



ENHANCE ★ PROTECT ★ CONSERVE

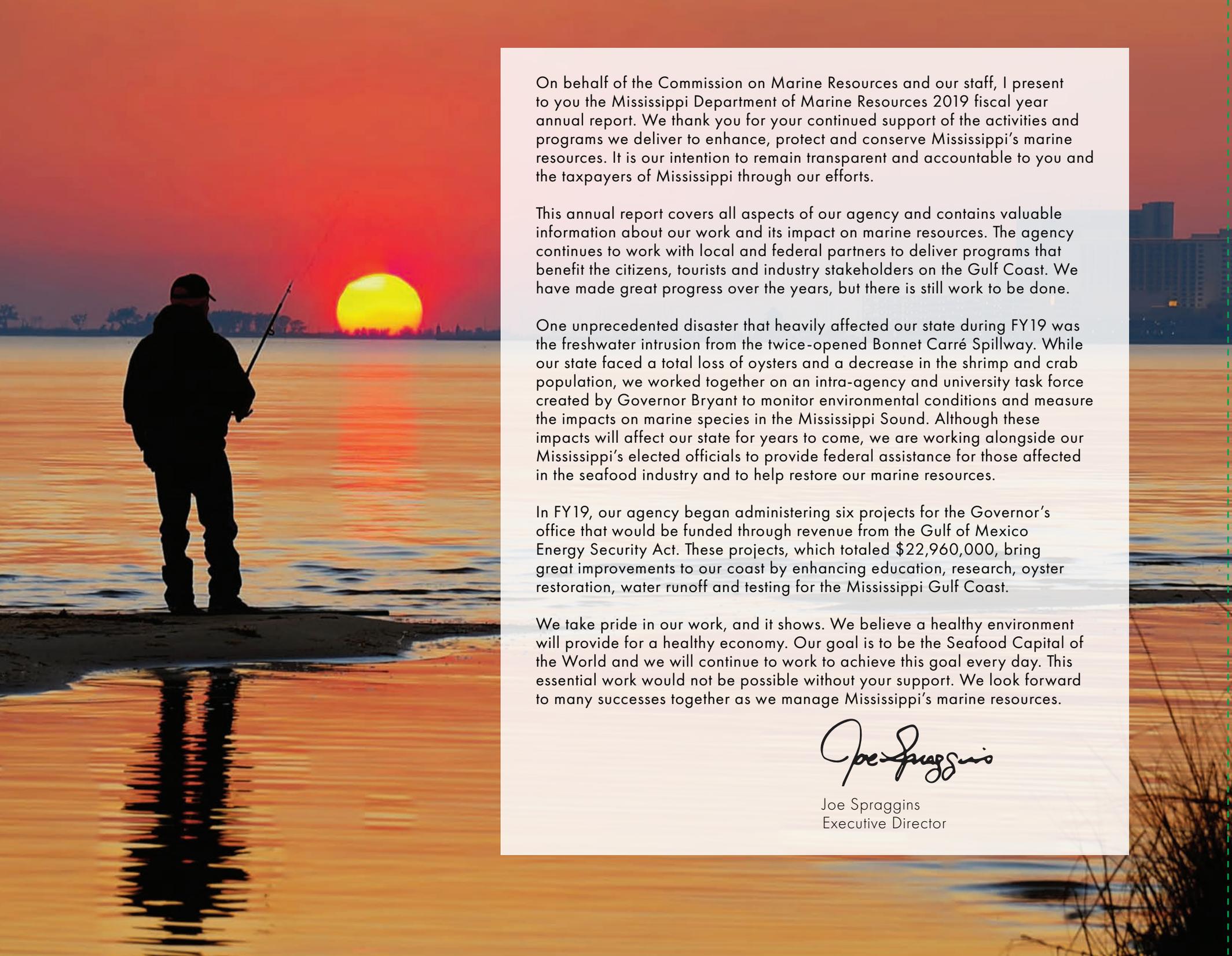
ANNUAL REPORT

FISCAL YEAR 2019

July 1, 2018 - June 30, 2019



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On behalf of the Commission on Marine Resources and our staff, I present to you the Mississippi Department of Marine Resources 2019 fiscal year annual report. We thank you for your continued support of the activities and programs we deliver to enhance, protect and conserve Mississippi's marine resources. It is our intention to remain transparent and accountable to you and the taxpayers of Mississippi through our efforts.

This annual report covers all aspects of our agency and contains valuable information about our work and its impact on marine resources. The agency continues to work with local and federal partners to deliver programs that benefit the citizens, tourists and industry stakeholders on the Gulf Coast. We have made great progress over the years, but there is still work to be done.

One unprecedented disaster that heavily affected our state during FY19 was the freshwater intrusion from the twice-opened Bonnet Carré Spillway. While our state faced a total loss of oysters and a decrease in the shrimp and crab population, we worked together on an intra-agency and university task force created by Governor Bryant to monitor environmental conditions and measure the impacts on marine species in the Mississippi Sound. Although these impacts will affect our state for years to come, we are working alongside our Mississippi's elected officials to provide federal assistance for those affected in the seafood industry and to help restore our marine resources.

In FY19, our agency began administering six projects for the Governor's office that would be funded through revenue from the Gulf of Mexico Energy Security Act. These projects, which totaled \$22,960,000, bring great improvements to our coast by enhancing education, research, oyster restoration, water runoff and testing for the Mississippi Gulf Coast.

We take pride in our work, and it shows. We believe a healthy environment will provide for a healthy economy. Our goal is to be the Seafood Capital of the World and we will continue to work to achieve this goal every day. This essential work would not be possible without your support. We look forward to many successes together as we manage Mississippi's marine resources.



Joe Spraggins
Executive Director



ENHANCE ★ PROTECT ★ CONSERVE

ANNUAL REPORT

FISCAL YEAR 2019
July 1, 2018 - June 30, 2019

The Mississippi Department of Marine Resources is dedicated to enhancing, protecting and conserving the state's marine interests by managing all marine life, public trust wetlands, adjacent uplands and waterfront areas to provide optimal commercial, recreational, educational and economic uses of these resources consistent with environmental concerns and social changes.

This annual report was prepared by the Mississippi Department of Marine Resources, Office of the Executive Director, with contributions from staff.
Fish Illustrations: Joe Jewell© • Photos: David Salters (*cover, inside front cover, pg.28*), Margie Strickland (*table of contents*), Justin Main (*inside back cover*), Sara Hansen (*pg.1*), Charles Taylor (*pg.11*), Amanda Phillips (*pg.17, 51*), William Lee (*pg.30 top left*), Gene Cossey (*pg.30 top right*), MS/AL Sea Grant (*pg. 38 bottom left*), Kenneth Leggett (*pg.43*), Warren Gravois (*page 49*), Eric Sparks (*pg.55*) and MDMR Staff

ORGANIZATIONAL STRUCTURE

GOVERNOR OF MISSISSIPPI

COMMISSION ON MARINE RESOURCES

DEPARTMENT OF MARINE RESOURCES

- LEGAL COUNSEL
- TIDELANDS TRUST

- COASTAL RESOURCES MANAGEMENT
- COASTAL RESTORATION AND RESILIENCY
- FINANCE & ADMINISTRATION
- GRAND BAY NATIONAL ESTUARINE RESEARCH RESERVE
- MARINE FISHERIES
- MARINE PATROL





TABLE OF CONTENTS

02 EXECUTIVE OFFICE

- Human Resources
- Information Technology
- Property Management
- GOMESA
- Derelict Vessels
- Public Affairs

12 FINANCE

- Finance and Accounting
- Grants Administration
- Procurement

18 TIDELANDS

22 MARINE PATROL

26 MARINE FISHERIES

- Artificial Reef
- Finfish
- Seafood Technology
- Shellfish
- Shrimp and Crab

44 COASTAL RESTORATION AND RESILIENCY

- Mississippi Gulf Coast National Heritage Area

50 COASTAL RESOURCES MANAGEMENT

- Wetlands Permitting Bureau
- Coastal Preserves Bureau

55 GRAND BAY NERR AND AQUACULTURE HATCHERY IN LYMAN

- Grand Bay NERR
- Aquaculture Hatchery

61 COMMISSION ON MARINE RESOURCES

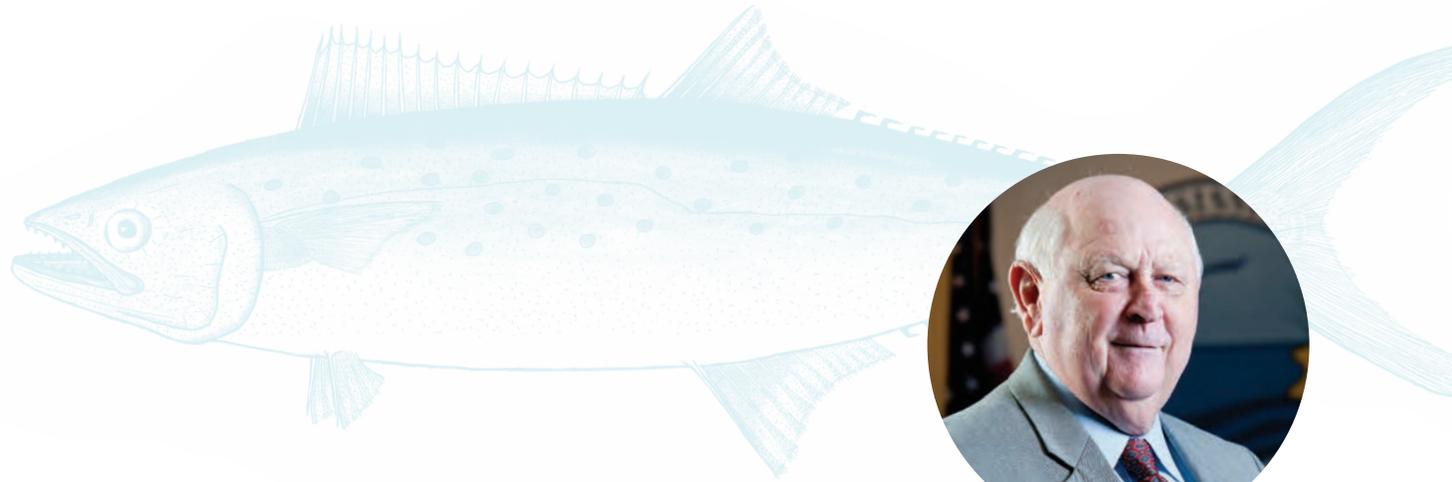


EXECUTIVE OFFICE

The programs and services within the Executive Office of the Mississippi Department of Marine Resources (MDMR) provide operational support to all other programs within the MDMR.

These programs include:

- Human Resources
- Information Technology
- Property Management
- Gulf of Mexico Security Act
- Derelict Vessels
- Public Affairs



Joe Spraggins
Executive Director

HUMAN RESOURCES

Director: Christy Royals



Human Resources provides services to employees and the public in the following areas: job recruitment, selection and retention, job classification, compensation and organizational structure. Staff also manage personnel budgeting and compliance, professional training and education, benefits administration, leave policy interpretation, Workers' Compensation administration, performance development system and personnel records management. Human Resources ensures compliance with applicable state and federal laws and provides oversight of the employee discipline process. Staff also provide consistent administrative support to MDMR managers, including documentation of the organizational structure, comprehensive personnel policies and associated administrative activities.

GOALS:

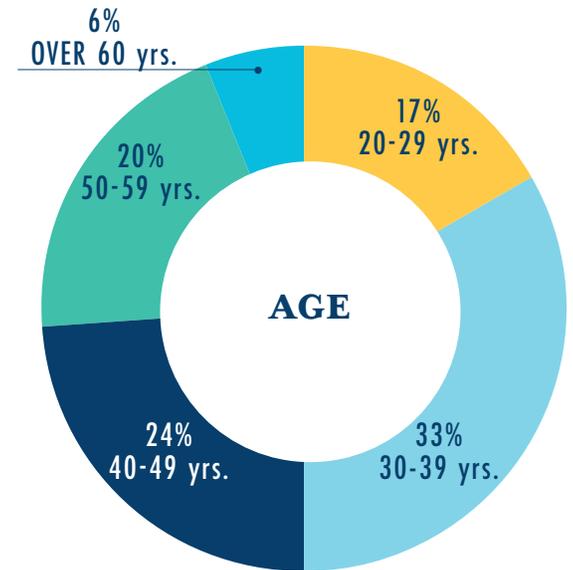
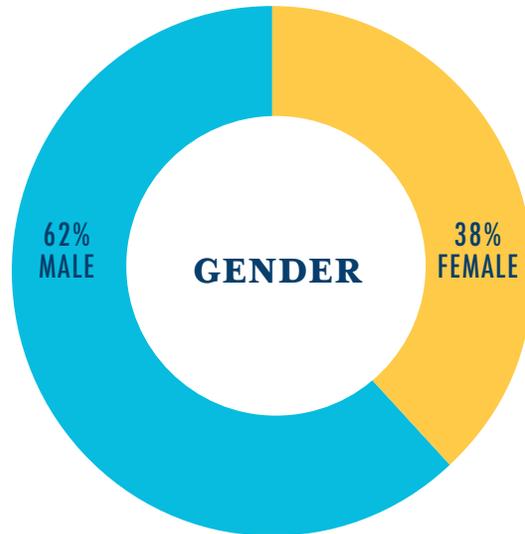
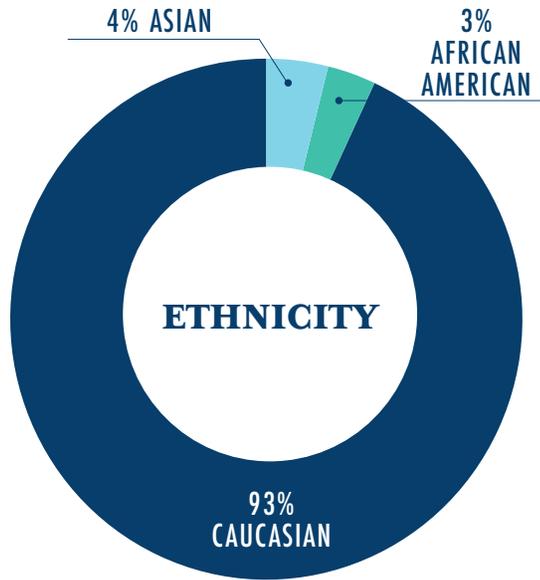
- Attract and retain the best talent.
- Recognize and acknowledge achievements.
- Compensate employees appropriately and provide adequate benefits.
- Facilitate professional growth and career development.
- Provide support and information to managers and employees.

ACCOMPLISHMENTS:

- Maintained compliance of personnel budget and expenditures required by Appropriation Bill and the Mississippi State Personnel Board.
- Recruited for 28 positions, resulting in 20 new hires for the MDMR.
- Managed the MDMR Intern Program by providing 11 interns to Coastal Preserves, Fisheries, GBNERR, GIS/IT, Marine Aquaculture, Marine Patrol and Public Affairs. Hired four of the interns into full-time positions.
- Conducted New Employee Orientation for 20 new employees, seven contract workers and 11 interns.
- Coordinated MDMR Wellness Program in conjunction with Mississippi State Personnel Board Wellness Initiative, including flu and tetanus shots and on-site screenings for high blood pressure, diabetes and skin cancer.
- Communicated details of benefit plans, contact information and employee premiums during annual Benefits Open Enrollment process.
- Reviewed, updated and created several MDMR employment policies and procedures.
- Facilitated implementation of salary realignment for all MDMR positions and prepared notification letters for employees.

- DEMOGRAPHICS FOR MDMR -

Total Number of State Employees: 151



- SALARY AVERAGES -



INFORMATION TECHNOLOGY

Director: Brian Sherwood



Information Technology consists of two functional teams: IT operations and Geographic Information Systems (GIS).

GOALS:

- Provide a secure, reliable computing infrastructure that enables rich data collection and analysis capabilities, fosters collaboration and empowers the end-users to maximize productivity.
- Create innovative, custom-built solutions that significantly improve workflow, user productivity and data quality.

ACCOMPLISHMENTS:

- Received recognition with a Special Achievements in GIS Award. MDMR stood out from more than 100,000 organizations. Other 2019 SAG recipients included Columbia University and the United Nations.
- Implemented GIS-integrated computer-aided dispatch and records management system to enhance the capabilities of Marine Patrol.
- Completed acquisition and design phase of a modern coastal permitting system for improved customer access and timelier permit completion.
- Partnered with the Grand Bay NERR for an invasive species/vegetation mapping project covering over 220 acres which utilized new UAS capabilities and machine learning-based image processing.
- Completed acquisition and deployment of a modern GPS-enabled encrypted radio platform for Marine Patrol which improves officer safety and interoperability with other agencies.
- Maintained 10 custom GIS-based data collection solutions including two for the public.
- Developed and launched a new secure MDMR website.
- Expanded UAS fleet for enhanced imaging capabilities including search and rescue.
- Maintained multi-site weather station network to provide real-time data internally and to the public
- Engaged in external collaboration and partnership activities, such as hosting and participating in the sixth annual statewide GIS conference and representing MDMR and the State of Mississippi advocating the 3D Nation for the U.S. Geological Survey.
- Modernized the technology used by the Commission on Marine Resources (CMR) for improved access to decision-making material.
- Implemented live streaming of CMR meetings for greater public access.
- Continued modernization activities for desktops, servers and network infrastructure.
- Completed 1,369 agency work orders.
- Flew 1,202 acres of UAS Program Unmanned Aircraft System missions.



▲ IT staff receiving Special Achievements in GIS Award

PROPERTY MANAGEMENT

Property Manager: Vandy Mitchell



The mission of the Property Management office is to maintain accountability for all state property under the control of the MDMR and maintain all pool vehicles and vessels to ensure their operational readiness.

GOALS:

- Continue improving accountability of all assets owned by the Mississippi Department of Marine Resources.
- Ensure all items that are required by law are listed on inventory.
- Ensure that state vehicles are properly maintained throughout their lifespan.
- Improve diagnosis when troubleshooting marine vessel repair.

ACCOMPLISHMENTS:

- Accounted for each inventory item during the FY19 property audit conducted by the State Auditor's Office.
- Updated the MDMR fleet and disposed of high-mileage vehicles that had become costly to maintain.
- Purchased a diagnostic computer for marine vessels that will reduce costly repairs through preventative maintenance.

\$31,762,981
VALUE OF ALL MDMR PROPERTY



State Regulations require the agency to report fuel and maintenance records of all vehicles in MAGIC.



GULF OF MEXICO ENERGY SECURITY ACT

Project Manager: Russell Weatherly



The signing into law of the unprecedented Gulf of Mexico Energy Security Act (GOMESA) in December 2006 created an opportunity for the State of Mississippi in terms of its potential magnitude and significance. This landmark legislation enables Mississippi and its neighbor offshore energy-producing states –Alabama, Louisiana and Texas – to share in royalties from revenues generated through federal oil and gas leases on the Outer Continental Shelf (OCS), royalties that prior to GOMESA’s enactment were deposited in their entirety into the Federal Treasury.

The intent of GOMESA’s revenue-sharing provision is to provide resources to the coastal states to offset the potentially harmful effects of energy production within - and adjacent to - the Gulf of Mexico, such as coastal erosion, habitat degradation and natural resources depletion.

GOALS:

- Drive programmatic coastal ecological and physical restoration.
- Advance resiliency efforts “to increase the capacity of human and natural and physical systems to adapt and recover from change.
- Improve the economic well-being of the Mississippi Gulf Coast.
- Enhance the quality of life for those who live, work, visit and do business on the Gulf Coast.

ACCOMPLISHMENTS:

GOMESA distributed \$22,960,000 to six projects in FY19 and \$20,850,000 to 18 projects in FY20 that met the following primary purposes:

- Projects and activities for the purposes of coastal protection, including conservation, coastal restoration, hurricane protection and infrastructure directly affected by coastal wetland losses.
- Mitigation of damage to fish, wildlife or natural resources.
- Implementation of a federally-approved marine, coastal or conservation management plan.
- Mitigation of the impact of activities through funding of onshore infrastructure projects.
- Planning assistance and the administrative costs of complying with this section (not more than 3 percent).



Press conference with Governor Phil Bryant, announcing the awarded GOMESA projects for FY20

**FISCAL YEAR 2019
TOTAL: \$22,960,000**

Beach Storm Water Outfalls	\$4,500,000	Oyster Plant	\$3,000,000
Mississippi Aquarium	\$6,700,000	Oyster Cultch	\$1,000,000
Ocean Enterprises: Port of Gulfport	\$7,000,000	Shellfish Water Quality Testing	\$760,000

**FISCAL YEAR 2020
TOTAL \$20,850,000**

MDMR: Artificial Reef	\$1,000,000	Harrison County: Sea Oats and Sand Dunes	\$200,000
Audubon of Mississippi: Nature-Based Tourism	\$300,000	Port of Pascagoula - Contaminant Removal	\$800,000
Jackson County: Front Beach Erosion Control and Re-nourishment	\$1,900,000	INFINITY Science Center: Assessment, Restoration and Stewardship	\$1,000,000
City of Biloxi: Bayview Avenue Boardwalk and Living Shoreline	\$2,900,000	Mississippi State University and Institute for Marine Mammal Studies: Evaluation Study	\$1,250,000
City of Gulfport: Coffee Creek Outfall	\$2,000,000	MDEQ: Water Quality	\$1,000,000
Water Quality at Coffee Creek	\$1,000,000	USM: Aquaculture Depth Control Unit	\$300,000
Hancock County & MDWFP: Buccaneer State Park Enhancements	\$2,000,000	USM: Post-Bonnet Carré Spillway Opening Water Sampling	\$300,000
Bay St. Louis: Ward 6 Boat launch	\$600,000	Mississippi Aquarium: Fish Acquisition and Transport	\$1,300,000
City of Biloxi: East Biloxi Boardwalk	\$3,000,000	Shellfish Water Quality Testing	\$760,000

DERELICT VESSELS

Coordinator: Russell Weatherly



The Derelict Vessel Program was established by the Legislature in Section 49-27-71 of the Mississippi Code of 1972, giving MDMR the authority to remove any vessel which has been determined to be a public safety or environmental hazard.

When vessels ranging in size from 10 to over 200 feet are abandoned in Mississippi's coastal wetlands or areas of heavy use by commercial and recreational boaters, the derelicts are hazardous to navigation and detrimental to the wetland environment. In addition, a vessel may be determined as derelict if it has been submerged or abandoned in or on coastal wetlands in excess of 30 days, reducing the waiting period by 60 days. This program enforces state laws through the removal and disposal of derelict vessels, which protects the environment and keeps coastal wetlands and navigable waterways safe for the general public.

3 DERELICT VESSELS WERE REMOVED FROM MISSISSIPPI'S WATERWAYS

Sailboat from the canal in Bay St. Louis
(Hancock County)

Sailboat from Fort Bayou
(Jackson County)

Shrimp boat in the Ocean Springs Channel
(Jackson County)



PUBLIC AFFAIRS

Director: Charmaine Schmermund



The Public Affairs Bureau provides a proactive program of community outreach, education, public information and legislative and media relations. These outreach efforts promote awareness of the MDMR and its roles, responsibilities and programs in balancing economic interests with enhancing, protecting, managing and conserving Mississippi's marine resources. This bureau participates in events throughout the community and distributes information through news releases, social media sites, brochures, a rules and regulations book, calendar, photographs and content for the MDMR website. Public Affairs also provides support to other offices and programs within the agency to create consistent, professional materials to further the agency's mission. The Seafood Marketing program is contained within Public Affairs, and it markets the sale and consumption of Gulf seafood to people throughout Mississippi and the southeastern region of the country.

GOALS:

- Promote the agency and its mission throughout the community by sponsoring and participating in events and distributing information and promotional items.
- Provide the general public and specific user groups with comprehensive, consistent education and information about the programs within the agency.
- Promote the responsible use of marine resources.
- Raise awareness about the importance of purchasing and using Gulf seafood by fostering relationships among fishermen, restaurants, chefs and the public.

ACCOMPLISHMENTS:



Participated in **58 EVENTS** in the **THREE COASTAL COUNTIES** to educate the public about the agency and MS Seafood



Grew agency reach on social media with over **26,000 TOTAL FOLLOWERS ON FACEBOOK**



SPONSORED 32 EVENTS promoting MDMR and MS Seafood on the Coast and throughout Mississippi and the southeastern region



Printed **67,500 BROCHURES AND PROMOTIONAL ITEMS**, which are used to increase awareness of the MDMR brand and educate the public about coastal resources and fishing rules and regulations



Partnered with the Mississippi Coast Chamber to **HOST THE ANNUAL MISSISSIPPI SEAFOOD COOK-OFF** in conjunction with the chamber's Sip and Savor event in Pass Christian.

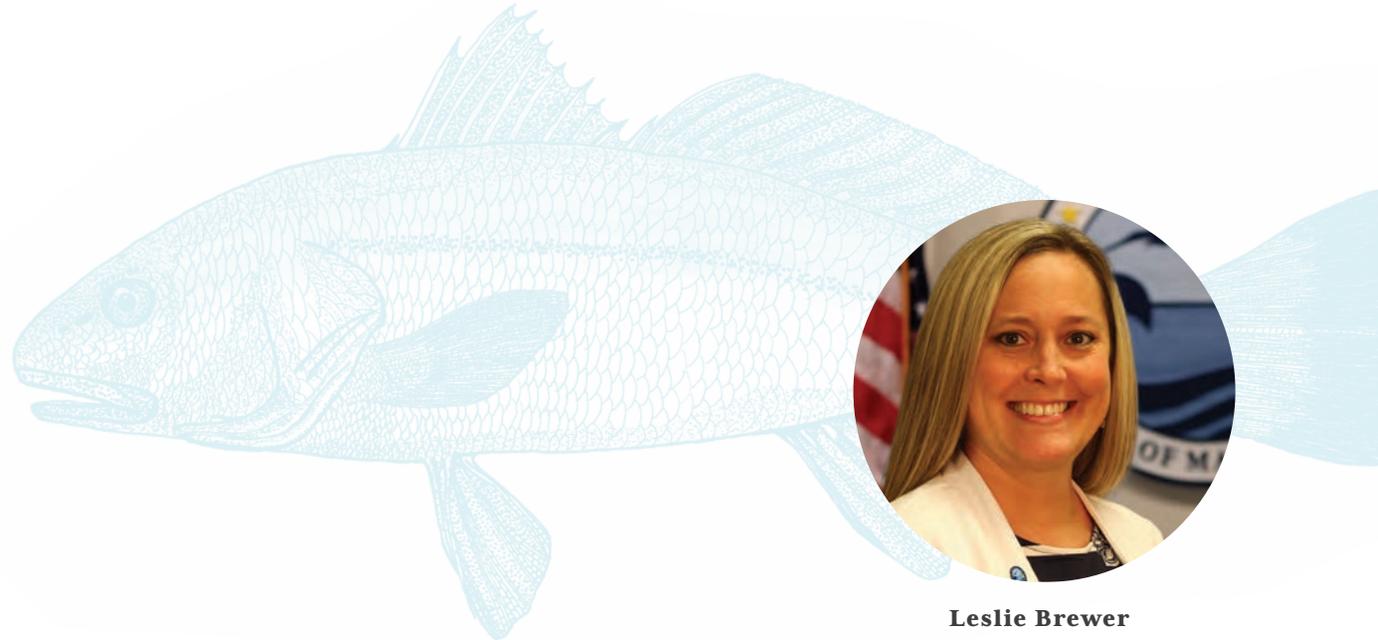


FINANCE

The Office of Finance and Administration is comprised of three bureaus:

- Finance and Accounting
- Grants Administration
- Procurement

Bureau directors report to the Chief Financial Officer. This office is responsible for the annual budget for the Mississippi Department of Marine Resources (MDMR), accounts payable and receivable, payroll, travel, license sales, state and federal grants administration and procurement of all goods and services for the agency.



Leslie Brewer
Chief Financial Officer

GOALS:

- Continue with training and education for all employees in the Finance Office, including internal training and sessions hosted by such agencies as the Mississippi Department of Environmental Quality, U.S. Fish and Wildlife Service and NOAA.
- Update policies and procedures to ensure processes are compliant with all state and federal laws and procedures.
- Develop internal handbooks for the bureaus to establish specific policies for each one.
- Follow all state statutes, laws and regulations as set out in applicable sections in the Mississippi Code 1972 Annotated and the Mississippi Agency Accounting Policies and Procedures Manual, as well as the Code of Federal Regulations.

ACCOMPLISHMENTS:



Managed
54 GRANTS
for \$39.3 million

Began **45**
CONTRACTS
that are currently active



Sold nearly 81,000 licenses
for MDMR and the
Mississippi Department
of Wildlife, Fisheries and Parks.



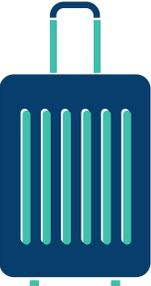
3,360
MDMR COMMERCIAL

paid
438
VENDORS



a total of
\$21.1
MILLION

738
MDMR RECREATIONAL



processed
311 travel
authorizations

Oversaw agency
3 **AUDITS**
— performed by
federal and state groups



73,898
WILDLIFE, FISHERIES
& PARKS

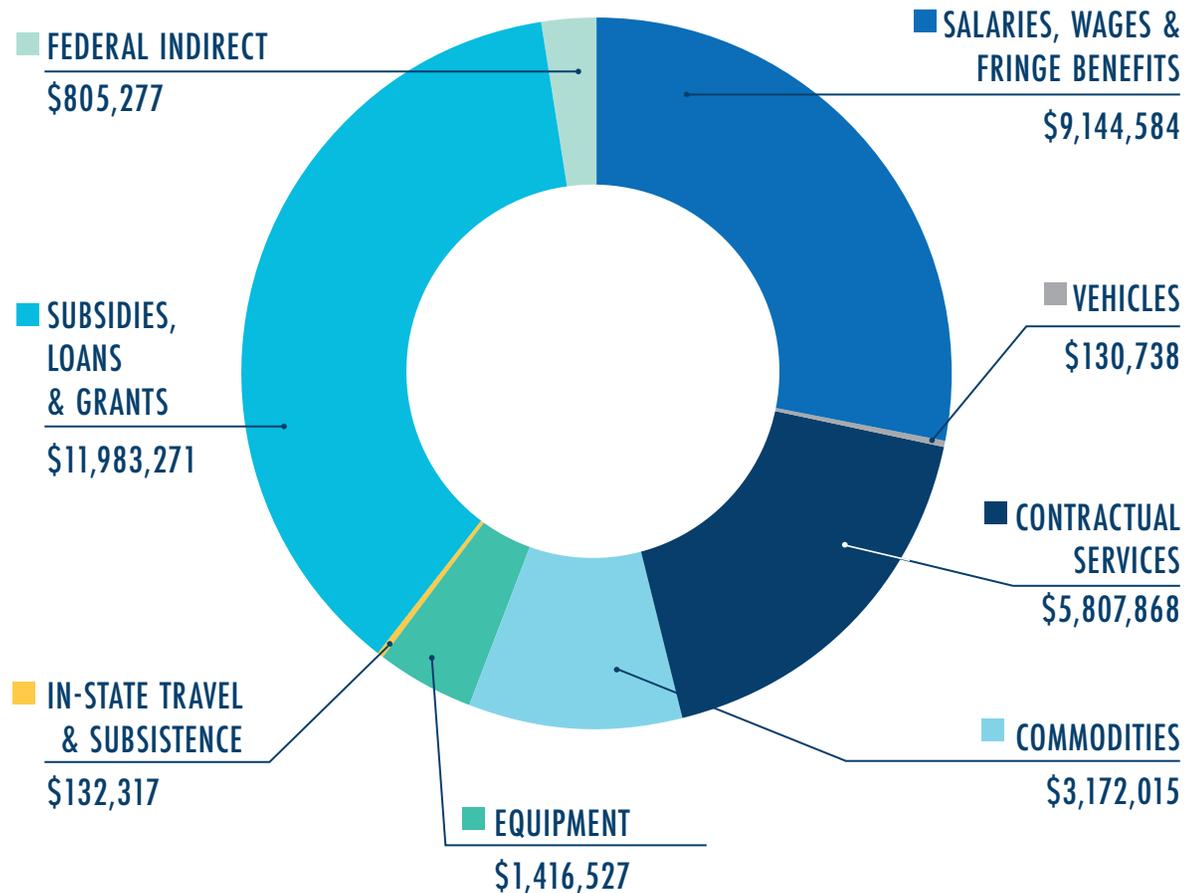
FINANCE AND ACCOUNTING BUREAU

Director: Shavay Gaines



This bureau is responsible for annual budgets, monthly and intermittent financial reporting and reconciliation, accounts payable, payroll, travel and license sales. It is made up of a finance and accounting director, professional accountant, accounting specialist intermediate, payroll and travel manager, payroll and travel coordinator and licensing agent.

– AGENCY EXPENSES BY CATEGORY –



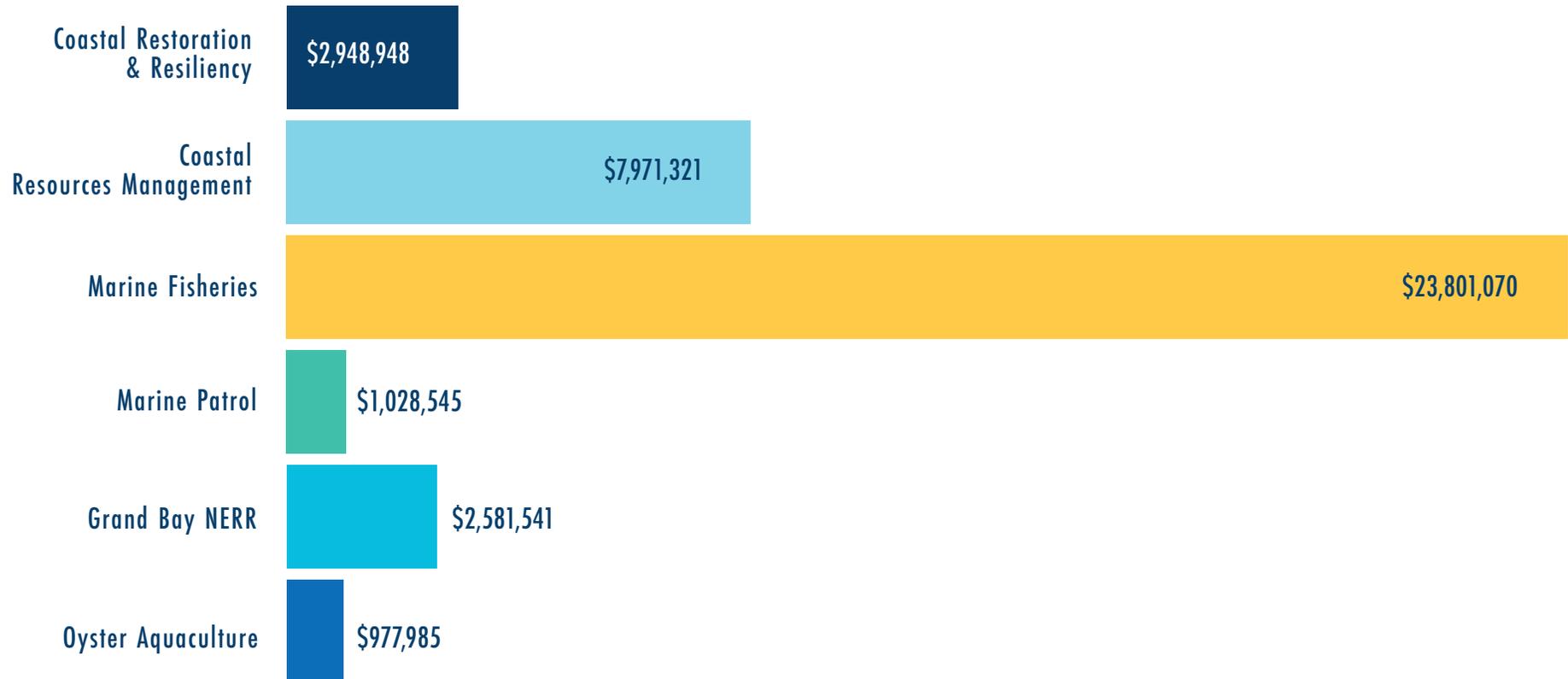
GRANTS ADMINISTRATION BUREAU

Director: Kimberly Rasmussen, Dr.iur.



The Grants Bureau was established in May 2014 to serve as the clearinghouse for all grants awarded to or awarded by MDMR. This bureau provides oversight of all state and federal grants, including allowable spending, budgetary support and resource management. This bureau also is responsible for adhering to all federal, state and agency compliance requirements related to grants. It is made up of a grants director and two grants administrators.

– SUMMARY OF FUNDING MANAGED BY GRANTS BUREAU –



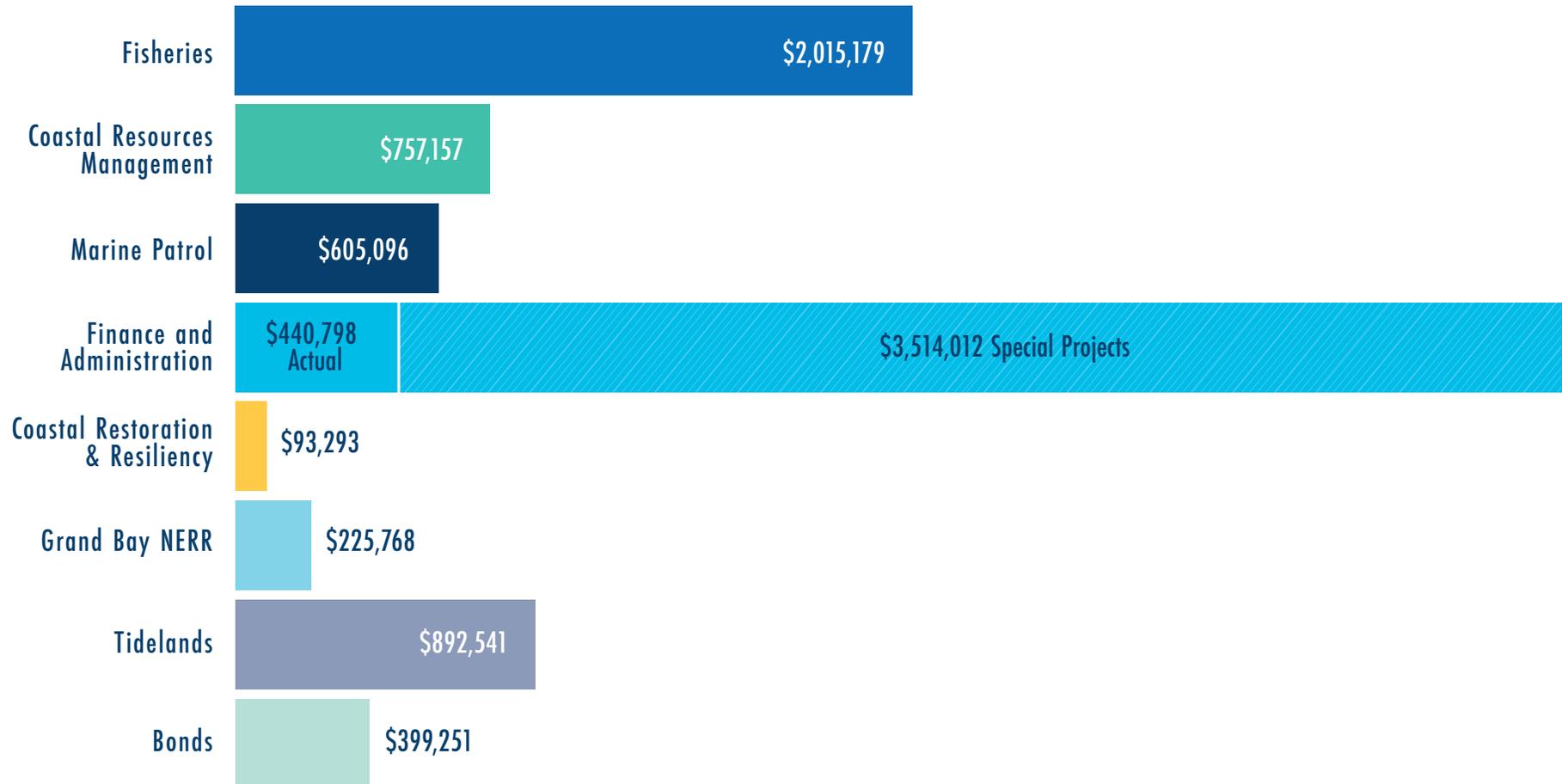
PROCUREMENT BUREAU

Director: Rick Kinnard



The Procurement Bureau is responsible for all purchasing administration. This includes commodities and services using the quote and purchase-order processes, as well as smaller purchases made using procurement cards. This bureau also is responsible for agency purchasing contracts using a structured procurement process that can include requests for qualifications/proposals, memorandums of agreement and memorandums of understanding. It is made up of a procurement director, lead contracts analyst, purchasing agent and procurement specialist.

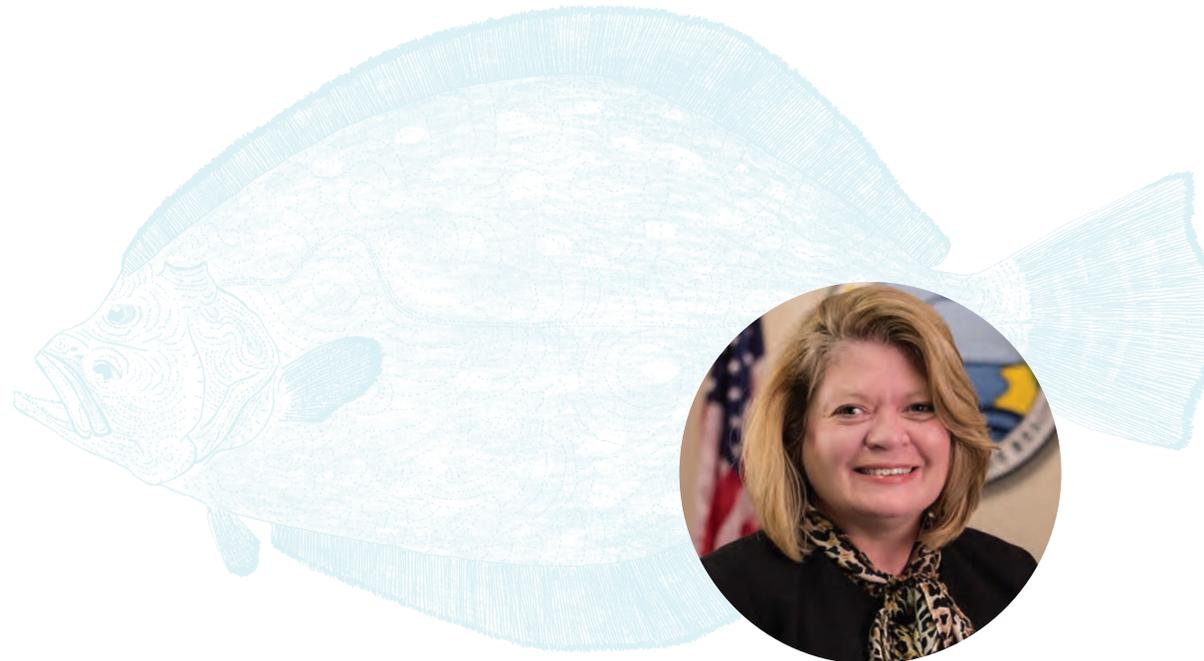
– PURCHASE ORDERS BY OFFICE & BUREAU –





TIDELANDS

Tidelands are lands that are covered and uncovered daily by water from the action of the tides, up to the mean line of the ordinary high tides. The Tidelands Trust Fund is comprised of funds derived from the lease of tidelands and submerged lands and is administered by MDMR as mandated by state law. The Secretary of State's Office presents the Tidelands check to Mississippi Department of Marine Resources (MDMR) officials and legislators each year.



Sonja Slater
Coordinator

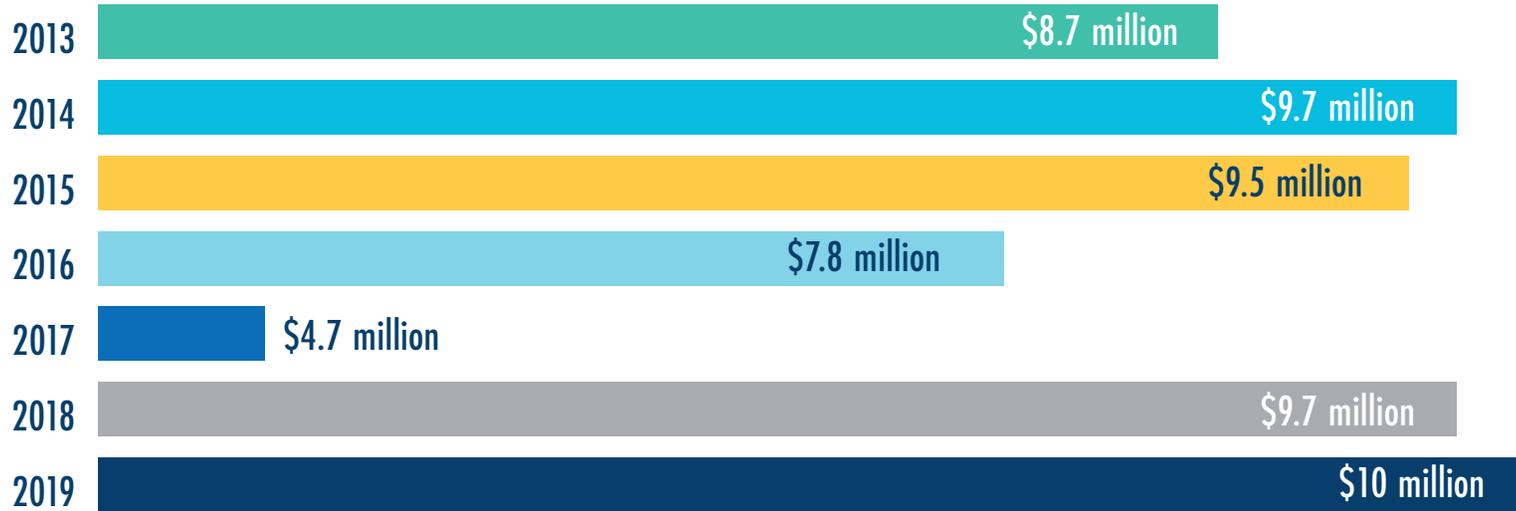
The state Legislature each year approves Tidelands funding for MDMR to administer through the Tidelands Program. This action is authorized through the Mississippi Code of 1971 Section 29-15-9 and Section 29-15-10.

During the 2017 session, the Legislature approved \$10 million in projects through HB1606. In 2019, through HB1656, the Legislature approved \$11 million in funding. Tidelands currently has 181 open projects, 99 public access and 71 managed.

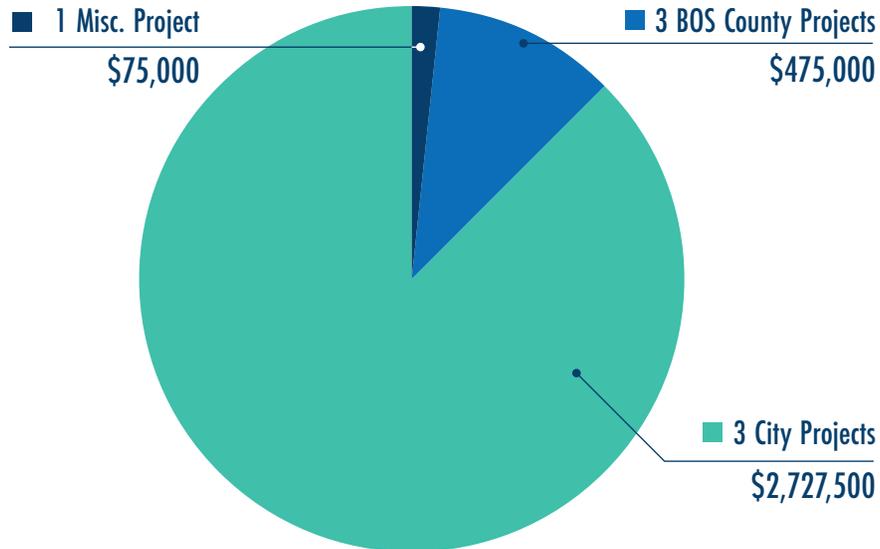
**– THE LEGISLATURE APPROVED THE FOLLOWING PROJECTS –
DURING THE 2018 SESSION FOR FUNDING IN FY19:**

HARRISON COUNTY	JACKSON COUNTY	HANCOCK COUNTY
Point Cadet Marina Expansion and Water's Edge Boardwalk (City of Biloxi)	Shepard State Park Upgrades Project (City of Gautier)	Bay St. Louis Harbor Pier 5 (City of Bay St. Louis)
Fountain Beach Public Access, Phase 1 and 2 (City of D'Iberville)	Dantzler Street Alignment (City of Moss Point)	Montjoy Creek Restoration and Drainage Improvement (City of Diamondhead)
Bernard and Brickyard Bayou Blueway Kayak Launch Project (City of Gulfport)	Ocean Springs Front Beach Infrastructure Stabilization Improvements (City of Ocean Springs)	Jourdan River Shores Canal Dredging Project (Hancock County Board of Supervisors)
FY19 Harbor Improvements (City of Long Beach)	Point Park Amenities (City of Pascagoula)	McLeod Park Bathhouse Improvements Project (Hancock County Board of Supervisors)
Redecking of existing piers (City of Pass Christian)	Brittany Ave. Boat Launch, Parking Lot Expansion Project (Jackson County Board of Supervisors)	
Museum Gulf of Mexico Fish Exhibit, Signage and Pier Improvements (Maritime and Seafood Industry Museum)	Waterproofing Coastal Mississippians	
Point Cadet Engineering and Development Project (City of Biloxi)		

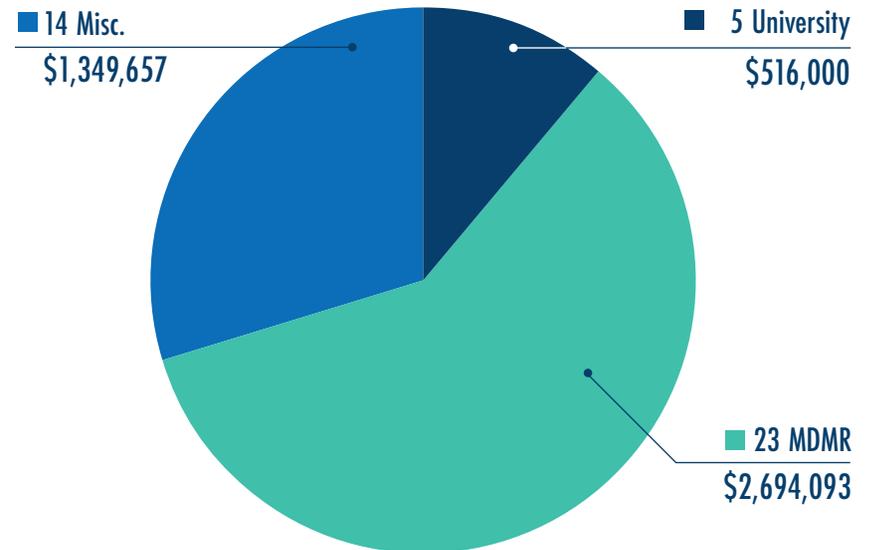
- TIDELANDS FUNDING HISTORY -



**- TIDELANDS PUBLIC -
ACCESS PROJECTS FUNDING**



**- TIDELANDS MANAGEMENT -
PROJECTS FUNDING**



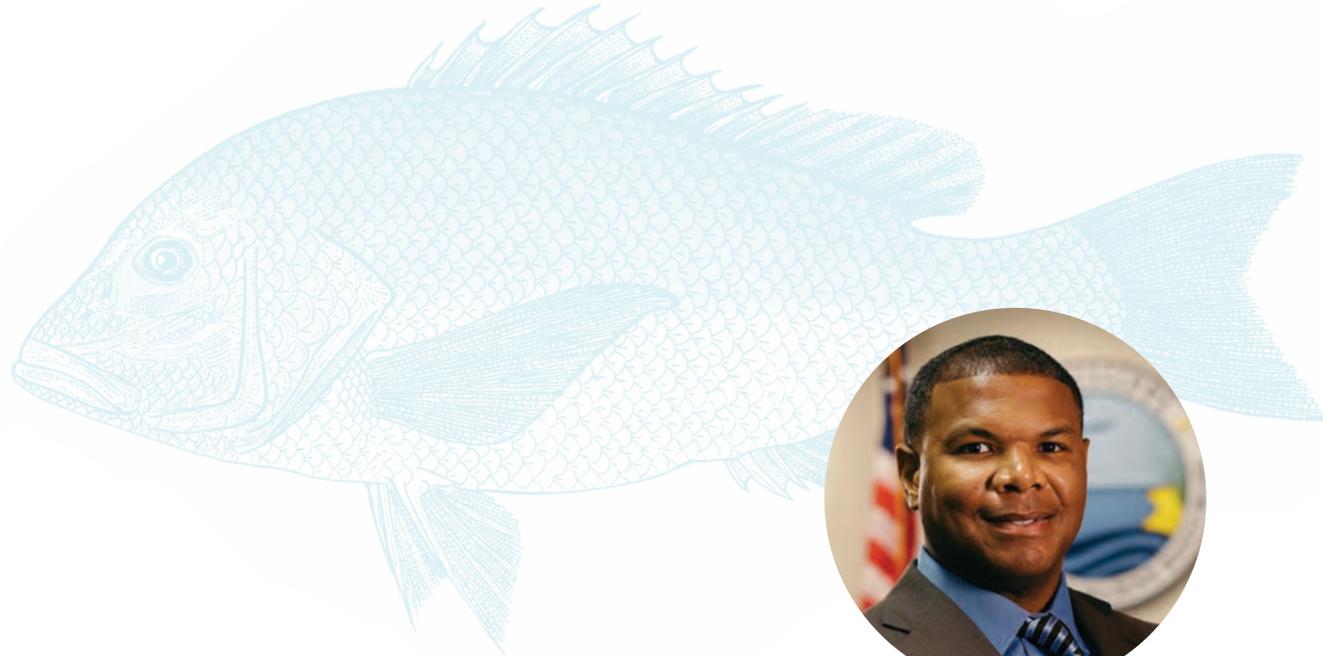


MARINE PATROL
ENHANCE * PROTECT * CONSERVE

MERCURY

MARINE PATROL

The Office of Marine Patrol provides marine enforcement of federal and state laws and the ordinances of the Commission on Marine Resources for the protection, preservation and conservation of Mississippi's seafood, aquatic life and associated coastal wetlands habitats. Marine Patrol also carries out the enforcement of state and federal laws pertaining to boating safety and provides emergency assistance concerning the state's marine environment.



Keith Davis
Marine Patrol Chief

MARINE PATROL IS COMPOSED OF THREE DIVISIONS

PATROL DIVISION

Handles the majority of service calls. The Patrol Division ensures the safety for all citizens while enjoying the Mississippi waterways. The Patrol Division conducts boat and water safety classes, handles special events on marine waters, protects marine life and enforces seafood laws throughout the State of Mississippi with seafood retailers and restaurants. Marine Patrol's area of responsibility covers the three coastal counties expanding out 200 miles offshore ensuring the Magnuson-Stevens Fishery Conservation and Management Act is enforced.

INVESTIGATIVE DIVISION

Responsible for the following units: conservation investigations, internal affairs, dive team, JEA Program Coordinator, BUI enforcement unit, boat accident investigation/reconstruction, waterborne death investigations and inter/intra-state seafood enforcement, including imported non-native species.

ADMINISTRATIVE DIVISION

Responsible for the following units: Training Coordinator, Communication's Division, Marine Patrol Reserve Officers, Emergency Operations Coordinator, Grants Liaison and Community Outreach.



GOALS:

- Ensure consumers are receiving desirable seafood by enhancing inspections on local seafood retailers and vendors.
- Implement a beautification process on the Mississippi Gulf Coast by streamlining the process of removing derelict vessels in local tributaries and waterways.
- Increase the capabilities of the MDMR Dive Team by certifying eight Public Safety Divers and equip the team to respond efficiently and safely to operations on the Mississippi Gulf Coast.
- Utilize technology to increase patrol efforts and fortify Search and Rescue efforts.
- Establish a Special Operations Group to assist local, state and federal partners in the detection and examination of complex seafood investigations.
- Enhance protective measures on the Northern Gulf Coast by working with other agencies to strengthen marine border security.
- Provide resource protection to Cat Island by providing routine boat and ATV inspections on the island.

ACCOMPLISHMENTS:

- Successfully executed the 2019 Marine Litter Campaign through public education and outreach campaigns.
- Provided seafood retail inspections in all 82 counties, thus reducing recreationally sold fish species and ensuring validated seafood is entering the public sector.
- Protected our nation's borders by providing numerous hours of Homeland Security Patrols and participating in several federal investigations.
- Worked several complex criminal cases with local, state and federal partners.
- Increased efficiency of law enforcement information and more efficient Public Service by establishing a Records
- Management System (RMS) and Computer Aided Dispatch (CAD).



◀ Marine Patrol officer performing a courtesy boat check for the Anti-Marine Litter campaign.



answered and initiated
27,716
 CALLS FOR SERVICE



processed
24 PUBLIC
 RECORDS REQUESTS

**OFFICERS and/or
 STAFF MEMBERS**

– participated in –

1,662

HOURS OF TRAINING

*at a variety
 of schools.*



THE MARINE PATROL RESERVE UNIT

supported the agency's objectives by contributing

1,426 NON-COMPENSATED MAN HOURS

assisting with regular patrols and marine events



responded to

34

VESSEL ACCIDENTS
 five resulting in injuries



4

responded to

DROWNINGS

due to a vessel accident or
 other water-related incident

**THESE PATROLS RESULTED IN THE FOLLOWING
 NUMBERS FOR CITATIONS AND WARNINGS:**

535	Fisheries Violations
170	Boating and Water Safety Violations
9	Boating Under the Influence (BUI)
5	Wetlands Violations
47	Miscellaneous Violations
341	Courtesy Citations
9	Marine Litter Citations

NOTABLE FISHERIES VIOLATIONS:

4	Possession of Red Snapper in a closed season
5	Possession of undersized Red Snapper
128	Red Snapper seized for no Tails N' Scales
30	Failure to register for Tails N' Scales
33	Possession of undersized Spotted Seatrout
32	Undersized Red Drum

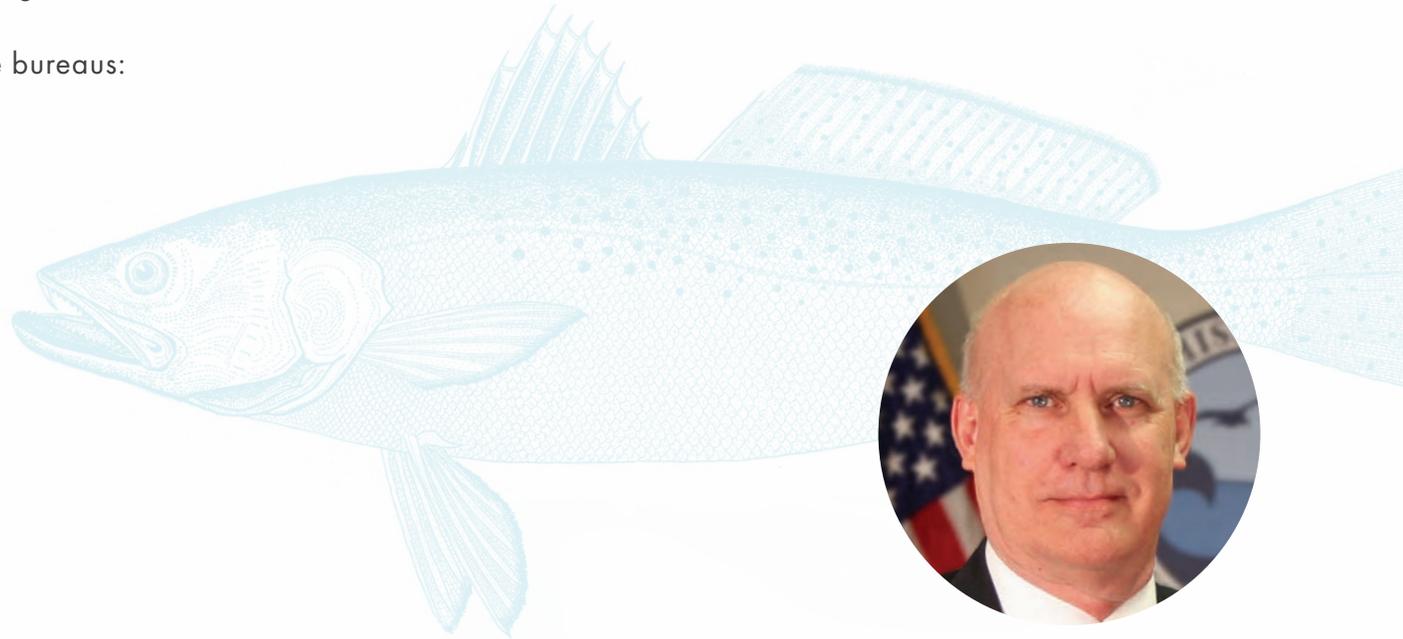


MARINE FISHERIES

The Office of Marine Fisheries provides for the effective management of the state's commercial and recreational marine fisheries, including oysters, shrimp, crabs and finfish. It includes conservation and overall management of marine resources through research and data collection as modified by relevant social, economic and biological factors. Marine Fisheries uses the most appropriate methods for management, including but not limited to, regulating harvesting, habitat enhancement, water quality monitoring for molluscan shellfish harvesting, setting of catch limits and seasons and seafood safety inspections of processing and distribution facilities.

Marine Fisheries is comprised of these bureaus:

- Artificial Reef
- Finfish
- Seafood Technology
- Shellfish
- Shrimp and Crab



Joe Jewell
Director

GOALS:

- Use 2011 Bonnet Carré Emergency Disaster Recovery Program funds to monitor and assist the recovery of Mississippi's commercial and recreational oyster and blue crab fisheries.
- Expand the National Fish and Wildlife Foundation grant to include Mississippi-protected species coordination with our federal, state and non-governmental organization partners through a new protected species coordinator position.
- Design and initiate projects for the collection and analysis of data required for population dynamics estimates and other projects related to fisheries management.
- Develop scientifically based management recommendations.
- Provide information transfer and liaison activities with regional fisheries management entities and other state and federal partners.
- Provide technical support to the Mississippi Commission on Marine Resources in developing fishery management plans, regulatory amendments, stock assessments, regulations and technical analysis.
- Provide representatives to serve on fisheries-related boards, committees, task forces and panels, as are required.

ACCOMPLISHMENTS:

- Published public notices for opening and closing of the commercial seasons for shrimp, oysters, Spotted Seatrout, Flounder, Red Snapper, Grouper, Red Drum and large coastal sharks.
- Served on regional management committees of the Gulf States Marine Fisheries Commission (GSMFC), including Artificial Reef Task Force, Menhaden Advisory Committee, White Trout Fishery Task Force, Blue Crab Task Force, Fisheries Information Network Committee, Data Management and Recreational Fishery Subcommittees, Technical Coordinating Committee, Gulf and South Atlantic Resource Partnership and the State/Federal Fisheries Management Board. Marine Fisheries personnel also served on the Gulf of Mexico Fishery Management Council, as well as their Red Drum and shrimp committees.
- Initiated the Harmful Algal Bloom (HAB) Response Team.
- Incorporated the Off-bottom Aquaculture Program into the Shellfish Bureau.
- Installed a Protected Species Coordinator through the National Fish and Wildlife Foundation (NFWF).
- Enhanced monitoring in response to the historic twice opening in one year of the Bonnet Carré Spillway, including collection of additional hydrological data, water samples for toxin analysis, seafood tissue samples and decreased landings observations.



▲ Concrete culverts at the staging site.



▲ Tagged juvenile Red Snapper from MDMR's sampling.

ARTIFICIAL REEF

Director: Travis Williams



The Artificial Reef Bureau is responsible for artificial reef development in Mississippi's marine waters and adjacent federal waters. Reef sites that are properly located, constructed and managed can enhance the marine habitat for associated important sport fishes and other organisms. Currently there are 67 inshore reefs, 15 offshore reefs encompassing 16,000 acres of water bottom and eight rigs-to-reef sites that enhance and support important marine species. Reefs are built with concrete rubble, steel-hull vessels (including barges), crushed limestone, Florida Limestone Pyramids and Reef Balls. They can range in size from eight -10,000 acres.

GOALS:

- Develop and enhance nearshore and offshore reef habitats in accordance with Mississippi's Artificial Reef Plan.
- Provide the MDMR web administrator with updated coordinates of reef material, reef orientation, maps and charts so the website can be updated and maintained for the fishing community to access.
- Within the framework of Mississippi's Artificial Reef Plan, identify areas conducive to artificial reef development and enhancement - both nearshore and offshore.
- Monitor artificial reef development in Mississippi's marine waters and adjacent federal waters.
- Pursue federal permits for two offshore artificial reefs.

ACCOMPLISHMENTS:

CAPTURED, TAGGED AND RELEASED

38 Red Snapper

1 Gag Grouper



33 LIONFISH
removed from the reefs
during the second annual
**JIMMY SANDERS MEMORIAL
LIONFISH CHALLENGE**



ACQUIRED HABITAT FOR FUTURE DEPLOYMENT
98 loads **2,116** pieces **3** companies



FINFISH BUREAU

Director: Matt Hill



The Finfish Bureau monitors finfish populations in state waters and adjacent federal waters and provides scientific information, including biological life history and catch statistics, for commercial and recreational finfish for effective management and the recently NOAA-certified Tails N' Scales electronic reporting system.

GOALS:

- Monitor finfish populations through two independent sampling methods: Inter-jurisdictional and Fisheries Assessment and Monitoring (IJ-FAM).
- Develop and coordinate, with other state and federal agencies, independent projects on ecological requirements and biological life history information on recreationally and ecologically important finfish species. These projects include Sport Fish studies and Sport Fish tag and release in conjunction with the Gulf Coast Research Laboratory (GCRL).
- Conserve and revitalize marine finfish and supporting habitats within optimal levels using relevant social, economic and biological factors.
- Provide scientific information, including biological life history and catch statistics, for commercial and recreational finfish for effective management.

ACCOMPLISHMENTS:

- Provided management information through an ongoing commercial fisheries statistics program. Data is collected monthly from dealers' reported catch.
- Collected catch and effort information on the recreational sector in cooperation with the GSMFC through monthly MRIP surveys.
- Continued to collect data on Red Snapper harvest and angler effort for the 2018 and 2019 recreational Red Snapper seasons.
- Collected fishery independent data on finfish populations through a combination of gill net and trawl samples in Mississippi's major estuaries and bays.
- Developed several projects in cooperation with University of Southern Mississippi Gulf Coast Research Laboratory (GCRL) to obtain information on life history parameters and essential fish habitat of recreational important finfish.
- Worked on a multi-year grant through NFWF to assess reef fish species in conjunction with GCRL.
- Partnered with GCRL for a Sport Fish Studies program in Mississippi coastal waters. Monitored Spotted Seatrout, Red Drum and shark species.
- Partnered with GCRL for a Sport Fish Tag and Release program for Cobia, Tripletail, Red Drum and Spotted Seatrout.



FISHERY SAMPLING: DEPENDENT

TRIP TICKET GOALS:

- Collect commercial fisheries landings and catch data for Mississippi in a timely manner.
- Continue the trip-ticket program for all fisheries in which dealers and/or fishermen submit paper or electronic trip tickets on a monthly basis. Data are then scanned into a database and transferred to the GSMFC Finfish Information Network.
- Implement a trip-ticket program for all fisheries.

ACCOMPLISHMENTS:

- Collected, processed and submitted fisheries landings data to the National Marine Fisheries Service (NMFS) in accordance with established data handling procedures. Fisheries landings data are an important part of the management process, both as an indicator of potential population changes and as a gauge of success of existing fisheries regulations and practices.
- Collected biological data for selected commercially important finfish species from the major seafood dealers along the Mississippi Gulf Coast. The information is used in the development of various fishery management plans at the state and regional levels.
- Collected information on select pelagic and reef fish species. This information is submitted to NMFS for inclusion in its Trip Information System. Both state and federal fisheries managers use this data to properly manage these valuable resources.

MARINE RECREATIONAL INFORMATION PROGRAM GOALS:

- Conduct MRIP surveys in Mississippi for shore, charter and private fishing modes
- Provide a timely and reliable database on marine recreational fishing activity.
- Identify notable changes in recreational catch and effort trends.
- Collect biological information on selected recreational important finfish species.
- Evaluate the long-term implications of management measures.

ACCOMPLISHMENTS:

- Collected recreational fisheries information daily through surveying more than 2,400 recreational fishermen. The information gathered from the survey provides a continuous standardized database of marine recreational catch, effort and participation.
- Conducted weekly telephone interviews of charter boat operators in Mississippi to obtain more precise fishing effort estimates for the for-hire sector.

TAILS N' SCALES

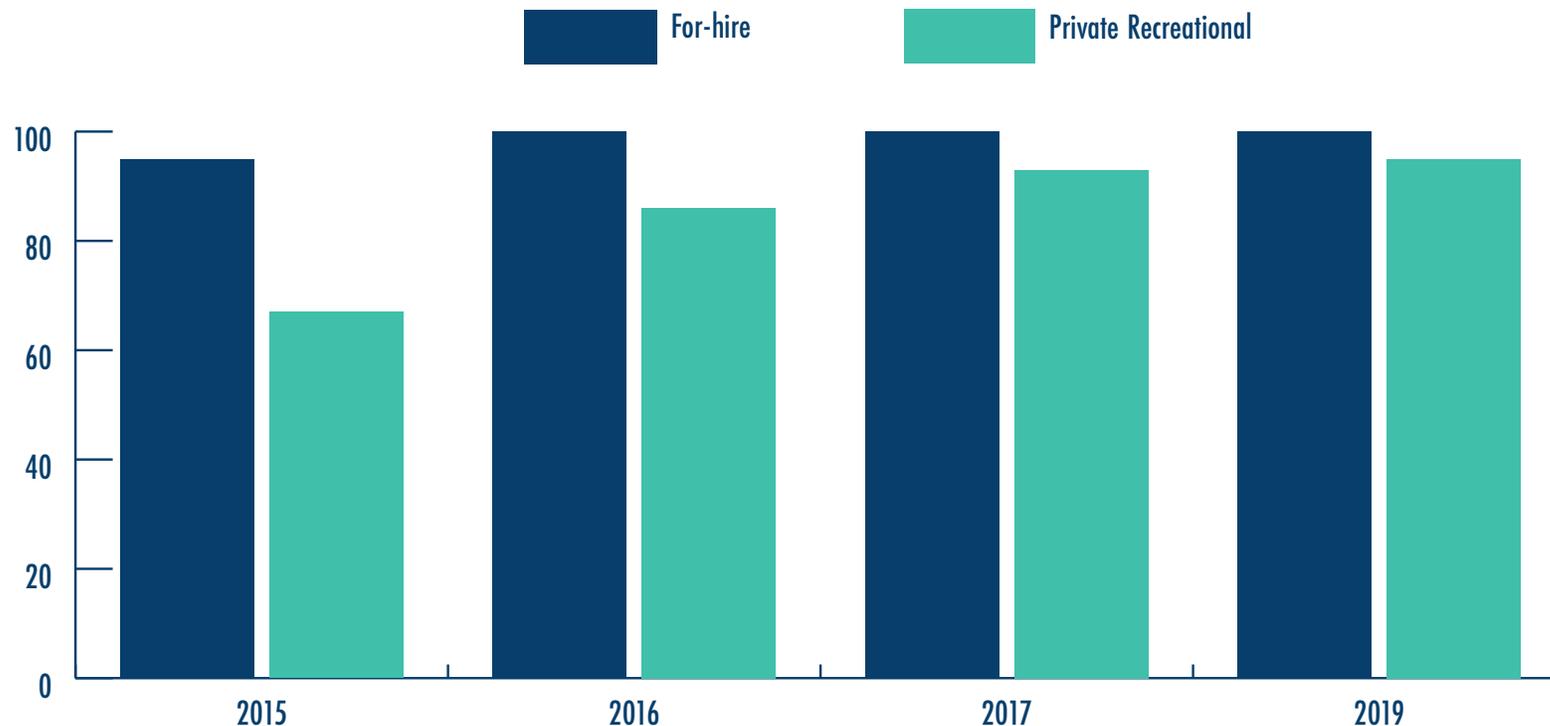
GOALS:

- Continue to collect recreational Red Snapper harvest and effort data through MDMR's electronic application.
- Continue to improve functionality and ease-of-use for angler reporting along with adding new features to capture data on Red Snapper discards.

ACCOMPLISHMENTS:

- Tails n' Scales completed the certification process and became the second program to have its survey design accepted by NOAA Fisheries following Louisiana. The reporting system was officially certified by NOAA in June of 2018.
- The 2019 Red Snapper season was managed through the second year of an Exempted Fishing Permit for State Management of Red Snapper. Anglers participated in a 79-day private recreational and 20-day state for-hire season, which resulted in the harvest of 150,279 lbs of Red Snapper. This overall harvest represented 99.1% of Mississippi's 2019 allocation.
- Current trip compliance rates for the private recreational and for-hire sectors are 95 percent and 100 percent, respectively. Observed increases in compliance in the private recreational and charter for-hire sectors illustrates the increasing success of the program, along with the precision of harvest estimates.

– TAILS N' SCALES REPORTING COMPLIANCE –



FISHERY SAMPLING: INDEPENDENT

INTERJURISDICTIONAL FISHERIES ASSESSMENT AND MONITORING GOALS:

- Monitor finfish populations through fishery-independent sampling methods.
- Collect data to maintain a consistent database for the monitoring of the relative abundance and size distribution of the finfish populations in coastal Mississippi waters.
- Collect hydrological and climatological data at sampling stations.

ACCOMPLISHMENTS:

- Each month, eight stations are sampled, including four fixed sites (Pascagoula and Pearl River) and four randomly selected sites within the Grand Bay National Estuarine Research Reserve, Biloxi Back Bay, St. Louis Bay and the Pascagoula River.
- All data collected during these surveys are vital to the management of multiple recreational and commercial important species, as this survey provides estimates of length-at-age, sex ratios and indices of abundance.

RED DRUM ASSESSMENT

GOALS:

- Target and obtain data on Red Drum between three and five years old to develop an accurate escapement rate as well as an age/length key.
- Collect supplementary samples of Red Drum from the for-hire charter industry and cooperating recreational fishermen.
- Design and implement an acoustic telemetry project to track the movements of Red Drum in the Biloxi Bay area.

ACCOMPLISHMENTS:

- Collected 48 Red Drum samples throughout the year from gill nets, recreational anglers and for-hire charter captains. These samples help fisheries scientists better understand length-at-age and age-at-maturity of Red Drum.
- Expanded the acoustic telemetry array, which consists of 35 acoustic receivers within the project area. The acoustic receivers continue to detect tagged Red Drum that are within the detection range.

CURRENTLY 81 RED DRUM HAVE BEEN TAGGED WITH BLUE EXTERNAL DART TAGS AND INTERNAL ACOUSTIC TRANSMITTERS.

The Finfish Bureau continued tagging Red Drum through April 2019.



SALTWATER STATE RECORDS



JUNE 30, 2018

TIGER SHARK 675 lbs.
Michael Garrett



JUNE 30, 2018

RED DRUM 26 lbs. 8 oz.
Margaret Schindler (youth)



JULY 5, 2018

STRIPED BURRFISH 1 lb. 5.62 oz.
Kyson Blocker (youth)



SEPTEMBER 17, 2018

GULF FLOUNDER 1 lb. 7.68 oz
Kevin Sikes



MARCH 2, 2019

SAND PERCH 2.4 oz.
Julien Barr



AUGUST 8, 2018

GULF KINGFISH 1 lb. 8.72 oz.
Reagan McGarvey (youth)



AUGUST 11, 2018

INSHORE LIZARDFISH 5.50 oz.
Brennan Sanders



SEPTEMBER 15, 2018

LOWFIN POMFRET 4.37 oz.
Junie Creel



MAY 24, 2019

RED DRUM 8 lbs. 13.6 oz.
Sam Bullen (youth)



MAY 28, 2019

GRAY SNAPPER 11 lbs. 15.2 oz.
Hudson Havard (youth)

SEAFOOD TECHNOLOGY BUREAU

Director: Ruth Alviola-Posadas



The Seafood Technology Bureau is the regulatory authority for Mississippi's seafood industry and ensures that commercial seafood is processed and prepared safely for the consumer market.

GOALS:

- Conduct regulatory inspections of shellfish processing and transporting facilities to determine compliance with state and federal sanitation and health safety regulations.
- Ensure that suitable sanitary conditions exist for processing and distributing seafood in Mississippi.
- Assist the seafood industry in compliance with sanitation rules and regulations and provide technical assistance to the Mississippi seafood industry.
- 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 provide added value, new markets, employment opportunities and economic enhancement for the seafood industry.
- Provide technical advice to those interested in aquaculture and aid in expanding economic and employment opportunities.
- Provide technical expertise in investigating reports of food-borne illness and certifying product recalls and embargoes according to state and federal instituted protocols and procedures.
- Undertake research projects in line with seafood technical surveys, seafood safety education and sanitation training in line with the goals of the Mississippi seafood industry to disseminate information and educate consumers and food handlers in the seafood industry.
- Provide advice and technical support for the Mississippi Department of Agriculture and Commerce regarding aquaculture regulatory matters.



▲ Seafood Officer Jessica Rankin conducting a quarterly inspection with a seafood dealer.



▲ Marine Fisheries Technician Mai Dang interacting with a student at Capitol Day in Jackson, MS.



▲ HACCP class instructed by Biological Program Coordinator Jeff Davis and Seafood Officer Jessica Rankin

ACCOMPLISHMENTS:

- Seafood officers conducted four Basic Seafood Hazard Analysis and Critical Control Point (HACCP) training workshops with a total of 64 students. The workshops are made possible through a grant from the Mississippi Tidelands Trust Fund Program. The workshops are free to all Mississippi residents.
- Responded to 3,062 technical assistance requests from the public, seafood industry and other state and federal agencies.
- MDMR Seafood Officer Jessica Rankin completed her certification for Certified Supervisory Management under the Certified Public Manager's training program.
- Collaborated with three other states that are members of the Interstate Shellfish Sanitation Conference to pilot the voluntary national shellfish regulatory program standards – plant sanitation.

– 10-YEAR DATA RESEARCH PROJECT RESULTS – *Certified processors in the seafood industry in Mississippi*



– 63 TOTAL SEAFOOD SANITATION/ PROCESSING CERTIFICATES – *These 63 permits represent 448 inspected seafood units.*



SHELLFISH BUREAU

Director: Erik Broussard

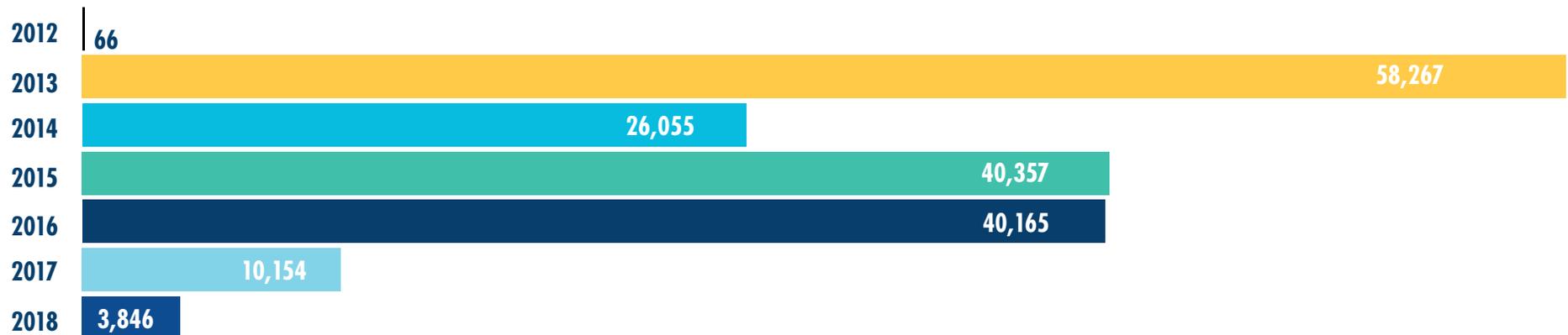


The Shellfish Bureau manages and enhances Mississippi's marine shellfish resources. This bureau also maintains compliance with the Interstate Shellfish Sanitation Conference's National Shellfish Sanitation Program (ISSC/NSSP) Model Ordinance requirements for shellfish-growing waters.

GOALS:

- Maintain program compliance with the NSSP to allow the safe harvest of oysters from Mississippi waters.
- Map and survey public oyster reefs for potential cultivation and cultch planting sites.
- Collect water samples in all oyster reef areas and analyze them for fecal coliform content.
- Classify oyster-growing areas using data collected from water samples.
- Use state resources to cultivate oyster reefs as needed.
- Deploy cultch materials to restore public oyster reefs.
- Deposit oyster cultch material.
- Complete annual assessment of health and status of public oyster reefs.
- Work with other agencies to improve water quality.
- Educate oyster harvesters and the public on shellfish issues, oyster handling and regulations involving harvesting practices.

– MISSISSIPPI OYSTER LANDING (SACKS) –



ACCOMPLISHMENTS:

- 35,227 cubic yards of oyster cultch materials deployed across 307 acres of oyster reef:
 - 126 acres in western MS Sound during fall 2018, and 181 acres in the eastern MS Sound during summer 2019
 - 10,009 cubic yards of oyster shell
 - 25,218 cubic yards of limestone
- RV Conservationist restored approximately 17 acres of historic oyster reef in Biloxi Bay.
- Trained and certified 197 oyster license holders in basic oyster handling, hygiene and regulations involving harvesting practices.
- Collected 182 one-minute dredge tow oyster samples to monitor oyster mortality in response to Bonnet Carré Spillway openings.
- Completed Food & Drug Administration dye study evaluating impact of wastewater discharge from Keegan Bayou Wastewater Treatment Plant into Biloxi Bay shellfish growing areas.
- Completed 1,700 water samples for fecal coliform analysis.
- 2018 MS Oyster Gardening Program participants produced 37,431 seed oysters that were dispersed to enhance wild oyster reefs.



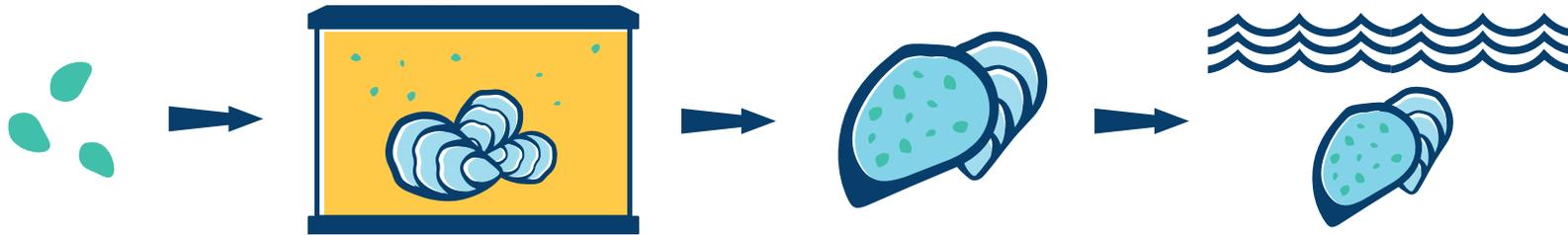
- ▲ Wastewater Discharge Study from Keegan's Bayou
- ◀ Ocean Springs High School Aquaculture student participants

OYSTER AQUACULTURE

The oyster industry is an integral part of the Mississippi Gulf Coast – its economy, its history and its culture. It has suffered greatly because of several natural and man-made disasters since 2005, including Hurricane Katrina, the BP Oil spill and three separate openings of the Bonnet Carré Spillway (2008, 2011 and 2016). In 2004, oyster fishermen in Mississippi harvested nearly 500,000 sacks of oysters. In 2012, there were 66 sacks harvested, and in 2016, about 40,000 sacks were harvested. Gov. Phil Bryant created the Governor’s Oyster Council on Restoration and Resiliency in 2015 to address the problems this industry faces and to come up with solutions. These solutions include a remote-setting facility at the Port of Gulfport and oyster aquaculture training programs.

PORT OF GULFPORT REMOTE SETTING FACILITY

Remote setting is a method of producing oysters that differs from natural oyster production. It is the production of oyster spat by setting hatchery-reared larvae onto cultch (hard material for oyster larvae to attach, typically shell, crushed concrete or limestone) at a remote location from the hatchery. Spat are then planted on-bottom or off-bottom.



GOALS:

- Assist in increasing the production of the natural oyster reefs along the Mississippi Gulf Coast.
- Continue to test and experiment various methods to determine the feasibility of building a large scale remote setting facility.

ACCOMPLISHMENTS:

- During FY19, MDMR set oysters in four 2,600-gallon tanks at the Port of Gulfport. During its third year of operation, MDMR worked with the University of Southern Mississippi to set oysters from their high density production system.



OFF-BOTTOM OYSTER AQUACULTURE TRAINING PROGRAM

The oyster industry along the Mississippi Sound currently is limited to harvestable reefs; however, the number of oysters available for harvest has decreased in the past decade, which has limited the number of oystermen and fishermen engaged in this economic sector.

MDMR WAS AWARDED A RESTORE ACT GRANT FOR THE DEVELOPMENT OF AN OFF-BOTTOM OYSTER AQUACULTURE TRAINING PROGRAM. THE PROGRAM IS SET UP IN TWO PHASES THAT OCCUR OVER A TWO-YEAR PERIOD.

PHASE 1	Includes classroom and field education on aquaculture, business operations and demonstrations of off-bottom aquaculture techniques. Participants attend training meetings, workshops, received assistance with development of a business plan, deployed grow-out systems at training site(s) and stocked those systems with seed.
PHASE 2	Incorporates hands-on training by allowing participants to select an oyster-growing technique from the range of permitted methods using information gained from phase one. Participants maintain their assigned gear and oyster seed, including all aspects of fouling control, grading, splitting and site maintenance following best management practices. Instructors and participants will periodically evaluate oyster survival, growth and quality, as well as comparing individual success among program participants to facilitate collaborative learning.

If all requirements are completed, the participants will be eligible to sublease two acres from the MDMR to begin their own off-bottom oyster aquaculture business.

GOALS:

- Diversify the oyster industry by training oystermen and fishermen in off-bottom aquaculture to support and grow the oyster industry and the overall Mississippi economy.
- MDMR expects the program to create 30 new jobs in the off-bottom field after completing the first year.

ACCOMPLISHMENTS:

- MDMR trained coastal residents in the techniques of off-bottom oyster aquaculture. The training program addressed all aspects of off-bottom oyster farming appropriate to the local/regional area with the capability of training and accrediting up to 20 participants per year.
- The program included classroom and field education on aquaculture, business operations and demonstrations of off-bottom aquaculture techniques.
- First year participants completed all required tasks, leased a total of 27 acres in the MDMR Commercial Aquaculture Park and started private businesses to begin selling off-bottom oysters.
- The first harvest was on April 9 with a total of 13,000 oysters harvested before the Bonne Carré Spillway opened.
- MDMR began training the second Off-Bottom Oyster Aquaculture class on March 16 which has 21 participants enrolled.
- Second year participants completed classroom training and began field training on August 3.
- MDMR submitted a 132-acre Deer Island expansion permit to allow for additional private leases because of the interest and growth in the program.

SHRIMP AND CRAB BUREAU

Director: Jason Saucier



The Shrimp and Crab bureau conserves and revitalizes Mississippi's shrimp and crab resource and supports habitat to ensure balanced and sustained use. It maintains stewardship of living marine resources for commercial and recreational fisheries at optimal levels as modified by social, economic and biological factors.

GOALS:

- Manage the state's commercial and recreational shrimp and crab fisheries and work with other state agencies, as well as regional and federal fishery management authorities.
- Monitor and assess the shrimp and crab fisheries; coordinate the Mississippi Crab Task Force; issue Scientific Collection Permits; inspect and report on the live-bait shrimp industry; coordinate grants with the U.S. Fish and Wildlife Service (USFWS), the Interjurisdictional Fisheries Monitoring Program, the Derelict Crab Trap Removal Program and the Mississippi Bonnet Carré Fisheries Disaster Recovery Program for the Oyster and Blue Crab Fisheries from NOAA Fisheries.
- Set the seasons, gear regulations and implementation of other related management measures as required.
- Work cooperatively with federal agencies, including NMFS, USFWS, GSMFC, Gulf of Mexico Fisheries Management Council and the U.S. Geological Survey. Cooperating state agencies include GCRL, MDEQ, MDWFP and the Mississippi State University Coastal Research and Extension Center, as well as neighboring state marine resource management agencies and the Institute for Marine Mammal Studies.

ACCOMPLISHMENTS:

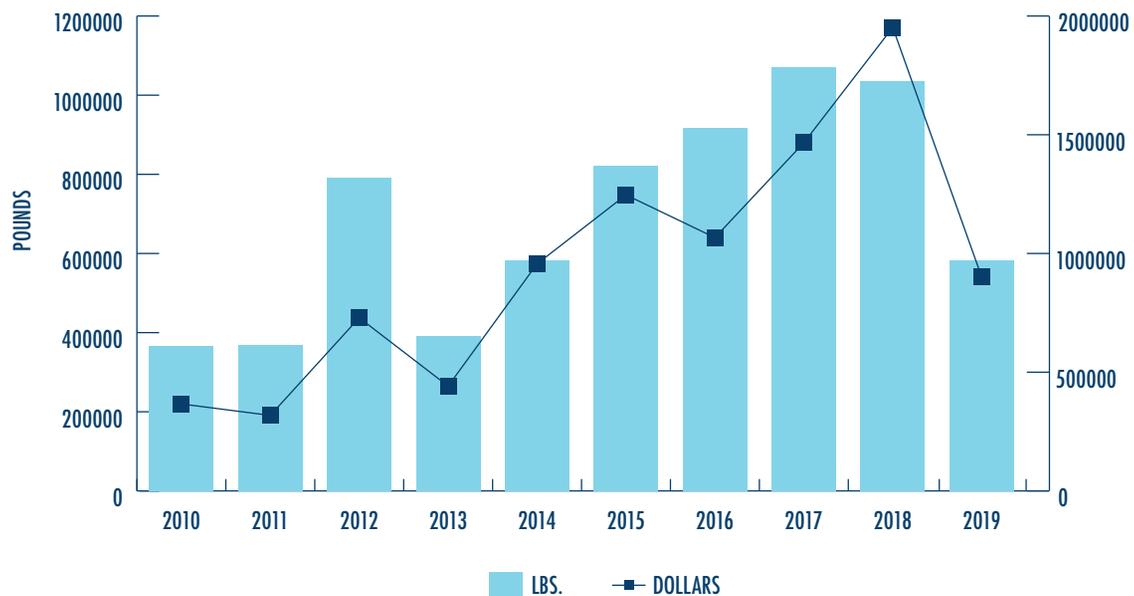
- Collected 404 trawl samples as part of the fishery independent shrimp monitoring, interjurisdictional fisheries monitoring program, and Bonnet Carré Spillway 2019 opening monitoring juvenile finfish and invertebrate trawl sampling program.
- Operated the Real-Time Hydrological Monitoring program at 11 stations in Mississippi waters and adjacent tributaries. The data is updated in 15-minute intervals and is available to the public and resource managers at dmr.ms.gov.
- Coordinated the USFWS Sport Fish Restoration Grants. Current projects include Mississippi Artificial Reef Program, Mississippi Coastal Sport Fish Studies, Sport Fish Tag and Release in Mississippi Coastal Waters and Adjacent Gulf of Mexico, Assessment of Migratory Behavior and Habitat Utilization of Sport Fish in Mississippi Coastal Waters and the Gulf of Mexico and Assessment of Red Drum Stock in Mississippi Coastal Waters.
- Continued the Mississippi Crab Task Force to encourage the various marine resource user groups to provide input and voice concerns on fishery management and research activities. The task force has worked in the ongoing efforts and coordination of the Derelict Crab Trap Removal Program, the recommendation of regulatory actions and the fisheries monitoring programs.
- Completed a public derelict crab trap cleanup in February 2019 which resulted in the recovery and recycling of 267 derelict traps. *(See photos on right)*



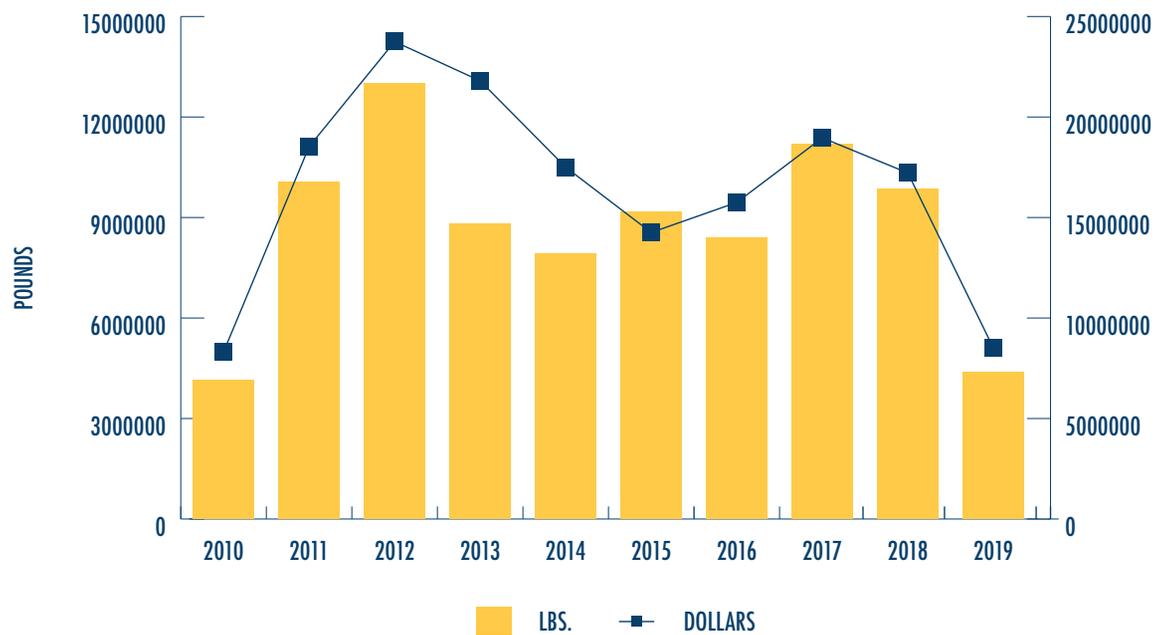
Conducted **36 CRAB TRAP SURVEYS** consisting of **162 INDIVIDUAL TRAPS**
in St. Louis Bay, Back Bay of Biloxi and the lower Pascagoula River to collect pertinent
catch-per-unit-effort (CPUE), sex, maturity and bycatch data on the recreational blue crab fishery



- MS BLUE CRAB LANDINGS -



- HEAD ON ALL SHRIMP SPECIES LANDINGS -





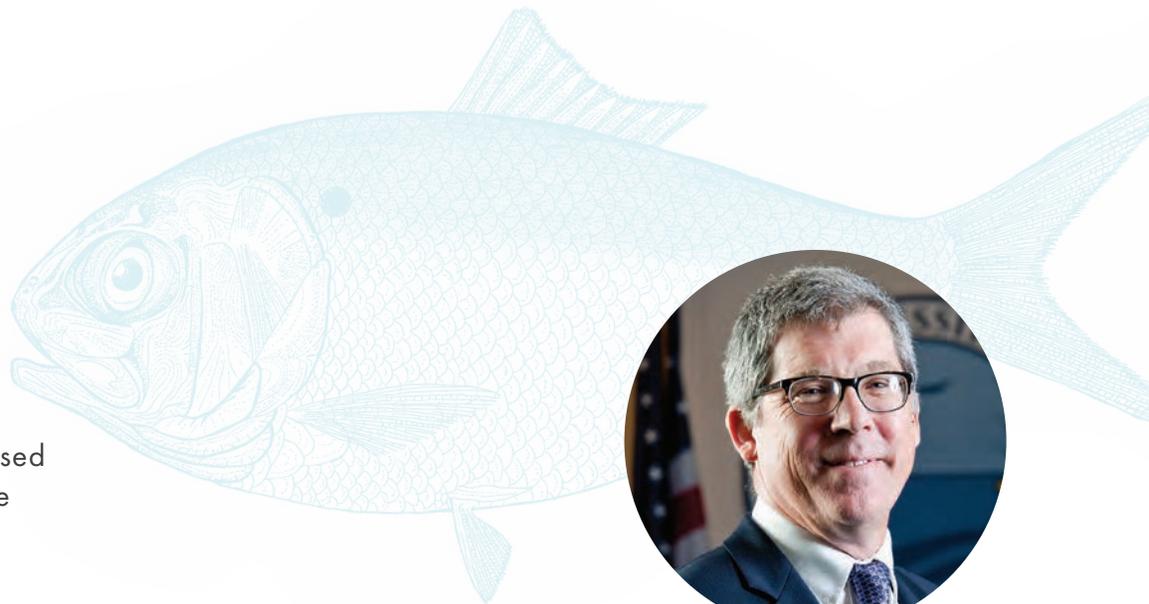
COASTAL RESTORATION & RESILIENCY

The Office of Coastal Restoration and Resiliency was established by the Mississippi Legislature in 2014. Its primary purpose is to develop a long-range, multi-state strategy to restore Mississippi coastal resources and to provide for healthy and resilient communities and economies in the coastal area.

It is comprised of the following programs:

- Mississippi Gulf Coast National Heritage Area
- Restoration Coordination Team
- Coast-wide Restoration Planning
- Boating Infrastructure
- Clean Vessel Act
- Boat Access
- Gulf of Mexico Alliance

The office also collaborates with other agencies in Alabama and Louisiana, as well as federal agencies and non-governmental organizations. These partnerships work to assist with the planning, permitting and implementation of major coastal restoration projects focused on habitat, fisheries and structural or physically protective resiliency projects.



George Ramseur
Director



GOALS:

- Build capacity of state and local governments to better manage and protect coastal communities and marine resources for Mississippi.
- Promote the understanding of coastal risks and the availability of resiliency and restoration tools that support local, regional, national and international efforts related to protecting and/or improving cultural, natural and water resources along with the economic health within the Gulf of Mexico.
- Promote the acquisition, adaptation, use of habitat assessment data, mitigation and restoration as strategies to preserve heritage, conserve natural resources and support economic viability of the coast.
- Improve public familiarity with cultural and habitat resources, such as living shorelines in coastal communities, better communication about habitat restoration, water quality and storm-water management.
- Continue the development of Coast-wide Restoration Planning by gathering data, maximizing resources and pursuing funding and partnership opportunities.
- Continue to build relationships with the U.S. Army Corps of Engineers, Mobile District and their MS Coastal Improvements Program Barrier Island Project in the development of long-term maintenance and new restoration options for Mississippi's primary barrier system. Assessment, management and restoration of this barrier are key to us reaching our goals for longterm fisheries resources and resiliency.

ACCOMPLISHMENTS:

- Now more than two and one-half years after initial construction ceased, terrestrial and marine habitats at Round Island continue to flourish. Marsh plantings from the last year have merged seamlessly with infilling volunteer plants to create increasingly natural-looking landscapes as seen in these photographs taken from an MDMR unmanned aerial vehicle during a 2019 Chevron Pascagoula Exercise.
- New partnering opportunities with the United States Geologic Survey aimed at expanding state and federal data capacity in the Mississippi Sound and adjoining waters helped assess potential effects of Bonnet Carré Spillway openings, harmful algal blooms and other human caused or natural factors affecting our water quality and resources.



COAST-WIDE RESTORATION PLANNING

This ongoing process seeks to better define the functional limits of our coastal estuary system and evaluate its health and productivity into the future. It broadens the focus beyond the Mississippi Sound to what is now defined as the Louisiana, Mississippi, Alabama Coastal System (LMACS). Objectives supported by the LMACS include the development of data and modeling to thoroughly assess the system and evaluate restoration concepts and strategies. The LMACS will give Mississippi leverage to maximum benefits from collaborative restoration actions with adjoining states.

RESTORATION COORDINATION TEAM

This team consists of MDMR and MDEQ employees who coordinate the implementation of restoration projects with funds from the BP oil disaster. Revenue streams include RESTORE, Natural Resource Damage Assessment and National Fish and Wildlife Foundation.

BOAT ACCESS PROGRAM

This program provides funds to coastal entities for the installation and renovation of boat ramps and kayak launches.

BOATING ACCESS GRANT PROGRAM

This program provides funding for the construction, renovation and maintenance of public and private boating infrastructure, such as piers and boat docks. This innovative campaign provides transient boaters with unique access to Mississippi waterways.

ACCOMPLISHMENTS:

- Received a \$254,000 grant to improve and renovate the transient boat docks at the Bayou Talla Boat Ramp in Hancock County.

CLEAN VESSEL ACT

The Act provides funds throughout the state to harbors and marinas to install pump-out stations at their facilities.

ACCOMPLISHMENTS:

- Completed the installation of two pump-out stations: Columbus \$13,000, Midway \$2,000 and Aqua Yacht \$12,000.

GULF OF MEXICO ALLIANCE

This is a partnership of the five Gulf States, formed with the goal of significantly increasing regional collaboration to enhance the ecological and economic health of the Gulf of Mexico. The Alliance identified the following initial priority issues: water quality; wetlands and coastal conservation and restoration; environmental education, identification and characterization of Gulf habitats; reducing nutrient inputs to coastal ecosystems and coastal community resiliency.

ACCOMPLISHMENTS:

serving on the planning committee for
**EMBRACE THE GULF
2020 CAMPAIGN**



MS HOMEOWNER'S HANDBOOK

— updated and reprinted for \$50,000 —

funded one
**GULF STAR
PROJECT** 
region-wide for a total of

\$60k

MISSISSIPPI GULF COAST NATIONAL HERITAGE AREA

The Mississippi Gulf Coast National Heritage Area Program (MGCNHA) is funded by the National Park Service and the State of Mississippi. It supports economic growth in the state's lower six counties by focusing on the natural, cultural and historical resources in the Mississippi Heritage Area.

GOALS:

- Promote the area's recreational and historical resources through activities and partnerships that celebrate the area's unique history, people, traditions and landscapes.
- Produce and distribute a quarterly newsletter and educational materials highlighting heritage-related events and projects.
- Promote Gulf Coast Outpost, a voluntary program that recognizes nature-based tourism businesses and gives them access to a business resource toolkit.
- Continue support of Whole Places, a fourth- and fifth-grade education curriculum centered around cultural and natural resource destinations.
- Continue managing the Charnley-Norwood House in Ocean Springs, a Louis Sullivan and Frank Lloyd Wright design.
- Complete projects from 17 grants totaling \$314,000.

ACCOMPLISHMENTS:

- Released the Nature-Based Tourism Management Plan for Coastal Mississippi and submitted a proposal for implementation through MDEQ.
- Established 39 National Park Service passport stamp locations within the Gulf Coast's Heritage Area.
- Certified nine nature-based businesses into the Gulf Coast Outpost program.
- Released the Blueways Design Guide to educate and encourage visitors and local residents to explore MGCNHA's 10 designated blueways.
- 2019 third place Gulf Guardian Award recipient for Nature-based Tourism Plan (New Blueways).
- Hosted five meetings at CNH for various agencies of community partners.



▲ Moran Site in Biloxi, MS

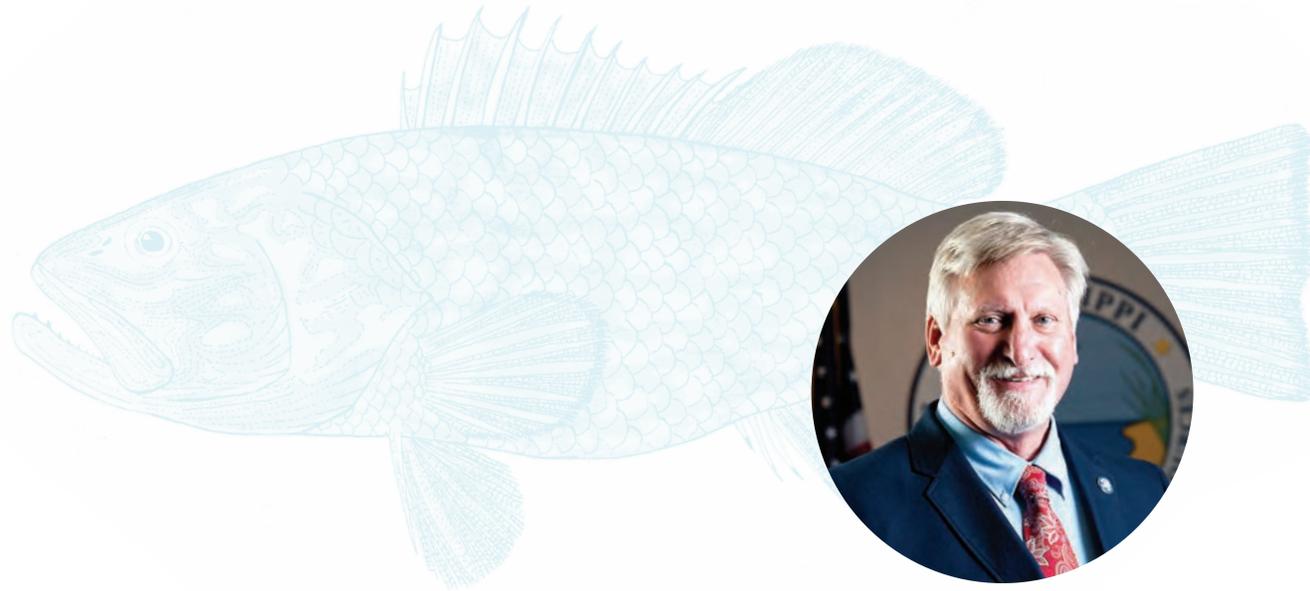


COASTAL RESOURCES MANAGEMENT

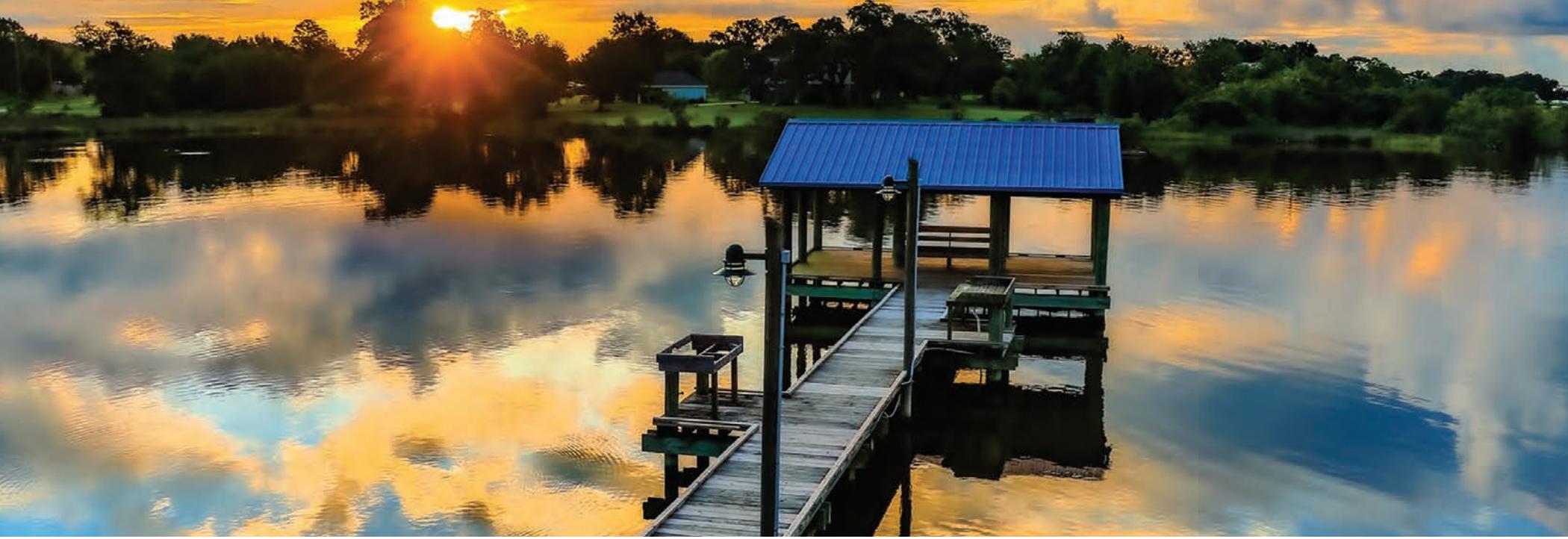
The Office of Coastal Resources Management (CRM) is responsible for implementing the Mississippi Coastal Program, which was mandated by the Legislature in Section 57-15-6 of the Mississippi Code of 1972 and approved by NOAA.

CRM also administers these programs:

- Coastal Preserves
- Wetlands Permitting
- Invasive Species
- Beneficial Use



Jan Boyd
Director



GOALS:

- Administer the regulatory program under the Coastal Wetlands Protection Act.
- Review proposed projects for Coastal Zone Consistency determinations in accordance with the Coastal Zone Management Act.
- Acquire, protect and manage Mississippi's remaining coastal wetlands ecosystems.
- Partner with the Secretary of State's Office to manage Coastal Preserves.

ACCOMPLISHMENTS:

- Developed a mapping portal to organize and display GIS layers from many different sources. Office staff and permit applicants can use this portal to view and interact with relevant spatial data.
- Staff participated in planning with MDEQ, other agencies and partners on potential projects funded through the RESTORE Act, the National Fish and Wildlife Foundation – Gulf Environmental Benefit Fund and the Natural Resource Damage Assessment to restore and protect our coastal environment.
- Partnered with USDA-APHIS to control feral hog populations on Coastal Preserves and with USDA Forest Service to produce local genotype slash pine seedlings for planting on Deer Island.
- Staff continues to conduct pre-application permit meetings. These meetings help applicants understand the federal and state regulations and contributes to a smoother, less time-consuming evaluation and permit process.

WETLANDS PERMITTING BUREAU

Director: Willa Brantley



The Wetlands Permitting Bureau handles wetlands permits in the Mississippi Coastal Zone, which includes Harrison, Hancock and Jackson counties. Staff issue these permits under a memorandum of agreement with the Mobile and Vicksburg districts of the U.S. Army Corps of Engineers.

GOALS:

- Provide information to the public about the Coastal Wetlands Protection Act.
- Evaluate applications for proposed coastal wetlands impacts and evaluate comments from state, federal and local agencies, as well as the public.
- Compile data to make evaluations if project requires a variance from the Guidelines for Regulated Activities or a change to the Coastal Wetlands Use Plan.
- Conduct pre-application meetings when necessary and review potential wetlands alterations before application is filed.
- Verify compliance of permitted activities and investigate potential wetlands violations, as well as recommend mitigation to compensate for wetlands loss.

ACCOMPLISHMENTS:

- Worked with a contractor to evaluate the current wetland permit application form and process to identify opportunities to streamline and simplify application for a wetland permit.
- Completed a significant portion of the design for a system to support an electronic application and fee payment process, both of which were popular suggestions from respondents in surveys conducted during the above mentioned evaluation. This system will also manage most of the workflow required by the application evaluation process, and is expected to result in reduced processing time, quicker permit issuance, more detailed and easier documentation and decreased stress for Permitting staff.
- Significant projects reviewed and authorized include restoration projects by the MS Department of Environmental Quality, beneficial use of dredged material projects by MDMR's Beneficial Use program, Sherman Canaan Commercial Harbor renovations by the City of Biloxi and a living shoreline creation project by the City of Ocean Springs. There were also two instances of tidal marsh vegetation destruction which were resolved by the restoration of affected vegetation.

740 PROJECTS WERE PROCESSED DURING FY2019:

40	Consistencies
5	Consistency Modifications
1	Consistency After-the-Fact
28	Direct Federal Consistencies
4	Direct Federal Consistency Modifications
1	Emergency Order
11	Exclusions
383	General Permits
39	General Permit Modifications
8	Permits
4	Permit Modifications
1	Permit After-the-Fact
3	Permit Extensions
63	Waivers
5	Waiver Modifications
3	Waiver Extensions
114	Reviews
27	Violations

COASTAL PRESERVES BUREAU

Director: Jennifer Wittmann



The Coastal Preserves Program (CPP) was developed in 1992 to acquire, protect and manage Mississippi's remaining coastal wetland ecosystems. The state has identified 20 Coastal Preserve sites of important coastal wetland habitat and associated uplands. Acquired lands are managed to safeguard and protect their natural characteristics, ecological integrity, environmental functions and economic and recreational values for the benefit of all Mississippi residents. The Mississippi Secretary of State's Office is an active partner in the program.

GOALS:

- Acquire land within the state's 20 Coastal Preserve areas.
- Protect sensitive coastal habitats.
- Coordinate biological surveys and assessments and develop individual Coastal Preserve management plans.
- Develop a public outreach and education program to increase public awareness and interest in Mississippi's coastal wetlands.
- Develop partnerships with federal, state and local agencies, and identify approaches to protection and restoration of wetlands along the Mississippi Gulf Coast.



▲ AIS staff conducting herbicide treatment on giant salvinia.



▲ Giant salvinia



▲ Prescribed burn at Ansley Unit

ACCOMPLISHMENTS:

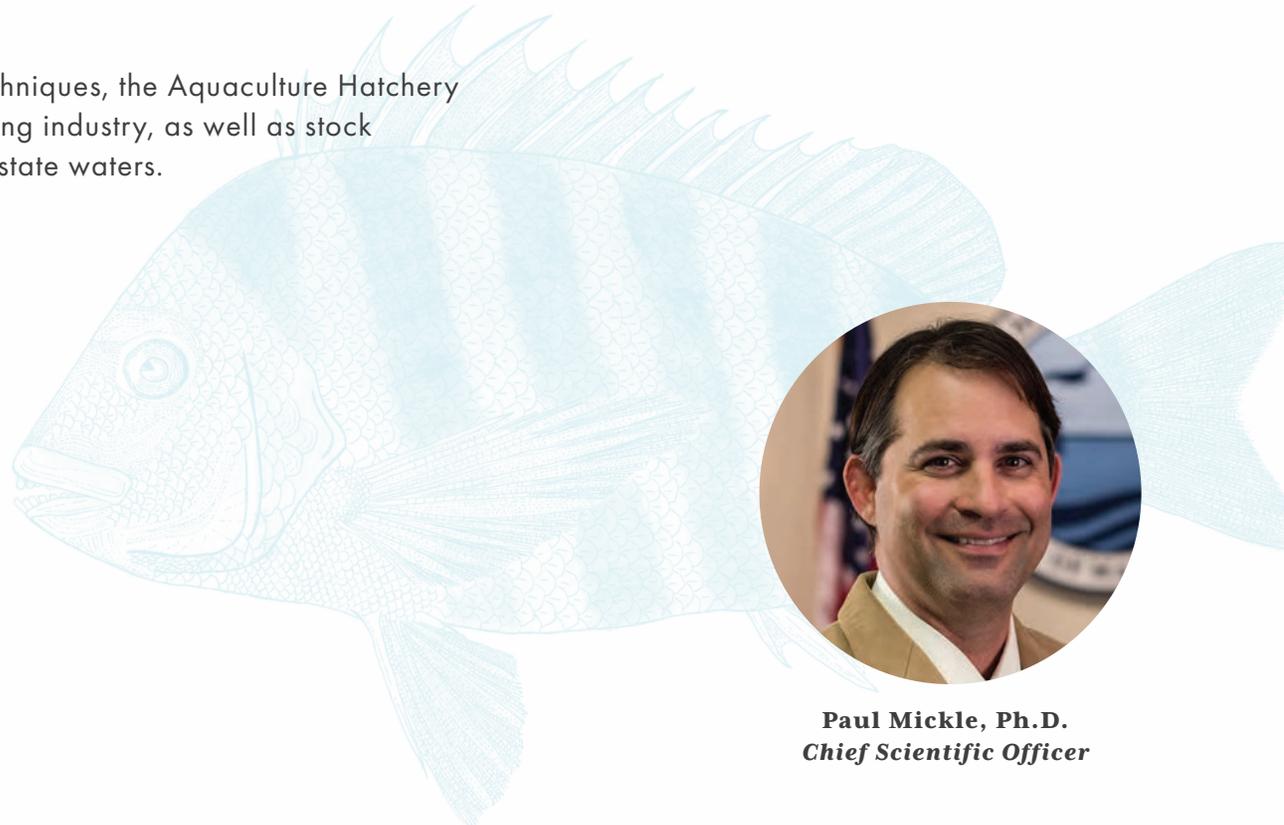
- Title 22, Part 19 was updated to include Rules and Regulations for use of state-owned Coastal Preserve Areas. The updates will allow for safe use of the state-owned Coastal Preserve Areas by all user groups.
- Aquatic Invasive Species (AIS) staff used boats and airplanes to search over 1,170 river miles for the presence of aquatic invasive species. Ongoing infestations of giant salvinia, common salvinia, water hyacinth and alligatorweed have been successfully managed using an Integrated Pest Management (IPM) approach employing previously-released biocontrol agents in conjunction with regular monitoring and targeted herbicide spot spraying.
- A total of 1,575 acres of Coastal Preserves property throughout the three coastal counties were treated for terrestrial invasive species under the NFWF Invasive Species Project.
- A prescribed burn was conducted on 80 acres at the Ansley Unit of the Hancock County Marsh Coastal Preserve in March. Following the burn, 1,000 longleaf pine seedlings were planted in the preserve.
- Staff also participated in six cooperative burns with the U.S. Fish & Wildlife Service Sandhill Crane National Wildlife Refuge.
- Coastal Preserves staff participated in the planning and implementation of the 2019 Earth Day Deer Island Clean-Up at where 80 volunteers removed approximately 1 ton of trash from the Deer Island.
- There were 28 Mississippi Diamondback Terrapins tagged with Passive Integrated Transponder (PIT) Tags and released at the Graveline Bay Coastal Preserve after one year of starting the pilot project. Staff also released five Mississippi Diamondback Terrapins at the Wolf River Coastal Preserve after they were rescued from a swimming pool in the area and cared for by the Central Mississippi Turtle Rescue during the winter months.
- Total acreage as of June 30, 2019, is 41,770 acres of state-owned lands managed by the Coastal Preserves Program. In addition to the state-owned lands within the coastal preserve boundaries, the U.S. Fish & Wildlife Service manages 3,300 acres at the Grand Bay National Wildlife Refuge. The National Park Service, Gulf Islands National Seashore manages 6,486 acres within Cat, Ship, Horn and Petit Bois islands. Collectively, this includes 51,256 acres (71%) of the 72,000 acres proposed for acquisition in the original 20 coastal preserves. Staff continue to actively participate in planning with the Mississippi Department of Environmental Quality to discuss future acquisitions within the Coastal Preserves boundaries through the RESTORE Act, the National Fish and Wildlife Foundation-Gulf Environmental Benefit Fund and the Natural Resource Damage Assessment.



GRAND BAY NERR AND AQUACULTURE HATCHERY IN LYMAN

The Grand Bay National Estuarine Research Reserve (NERR) and the Aquaculture Hatchery in Lyman are programs of the Mississippi Department of Marine Resources. Designated in 1999, the NERR is one of 29 reserves in the National Estuarine Research Reserve System (NERRS), which is a state-federal partnership operated by NOAA's Office for Coastal Management.

With the emergence of various aquaculture techniques, the Aquaculture Hatchery is able to provide economic support to the fishing industry, as well as stock enhancement of wild populations found in our state waters.



Paul Mickle, Ph.D.
Chief Scientific Officer

GRAND BAY NERR

Director: Ayesha Gray, Ph.D.



This mission of the Grand Bay NERR is to practice and promote stewardship of coasts and estuaries through innovative research, education and training using a place-based system of protected areas. The NERRS is a national network of estuaries and coastal watershed reserves whose primary goal is to support high-quality scientific studies that contribute to the understanding of these estuaries, then disseminate the information. Data collected are provided to the public and local decision-makers to provide information on which to base management decisions. The research provides the foundation for various educational opportunities for students and the community.

To meet its mission and the objectives, the NERRS established the System-wide Monitoring Program. It helps to track short-term variability and long-term trends in biological and physical parameters in coastal systems to better understand current ecosystem function and changes in those parameters over time in response to anthropogenic and natural events. Our SWMP at Grand Bay includes water quality, weather, nutrients, wet and dry atmospheric deposition of mercury, bird communities, sediment dynamics, vegetation distribution/biomass and shoreline erosion monitoring. Information from ongoing monitoring aids in decision-making. The NERR is also a resource for outdoor learning, recreation and fishing for the state. The NERR aids MDMR in addressing local issues and aiding in the protection of Mississippi's natural and heritage resources.

GOALS:

- Serve the community as distinguished center for estuarine research, education and training and sound coastal management.
- Provide scientific understanding and knowledge that answers critical coastal management questions.
- Give local communities opportunities to appreciate and value the significance of coastal ecosystems.
- Train local communities to make science-based coastal management decisions.
- Partner with local, state and federal entities to manage reserve resources and enhance habitat condition and diversity.
- Continue research partnerships with University of Southern Mississippi's Gulf Coast Research Lab, Mississippi State University, Dauphin Island Sea Lab, University of Alabama, University of Southern Illinois, University of Central Florida and U.S. Geological Survey.

**BEGAN WORK ON A 2-YEAR NATIONAL ACADEMY OF SCIENCES
GULF RESEARCH PROGRAM** funded project titled "Conceptualizing Human
Alteration and Natural Growth in Estuaries and Savannas (CHANGES)."





▲ Summer Marine Biology class from Dauphin Island Sea Lab



▲ Prescribed burn

ACCOMPLISHMENTS:

- Research Coordinator awarded three grants to study marsh birds and the effects of prescribed fire in tidal marshes.
- Staff gave 14 technical and 15 public presentations highlighting Grand Bay NERR.
- Published three peer-reviewed publications.
- Partnered with MS Department of Environmental Quality, Department of the Interior, and U.S. Fish & Wildlife Service on the Grand Bay Land Acquisition and Habitat Management Project funded by the Mississippi Trustee Implementation Group through the Natural Resource Damages Assessment funding stream as a result of the 2010 Deepwater Horizon oil spill. The project acquired 1,500 acres of undeveloped land, established restoration plans for 764 acres of historic longleaf and slash pine savannas, created over 4 miles of fire-lanes to increase access and safety for prescribed burns, conducted prescribed burns across 127 acres and established nine long-term monitoring plots (LTMs) in representative areas and mapped invasive species across 220 acres that were formerly old home sites.
- Hosted our third Veteran's Fire Corps and worked alongside the crew to restore wet pine savanna and conduct long-term monitoring at the NERR.
- Started a monitoring program to understand the effects of artificial subtidal and intertidal reef installation in the Grand Bay NERR.
- Led an effort to standardize and analyze marsh surface data across 15 NERRS for the NERRS Science Collaborative-funded projects "Is marsh surface tracking sea level change? Developing tools and visualizations for NERRS Sentinel Site Data."
- Piloted a volunteer program to monitor and identify plankton species in our estuary.
- The Celebrate the Gulf Marine Education Festival won first place for the EPA's Gulf Guardian award in the Partnership category.
- Partnered with the Ocean Springs Library and the Mississippi Humanities Council to host the Smithsonian's prestigious Water Ways Exhibit.
- Provided 14 training workshops for 364 participants as part of our Coastal Training Program.
- Conducted and/or participated in 62 community education events that reached 10,453 participants, including National Estuaries Day, kayaking trips, art workshops, the Region VI Science and Engineering Fair and Celebrate the Gulf Marine Education Festival.
- Removed 4,600 lbs of debris from the Grand Bay NERR as part of our stewardship work.

AQUACULTURE HATCHERY

Manager: Michael Lee



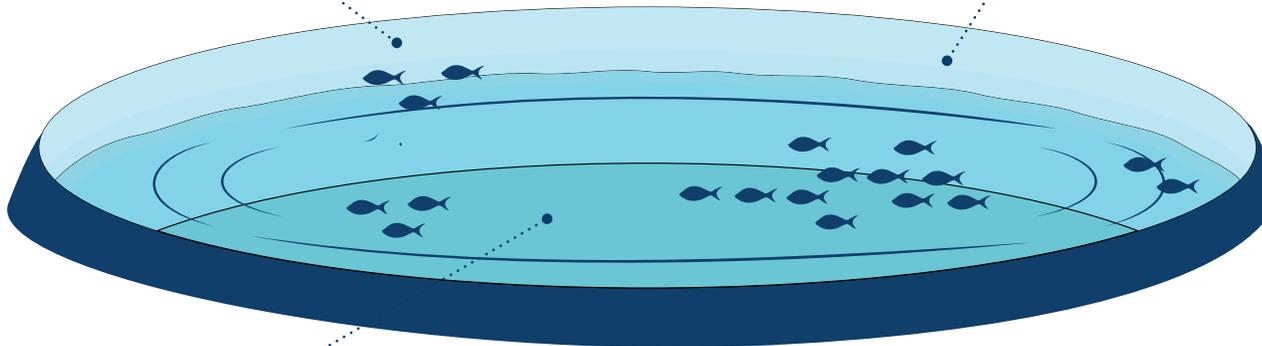
The aquaculture facility in Lyman is a MDMR-operated property that focuses on aquaculture restoration and commercial aquaculture opportunities. Buildings at the facility consist of: office/administrative, wet laboratory, broodstock quarantine facility, broodstock egg-production greenhouse, mechanical shop, feed storage building, maintenance shop, three tractor sheds, water laboratory, generator building, fish holding house and two pump houses.

Operations at the Lyman aquaculture facility are critical to the sustainability of marine fisheries, as well as important to Mississippi's economy. The hatchery helps create marketable products by developing techniques that can be transferred to the private sector for commercial aquaculture. Lyman aquaculture aids recreational fisheries by restoring and enhancing fish populations through the release of cultured organisms to enhance, restore and conserve these populations. Aquaculture for stock enhancement can provide a means to rebuild spawning stock biomass for species recovery.

THE AQUACULTURE HATCHERY
is situated on

214 ACRES

— 2019 PRODUCTION BEGAN WITH —
100 SPOTTED SEATROUT
BROODSTOCK IN SPAWNING TANKS



14 & **11**
HALF-ACRE LINED PONDS & EARTHEN PONDS

of various sizes from a quarter-acre to 12 acres, totaling 30 and one-quarter acres of water

GOALS:

- Continue lined-pond rearing of juvenile Spotted Seatrout for stock enhancement.
- Support and work with local educational institutions, such as GCRL and the Ocean Springs High School aquaculture program.
- Work with private-sector, marine-related projects, as well as many neighboring state-run programs, to advance aquaculture for Gulf of Mexico marine species.

ACCOMPLISHMENTS:

- More than 500 soft-shelled crabs were raised in low-salinity earthen ponds to identify new techniques for soft shell crab production.
- More than 300,000 Spotted Seatrout averaging three inches were released into coastal waters through stock enhancement. The Spotted Seatrout, the most popular recreational fish in the Gulf of Mexico, receives the most pressure to its wild stocks.
- Experimental on-site fish food production for sustainable aquaculture practices.
- Production of native salt marshes for coastal restoration
- Broodstock quarantine and spawning facilities capable of producing millions of seatrout eggs annually



▲ Seatrout broodstock spawning systems (Top left); Soft shell crab produced at Lyman (Top right); Native marsh plants (Spartina alterniflora and Juncus) grown at Lyman for coastal restoration (Bottom)

▲ Ocean Springs High School aquaculture students receiving fish from the Lyman hatchery for their greenhouse

COMMISSION ON MARINE RESOURCES

The Commission on Marine Resources is comprised of five members appointed by the governor for four-year terms to represent the following areas: commercial seafood processors, nonprofit environmental organizations, charter boat operators, recreational sports fishermen and commercial fishermen.



The Honorable Phil Bryant
Governor, State of Mississippi



Mark H. Havard, II
Chairman
Recreational Sports Fishermen
Jackson County



Ronnie Daniels
Vice Chairman
Charter Boat Operators
Harrison County



Natalie Guess
Nonprofit Environmental Organizations
Hancock County



Steve Bosarge
Commercial Fishermen
Jackson County



Richard Gollott
Commercial Seafood Processors
Harrison County



MISSISSIPPI DEPARTMENT OF MARINE RESOURCES

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