizes for Gulf of Mexico Red Drum*
- Work with the five Gulf states to identify relevant data that may be useful for a red drum stock assessment
- Include red drum in the 2016 SEDAR schedule.

There was also discussion about a possible red drum tagging system.

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 2013 included Data Workshops for gag, greater amberjack, and king mackerel. Assessment Workshops were held for red snapper, gag, and greater amberjack. Review Workshops were held for Spanish mackerel, cobia, and red snapper.

Additionally, two SEDAR Steering Committee meetings took place as follows:

- February, 2013: Conference call
- October 1, 2013: Meeting in Charleston

Data Collection

The Council developed and approved a Framework Action to the Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico and Coastal Migratory Pelagics of the Gulf of Mexico and South Atlantic to establish electronic reporting requirements for headboats. They took final action in June. This framework action requires weekly reporting by federally permitted headboat vessels in the Gulf of Mexico to ensure effort, landings, and discard information of managed fish stocks are recorded accurately and timely. These revisions will help prevent overfishing and ensure ACLs are not exceeded.

During its April meeting, the Council received an update on modifications to the Federally-Permitted Seafood Dealer Reporting Requirements, as well as a summary of the Ad Hoc Private Recreational Data Collection Advisory Panel meeting.

At that same meeting, the Council directed staff to begin developing a scoping document that examines enhancements, revisions, and/or new options for estimating or quantifying private recreational landings. That document was reviewed in June.

In October, the Council discussed 2013 MRIP Data; a possible electronic data collection and tagging program; and a commercial electronic

logbook pilot project.

Outreach and Education

Outreach efforts continued to improve in 2013. The Council's Facebook presence more than doubled during 2013. Blog readership and App downloads are also on the rise at roughly 25,300 and 36,220 respectively. Subscriptions to the Council News and Updates email list also doubled.

A stakeholder communications survey was administered in 2013, the results of which will be reviewed by the Outreach and Education Advisory Panel.

The Outreach and Education Advisory Panel met in December to provide assistance with advertising a series of Recreational Angler Participation meetings that the Council held around the Gulf of Mexico to hear from recreational anglers about general fishery concerns. More than 400 anglers participated in the workshops.

Law Enforcement Advisory Panel

The Law Enforcement Advisory Panel met jointly with the Commission's Law Enforcement Committee to review the status of amendments and other regulatory actions. Amendments reviewed include:

- Framework Action to Define Charter Fishing
- Coastal Migratory Pelagics Amendment 20B
- Reef Fish Amendment 39
- Framework Action to Adjust ACLs Using MRIP Data

Other Amendments

Other amendments under development:

- Amendment 36 – Red Snapper IFQ Modifications
- Regulatory amendment to update ACLs with new MRIP numbers
- Regional management for recreational gag harvest
- Shrimp Amendment 15 – Revise Overfished Definitions/Royal Red Shrimp Quota
- Revisions to ABC Control Rule
- Amendment to require electronic reporting for commercial logbook reporting
- Amendment to require electronic reporting for

for-hire charter vessels

Other Actions

The Gulf and South Atlantic Councils convened a joint meeting in January to discuss South Florida management issues. The group discussed potential options for creating a separate South Florida management area and possible management boundaries. Another meeting is scheduled for July, 2014.

UNITED STATES FISH AND WILDLIFE SERVICE SOUTHEAST REGION – FISHERIES PROGRAM

Cindy A. Williams, Fisheries Program Supervisor

Introduction

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 Service's 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 Southeast Aquatic Resources Partnership (SARP) 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 include: striped bass, paddlefish, Gulf sturgeon, pallid sturgeon, alligator gar, and a number of imperiled mussels. The Fisheries Program works cooperatively with Federal and State partners and other Service programs to address fish and aquatic resource needs in the southeastern United States.

Capacity

The Service's 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 five Fish and Wildlife Conservation Offices (FWCOs), 14 National Fish Hatcheries (NFH), a Fish Health Center, a Fish Technology Center, and supports the Aquatic Invasive Species (AIS) Program. A cadre of over 100 dedicated biologists, technicians, managers, maintenance workers, and administrative staff work together to address restoration, recovery, mitigation, fish passage, fish habitat, assessment, and monitoring of fish and other aquatic organisms. The 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 boundaries to embrace a national perspective.

In the Southeast Region, there are six cold-water hatcheries that provide between 6-7M fish annually to meet the current mitigation requirements of Federal water development projects. Many of the fish mitigation hatcheries have incorporated non-traditional activities into their mission to address emerging aquatic resource needs involving listed aquatic species that has allowed them to address specific landscape scale issues identified by recovery and restoration plans.

The Southeast Region has eight warm-water hatcheries that 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 also support recovery and restoration efforts for Endangered Species Act (ESA) listed and non-listed species and interjurisdictional fish. Many have the capacity to address captive propagation and refugia for fishes and other aquatic species (i.e. mussels, crayfish, and amphibians).

FWCOs 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, Interstate Fishery Management Commissions, and the SARP. Additionally, FWCOs provide 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 At-Risk species, species proposed for ESA listing, and those already listed.

The Warm Springs Fish Technology Center (FTC), Warm Springs Fish Health Center (FHC), and Warm Springs NFH provide state-of-the-art research and technology to restore imperiled aquatic resources and provide support to the Fisheries Program and to other Service programs, including Ecological Services, the National Wildlife Refuge System, and state partners. The FTC develops cutting edge science for aquatic resources, such as the cryopreservation of gametes, genetic analysis, development of environmental DNA (eDNA) techniques for monitoring invasive and rare species, and administers the National Triploid Grass Carp Inspection and Certification Program for the Service. The FHC provides fish disease diagnostic and fish health certification services, conducts wild fish health surveys, develops quarantine and other handling protocols for hatcheries, and works with the FTC to provide triploid grass carp certification inspections.

Partnership Restoration Efforts

- **Southeast Aquatic Resources Partnership:** The National Fish Habitat Action Plan, developed through the National Fish Habitat Initiative (NFHI) is a science-based, voluntary, and non-regulatory partnership that functions through the National Fish Habitat Board and 19 individual Fish Habitat Partnerships that cover all 50 states. For the Southeast Region, the Fisheries Program delivers this action plan primarily through the Southeast Aquatic Resources Partnership (SARP). 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. 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 and guides a region-wide effort to fulfill the goals set forth in the National Fish Habitat Action Plan.
- **Lower Mississippi River Conservation Committee:** The Lower Mississippi River (LMR) FWCO coordinates with the Lower Mississippi River Conservation Committee (LMRCC), a coalition of 12 state natural resource conservation and environmental quality agencies in Arkansas, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee. The LMRCC, with assistance from the U.S. Army Corp of Engineers (USACE) and SARP, provides platforms for landscape conservation efforts to restore aquatic species impacted by climate change that result in changing river flows. Over 230 LMR habitat restoration projects have been identified as part of the "Restoring America's Greatest River Plan." To date, the LMRCC and its partners have restored almost 54 miles of habitat in the main-stem of the LMR by opening secondary channel habitat. Additionally, the LMRCC is working in partnership with Mississippi River Trust and the Natural Resources Conservation Service (NRCS) through the Wetlands Reserve Enhancement Program to reforest previously cleared minimally productive agricultural lands in the active floodplain of the lower river (the batture). There are roughly 10,000 acres that have been enrolled or accepted for enrollment in this program by NRCS. These reforestation efforts will provide habitat for numerous wildlife species, including waterfowl and Louisiana Black Bear.
- **Gulf of Mexico Alliance:** The Service is working with the Gulf of Mexico Alliance (GOMA). The GOMA is a partnership formed between the five Gulf of Mexico states, with

Federal agency support, focused on sharing science, expertise, and financial resources to better protect the health of the Gulf of Mexico. The Senior Advisor for Gulf Restoration is the Service's representative on this Alliance.

- **Alligator Gar:** Several of the Service's NFHs are involved with restoration of alligator gar, particularly in the bottomland hardwood ecosystems of the LMR. The LMR and Baton Rouge FWCOs are working with the USACE, the St. Catherine Creek National Wildlife Refuge (NWR), and several NFHs to locate spawning habitat for alligator gar, collect and rear them in a number of facilities, and replenish historical habitat with this apex predator. The alligator gar is a species of special concern for many state agencies, and has the potential to help control the spread of invasive Asian carp in the Mississippi basin and serve as a surrogate species for other floodplain dependent aquatic species. A total of 5,308 alligator gar were produced at the Natchitoches NFH (Louisiana) and stocked in Louisiana's Rockefeller Refuge and three rivers in Western Tennessee, restoring these fish into part of their native range. Alligator gar are also produced at the Private John Allen (Mississippi) and Warm Springs (Georgia) NFHs. The Warm Springs NFH produced and stocked a total of 3,067 alligator gar into the Hatchie River as part of the restoration program covering the Mississippi and the Mobile Rivers drainage basins.

National Wildlife Refuge System

The Service manages a total of 45 National Wildlife Refuges (NWR) along the Gulf Coast that protect thousands of acres of coastal wetlands and ecologically important coastal uplands in the five Gulf States. These refuges provide critical nursery habitat for many of the commercially and recreationally important fish and shellfish species in Gulf fisheries. The majority of these NWRs provide access to and opportunities for coastal recreational fishing. These NWRs also contribute to sustaining, restoring, and protecting valuable fisheries-necessary habitats and ecosystem services, such as water quality and quantity. As an example, in Florida the Lower Suwannee

NWR's natural bottomland hardwood swamps and pine forests provide excellent conditions for maintaining high water quality, which has helped the \$45M Cedar Key littleneck clam aquaculture industry flourish while also providing benefits to the federally-listed Gulf sturgeon population.

Anadromous Fisheries Restoration

Under the Gulf States Marine Fisheries Management Plan (FMP), the Service is working to restore populations of Gulf striped bass for the entire Gulf Coast. Anadromous populations of Gulf Coast striped bass historically occurred in most Gulf rivers; 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 Gulf Coast striped bass throughout the Gulf of Mexico region and to establish self-sustaining populations of Gulf Coast striped bass in at least 10 coastal rivers. This species is recognized as being of tremendous economic, social, and recreational consequence.

The Apalachicola-Chattahoochee-Flint (ACF) Gulf striped bass technical committee is working with population modelers to refine population objectives for Gulf striped bass to establish biological objectives that are based on the 30 years of data for this species. The technical team has representatives from the Service, and the states of Georgia, Florida, and Alabama.

The Gulf sturgeon is listed as threatened under the Endangered Species Act. Stocks have been greatly reduced throughout much of its range due to several factors including overfishing, dam construction, storm events, 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.

The Baton Rouge and Panama City FWCOs lead the effort to track and monitor these unique fish on an annual basis, with support from other Service programs, federal agencies, and experienced volunteers. In 2013, Gulf sturgeon were collected

and tagged in the Apalachicola River and the Bogue Chitto River of the Pearl River system to gather distribution, habitat and movement data, and to evaluate recovery. The FWCOs also are coordinating with NOAA to monitor other rivers within the Pearl River system and working with the USACE's Vicksburg District Engineer Research and Development Center to collect and tag juvenile Gulf sturgeon. In addition, a new monitoring plan is under development.

Coastal Fisheries Restoration/Assessments by the Service's Coastal Program

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 leverage financial support to accomplish habitat improvement projects that benefit federal trust species and their habitats on both private and public lands. For example, the Southeast Region's Coastal Program provided technical and financial assistance, in support of SARP/NOAA Community-Based Restoration Program grants, to promote the use of living shorelines within the Gulf including the replanting of sea grass, restoration of salt and freshwater marsh, and construction of oyster reefs to address priority fish habitat restoration. Additionally, the Northern Gulf of Mexico Coastal Program partnered with the Fisheries Program on the Mississippi Bight Lionfish Response Unit (MBLRU), a multi-jurisdictional task force designed to implement a lionfish monitoring and eradication between Pensacola, Florida and the Mississippi River Delta.

Habitat Protection and Enhancement

The Fisheries Program oversees the Fish Passage and Fish Habitat programs which have implemented a number of projects that will help reverse the decline of fish populations in Gulf coastal waters. The projects will continue to restore valuable wetland and stream habitat within the Gulf Coast. Through the National Fish Habitat Action Plan,

the states continue to lead implementation efforts in cooperation with the Service and other key partners. In the Southeast Region, the delivery of fish habitat projects is primarily through the SARP and the Service. SARP has taken a comprehensive approach to watershed conservation by conducting cumulative geospatial habitat assessments to help identify the highest priority basins for habitat restoration activities. Through the Fish Passage Program, several barriers were removed in 2013, including the Goodwin Mill Dam in Big Canoe Creek in Alabama, that will eventually reconnect river systems to the Gulf, provide improved hydrologic conditions, and increase access to habitat for various species. The Panama City FWCO completed an unpaved road stream crossing inventory and threats assessment for the Chipola River watershed. The threats assessment was conducted using GIS stream data, land cover data, and aerial imagery. The analyses identified up to 1,810 stream miles as potential threats, helping prioritize restoration efforts in the watershed.

Deepwater Horizon Oil Natural Resource Damage Assessment

The Deepwater Horizon oil spill, which began on April 20, 2010, posed grave risks to a number of significant Service resources. Within the potentially impacted area there are 38 ESA federally-listed species. There are more than 400 avian species that migrate, winter, or remain resident through the Gulf coastal area. The NWRs the Service manages along the Gulf Coast from Texas to Florida's peninsula covers nearly 3M 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. To date, it is known that 198 miles of Department of Interior (DOI) lands were oiled to varying degrees, especially at Bon Secour and Breton National Wildlife Refuges, and the Gulf Islands National Seashore. Additional injuries to natural resources on these properties occurred because of extensive response and cleanup activities on federal beaches.

The Baton Rouge and Panama City FWCOs are leading a team of scientists analyzing the results of work plans that will be drafted in a case-wide

Gulf sturgeon injury report for inclusion into the draft Damage Assessment and Restoration Plan. Preliminary analysis of telemetry data in the Gulf of Mexico has greatly refined previous estimates of how Gulf sturgeon use marine habitats. New assessments of site fidelity and associations with specific river systems are being generated along with spatial assessments, marine habitat use, and river-specific habitat dependencies. These data and analyses will be of great benefit to Gulf sturgeon recovery and will provide managers with new and important information from which to base recovery decisions.

Restore Act and the Gulf Restoration

The Fisheries program has been directly involved in planning and evaluating restoration projects for the Gulf of Mexico to support the Service's *Vision for a Healthy Gulf* document and the step down Draft Blueprint document. The Vision document includes focal areas that the Service views as primary to its mission and strategies for how conservation should be developed for those areas. The companion Blueprint, still in draft, refines the process by identifying examples of on-the-ground projects that may serve as models for restoration projects and clearly identifies how the Service intends to work with partners to develop compatible and sustainable projects.

Aquatic Invasive Species Program

Invasive species, including aquatic and terrestrial plants and animals, are a part of the landscape and are expanding in the Southeast. Recognizing the importance of this issue, the Southeast Region has taken a leadership role in raising public awareness and implementing appropriate management and control measures, as appropriate. Over 150 exotic fish species occur in the Southeast Region. Invasive species, including zebra mussels, Asian carp, Asiatic clams, Asian swamp eels, purple loosestrife, Eurasian water milfoil, water hyacinths, giant salvinia, apple snails, and hydrilla, have been introduced into water bodies in many southern rivers, ponds, and wetlands. The Fisheries program supports the Southeast Region's Aquatic Invasive Species Program in monitoring invasive species populations, controlling/eradicating invasive species, and providing education and

outreach. The Fisheries Program also is an active participant in the Aquatic Nuisance Species Task Force, Gulf and South Atlantic Regional Panel, and the Mississippi River Basin Panel.

The Fisheries Program provided technical assistance to the Gulf States Marine Fisheries Commission in implementing the Mississippi Bight Lionfish Response Unit, a lionfish surveillance and removal project (\$28,000); the Louisiana Department of Wildlife and Fisheries in conducting ichthyoplankton sampling for Asian carp (\$20,000); the Reef Environmental Education Foundation (REEF) in conducting a series of 14 collecting and handling workshops in Florida and along the Georgia and Texas coasts (\$20,000); the Private John Allen National Fish Hatchery for Asian Carp Telemetry Study on Tallahatchie NWR (\$7,000).

Wildlife Restoration Program

As part of the Wildlife Restoration Act, the Wildlife Restoration Program provides grant funds to the state fish and wildlife agencies for projects to restore, conserve, manage, and enhance wild birds and mammals and their habitat. Projects also include providing public use and access to wildlife resources, hunter education and development, and management of shooting ranges. A total of \$63,487,617 in Wildlife Restoration Program grants was apportioned to Alabama, Florida, Louisiana, Mississippi, and Texas for Fiscal Year 2013.

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 to help determine 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. A total of \$47,676,220 in Sport Fish Restoration Program grants was apportioned to Alabama, Florida, Louisiana, Mississippi, and Texas for Fiscal Year 2013 grants.

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 of the Gulf Coast states are engaged in sturgeon research and management including tracking, critical habitat identification and population evaluation. Under the Tribal Wildlife Grant Program, funds have been used to conduct habitat restoration and biological assessments, as well as create wildlife management plans with grant funds. The states of Alabama, Florida, Louisiana, and Mississippi received a total of \$6,516,858 in Fiscal Year 2013 through the SWG program.

National Coastal Wetlands Conservation Grant Program

The National Coastal Wetlands Conservation Grant Program provides funds to coastal states to carry out coastal wetlands conservation projects for restoring habitats and acquiring coastal wetland tracts. Funds are used for land acquisition and restoration plans in coastal wetlands habitat and maritime forests to protect fish and wildlife and their habitats. The Dickinson Bayou Wetland Restoration Phase 2 project in Galveston Bay estuary, Texas, received \$500,000 in Fiscal Year 2013 grant funds.

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. The states of Alabama, Florida, Mississippi, Louisiana, and Texas received a total of \$1,976,383 in Fiscal Year 2013 for coastal CVA 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. Several BIG projects are active in the Gulf States. In FY2013, Florida received \$435,129 in grant awards for two projects located in the Gulf.

Endangered Species Grant Program

This Program provides grant money to state agencies to participate in a wide array of voluntary conservation projects for candidate, proposed, and ESA listed species. States can use grant funds to acquire lands and develop habitat conservation plans for species in need. A total of more than \$5.7M was awarded to Alabama, Florida, Louisiana, Mississippi, and Texas during FY 2013.

Financial Statements
Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi
December 31, 2013



CERTIFIED PUBLIC ACCOUNTANTS
A Professional Association

Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi

Financial Statements

December 31, 2013

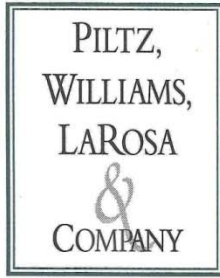
Table of Contents

	<u>Page</u>
Independent Auditors' Report.....	1-3
Section I – Management’s Discussion and Analysis	4-9
Section II – Financial Statements	
Statement of Net Position–Modified Cash Basis.....	10
Statement of Activities–Modified Cash Basis	11
Statement of Assets, Liabilities and Fund Balances–Cash Basis Governmental Funds	12
Reconciliation of the Governmental Funds Statement of Assets, Liabilities and Fund Balances–Cash Basis to the Statement of Net Position–Modified Cash Basis	13
Statement of Revenues, Expenditures and Changes in Fund Balances– Cash Basis, Governmental Funds	14
Reconciliation of the Governmental Funds Statement of Revenues, Expenditures and Changes in Fund Balances–Cash Basis to the Statement of Activities–Modified Cash Basis	15
Notes to Financial Statements.....	16-21
Section III – Supplemental Information	
Budgetary Comparison Schedule – Cash Basis	22-23
Schedule of Expenditures of Federal Awards – Cash Basis	24
Section IV – Reports on Compliance and Internal Control	
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 <i>Government Auditing Standards</i>	25-26

Independent Auditors' Report on Compliance for Each Major Program and on Internal Control Over Compliance Required by OMB Circular A-133 27-28

Section V – Other Items

Schedule of Findings and Questioned Costs..... 29



CERTIFIED PUBLIC ACCOUNTANTS
A Professional Association

MEMBERS
American Institute of CPAs
AICPA Private Companies Practice Section
AICPA Governmental Audit Quality Center
AICPA Center for Audit Quality
AICPA Employee Benefit Plan Audit Quality Center
Mississippi Society of CPAs

Stephen P. Theobald, CPA, CVA
Margaret D. Closson, CPA
Michael D. O'Neill, CPA
John D. Prentiss, CPA
Eric B. Bland, CPA
David C. Neumann, CPA, CBA

Gerald Piltz, CPA (Retired)
Stanford A. Williams, Jr., CPA (Retired)
Sam J. LaRosa, Jr., CPA (Retired)
William S. Thompson, CPA (Retired)
Gene M. Clark, Jr., CPA (Retired)
Darrell L. Galey, CPA

Independent Auditors' Report

Board of Commissioners
Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi

We have audited the accompanying modified cash basis financial statements of Gulf States Marine Fisheries Commission as of and for the year ended December 31, 2013, 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 modified cash basis financial position of the governmental activities, each major fund, and the aggregate remaining fund information of Gulf States Marine Fisheries Commission, as of December 31, 2013 and the respective changes in modified cash basis financial position, 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 this 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.

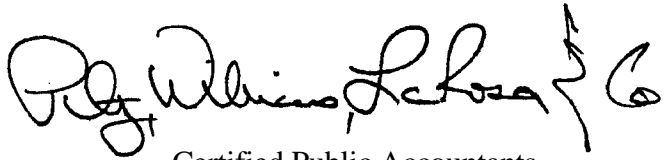
The schedule of expenditures of federal awards is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit 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 July 10, 2014, 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.



Certified Public Accountants

Biloxi, Mississippi
July 10, 2014

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, 2013. 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 Position-Modified Cash Basis reports on all of the Commission's assets and liabilities, with the difference between the two reported as net position. You can think of the Commission's net position as one way to measure the Commission's financial health, or financial position. Net Position is divided into the following two basic categories: Net investment in capital assets and net position unrestricted and available for spending. Over time, increases or decreases in the Commission's net position is 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 position displayed on the Statement of Net Position-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 Position – net position may serve over time as a useful indicator of government's financial position. In the case of the Commission, assets exceeded liabilities by \$923,056 as of December 31, 2013. As of December 31, 2012, assets exceeded liabilities by \$832,738.

Of the Commission's net position, \$205,063 (22%) 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, 2013

The following table presents a summary of the Commission's net position for the year ended December 31, 2013 and 2012.

	December 31,	
	2013	2012
Current assets	\$ 558,050	\$ 489,137
Noncurrent assets		
Post Employment Health Plan investment account	161,714	128,959
Property and equipment, net of accumulated depreciation	205,063	217,009
Total noncurrent assets	366,777	345,968
 Total assets	 924,827	 835,105
 Current liabilities	 1,771	 2,367
 Net position		
Investment in capital assets	205,063	217,009
Unrestricted	717,993	615,729
Total net position	\$ 923,056	\$ 832,738

Changes in net position – The Commission's total revenues for the year ended December 31, 2013 were \$20,168,118. The total cost of all programs and services was \$20,077,800. The Commission's total revenues for the prior year ending December 31, 2012 were \$28,181,541; and the total cost of all programs and services were \$28,120,846. The following table represents a summary of the changes in net position for the year ended December 31, 2013; and the prior year, in comparison, for the year ending December 31, 2012:

Gulf States Marine Fisheries Commission
Management's Discussion and Analysis
December 31, 2013

6

	December 31,	
	2013	2012
	<u>2013</u>	<u>2012</u>
Revenues		
General revenues		
Member state appropriation	\$ 135,000	\$ 90,000
Council activities	35,000	35,000
Other income	50,544	50,576
Interest income	666	755
Dividend income	8,859	2,905
Post employment health plan revenue	9,763	20,608
Registration fees	16,455	16,270
Unrealized gain (loss) on investments	14,134	8,185
Program revenues		
Collection & dissemination of recreational and commercial fisheries information network	6,354,459	5,343,965
Interjurisdictional fisheries management	215,174	252,019
Coordination of recreational fisheries programs	199,924	176,778
Collection & dissemination of fishery-independent data and information	237,037	243,296
Review and formation of habitat information	-	31,241
Study of aquatic nuisances	19,126	53,495
Fish and wildlife support services	-	71,407
Emergency disaster recovery program I	2,755,106	9,841,585
Emergency disaster recovery program II	5,358,987	5,814,940
Economic data program	673,551	1,474,274
Oil disaster recovery program	3,214,974	3,578,869
Stock Assessment Enhancement	869,359	1,075,373
Total revenues	<u>20,168,118</u>	<u>28,181,541</u>
Expenses		
Programs	19,903,216	27,909,496
General and administrative	174,584	211,350
Total expenses	<u>20,077,800</u>	<u>28,120,846</u>
Change in net position	90,318	60,695
Net position, beginning	832,738	772,043
Net position, ending	<u>\$ 923,056</u>	<u>\$ 832,738</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.

Gulf States Marine Fisheries Commission
Management's Discussion and Analysis
December 31, 2013

7

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. It is the practice of the Commission to prepare its budget on the cash basis of accounting.

Generally, operating revenues and expenses were consistent with budgeted amounts. The revenue variances occur when operating fund revenues are not included in the budget, such as, registration fees, dividend and interest income, and unrealized gain on investments. The more significant variances centered on contractual and professional services. When projects are first budgeted, they are budgeted 100% but rarely completed by the end of the fiscal year. The balance of these budgeted projects will carry over to the following year when projects are expected to be completed.

Capital Asset Administration

At the end of the current year ending December 31, 2013, the Commission had \$205,063, 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 \$11,946. As of December 31, 2012, the Commission had \$217,009 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. As of August 2013 all remaining funds were expended by member states and EDRP I was closed out in November 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. As of September 2013 all remaining funds were expended by member states and EDRP II was closed out in December 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.

Gulf States Marine Fisheries Commission
Management's Discussion and Analysis
December 31, 2013

9

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 were used to fund a variety of activities including state trip ticket operations, menhaden port sampling, implementation of for-hire logbook Program, biological sampling, and expansion of fishery-independent sampling in the Gulf of Mexico. These activities were conducted from 2011 to 2013. As of December 31, 2013, all SAE funds were expended by member states.

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 Position - Modified Cash Basis
December 31, 2013

10

Assets	Governmental Activities
Current assets	
Cash in bank	\$ 556,405
Receivable from PEHP	1,645
Total current assets	558,050
Noncurrent assets	
Post employment health plan investment account	161,714
Property and equipment, net of accumulated depreciation	205,063
Total noncurrent assets	366,777
Total assets	924,827
Liabilities	
Current liabilities	
DHHS payable	407
Payroll taxes payable	1,364
Total current liabilities	1,771
Net Position	
Net investment in capital assets	205,063
Unrestricted	717,993
Total net position	\$ 923,056

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, 2013

11

	Expenses	Charges for Services	Operating Grants and Contributions	Net (Expense) Revenue and Change in Net position Governmental Activities
Functions/Programs				
Primary government:				
Programs				
Collection & dissemination of commercial and recreational fisheries information	\$ 6,350,454	\$ -	\$ 6,354,459	\$ 4,005
Interjurisdictional fisheries management	214,162	-	215,174	1,012
Coordination of recreational fisheries programs	198,861	-	199,924	1,063
Collection & dissemination of fishery - independent data and information	235,972	-	237,037	1,065
Study of aquatic nuisances	36,904	-	19,126	(17,778)
Emergency disaster recovery program	2,755,190	-	2,755,106	(84)
Emergency disaster recovery program II	5,357,681	-	5,358,987	1,306
Economic data program	672,813	-	673,551	738
Oil disaster recovery program	3,211,820	-	3,214,974	3,154
Stock assessment enhancement	869,359	-	869,359	-
Total	19,903,216	-	19,897,697	(5,519)
General and Administrative				
Local administration	106,817	16,455	135,000	44,638
Council activities	35,000	-	35,000	-
Texas parks and wildlife department travel	32,767	-	46,384	13,617
Total	174,584	16,455	216,384	58,255
Total primary government	\$ 20,077,800	\$ 16,455	\$ 20,114,081	52,736
General revenues				
Other income				4,160
Post employment health plan revenue				9,763
Interest income				666
Dividend income				8,859
Unrealized gain (loss) on investments				14,134
Total general revenues				37,582
Change in net position				90,318
Net position, beginning				832,738
Net position, ending				\$ 923,056

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, 2013

12

	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	\$ 555,998	\$ -	\$ 50	\$ 357	\$ -	\$ -	\$ 556,405
Receivable from PEHP	1,645	-	-	-	-	-	1,645
Noncurrent assets							
PEHP investment account	161,714	-	-	-	-	-	161,714
Total assets	<u>\$ 719,357</u>	<u>\$ -</u>	<u>\$ 50</u>	<u>\$ 357</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 719,764</u>
Liabilities							
Current liabilities							
DHHS payable	\$ -	\$ -	\$ 50	\$ 357	\$ -	\$ -	\$ 407
Payroll taxes payable	1,364	-	-	-	-	-	1,364
Total liabilities	<u>1,364</u>	<u>-</u>	<u>50</u>	<u>357</u>	<u>-</u>	<u>-</u>	<u>1,771</u>
Fund Balances							
Fund balance - assigned for post employment health plan	161,714	-	-	-	-	-	161,714
Fund balance - unassigned	<u>556,279</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>556,279</u>
Total fund balances	<u>717,993</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>717,993</u>
Total liabilities and fund balances	<u>\$ 719,357</u>	<u>\$ -</u>	<u>\$ 50</u>	<u>\$ 357</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 719,764</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 Position - Modified Cash Basis
December 31, 2013

13

Total fund balances - governmental funds	\$ 717,993
Amounts reported for governmental activities in the statement of net position - 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>205,063</u>
Total net position - governmental activities	<u><u>\$ 923,056</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, 2013

14

	Special Revenue Funds						Total Governmental Funds
	General Fund	RECFIN/ COMFIN Fund	EDRP Fund	EDRP II Fund	ODRP Fund	Other Funds	
Revenues:							
Member state appropriation	\$ 135,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 135,000
Other income	4,160	-	-	-	-	46,384	50,544
Interest income	666	-	-	-	-	-	666
Dividend income	8,859	-	-	-	-	-	8,859
Post employment health plan revenue	9,763	-	-	-	-	-	9,763
Grant income	-	6,354,459	2,755,106	5,358,987	3,214,974	2,249,171	19,932,697
Registration fees	16,455	-	-	-	-	-	16,455
Proceeds from sale of assets	-	-	-	-	-	-	-
Unrealized gain (loss) on investments	14,134	-	-	-	-	-	14,134
Totals	189,037	6,354,459	2,755,106	5,358,987	3,214,974	2,295,555	20,168,118
Expenditures							
Personal services and benefits	41,554	472,722	29,244	65,279	137,276	631,636	1,377,711
Professional services	1,155	5,510,126	2,719,796	5,270,758	2,993,575	1,389,143	17,884,553
Other purchased services	33,202	305,502	4,381	16,781	66,125	243,500	669,491
Supplies and materials	2,711	62,104	1,768	4,863	14,844	31,559	117,849
Capital outlay	557	6,656	-	1,389	3,315	4,333	16,250
Totals	79,179	6,357,110	2,755,189	5,359,070	3,215,135	2,300,171	20,065,854
Excess (deficiency) of revenues over (under) expenditures	109,858	(2,651)	(83)	(83)	(161)	(4,616)	102,264
Other financing sources (uses)							
Interfund loans	(17,211)	2,651	83	83	161	14,233	-
Operating transfers in	9,617	-	-	-	-	-	9,617
Operating transfers out	-	-	-	-	-	(9,617)	(9,617)
Total other financing sources (uses)	(7,594)	2,651	83	83	161	4,616	-
Net change in fund balances	102,264	-	-	-	-	-	102,264
Fund balance - beginning	615,729	-	-	-	-	-	615,729
Fund balance - ending	<u>\$ 717,993</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 717,993</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, 2013

15

Net changes in governmental fund balances \$ 102,264

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 \$16,250 and depreciation expense amounted to \$28,196.

(11,946)

Change in net position of governmental activities

\$ 90,318

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.

Recreational Fisheries Information Network and Commercial Fisheries Information Network (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 position 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 Position – Modified Cash Basis and Statement of Activities – Modified Cash Basis 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 Position 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)

18

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 Position–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 Position.

Equity classifications

Government-wide Financial Statements:

Equity is classified as net position and displayed in three components:

1. Net investment in capital assets – 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 position – 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 position – 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, 2013 may be shown as follows:

Description	Carrying Amount	Bank Balance
Regular accounts	\$ 556,405	\$ 616,836

The bank balances at December 31, 2013 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	<u>366,836</u>
Total bank balance	<u>\$ 616,836</u>

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 position 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)

Investment Type	Category			Reported Amount	Fair Value
	1	2	3		
Van Kampen Inter Corp Invt 45, 5 shares		X		\$ 4,934	\$ 4,934
Invesco VK Equity & Inc Fund A, 10,738.813 shares		X		114,476	114,476
Lord Abbett Short Dur Inc Fund C, 4,585.567 shares		X		21,002	21,002
Cash		X		21,302	21,302
Totals				<u>\$161,714</u>	<u>\$161,714</u>

Custodial credit risk - The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, a government will not be able to recover the value of investment or collateral securities that are in the possession of an outside party. The Commission does not have a policy for custodial credit risk.

Concentration of credit risk - The Commission has no specific policy regarding concentrations of credit risk. GAAP requires disclosure when any one issuer is 5% or more of the investment portfolio.

Note D – Property, Plant and Equipment

The Commission's land, depreciable property and equipment may be stated as follows:

	Balance 12/31/12	Additions	Deletions	Balance 12/31/13
Restricted				
Vehicles	\$ 84,670	\$ -	\$ -	\$ 84,670
Office equipment	585,519	16,250	134,631	467,138
Totals	<u>670,189</u>	<u>16,250</u>	<u>134,631</u>	<u>551,808</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	584,794	23,625	134,631	473,788
Unrestricted	<u>100,178</u>	<u>4,571</u>		<u>104,749</u>
Totals	<u>684,972</u>	<u>28,196</u>	<u>134,631</u>	<u>578,537</u>
Governmental activities				
Net property and equipment:				
Restricted	86,449	(7,375)	-	79,074
Unrestricted	130,560	(4,571)	-	125,989
Totals	<u>\$ 217,009</u>	<u>\$ (11,946)</u>	<u>\$ -</u>	<u>\$ 205,063</u>

Gulf States Marine Fisheries Commission
Notes to Financial Statements
(Continued)

21

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, 2013 was \$70,491.

Note F – 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, 2013 ten (10) employees would qualify for this benefit. Assuming that all ten (10) separated from service at that date, and utilizing their current sick leave hours and rates of pay then the computed value is \$72,601. During the current year the Commission invested \$9,763 to continue funding this benefit. This investment is shown on the Statement of Net Position – Modified Cash Basis at its current market value of \$161,715.

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 G – 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 H – Subsequent Events

Management has evaluated subsequent events through July 10, 2014, the date on which the financial statements were available to be issued.

Section III
Supplemental Information

Gulf States Marine Fisheries Commission
Budgetary Comparison Schedule – Cash Basis
For the Year Ended December 31, 2013

22

	Budget			Actual			Over (Under) Budget
	Operating Fund	Grant Funds	Total	Operating Fund	Grant Funds	Total	
Revenues:							
Member state appropriation	\$ 112,500	\$ -	\$ 112,500	\$ 135,000	\$ -	\$ 135,000	\$ 22,500
Other income	-	-	-	4,160	46,384	50,544	50,544
Interest income	-	-	-	666	-	666	666
Dividend income	-	-	-	8,859	-	8,859	8,859
Post employment health plan revenue	-	-	-	9,763	-	9,763	9,763
Grant income	-	9,231,657	9,231,657	-	19,932,697	19,932,697	10,701,040
Registration fees	-	-	-	16,455	-	16,455	16,455
Transfers in	-	-	-	9,617	-	9,617	9,617
Unrealized gain (loss) on investments	-	-	-	14,134	-	14,134	14,134
Totals	112,500	9,231,657	9,344,157	198,654	19,979,081	20,177,735	10,833,578
Personal costs							
Salaries	45,483	1,044,180	1,089,663	28,023	948,269	976,292	(113,371)
Payroll taxes	3,556	81,600	85,156	2,174	73,437	75,611	(9,545)
Health insurance	4,661	241,649	246,310	9,046	236,508	245,554	(756)
Retirement expense	3,184	72,043	75,227	2,032	68,459	70,491	(4,736)
Post employment health plan expense	455	10,291	10,746	279	9,484	9,763	(983)
Totals	57,339	1,449,763	1,507,102	41,554	1,336,157	1,377,711	(129,391)
Maintenance/Operations							
Office supplies	1,000	51,034	52,034	1,179	60,578	61,757	9,723
Postage	500	14,947	15,447	3	11,269	11,272	(4,175)
Travel - committee	-	279,910	279,910	1,743	227,337	229,080	(50,830)
Travel - staff	16,961	94,261	111,222	11,980	66,070	78,050	(33,172)
Telephone	1,500	38,050	39,550	701	28,728	29,429	(10,121)
Office equipment	1,200	12,200	13,400	557	15,693	16,250	2,850
Copying expense	1,000	37,200	38,200	1,009	30,998	32,007	(6,193)
Printing expense	1,000	13,450	14,450	178	1,431	1,609	(12,841)
Meeting costs	12,000	62,000	74,000	13,930	65,357	79,287	5,287
Subscriptions & dues	3,000	1,300	4,300	(677)	2,327	1,650	(2,650)
Automobile expenses	1,200	9,325	10,525	342	10,863	11,205	680
Insurance	700	19,324	20,024	730	24,182	24,912	4,888
Maintenance	12,000	125,185	137,185	1,262	189,519	190,781	53,596
Professional expenses	500	121,946	122,446	1,155	2,391,796	2,392,951	2,270,505
Contractual	-	6,846,513	6,846,513	-	15,491,602	15,491,602	8,645,089
Utilities	1,000	16,085	17,085	681	18,327	19,008	1,923
Janitorial	1,000	15,485	16,485	487	14,441	14,928	(1,557)
Courtesies	600	-	600	2,365	-	2,365	1,765
Carryover expense	-	23,679	23,679	-	-	-	(23,679)
Transfers out	-	-	-	-	9,617	9,617	9,617
Totals	112,500	9,231,657	9,344,157	79,179	19,996,292	20,075,471	10,731,314
Excess of revenues over expense							
	\$ -	\$ -	\$ -	\$ 119,475	\$ (17,211)	\$ 102,264	\$ 102,264

See independent auditors' report.

Gulf States Marine Fisheries Commission
Budgetary Comparison Schedule – Cash Basis
For the Year Ended December 31, 2013
(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 actual data.

Gulf States Marine Fisheries Commission
Schedule of Expenditures of Federal Awards – Cash Basis
For the Year Ended December 31, 2013

Federal Grantor / Program Title	Catalog of Federal Domestic Assistance	Federal Expenditures
U.S. Department of Interior		
Aquatic Nuisance	15.608	\$ 37,216
Sports Fish Restoration Program	15.605	199,957
Total U. S. Department of Interior		<u>237,173</u>
U.S. Department of Commerce		
Interjurisdictional Fisheries Management Plan	11.407	215,197
Recreational Fisheries Information Network (RECFIN) and Commercial Fisheries Information Network (COMFIN)	11.434	6,357,110
Economic Data Program	11.434	673,566
Southeast Area Monitoring and Assessment Program (SEAMAP)	11.435	237,108
Emergency Disaster Recovery Program	11.454	2,755,190
Emergency Disaster Recovery Program II	11.454	5,359,070
Stock Assessment Enhancement	11.472	869,359
Oil Disaster Recovery Program	11.477	3,215,135
Total U. S. Department of Commerce		<u>19,681,735</u>
Total expenditures of federal awards		<u>\$ 19,918,908</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, 2013. 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 position or cash flows of the Commission.

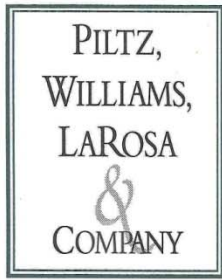
Note B - Summary of Significant Accounting Policies

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



CERTIFIED PUBLIC ACCOUNTANTS
A Professional Association

MEMBERS
American Institute of CPAs
AICPA Private Companies Practice Section
AICPA Governmental Audit Quality Center
AICPA Center for Audit Quality
AICPA Employee Benefit Plan Audit Quality Center
Mississippi Society of CPAs

Stephen P. Theobald, CPA, CMA 25
Margaret D. Closson, CPA
Michael D. O'Neill, CPA
John D. Prentiss, CPA
Eric B. Bland, CPA
David C. Neumann, CPA, CBA

Gerald Piltz, CPA (Retired)
Stanford A. Williams, Jr., CPA (Retired)
Sam J. LaRosa, Jr., CPA (Retired)
William S. Thompson, CPA (Retired)
Gene M. Clark, Jr., CPA (Retired)
Darrell L. Galey, CPA

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, 2013, 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 July 10, 2014.

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.

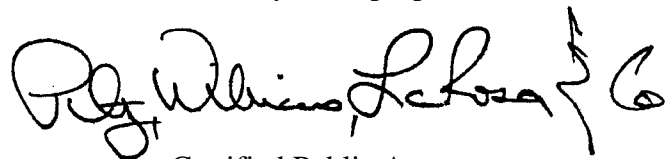
Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not 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*.

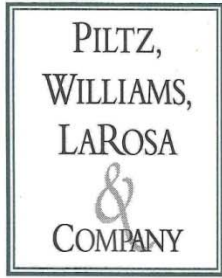
Purpose of this Report

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 "P. Williams, CPA". The signature is written in a cursive style with a large, stylized initial "P" and "W". To the right of the signature is a large, stylized number "6".

Certified Public Accountants

Biloxi, Mississippi
July 10, 2014



CERTIFIED PUBLIC ACCOUNTANTS
A Professional Association

MEMBERS
American Institute of CPAs
AICPA Private Companies Practice Section
AICPA Governmental Audit Quality Center
AICPA Center for Audit Quality
AICPA Employee Benefit Plan Audit Quality Center
Mississippi Society of CPAs

Stephen P. Theobald, CPA, CMA
Margaret D. Closson, CPA
Michael D. O'Neill, CPA
John D. Prentiss, CPA
Eric B. Bland, CPA
David C. Neumann, CPA, CBA

Gerald Piltz, CPA (Retired)
Stanford A. Williams, Jr., CPA (Retired)
Sam J. LaRosa, Jr., CPA (Retired)
William S. Thompson, CPA (Retired)
Gene M. Clark, Jr., CPA (Retired)
Darrell L. Galey, CPA

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, 2013. 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, 2013.

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
July 10, 2014

Section V

Other Items

Gulf States Marine Fisheries Commission
Schedule of Findings and Questioned Costs
For the Year Ended December 31, 2013

Section 1 – Summary of Auditors’ Results

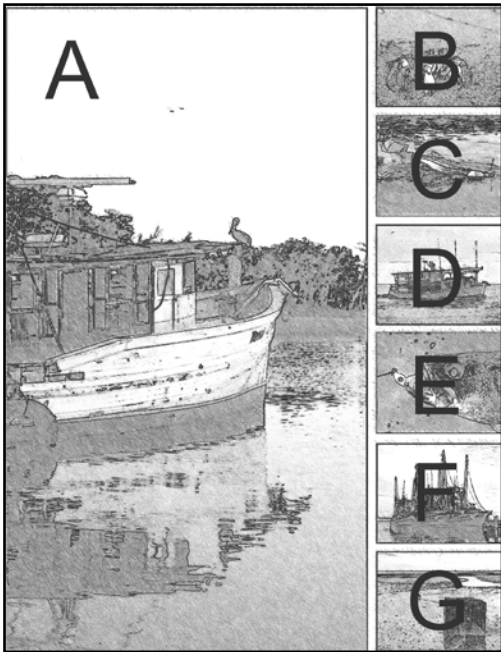
1. An unqualified opinion was issued on the basic financial statements.
2. There were no significant deficiencies in internal control disclosed by the audit of the basic financial statements.
3. The audit did not disclose any noncompliance which is material to the basic financial statements.
4. The audit 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: Recreational Fisheries Information Network and Commercial Fisheries Information Network and Economic Data Program – 11.434
8. The dollar threshold used to distinguish between Type A and Type B Programs was \$597,567.
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



Cover Photo Credits

- A. Sandy Shanks
- B. Kyle Miller - FWC
- C. Chuck Adams – U of F
- D. Alex North
- E. Kyle Miller - FWC
- F. Alex North
- G. Alex North

**Gulf States Marine Fisheries Commission
2404 Government Street
Ocean Springs, Mississippi, 39564**

