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LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

2023-2024 ANNUAL REPORT

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LOUISIANA DEPARTMENT OF
WILDLIFE & FISHERIES
2023-2024 ANNUAL REPORT

The charge of the Louisiana Department of Wildlife and Fisheries is to protect, conserve and replenish the natural resources, wildlife and aquatic life of the state.

Administration as of February 2025

Jeff Landry, *Governor*
Madison D. Sheahan, *Secretary*
Tyler M. Bosworth, *Chief of Staff*
Stephen Clark, *Superintendent of Wildlife & Fisheries Law Enforcement*
Ryan Montegut, *Assistant Secretary of Fisheries*
Bryan McClinton, *Undersecretary*
Taylor Brazan, *Communications Director*
Rachel DeWitte, *Director of Operations*
Cole Garrett, *General Counsel*

DEPUTY ASSISTANT SECRETARY
Chris Schieble, *Deputy Assistant Secretary of Fisheries*

DIVISION ADMINISTRATORS
Randy Myers, *Wildlife*
Tommy Tuma, *Wildlife*
Scott Longman, *Wildlife*
Patrick Banks, *Fisheries*
Jason Froeba, *Fisheries*
Lt. Colonel Edward Skena, *Enforcement*
Lt. Colonel Clay Marques, *Enforcement*

WILDLIFE AND FISHERIES COMMISSION
Kevin C. Sagrera, *Chairman*
Kenneth A. "Andy" Brister, *Vice-Chairman*
Andrew J. Blanchard
Brandon J. DeCuir
Gene Reynolds
Nathan D. Wall
Jonathan D. Walker

P.O. Box 98000 - 2000 Quail Drive - Baton Rouge, LA 70898 - 225-765-2800 - *www.wlf.louisiana.gov*

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LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

2023-2024 ANNUAL REPORT

CONTENTS

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

ORGANIZATIONAL OVERVIEW

OFFICE OF SECRETARY

The Office of Secretary is administered by LDWF's chief administrative officer, who oversees all scientific operations as organized by the Office of Wildlife and the Office of Fisheries. The Secretary also has ultimate authority over the operation of LDWF's fiscal and business matters as administered by the Office of Management and Finance. Support operations of LDWF report directly to the Secretary. These include the Enforcement Division, LDWF's Legal Section, Internal Audit Section and Public Information.

ENFORCEMENT DIVISION

The Law Enforcement Division is responsible for enforcing laws enacted by the Louisiana Legislature, rules and regulations adopted by the Louisiana Wildlife and Fisheries Commission, and federal laws relative to fish and wildlife resources, boating safety, waterways enforcement activities, search and rescue, and homeland security missions.

LEGAL SECTION

The Legal Section represents the department and the Wildlife and Fisheries Commission in all legal matters involving promulgation, enforcement and administration of the state's fish and game laws and regulations, litigation involving department programs, daily advising and counsel, and drafting of contracts, legal documents and legislation.

INTERNAL AUDIT SECTION

The Internal Audit Section provides independent, objective assurance and consulting services designed to add value and improve the departments' operations. Internal Audit assists the department in accomplishing its' objectives by bringing a systematic, disciplined approach to safeguard and protect the department's resources and assets.

PUBLIC INFORMATION

The Public information section is responsible for media relations, all print publications (regulation brochures, "The Louisiana Conservationist" magazine, annual report, etc.), the agency website, social media, video production, photography, press conference organization, as well as speech writing and talking points as needed.

OFFICE OF MANAGEMENT & FINANCE

The Office of Management and Finance is directed by the Undersecretary. This unit is responsible for the following functions: human resources, accounting, budget forecasting and control, strategic and operational planning, property control and fleet management, boat registration, motor and boat titling, federal grant reporting, license and permit administration and issuing, fees, taxes and penalties collections.

LICENSING

The Licensing Section administers the issuance of all licenses, harvest tags and most other permits, boat and motor titles and registrations, and is responsible for the collection and deposit of related fees.

ADMINISTRATIVE SERVICES

The Administrative Services Section is responsible for LDWF's movable property program, fleet management program, and managing property, marine, general liability, aviation and vehicle insurance claims.

FISCAL

The Fiscal Section is responsible for all financial operations of LDWF.

HUMAN RESOURCES

The Human Resources section administers and oversees a wide range of employee-related programs aimed at managing and supporting the workforce and the agency. These responsibilities are grouped into key program areas such as, recruitment and retention of staff, employee relations matters, training and development, performance management, compliance, benefits, and workplace culture.

SOCIOECONOMIC RESEARCH & DEVELOPMENT

With assistance from the various program managers within the offices of LDWF, the Socioeconomic Research and Development Section prepares Fiscal and Economic Impact Statements that accompany the Notices of Intent for rules and regulations considered for adoption by the Louisiana Wildlife and Fisheries Commission.

OFFICE OF WILDLIFE

The Office of Wildlife consists of the Wildlife Division and the Restoration Program.

WILDLIFE DIVISION

The Wildlife Division is responsible for the state's wildlife conservation program, gathering biological data to properly manage wildlife resources, and conservation of coastal wildlife species and their associated habitats, along with statewide responsibility for nongame and threatened and endangered species, mandatory hunter education and training, minerals management, and wetlands conservation through regulatory programs. This is addressed through major programs: Wildlife Research; Land Development and Management; Rockefeller Wildlife Refuge; White Lake Wetlands Conservation Area; Wildlife Diversity; Alligator and Furbearer; Hunter Education; Minerals Management; and Habitat Section.

RESTORATION PROGRAM

The Restoration Program is responsible for informing and implementing habitat and species restoration projects throughout coastal Louisiana for the benefit of wildlife and fisheries. This program is also responsible for statewide response to oil spills and documenting their impacts to natural resources.

OFFICE OF FISHERIES

The purpose of the Office of Fisheries is to manage 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. The Office of Fisheries is comprised of two Divisions: the Fisheries Management Division and the Fisheries Research and Development Division. The Fisheries Management Division includes the Marine Fisheries, Inland Fisheries, and Oyster Lease sections. The Fisheries Research and Development Division includes Fisheries Extension, Fisheries Habitat, Fisheries Research and Assessment, and Socioeconomic Research sections.

MARINE FISHERIES

The Marine Fisheries Section is responsible for the monitoring and management of the state's estuarine and nearshore marine fishery resources. This includes both fishery-dependent (recreational and commercial) and fishery-independent monitoring of fish and shellfish populations. Section personnel annually develop recommendations for seasons, harvest limits, and other management measures to ensure sustainable populations.

INLAND FISHERIES

The Inland Fisheries Section is responsible for the monitoring and management of the state's freshwater resources. This includes sportfish population monitoring and management, providing boating access through aquatic vegetation control, as well as sportfish production and stocking through the hatchery system.

OYSTER LEASE PROGRAM

The Oyster Lease Section is responsible for the administration of oyster lease agreements on state-owned water bottoms for the purpose of oyster cultivation and production by private entities. The section maintains historical lease records and manages lease boundary data in a Geographic Information System (GIS) electronic environment. .

FISHERIES EXTENSION

Fisheries Extension provides guidance and assistance to Louisiana's valuable commercial and recreational fishing sectors through assistance, education and outreach. The artificial reef program enhances the state's abundant marine resources by developing additional habitat utilizing clean, durable and stable materials.

FISHERIES RESEARCH & ASSESSMENT

The Fisheries Research and Assessment Section is responsible for conducting research on the state's estuarine, marine and inland fishery resources. The section includes the Fisheries Development Group and the Fisheries Research Laboratory on Grand Isle, which, in addition to research, also conducts monitoring of offshore fishery stocks through cooperative sampling programs. The section also includes the Fisheries Stock Assessment Program, responsible for developing modern measures of the health of fish stocks statewide to ensure sustainable populations and estimate effects of regulatory changes, and the Fisheries Habitat/ Permitting Group which interacts with all LDWF sections and divisions and state and federal entities in planning and implementation of restoration initiatives for fulfillment of resource recovery agreements from oil spill settlements, reviewing and commenting on regulatory and consistency permit applications, and efforts to conserve and restore fish and wildlife habitat. In addition, the section conducts aquatic nuisance species monitoring and outreach.

A Word from the Secretary

Louisiana is known worldwide for our culture, our people and, of course, our hunting and fishing. We have an extraordinary amount of natural resources from our coastal waters to our hardwood forest, our red fish to our black bear. When I was appointed as Secretary by Governor Jeff Landry in January of 2024, I took unprecedented action to further the duties of the Louisiana Department of Wildlife and Fisheries (LDWF) to uphold our world class reputation as the Sportsman's Paradise. Committing to manage, conserve and protect our wildlife and fisheries in order to ensure that future generations of parents and grandparents, as well as kids and grandkids will inherit the Louisiana we enjoy today.

I believed it was time to rebuild the Department of Wildlife and Fisheries into an organization that would strive for a new standard of excellence. We are the Sportsman's Paradise because of our sportsmen. With this at the center of all we do, I laid out a vision: We would serve the sportsmen of Louisiana and become the premier sportsman organization in the state.

I launched a plan, with the support of Governor Jeff Landry, to transform the department into a modern and professional service organization. We committed to taking swift action to correct an outdated system and in an effort to lead the department into years of prosperity. Our first few months were filled with action, wins and firsts.

Shortly after being sworn into office, we traveled to Washington, D.C. to meet with the U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, and members of Louisiana's congressional delegation.

We invited Governor Landry and First Lady Landry to meet with more than 200 LDWF enforcement division agents for a statewide gathering at LDWF Headquarters, marking the first time in state history any Louisiana governor has visited our headquarters to meet with our agents. Gov. Landry stated that our team has his "unwavering support to make positive changes;"

- We worked with House Bill 684 authored by Representative Neil Riser was signed into law. This bill established the return of Louisiana's black bear hunting season, established a bear license, and allowed the Louisiana Wildlife and Fisheries Commission to hold a lottery for bear harvest permits.
- We visited LDWF locations in Hammond, Lake Charles, New Orleans, Lafayette, Bourg, Lacombe, Grand Isle and Thibodaux, with several of those being the first time a secretary has ever visited the office location; and,
- We announced the Target Gun Range Grant Program to provide financial assistance for the building and expanding of public shooting ranges in Louisiana.
- We attended a groundbreaking ceremony for a public fishing pier in downtown West Monroe. About half the cost of the $544,000 project is being funded through a grant from LDWF and the Sport Fish Restoration Program.
- We announced a historic partnership with CCA to improve our artificial reef program and benefit the Louisiana coast.

Here are some other notable accomplishments from the previous fiscal year:

ENFORCEMENT

LDWF agents transported 178 essential workers to and from their work during a harsh winter storm January of 2024.

We achieved a historic pay raise for all law enforcement agents as well as received a General Fund appropriation to acquire much needed equipment to provide our agents the tools and resources they need to better serve our sportsmen.

We partnered with Louisiana State Police (LSP), the New Orleans Police Department (NOPD), the Orleans Parish Sheriff, Louisiana Attorney General Liz Murrill and Orleans Parish District Attorney Jason Williams to promote public safety and conservation in New Orleans during Mardi Gras season.

Our Enforcement Division conducted 254,733 patrol hours in fiscal year 2023-2024, including 183,628 on land and 71,105 on water. Agents made 598,285 contacts with the public, the majority of whom were in compliance with state and federal wildlife and fisheries regulations. LDWF Enforcement Division agents issued 11,463 criminal citations and 5,840 warnings during this period. On April 24, 2024, LDWF graduated its 36th class of cadets into the ranks of LDWF Enforcement Division agents at a ceremony in Baton Rouge. After six months of training at the academy, 19 newly commissioned agents began enforcing hunting, fishing and boating regulations that govern the use of the state's natural resources.

Educating the public on boating safety is a major undertaking for our Enforcement Division. Agents hold monthly classes in each region for anyone who wants to or is required by Louisiana law to take them. During the fiscal year, 10,322 citizens were certified in classroom and online classes.

PUBLIC INFORMATION

We've worked hard to improve our outreach with the public and make sure we're listening via social media. As our audience continues to grow, the department has focused on telling the story of what we do. Facebook remains our strongest social channel, and thousands of questions are submitted annually through the messaging function, providing constituents another means of communicating with LDWF. This fiscal year, we grew our audience to 143,819 Facebook followers, 13,182 Instagram followers, 2,334 YouTube subscribers and 8,230 followers on X (formerly known as Twitter).

The LDWF website, wlf.louisiana.gov, is the primary communication tool to the public for our news, research, publications, regulations, events, etc. Between July 1, 2023-June 30, 2024 we had 4.6 million users to the site, 7.7 million sessions and 15.1 million page views.

LICENSING

Much of our contact with the public comes through our Licensing Section. It serves more than one million customers who operate businesses, fish commercially, recreationally fish and hunt and use state lands for non-consumptive purposes.

During fiscal year 2023-2024, the licensing section issued more than 1.7 million recreational hunting, fishing, trapping and non-consumptive use licenses and permits to 800,000-plus customers. This generated $28 million in revenue.

WILDLIFE

Our turkey hunters enjoyed historic years in the spring of 2024. The most recent turkey hunter survey estimated 22,300 turkey hunters harvested approximately 6,000 wild turkeys last season. Estimated turkey hunter numbers remained stable from that of 2023, while the estimated turkey harvest increased 20% from that of 2023.

Deer hunters also enjoyed a great season. During the statewide 2023-2024 deer season, 221,500 deer hunters harvested an estimated 262,400 white-tailed deer, a 20.5% increase from last year's estimate of 217,700.

Total duck harvest was 1,079,000 during the 2023-2024 season, a 103% increase from 531,000 during the 2022-2023 season. Seasonal duck harvest per hunter also increased to 19.8 from 15.2 the previous year. Two education centers and four shooting ranges are available to the public and managed by the LDWF Education Program. In the fiscal year, approximately 31,877 user visits occurred on LDWF shooting ranges.

Our Archery in Louisiana Schools (ALAS) program continues to thrive thanks to our department personnel. ALAS promotes international style target archery as part of the physical education curriculum for grades 4-12. At the end of the fiscal year, 149 active schools were participating in the program, impacting 20,576 students. LDWF hosted four regional tournaments, a state 3D and a state bullseye tournament. A total of 1,800 archers participated in regional and state tournament competitions.

During the 2023 wild season, 29,228 alligators were harvested by 3,707 licensed alligator hunters. Alligators harvested averaged 7.69 feet in length, with an estimated value of nearly $7 million. Adult-sized alligators - those 6 feet and larger - made up the majority of the harvest. The 2023 wild harvest was much higher than the previous year, and represents the highest harvest since 2016.

FISHERIES

The Aquatic Outreach and Education Program works to inform the public about programs and projects currently underway in the Office of Fisheries. Through outreach efforts including boat shows, school programs, community events and outdoor-related festivals, staff reached approximately 21,000 Louisiana citizens during the fiscal year. LDWF staff and volunteer instructors made approximately 200 public appearances at community events, clinics and other outdoor-related events. At each of these events, LDWF staff were able to inform Louisiana citizens of the importance of the Sport Fish Restoration Program and LDWF's role in the program's associated projects. This year, LDWF staff hosted twelve Volunteer Instructor Program workshops throughout the state and trained approximately 103 volunteers.

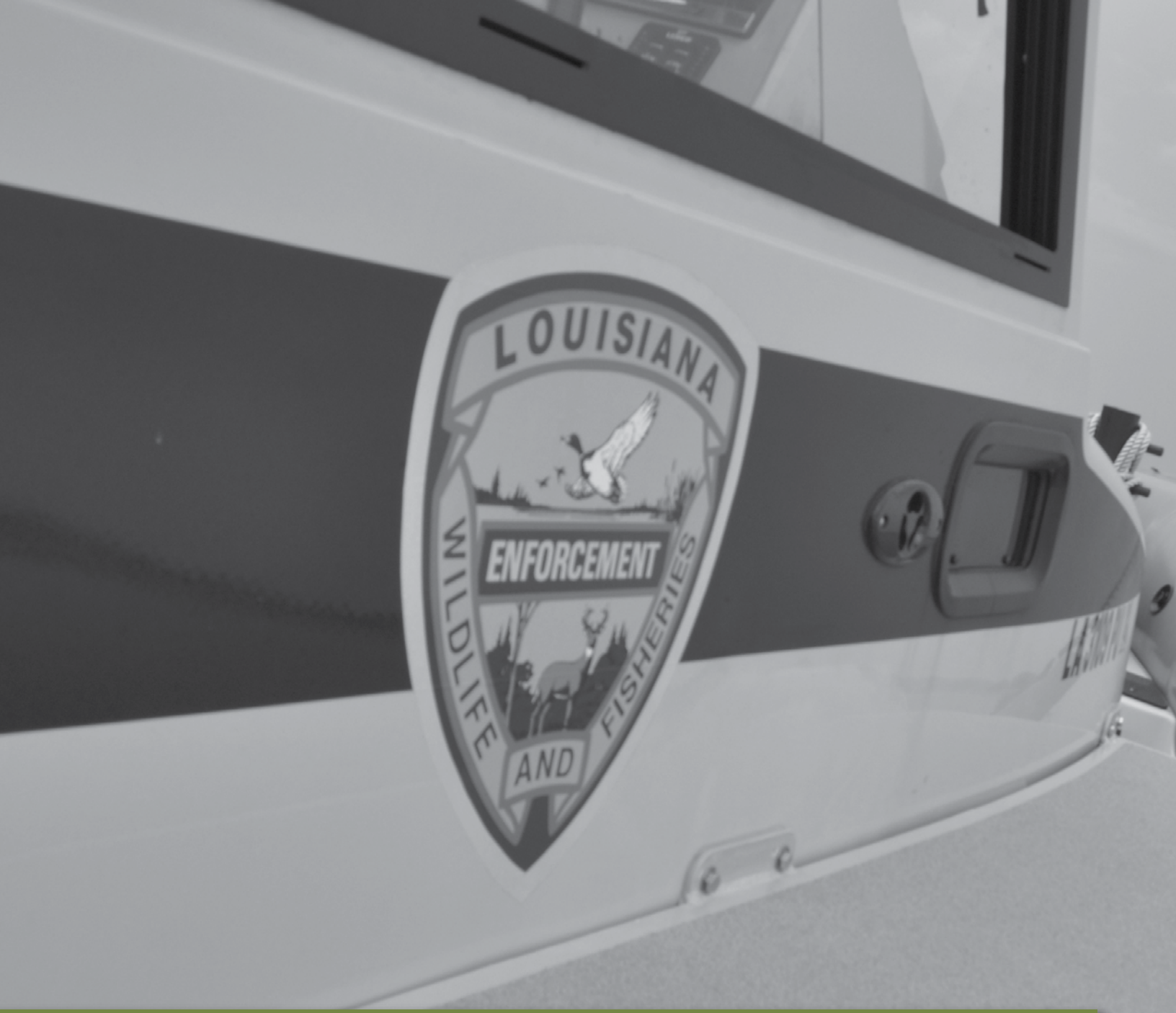
When it comes to seafood production, Louisiana continues to lead the way. The state produces nearly one-quarter of the seafood in the continental U.S. and is home to three of the top six commercial fishing ports in the country. In the Gulf of America, 78% of the seafood production comes from Louisiana shrimpers, crabbers, oyster harvesters and fishermen. There were 8,567 commercial fishermen and 6,479 seafood dealers/ processors and brokers register each year to provide the nation with fresh seafood.

Louisiana regularly leads the nation in commercially harvested oyster landings. From 2004 through 2023, Louisiana accounted for 32.7% of the nation's oyster landings. In 2023, Louisiana produced 29% of annual landings by weight and 25.6% by value in the U.S. Of the Gulf states, Louisiana accounted for 77.6% of the oyster meat production and 80% of the landings value in 2023. In 2020, the landings from public grounds totaled approximately 34,000 pounds of meat, while private oyster reef landings totaled approximately 3.5 million pounds of meat (99%) of all oyster landings in the state. Total 2020 landings were the lowest ever recorded, a reflection of the unprecedented extreme 2019 floods that impacted the oyster reefs across the state. Currently, 2023 combined landings of 6.07 million pounds of meat indicate a continued recovery. Louisiana's oyster landings are showing an upward trend from 2020.

Inland, we're working to provide more opportunity to anglers. There are currently 17 community fishing sites throughout the state of Louisiana. Sites were stocked with both channel catfish (in the spring and fall) and rainbow trout (in the winter) to total 41,950 pounds of channel catfish and 6,100 pounds of rainbow trout.

We are honored to serve the sportsman paradise every day and will continue to work for the people of Louisiana. This is only a small sample of the accomplishments we have achieved together during the 2023-24 year. While we have made historic progress, none of this would have been possible without the dedicated staff within the department working towards our mission and vision. I invite you to take a look at our annual report for more information to see all we're doing as we work to manage, conserve and protect the Sportsman's Paradise.

Madison D. Sheahan, *LDWF Secretary*



Office of Secretary

ENFORCEMENT DIVISION

The Louisiana Department of Wildlife and Fisheries (LDWF) Law Enforcement Division is responsible for enforcing laws enacted by the Louisiana Legislature and federal laws relative to fish and wildlife resources, boating safety, waterways enforcement activities, search and rescue, and homeland security missions.

The LDWF Enforcement Division is a fully-commissioned statewide law enforcement agency with the primary mission of protecting Louisiana's natural resources and serving the people who utilize them. Beyond the traditional role of ensuring compliance with licensing and harvesting regulations, LDWF Enforcement Division also conducts search and rescue missions, enforces boating safety laws, investigates boating crash incidents and hunting accidents, and provides boater education classes for thousands of citizens each year.

The LDWF Enforcement Division is responsible for enforcing laws as provided for in the:

- Constitution of the State of Louisiana
- Louisiana Revised Statutes
- U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA)/LDWF Enforcement Division- Cooperative Enforcement Agreement- Law Enforcement Services under:
  - Magnuson-Stevens Fishery Conservation and Management Act
  - Endangered Species Act of 1973
  - Marine Mammal Protection Act of 1972
  - Lacey Act
- U.S. Department of Interior, U.S. Fish and Wildlife Service (USFWS)/LDWF Enforcement Division- Memorandum of Agreement- Law Enforcement:
  - Migratory Bird Treaty Act
  - Lacey Act; Migratory Bird Hunting and Conservation Stamp Act
  - Bald and Golden Eagle Protection Act
  - Airborne Hunting Act
  - National Wildlife Refuge System Administrative Act
  - Endangered Species Act
  - Marine Mammal Protection Act
  - Archeological Resources Protection Act
  - African Elephant Conservation Act
  - Antarctic Conservation Act
  - Wild Bird Conservation Act and Recreation Act
- U.S. Coast Guard/LDWF Enforcement Division- Statement of Understanding- Boating Safety Regulations:
  - BWI
  - Public Education and Training
  - Boating Accident Investigations
  - Search and Rescue
  - Regattas and Marine Parades
- Louisiana Department of Health/LDWF Enforcement Division
  - Memorandum of Understanding- Louisiana Shellfish Sanitation Program
  - National Shellfish Sanitation Program

The LDWF Enforcement Division conducted 254,733 patrol hours in FY 2023-2024: 183,628 on land and 71,105 on water. Agents made 598,285 contacts with the public, the majority of whom were in compliance with state and federal wildlife and fisheries regulations. LDWF Enforcement Division agents issued 11,463 criminal citations and 5,840 warnings during this period. The most common types of citations were fishing without a license, failure to comply with personal flotation device requirements, not abiding by rules and regulations on wildlife management areas, and failure to comply with deer tagging or harvest record regulations.

ORGANIZATIONAL STRUCTURE & PERSONNEL

The LDWF Enforcement Division is organized in a paramilitary structure to assure the efficient use of resources, consistent statewide enforcement policy, and an effective, coordinated response to urgent needs. The LDWF Enforcement Division is commanded by one colonel, the Superintendent of Wildlife and Fisheries Law Enforcement, who reports directly to LDWF's Secretary and oversees administration of the division. Reporting to the colonel are two Lieutenant Colonels. One Lieutenant Colonel serves as assistant chief of administration while the other Lieutenant

FIGURE 1. *Enforcement Division Regions*

Col. Stephen Clark

Colonel serves as assistant chief of patrol. The administration side includes budget, communications, emergency services, recreational boating safety and education, training, support, and public information. The patrol side includes all state regional field operations and the aviation section.

The LDWF Enforcement Division is currently headed by Col. Stephen Clark. Clark was promoted to the rank of Colonel in June of 2024 after replacing Col. Rachel Zechenelly, who retired after 24 years of service. Clark served as an advisor to LDWF Secretary Madison Sheahan on the executive staff as Deputy Secretary/Assistant Secretary of Wildlife from January until June of 2024 before becoming the Colonel of the Enforcement Division.

Clark started his law enforcement career as a "Game Warden" with LDWF in 1994. Stephen has also served in multiple positions for USFWS, including Assistant Special Agent in Charge, Resident Agent in Charge, and Special Agent. He has over 29 years of natural resource conservation experience.

In addition to his duties as a Special Agent, he was an airplane pilot for the government, where he was assigned to pilot different USFWS airplanes on law enforcement operations across the country. Stephen served as a Special Agent in Charge with the USFWS Office of Law Enforcement. In this position, he was responsible for all U.S. Fish and Wildlife law enforcement operations for the southeastern United States. Stephen graduated from Southeastern Louisiana University in 1993 with a bachelor's degree in economics and a minor in management. While attending college, he enlisted in the Louisiana Army National Guard where he served for 6 years. As a veteran who served in Operation Desert Storm, he was awarded the Army Service Ribbon, Army Lapel Button, the National Defense Service Medal, the Louisiana War Cross, and the Humanitarian Service Medal.

The Enforcement Division is divided into eight enforcement regions. Each numbered enforcement region is composed of two or three multi-parish districts. Each region is managed by a captain who supervises two or three district supervisors of the lieutenant rank. Regions have between 16-25 agents, depending on regional size, resident population and participant population. Current funding provides a field enforcement staff of two to four agents per parish, according to the nature of wildlife-based activities in the area, the number of people participating, the frequency of their participation and other factors.

Total division head count is 257 positions including 233 enforcement agents, 13 administrative staff, seven communications officers, two pilots, one grant reviewer and one public information officer. The actual number of filled positions (as of July 2024) is 243.

REGIONAL ENFORCEMENT PROGRAMS

Most of the law enforcement activity performed by the LDWF Enforcement Division is conducted by regional agents. Regional agents work a schedule assigned by their supervisors to address seasonal needs, reported violations, weather conditions and predominant activities. Agents are on-call 24 hours per day and must be willing to change their work hours and locations as circumstances require. Schedules are often changed due to weather and reported violations, and agents are often called out to respond to violations in progress, boating and hunting accidents, and calls for search and rescue.

Agents use a variety of vehicles during land patrols, primarily four-wheel drive trucks and all-terrain vehicles. The primary patrol vessels used during water patrols are outboard bay boats and 19-to-40-foot marine patrol vessels. The LDWF Enforcement Division also deploys go-devils, airboats, surface river mudboats, bass boats and flatboats.

SPECIALIZED UNITS

The LDWF Enforcement Division contains three specialized units with selected missions or purposes: the Maritime Special Response Team and the Aviation Section. Agents in specialized units have developed specific skills, expertise and knowledge appropriate for their particular operational fields. Agents in specialized units operate in relatively broad geographic areas and may work alongside regional enforcement agents when appropriate.

MARITIME SPECIAL RESPONSE TEAM

The Maritime Special Response Team cooperative endeavor by the LDWF Enforcement Division and the Louisiana State Police SWAT team addresses maritime security threats within the state of Louisiana. The team provides a maritime tactical response capability at the state level in order to effectively provide public safety, officer safety, Chemical, Biological, Radiological, Nuclear and High-yield Explosives prevention, and response and tactical support for LDWF's federal, state and local partners.

AVIATION SECTION

The Aviation Section contains two pilots and two Kodiak planes. The Aviation Section's aircraft provide a valuable platform for detecting illegal hunting and fishing activities and frequently play a vital life-saving role in search and rescue operations. The Aviation Section also contributes its services to other divisions for biological missions, such as waterfowl counts and the monitoring of commercial fisheries.

SPECIAL OPERATIONS GROUP

LDWF created the Special Operations Group, which plays a crucial role in supporting the patrol section of the Enforcement Division. The Special Operations Group is integral in working special details either specific to LDWF or in partnership with Louisiana State Police and/or other agencies. Agents assigned to the group are called upon to work with regional agents on specific operations involving boating safety, game, and fish enforcement. The Special Operations Group is also utilized in any situation requiring additional resources. Agents assigned to the Special Operations Group attend a 50-hour course in which they must show weapon proficiency, physical fitness, and a heightened level of situational awareness.

BOATING SAFETY PROGRAM

With 15,000 miles of tidal coastline, 5,000 miles of navigable waterways, three of the busiest ports in the country, a thriving shipping industry, a large commercial fishing fleet, and over 317,000 registered boats, Louisiana contains many geographic, demographic and economic features that pose special challenges for boating safety enforcement.

LDWF Enforcement Division agents made 131,520 public contacts during the course of 45,370 patrol hours dedicated to boating enforcement, education and accident investigation in FY 2023-2024. Of those hours, 41,286 patrol hours were performed in vessels on the water.

The adoption of "Rules of the Road" regulations for boaters has enhanced the enforcement of boating safety regulations and boating under the influence laws. These regulations provide the boating public with clear rules for the manner in which boats are operated and are an important tool in determining fault in boating accidents. The "Rules of the Road" also enhance the ability of agents to address reckless and careless operation of motorboats. In FY 2023-2024, LDWF Enforcement Division agents issued 57 citations for careless and reckless operation of a vessel and 113 citations for operating a vessel while intoxicated.

The statewide LDWF Enforcement Division boater education course teaches safe, legal and responsible boat operation and is approved by the National Association of Boating Law Administrators (NASBLA). This program provides a vital outreach to the community and has greatly improved the awareness of and compliance with boating safety practices and regulations in Louisiana.

Agents hold monthly classes in each region for anyone who wishes or is required by Louisiana law to take them. In FY 2023-2024,

10,322 citizens were certified in classroom and online classes. The LDWF Enforcement Division continues to recruit and train additional volunteer instructors to complement and enhance the efforts of its own agents. Since the inception of the boating safety education course in 2003, LDWF has certified 164,769 students.

The LDWF Enforcement Division remained committed in marketing and promotion of boating education courses by creating special events and activities for students attending courses.

LDWF participated in the NASBLA Operation Dry Water Weekend from July 1-3 in 2023. During the Operation Dry Water weekend, LDWF agents were out in force patrolling state waterways for impaired boat operators. During the weekend, LDWF agents cited 12 people for DUI while operating a vessel.

LDWF participated in several national campaigns including "Wear your PFD to work Day" on May 17 and the "Safe Boating Week" in Louisiana from May 18-24. LDWF Enforcement Division agents were out in full force as always during the safe boating week to perform boating safety checks and driving or operating a vessel while intoxicated (DWI) patrols.

The LDWF Enforcement Division held their annual "Boating Education Lagniappe Day" on April 27, 2024. This was the 13th annual Lagniappe Day. LDWF certified 230 boaters at boating safety classes in eight different locations across the state and provided food and drinks, giveaways and door prizes.

Media interviews, news release articles, public relation events and social media comments occurred throughout the state during all listed campaigns.

SEARCH & RESCUE OPERATIONS

The LDWF Enforcement Division is responsible for providing and coordinating search and rescue response and maritime security activities for the state. This activity supports the state's goal of hurricane recovery and emergency preparedness by planning, training and coordinating local, state and federal response for search and rescue associated with natural or man-made disasters. Preparedness and efficient execution of search and rescue response events is essential to saving lives and swift recovery efforts. Providing maritime security on our state's waterways is essential to protection of critical infrastructure located in maritime environments throughout Louisiana.

LDWF Agents Rescue Couple from Southwest Pass in Vermilion Parish

LDWF enforcement agents rescued a husband and wife after their boat got stuck in Vermilion Parish on July 3.

Agents were notified around 5:30 p.m. on July 3 about two people who were fishing in a boat in the southwest pass when the tide went out, which subsequently stuck their boat in the mud. The husband and wife tried to get it unstuck but were unsuccessful.

Agents arrived on the scene immediately but could only get their boat within a few hundred yards of the stuck boat. Agents also learned that the wife was dealing with a medical issue that needed immediate attention.

The agents had to construct a raft out of personal flotation devices to keep the wife out of the mud that was mixed with oyster shells. Agents were finally able to pull the wife to one of their vessels and then the husband was second.

Agents then transported the couple to the Intracoastal City boat dock where Acadian Ambulance was waiting. The couple were treated by Acadian Ambulance and released.

Agents participating in the rescue were Corporal Derek Logan and Senior Agent Joshua Segrest.

Two People Rescued from Capsized Vessel in Lake Palourde in St. Martin Parish

LDWF Enforcement Division agents responded to a capsized vessel in St. Martin Parish on Feb. 10. LDWF agents along with a St. Martin Parish Sheriff's Office deputy responded to a call about a capsized vessel with two people in the water in Lake Palourde and immediately began searching the area.

LDWF agents and the St. Martin Parish Sheriff's Office deputy found a good Samaritan in a vessel with the two people that were in the water. The good Samaritan said he saw the two people clinging to the side of their capsized vessel and was able to get them in his vessel.

The two people were then transferred to an LDWF vessel and brought to the landing and released unharmed. LDWF agents recovered the capsized 14-foot vessel from the water and towed it to a nearby launch.

Boaters should be reminded to wear personal flotation devices while underway when required by law and heed small craft advisory warning when on the water. On Feb. 10 a small craft advisory was issued due to the very strong winds.

The operator of the capsized vessel was cited for failing to comply with personal flotation device requirements since the vessel was less than 16 feet in length and powered by a hand tiller steered outboard motor.

Agents participating in this rescue were Agent Trevor Benoit, Sgt. Gerald Sander, and Lt. Scott Dupre. The St. Martin Parish Sheriff's Office deputy Sgt. Jacob Fusilier also assisted in the rescue.

LDWF Agents Participate in Rescuing Two Boaters from the Atchafalaya River

LDWF Enforcement Division agents participated in a successful search and rescue mission in Avoyelles Parish on March 11.

LDWF Corporal Douglas Anderson received a call around 4 p.m. about a capsized vessel in the Atchafalaya River at Simmesport with two boaters in the water. Corporal Anderson and Simmesport Volunteer fireman, Cody Jackson, immediately launched Corporal Anderson's vessel just south of the reported incident. Around the same time, LDWF Corporal Tib Guillory was off duty and fishing in the area with his friend. Corporal Guillory learned about the capsized vessel and rushed to the scene.

Corporal Anderson and Corporal Guillory both arrived to the scene about the same time at around 4:10 p.m. and saw two men clinging to a floating piece of plywood in the river. Each agent pulled a man into their vessels and brought them to the nearest boat launch. The men refused care from Emergency Medical Services on scene and went home without injury.

According to the rescued boaters, they were on a homemade 20-foot vessel in the Atchafalaya River when their vessel cap-

sized around 3:50 p.m. The men were discharged into approximately 55-degree swift water without life jackets. A witness on the bank called 911.

LDWF agents will be the lead investigative agency for this boating incident. The capsized vessel sank in the river. The men were found in the river about a mile south from where their vessel capsized.

LDWF Agent Rescues Man from Sunken Vessel in Vermilion Bay

An LDWF Enforcement Division agent successfully completed a search and rescue mission in Vermilion Parish on May 16.

Corporal Derek Logan, who was on shrimp patrol in Vermilion Bay, received a call about a sunken vessel nearby around 10:50 a.m. He immediately began searching the area and around 11:15 a.m. found a 56-year-old man without a personal flotation device clinging to a cooler and fuel tank from his 16-foot vessel. Corporal Logan was able to retrieve the man from the water and bring him to shore to be checked out by local Emergency Medical Services where he was released without injury.

According to the rescued man, his vessel began taking on water when the wind and waves picked up, which suddenly sunk his boat.

Overdue Boater Successfully Rescued in Vermilion Parish

Search and rescue teams successfully completed a rescue mission on May 22 in Vermilion Parish.

Search and rescue teams from LDWF, St. Mary's Parish Sheriff's Office, Iberia Parish Sheriff's Office, Vermilion Parish Sheriff's Office, Vermilion Parish Constable's Office, and the U.S. Coast Guard were alerted around 3:15 a.m. from family members on May 22 about an overdue boater in Vermilion Parish.

The teams immediately began searching the area with LDWF, St. Mary's Parish Sheriff's Office, Iberia Parish Sheriff's Office and the Vermilion Parish Sheriff's Office in vessels, the U.S. Coast Guard in a helicopter and airplane and the Vermilion Parish Constable's office in a vehicle.

Around 8:30 a.m. the U.S. Coast Guard observed a stranded vessel on the beach of Southwest Pass. LDWF agents arrived at the beach and observed a person standing on the beach with a swamped vessel nearby. LDWF agents coordinated with the U.S. Coast Guard and the Vermilion Parish Constable's Office to reach the individual.

The Vermilion Parish Constable's Office was able to reach the individual in a pickup truck on the beach. The U.S. Coast Guard then airlifted the person onto their helicopter and they transported him back to his vehicle at the Quintana Boat Launch.

No injuries have been reported from this incident. According to the survivor, he went to go boating on May 20 and got disoriented and ran out of gas when his boat got swamped and beached at Southwest Pass. He also said his phone battery died.

AGENT TRAINING PROGRAM

ACADEMY

- On April 24, 2024, LDWF graduated its 36th class of cadets into the ranks of LDWF Enforcement Division agents at a ceremony in Baton Rouge. After six months of training at the academy, 19 newly commissioned agents are ready to begin enforcing hunting, fishing and boating regulations that govern the use of the state's natural resources.
- LDWF certified two agents in FLETC MLETP.
- LDWF sent four agents to the Drug Recognition Expert course. The agents successfully passed the course. LDWF Currently has 25 certified Drug Recognition Experts.
- LDWF sent a NASBLA Instructor to Texas on two occasions to assist with Texas Parks and Wildlife Cadet Academies.
- LDWF sent a NASBLA Airboat Operator Instructor to Texas to assist teaching an Airboat Operator Course.
- LDWF has completed three NASBLA Airboat Operator Courses and certified 33 agents as operators.
- LDWF certified 13 agents in NASBLA Boating Incident Investigation Level 1.
- LDWF provided two NASBLA Tactical Operators Courses for LDWF Agents as well as other law enforcement partners. As a result, five LDWF agents were certified as Tactical Operators. Additionally, an agent was sent to teach a Tactical Operators Course to additional law enforcement agency partners.
- LDWF certified three agents in NASBLA Pursuit and Stop.
- LDWF sent four agents to the NASBLA Conference.
- LDWF sent three NASBLA Boat Operators for Search and Rescue Instructors to certify other agency partners.
- LDWF has five road SFST instructors and have 12 agents whom are NASBLA credentialed instructors for the BUI seated SFST course.
- LDWF has 19 NASBLA Officer Water Survival credentialed instructors.
- LDWF certified six lifeguards bringing their total to 19 certified lifeguards. Lifeguarding with CPR with AED for professional rescuers. First Aid and administering emergency oxygen.
- LDWF sent two agents to the Complete Officer Survival Seminar.
- LDWF currently has 19 agents whom are licensed through the FAA as remote pilots for our unmanned aircraft system program.
- LDWF certified an agent as a POST Procedural Justice Instructor.
- LDWF certified four agents, who are members of the Agent's Crisis Team, in FLETC Critical Communication Skills. The Agent's Crisis Team currently has 17 members.
- LDWF sent one Agent's Crisis Team member to a Suicide Awareness Seminar.
- LDWF sent two agents to Florida and they successfully completed their undercover operations training course.

- LDWF sent two agents to a Blood Warrant Workshop.
- LDWF sent an agent to the National Special Olympics Conference. LDWF and the Louisiana Wildlife Agents' Association are annual supporters of the Special Olympics.
- LDWF sent three Agent's Crisis Team members to Basic Critical Incident Stress Management training, which was provided by the Southern Law Enforcement Foundation.
- LDWF sent two agents to a seminar titled Background Investigations for Police Applicants.
- LDWF certified 10 agents as Strategic Self-Defense & Gunfighting Tactics Instructors. LDWF also has 12 agents that are certified Monadnock Instructors.
- LDWF sent one agent to the Louisiana State University National Center for Biomedical Research and Training Instructor Development Class.
- LDWF sent five agents to the State Fire Marshall's Wide Area Search Course and they successfully passed.
- LDWF sent three agents to the Glock armorer's course and they passed.
- LDWF hosted a FLETC Use of Force Instructor Class at its Training Academy in Baton Rouge. Eight agents successfully passed.
- LDWF sent one agent to FLETC and they successfully passed the Department of Homeland Security Leadership Academy.
- LDWF sent 10 agents to Command Presence: Leading Extraordinary Organizations training.
- LDWF certified four agents as instructors in Force Science: Realistic De-escalation.
- LDWF sent one agent to an Ivory Tower Seminar presented by Tom Rizzo.

IN SERVICE TRAINING PROGRAM

The LDWF Enforcement Division in-service training program is conducted in three phases and consists of "annual in-service," "spring firearms" and "fall firearms." The in-service training is necessary in order to meet federal and state training requirements and to advance individual officer capability.

Annual in-service is usually around 40 hours and consists of 10 training sessions conducted over a 10-month period. During these sessions, agents receive training in firearms, defensive tactics/use of force, officer survival, legal, first aid and electives. Spring and fall firearms training sessions focus on firearms qualification and training.

At the end of 2023, agents completed their annual and fall/spring firearms in-service training requirements, which consisted of the following:

SPRING/FALL: IN-SERVICE

- Firearms- Rifles, Shotguns and Pistols

ANNUAL: IN-SERVICE

- First Aid/CPR/AED
- Monadnock Defensive Tactics Systems Defensive Tactics/DT Scenarios
- Monadnock Expandable Baton Retrainer
- HIATT Tactical Handcuffing
- DWI Intox. 9000 Recertification
- Standardized Field Sobriety Testing

DWI

Four agents were certified as Drug Recognition Experts, bringing the LDWF Enforcement Division total to 25 Drug Recognition Experts.

MARINE LAW ENFORCEMENT TRAINING PROGRAM

At the end of 2023, all agents had completed their annual recertification as Boat Operators for Search and Rescue in NASBLA, Boat Operations and Training Program. Additionally, LDWF is in the process of certifying multiple agents as NASBLA Instructors for Boat Crew Member, Boat Operator Search and Rescue, Tactical Operator Course and the Airboat Operator Course.

CRISIS INTERVENTION OR CRITICAL INCIDENT TRAINING

LDWF currently has 17 Crisis Intervention and Critical Incident members whom are part of the Agents Crisis Team and are trained in Crisis Intervention. The Agents Crisis Team team consists of agents who are specially trained as skilled listeners. The objective of the Agents Crisis Team is to provide support for law enforcement personnel, and their immediate family, who have experienced a critical incident or traumatic event. A Critical Incident is defined as any incident, action, or event, which has the potential for producing

significant emotional trauma that may adversely affect the psychological well-being of law enforcement personnel.

MARITIME SPECIAL RESPONSE TEAM

The LDWF Enforcement Division Maritime Special Response Team partners with the Louisiana State Police SWAT team to address maritime security threats within the state of Louisiana. The team provides a maritime tactical response capability at the state level in order to effectively provide public safety, officer safety, and tactical support for LDWF/LEDs federal, state and local partners.

During this period the LDWF Enforcement Division Maritime Special Response Team team completed their annual training which consisted of:

- Close Quarter Battle Techniques
- Firearms Training
- Security Zone Enforcement Procedures

- Underway Training
- Hostage scenarios
- Large Vessel Training
- Rural Operations and Tactical Tracking
- Water Survival

At the end of 2023, Maritime Special Response Team members had completed their annual recertification of the Tactical Operators Course in the NASBLA Boat Operations and Training Program.

RECRUITING

In 2017, LDWF established a Recruiting Section consisting of one full-time recruiter with the mission of attracting and retaining the best, brightest, and most talented candidates to become LDWF agents. In 2021, the Enforcement Division added a second full-time recruiter and 16 regional agents tasked with the part-time duty of recruiting. The two full-time recruiters attended law enforcement recruiting courses from the Public Agency Training Council and Law Enforcement Seminars. These current best training practices were the foundation used to train region agents tasked with recruiting duties to maximize recruitment efforts and develop recruiting programs. Also in 2021, the recruiting section launched its Ride-Along Program. In 2022, the recruiting section launched its Enforcement Internship Program. Both of these programs are designed to give prospective applicants the awareness and exposure needed to pursue a career in conservation law enforcement. In addition, LDWF revamped its website and produced multiple enforcement videos intended to recruit, inform, and retain future agents.

JOINT ENFORCEMENT AGREEMENT

The LDWF Enforcement Division again entered into a Joint Enforcement Agreement with NOAA's Office for Enforcement. The LDWF Enforcement Division received approximately $777,272 in FY 2023-2024 to patrol for compliance with federal commercial and recreational fisheries regulations, primarily in the Gulf of Mexico.

OPERATION GAME THIEF

Louisiana Operation Game Thief, Inc. is a program which provides cash rewards to those providing information leading to the apprehension of wildlife violators. Violations can be reported anonymously by calling a 24-hour toll-free telephone number (1-800-442-2511) or by using LDWF's tip411 program. To use the tip411 program, citizens can text LADWF and their tip to 847411 or download the "LADWF Tips" iPhone or Android apps from the Apple App Store and Google Play free of charge. The hotline and the tip411 program are monitored 24 hours a day by the LDWF Communications Center. Reports are immediately referred to agents for action.

During the 2023-24 year, OGT paid out $18,750 in rewards. In the 2023-24 year, the LOGT board reviewed 40 cases that led to 83 subjects getting cited or arrested and a total of 195 citations issued. From 1984 until the time of this report, the LOGT board has paid out a total of $501,210 in reward money to informants.

HOMELAND SECURITY/ EMERGENCY PREPAREDNESS

The LDWF Enforcement Division is an active participant in Louisiana's Homeland Security Plan and represents the state in waterborne emergencies. Through the Governor's Office of Homeland Security and Emergency Preparedness, the LDWF Enforcement Division is the lead agency for search and rescue operations during natural disasters and maritime security of Louisiana's vital business and government interests along the coast and major rivers. As members of the Governor's Homeland Security Advisory Council and all major port security committees within the state, LDWF Enforcement Division agents frequently respond to requests to deploy LDWF marine resources for security concerns. The LDWF Enforcement Division's specialized training and equipment and its ability to operate throughout the state's vast maze of waterways and wild areas has complemented Louisiana's ability to respond to emergencies on land and water.

Emergency Support Function annual support plan for maritime and port security has been updated. The LDWF Enforcement Division serves as the primary port and maritime security support partner.

The LDWF Enforcement Division is a member of the First Responder Committee through the Governor's Office of Homeland Security and Emergency Preparedness which was legislatively created. The LDWF Enforcement Division's maritime security role coincides as a multi-mission responsibility and further enhances the agency's core mission responsibilities to improve public safety services and protect natural resources and the supporting ecosystem while improving security in the state and nation.

ACQUISITIONS

EQUIPMENT:

- 49 Bullet Proof Vests
- Dodge RAM 2500 4x4 Trucks
- 48 Warn Winches
- 48 Westin Winch Trays and Bumpers
- 8 McClain 22' Boat Trailers
- 1 Mavic 3 Classic Drone
- 2 Mavic 3 Drone 5s
- 2 Suzuki 30 HP Boat Motors
- 2 Suzuki 250 HP Boat Motors
- 2 Suzuki 300 HP Boat Motors
- 10 Suzuki 350 HP Boat Motors
- 52 Soundoff Nforce Light-bars
- 220 STAG Arms 16 Inch Duty Rifles
- 15 STAG Arms 10.5 Inch Duty Rifles
- 11 Glock 17 Gen 5 Pistols
- 4 Glock 43x Pistols
- 32 Solar Mobile Cameras (Litter Abatement)
- 8 Axis Pinhole Cameras (Litter Abatement)
- 1 Axis Dome Camera (Litter Abatement)

PUBLIC INFORMATION

The LDWF Enforcement Division Public Information section does various media and public information related tasks. The public information section handles public emails, Facebook questions, media requests including setting up interviews, and gathering enforcement related information. The public information section also provides footage and photos to media outlets both in-state and nationally.

The LDWF Enforcement Division issued 123 enforcement related press releases during FY 2023-2024. These press releases were issued to a media contact list via email both state and nationwide. They were also posted on the LDWF website. The press releases ranged from rewards for information on current cases, conviction results, announcements of event and upcoming cadet academies, highlighting important and unusual cases, enforcement division and agent achievements and awards won, and boating safety information.

LDWF Enforcement Division public information also produces videos for both external and internal use. The videos range from public service announcements, cadet recruitment, hunting and boating safety and cadet training. The videos for this fiscal year included a safe boating patrol stop video, personal flotation device education video and Operation Dry Water video.

LDWF ENFORCEMENT NEWS

Former LDWF Enforcement Division Colonel Passed Away on March 2

Longtime LDWF Enforcement Division Colonel, Winton Vidrine, passed away on March 2 in St. Landry Parish.

Vidrine, 80, a lifelong resident of Plaisance, worked as an LDWF Enforcement Division agent for 44 years including the last 25 years of his career as the colonel before retiring in 2013.

"The entire team at the Louisiana Department of Wildlife and Fisheries is saddened to hear about the passing of Winton Joseph Vidrine," said LDWF Secretary Madison Sheahan. "A longtime LDWF agent and colonel himself, Winton was instrumental in creating the Louisiana Wildlife Agents Association and building it into the organization that it is today. His work for the state of Louisiana will live on for generations. Winton will be deeply missed, and our prayers are with his friends and family."

Vidrine started his career with the LDWF Enforcement Division in 1970 working out of the Opelousas Office. In 1972, Vidrine was instrumental in creating the Louisiana Wildlife Agents Association to help organize agents statewide into a collective unit, which is still active today. Vidrine was promoted to lieutenant in 1973 and in charge of covert operations.

Vidrine was promoted to captain in 1976 and was put in charge of over 20 agents within the Opelousas district. In 1978, Vidrine was promoted to major overseeing the Baton Rouge and Opelousas districts. Vidrine was again promoted to lieutenant colonel in 1980 working in New Orleans at the LDWF Headquarters. In 1982, LDWF moved their headquarters from New Orleans to its current home in Baton Rouge.

Vidrine then took over the top position for the LDWF Enforcement Division in 1988, which is a position he held for the last 25 years of his career. He worked under 16 different secretaries during that time.

Former LDWF Enforcement Division Colonel Winton Vidrine

Vidrine's top priority when taking over for enforcement was training. Beginning in 1990, he implemented a more tailored training program for LDWF Wildlife Cadets that included classes on the laws for fisheries and wildlife management, driving while intoxicated detection, migratory game bird and fish identification, boating, and search and rescue training. These changes increased the training a cadet receives from 12 weeks to over 20 weeks. In 2001, LDWF initiated their first fully accredited and peace officer standards and training (POST) certified LDWF Training Cadet Academy that was completely taught and ran by LDWF agents.

As colonel, Vidrine oversaw the search and rescue operation for the LDWF Enforcement Division following Hurricane Katrina in New Orleans and surrounding areas. The search and rescue efforts were recognized by congress in Washington D.C. and led to the LDWF Enforcement Division being named the state's leading search and rescue agency by the Governor's Office of Homeland Security and Emergency Preparedness.

During the 2010 *Deepwater Horizon* Oil Spill, Col. Vidrine oversaw agents enforcing the emergency commercial and recreational fishing closures, reporting oil and oiled wildlife sightings, patrolling booming operations, providing security detail for VIPs and escorting media to the oil spill area.

LDWF Agent Awarded as Mississippi Flyway 2022-2023 Waterfowl Officer of the Year

An LDWF Enforcement Division agent was acknowledged as the 2022-23 Mississippi Flyway Council Waterfowl Enforcement Officer of the Year at the Louisiana Wildlife and Fisheries Commission meeting this morning, Sept. 7.

Corporal Joshua Harris received the Mississippi Flyway Council award at their meeting in Eureka Springs on Aug. 24. Corporal Harris is the first Louisiana enforcement agent to earn the council's top award for waterfowl enforcement.

"Winning this award for the first time as a Louisiana wildlife agent is very impressive and well earned," said Col. Rachel Zechenelly. "Corporal Harris has a done a great job of enforcing waterfowl regulations and representing our department and state."

The Mississippi Flyway Council is comprised of 15 states and three Canadian provinces including Alabama, Arkansas, Indiana, Illinois, Iowa, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Ohio, Tennessee, and Wisconsin, and the provinces of Saskatchewan, Manitoba, and Ontario. Each year the council recognizes one law enforcement agent from each state and province for waterfowl enforcement. They then pick one law enforcement agent from those recipients for their top award.

Corporal Harris has been an LDWF agent for 10 years and is assigned to Union Parish. Corporal Harris patrols include the Mississippi River, the Ouachita River Basin, and eight parishes of flooded agriculture lands. He also patrols public lands including the Upper Ouachita, D'Arbonne, Black Bayou and Tensas national wildlife refuges, and the Boeuf and Russell Sage wildlife management areas.

Corporal Harris is an LDWF waterfowl identification and enforcement instructor for their cadet academies and he provides an annual waterfowl enforcement presentation to LDWF agents to keep them up to date on yearly regulation changes.

Corporal Harris led the state of Louisiana in waterfowl cases for the 2022-23 waterfowl season with 73 waterfowl specific citations. Investigations conducted by Corporal Harris included multiple over the limit of waterfowl citations, migratory game bird baiting violations, non-toxic shot violations, and unplugged gun violations.

LDWF Agent Named National Boating Officer of the Year

An LDWF Enforcement Division agent was recently named the 2023 NASBLA Boating Officer of the Year.

Lt. Jason Russo, of Metairie and a 21-year veteran with the LDWF Enforcement Division, was honored with the national NASBLA award for his continuous dedication to enforcing boating safety laws and educating the public at NASBLA's annual conference on Sept. 21. Lt. Russo is the first agent from Louisiana to win this national boating officer award.

"Lt. Russo is very deserving of this national boating safety award. He has always done a great job of enforcing boating safety laws and teaching boating safety classes to the public," said Col. Rachel Zechenelly, head of the Enforcement Division. "Lt. Russo is also a leader in his region as he helps mentor younger agents especially when it comes to boating safety education and patrol."

Lt. Russo has been a boating safety instructor for over 18 years teaching safe boating classes. His training includes successful completion of the Federal Law Enforcement Training Center (FLETC) Marine Patrol Officer's course, FLETC Marine Law Enforcement Training Program, NASBLA's Level I Boating Incident Investigation course, NASBLA's Level II Boating Incident Investigation Reconstruction course, and he serves as an instructor for NASBLA's Level I Boating Incident Investigation course and its Officer Water Survival course.

Lt. Russo has demonstrated leadership when it comes to boating safety as four of the agents he directly supervises have received safe boating awards in the past six years. His commitment to enforcing boating safety laws and educating the public on boating safety in the field have benefited the LDWF Enforcement Division and the people that he serves.

Lt. Russo was awarded with the NASBLA Southern Region Officer of the Year award this past June.

LDWF Enforcement Agent Recognized at November Commission Meeting

An LDWF Enforcement Division agent was honored at the Nov. 2 Louisiana Wildlife and Fisheries Commission meeting held in Baton Rouge.

Shikar-Safari Club International presented their 2022 Conservation Officer of the Year award for Louisiana to LDWF Corporal Blaine Wagner. The Shikar-Safari award recognizes an agent from each state for outstanding efforts in conservation law enforcement.

Corporal Wagner has been an LDWF agent for over nine years and mainly patrols Plaquemine and St. Bernard parishes.

Corporal Wagner consistently is one of the leaders in cases in his region. His cases are primarily commercial and recreational fishing violations including oyster theft, closed season oyster fishing, illegal harvest of undersized crabs and immature female crabs and over the limit and undersized recreational fish.

Corporal Wagner is also a boating safety education instructor and a drone pilot for his region.

LDWF Agents Transported 178 Essential Workers in Inclement Weather

The LDWF Enforcement Division provided transportation for essential workers who were unable to travel to work due to unsafe driving conditions caused by icy and snowy roads in the northern part of the state.

Agents transported 178 essential workers to and from work beginning on Jan. 15 and ending Jan. 17.

LDWF agents provided this service for The Oaks Nursing and Rehabilitation Home in Monroe, Northeast Veterans Home in Monroe, Northwest Veterans Home in Bossier City and the Willis-Knighton Medical Center in Shreveport.

Gov. Jeff Landry Visits LDWF Headquarters and Meets Enforcement Division Agents

Gov. Jeff Landry met with and spoke to more than 200 LDWF Enforcement Division agents at their statewide meeting on Feb. 7 at LDWF Headquarters in Baton Rouge.

LDWF Secretary Madison Sheahan, Deputy Secretary Stephen Clark and Col. Rachel Zechenelly also addressed the agents and met with Gov. Landry and First Lady Sharon Landry.

"I grew up hunting and fishing and wanted to be a game warden when I was younger. I admire you and thank you for the work you do. I have hand-picked Secretary Sheahan and built an executive team here at Wildlife and Fisheries that has my unwavering support to make positive changes here at the agency," said Gov. Landry.

LDWF Agents Wrapped Up Patrols in New Orleans for Mardi Gras

LDWF Enforcement Division agents finished assisting Louisiana State Police and New Orleans Police Department with Mardi Gras patrols in the French Quarter area of New Orleans.

LDWF agents provided these patrols to assist with crowd control, enforcement and public safety from Feb. 9 to Feb. 14, which included 17 LDWF agents and two LDWF biologists per day, resulting in a total of 1,240 man-hours worked.

"It's great to see true teamwork with Louisiana Department of Wildlife and Fisheries, Louisiana State Police, and New Orleans Police Department working to make the city of New Orleans safe," said Governor Jeff Landry.

Agents were specifically on the lookout for illegally possessed animals in the French Quarter area for the safety of the residents and tourists in the city. LDWF agents wrote citations for the illegal possession of five snakes and one opossum. Agents also cited a person for selling turtles without a reptile retail dealer's license.

LDWF agents along with LDWF biologists seized a 14.5-foot reticulated python, a 10-foot reticulated python, a 3-foot ball python, and an opossum.

In addition to this, LDWF agents assisted Louisiana State Police with making 76 arrests on illegal weapons and drug charges and helped Louisiana State Police seize 57 illegal guns, two stolen motorcycles, and illegal drugs from the streets. Furthermore, LDWF agents worked with Louisiana State Police in securing crime scenes, arresting a pickpocket thief, and breaking up numerous fights that occurred on Bourbon Street.

State charges for the illegal possession of the snakes and the possum bring up to a $500 fine and 90 days in jail. Selling turtles without a reptile dealer's license also carries up to a $500 fine and 90 days in jail.

PUBLIC INFORMATION

ORGANIZATIONAL STRUCTURE & PERSONNEL

The LDWF Public Information Office is headed by the Communications Director, who reports directly to LDWF's Secretary and oversees administration of the section. Reporting to the Communications Director are three Public Information Directors. The Public Information Office handles the communication programs for LDWF. These programs cover a variety of communication outlets including publications and brochures, media relations, press releases, social media, audio-video productions, photography, and website development.

The LDWF Public Information Office is currently headed by Taylor Brazan. After graduating from Louisiana State University with a B. A. in Communication and as a Distinguished University Medalist, Taylor went on to work an internship in Digital Marketing at Blue Cross and Blue Shield of Louisiana and later served as Marketing and Conference Coordinator at MasteryPrep. Following this, she joined the team at Community Coffee as their Corporate Communications Specialist, where she was responsible for shareholder relations, non-profit partnerships, and shaping, and maintaining the company's voice and reputation. Taylor served on the Board for the Salvation Army and volunteers as a mentor to 8-12th grade students through Junior Achievement.

SOCIAL MEDIA

LDWF continues to strengthen constituent engagement by leveraging and enhancing its social media platforms and execution. Our constituents are taking a more active role in social media conversations and storytelling today, making our social media outlets one of the key methods of distributing department information. As our Facebook page audience continues to grow, the agency has shifted some of its social media focus to Instagram, to begin building a stronger audience base on this platform. Instagram is a great tool to showcase behind-the-scenes work at the agency that our constituents don't typically get to see. Facebook remains our strongest social channel, and thousands of questions are submitted annually through the messaging function, providing constituents another means of communicating with LDWF.

- Facebook Followers: 143,819
- Instagram Followers: 13,182
- YouTube Subscribers: 2,334
- X (Twitter) Followers: 8,230

PUBLICATIONS

The Public Information staff is responsible for the production of specialized publications, all regulation pamphlets and the annual report. All pre-press functions, including graphic design and final printing approvals are handled by staff in this section.

Specialized publications include any publication not produced on a regular basis. These publications are used for educational, informational and promotional use for conservation management programs and special events.

LOUISIANA CONSERVATIONIST MAGAZINE

Louisiana's longest running outdoor magazine returned to print in the fall of 2016. The "Louisiana Conservationist" had been the long-standing outdoor publication for Louisiana's wildlife and fisheries enthusiasts.

The "Louisiana Conservationist" is a 100-year-old publication that began in 1917 when Lucy Powell Russell became the first female to serve as Secretary of the state's wildlife agency.

The long-term goal of the magazine is to serve as an educational outlet for anyone yearning to know more about Louisiana's outdoors, especially students. The print publication is a product of existing department staff, and available free of charge on a quarterly basis from LDWF field offices across the state. The current issue, and archived issues back to the magazine's inception in 1927 are available at *www.wlf.la.gov/page/la-conservationist*.

PHOTOGRAPHY AND AUDIO-VIDEO PRODUCTIONS

The Public Information Office is responsible for the production of specialized audio and video projects, video news releases, media footage requests, and audio recordings of various meetings. The audio and video library consists of more than 2,000 tapes of raw footage available for media and education purposes. Public Information staff is also responsible for department photography needs. Experienced photographers are on staff to help document the numerous department programs featured in LDWF news releases, brochures, posters and the "Louisiana Conservationist" magazine.

The Audio and Video Production staff assisted the department in promoting several programs throughout the year by producing educational videos and video news releases for media distribution and for viewing by the public on LDWF's website and across LDWF social media platforms. Public Information staff handle all video pre- and post-production in-house.

Public Information staff has implemented a digital storage and file sharing system for our large library of videos and photos. This searchable system archives tens of thousands of files, many of which are rare historic images from LDWF's past. Many of our videos are also shared publicly on our YouTube channel at *www.youtube.com/user/LAWildlifeFish*.

WEBSITE

The LDWF website, wlf.louisiana.gov, is the primary communication tool to the public for our news, research, publications, regulations, events, etc. Between July 1, 2022 and June 30, 2023 we had 4.6 million users to the site, 7.7 million sessions and 15.1 million page views.

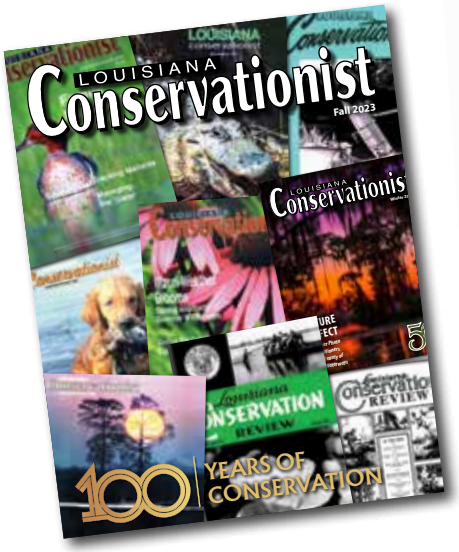
VIDEO HIGHLIGHTS

For the LDWF Enforcement Division 36th Cadet Academy commencement ceremonies, LDWF Public Information produced a video highlighting the extensive law enforcement training occurring during the 6-month academy.

In November of 2023, LDWF Public Information produced a short video highlighting the 2024 Louisiana Waterfowl Conservation Stamp Competition. A total of 12 entries were submitted for the contest from seven different states including Louisiana, Florida, Georgia, Indiana, Nebraska, Ohio and Virginia. Ruddy duck was the species selected for the 2024 contest.

In April of 2024, LDWF Public Information produced a video about the LA Creel program. LA Creel is LDWF's recreational saltwater landings data collection program that uses a combination of data collected dockside and through phone and email surveys to estimate recreational saltwater fish harvests.

PUBLICATION HIGHLIGHTS



In the fall of 2023, Public Information released the 100-year anniversary issue of the Louisiana Conservationist Magazine

Public Information designed Future Biologist and Enforcement Agent stickers to hand out at educational and promotional events

Public Information produced two rack cards, one to promote the LDWF Enforcement Agency Academy and anther to promoted the Becoming an Outdoors Woman (BOW) Program

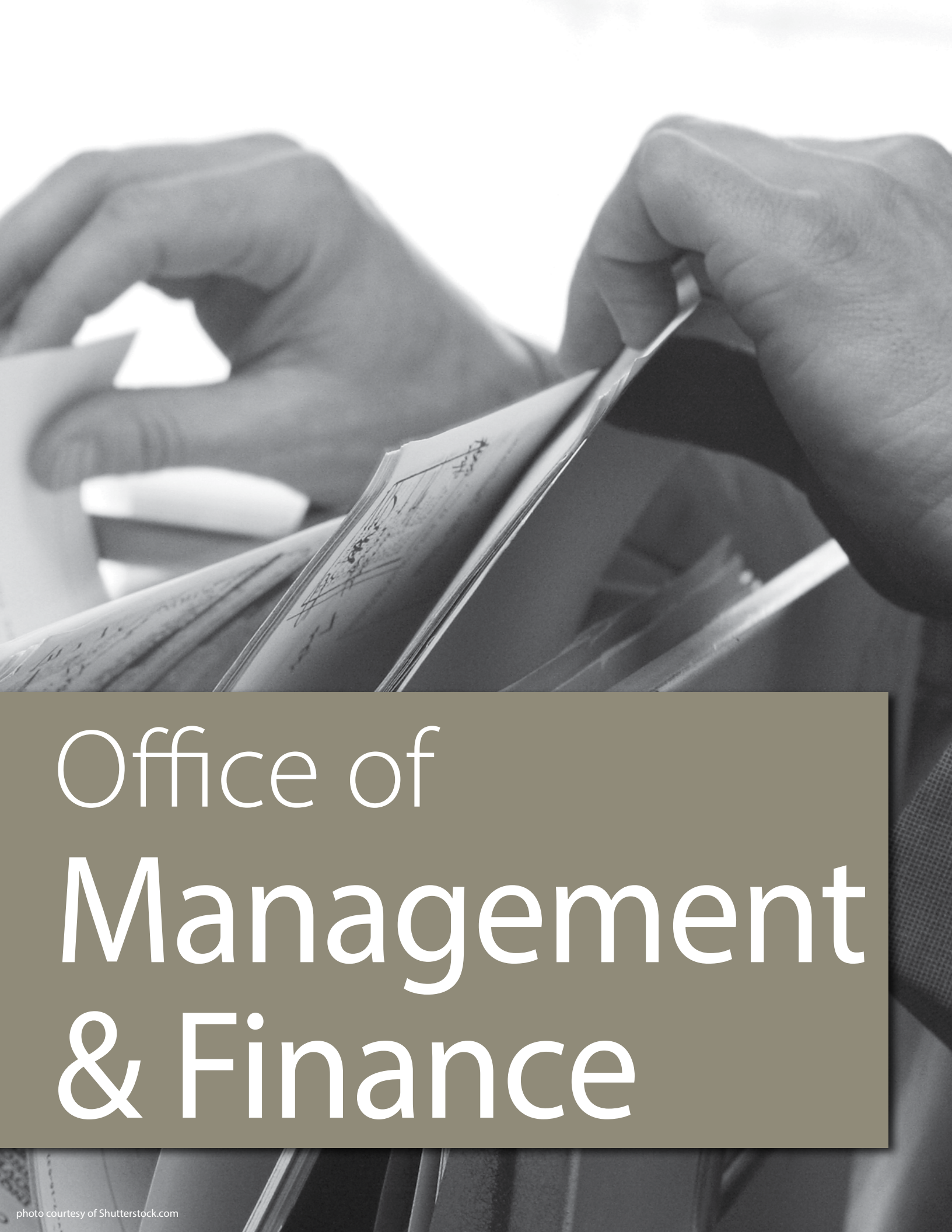
SOCIAL MEDIA HIGHLIGHTS

Date Posted: March 11, 2024
Facebook: Reach - 181,223; Interactions - 2,338
Instagram: Reach - 56,030; Interactions - 8,951
X (Twitter): Impressions - 416; Engagements - 27

Date Posted: May 23, 2024
Facebook: Reach - 208,960; Interactions - 1,262
Instagram: Reach - 24,748; Interactions - 1,035
X (Twitter): Impressions - 2,322; Engagements - 120

Public Information produced a tri-fold brochure to provide information on the Red-Cockaded Woodpecker Safe Harbor Program

Date Posted: March 29, 2024
Facebook: Reach - 108,109; Interactions - 1,009
Instagram: Reach - 4,112; Interactions - 4,112
X (Twitter): Impressions - 242; Engagements - 11



Office of Management & Finance

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ORGANIZATIONAL STRUCTURE & PERSONNEL

The LDWF Office of Management and Finance is headed by the Undersecretary, who reports directly to LDWF's Secretary and oversees administration of the section. Reporting to the Undersecretary are the Deputy Undersecretary and an Executive Management Officer. The Office of Management and Finance is responsible for the following functions: human resources, accounting, budget forecasting and control, strategic and operational planning, property control and fleet management, boat registration, motor and boat titling, federal grant reporting, license and permit administration and issuing, fees, taxes and penalties collections.

The Office of Management and Finance is currently headed by Bryan McClinton. Bryan has been with LDWF since 2008 and has served as Undersecretary since 2013. He oversees the Office of Management and Finance (OMF), which is responsible for fiscal and human resource management, licensing, procurement and general administrative services. The OMF was awarded the Louisiana Performance Excellence award Level 1 in 2019, becoming the first state Agency to receive the honor. McClinton, a native of Livonia, LA, previously served as a budget manager for the Louisiana Department of Corrections. He holds a B.S. in Finance from Louisiana State University, and Master's degrees in Business Administration and Pastoral Studies from Loyola University in New Orleans.

The Office of Management & Finance structure is comprised of the following sections and programs:

- ***Human Resources***- to oversee a wide range of employee-related programs aimed at managing and supporting the workforce and the agency
- ***Administrative Services***- to oversee LDWF's movable property program, fleet management program, and managing property, marine, general liability, aviation and vehicle insurance claims.
- ***Licensing***- to administer the issuance of all licenses, harvest tags and most other permits, boat and motor titles and registrations, and is responsible for the collection and deposit of related fees.
- ***Fiscal***- to oversee all financial operations of LDWF.
- ***Socioeconomic Research & Development*** - to prepare Fiscal and Economic Impact Statements that accompany the Notices of Intent for rules and regulations.

HUMAN RESOURCES

The Human Resources section originates and leads human resources practices and objectives that provide an employee-oriented, high performance culture emphasizing empowerment, quality, high productivity and standards, goal attainment, and the recruitment and ongoing development of a superior workforce. The Human Resources section is actively involved in developing, organizing and carrying out programs, projects and operations to assist in furthering LDWF's mission and goals. The section works to ensure all programs are in compliance with the Louisiana State Civil Service (SCS) rules and LDWF policies and procedures as well as state and federal laws, regulations and guidelines.

The authorized number of funded positions for LDWF for FY 2023-2024 was 789. LDWF also employs students and other temporary employees throughout the state and has a total of 805 employees statewide.

The Human Resources program areas include:

ORGANIZATIONAL MANAGEMENT

- Maintaining and/or monitoring organizational areas, costing issues, and position authority in the LaGov Human Capital Management system.
- Working with agency administrators to develop and structure organizational units and position reporting relationships.
- Assuring appropriate documentation is maintained for all employees in compliance with record and retention policies.
- Managing the human resources section of the OnBase paperless scanning system.

CLASSIFICATION & COMPENSATION ADMINISTRATION

- Reviewing job specifications and position descriptions and making recommendations for classification and compensation issues.
- Managing the position description process.
- Advising managers and employees regarding the SCS system's classification and compensation, policies, rules and structure.
- Meeting with department heads and SCS staff to address and resolve allocation and/or salary issues.
- Preparing job studies for submission to SCS.

RECRUITING, SELECTION, PLACEMENT

- Advising agency personnel and clients on recruitment and staffing matters.
- Advising section heads, appointing authorities and managers on various appointment types and selection procedures in order to create and maintain a diverse workforce.
- Serving as the LDWF system administrator for the NeoGov (LaCareers) Online Hiring Center.
- Administering the onboarding program which aids new employees in acquiring the necessary knowledge, skills and behaviors to become effective organizational members.
- Facilitating pre-employment drug testing and criminal history checks for all LDWF new employees. Managing the random drug testing process for active employees.

EMPLOYEE ADMINISTRATION

- Managing the notification process for the attainment of permanent status by probational employees and attainment of career progression group eligibility for LDWF employees.
- Developing the LDWF workforce plan and collaborating with LDWF sections to create workforce plans tailored to address specific needs/issues.
- Developing LDWF succession planning procedures.
- Managing and advising requests for unclassified and classified authority. Monitoring appointment contract end dates and requesting extensions.
- Serving as a resource for layoff-related matters and for handling administrative aspects of the layoff process to maintain compliance with the SCS rules.

DISCIPLINE, GRIEVANCES

- Working with management to investigate and address performance and behavioral incidents, grievances, appeals and other personnel matters.
- Managing disciplinary actions, SCS appeals and litigation resulting from employment actions in accordance with SCS rules and federal and state law.

PERFORMANCE EVALUATION SYSTEM

- Administering the Performance Evaluation System including reporting statistics to SCS. Training managers on the effective use of the Performance Evaluation System program and advising managers regarding performance management.

EMPLOYEE RECOGNITION

- Reviewing special pay requests for individuals under SCS rules: Optional Pay Adjustments; Rewards and Recognition; and other available pay mechanisms.

NEW HIRE ORIENTATION, BENEFITS, RETIREMENT

- Developing course materials and providing orientation to all new employees for LDWF.
- Educating and advising managers, section heads and employees on available health and life insurance policies and other programs available.
- Managing all aspects of the Annual Statewide Charitable Contribution Campaign for the LDWF.
- Assisting all active and retired employees for LDWF on all matters relating to retirement benefits.

PAYROLL, TIME ADMINISTRATION

- Conducting time and attendance audits for all LDWF agencies and auxiliaries for compliance with policies and procedures established by LDWF and/or the Office of State Uniform Payroll.
- Serving as the lead time administrator over the other section time keepers. Answering all time entry questions and providing guidance.
- Entering all prior pay period adjustments.

EMPLOYMENT LAWS

- Americans with Disabilities Act, Affirmative Action, Equal Employment Opportunity, Fair Labor Standards Act
- Advising and training employees regarding the applicability and obligations of federal employment laws (Fair Labor Standard Act, Family Medical Leave Act, American's with Disabilities Act, and Title VII) and assisting in the interpretation and administration of those laws. Managing these programs for LDWF and our employees.
- Maintaining updates on federal and state labor law postings. Assisting LDWF sections in maintaining compliance with the Fair Labor Standards Act and other state/federal pay provisions.

FAMILY MEDICAL LEAVE (FMLA)

- Managing FMLA requests including providing and reviewing the required forms, establishing eligibility, approving/denying requests and maintaining quotas

UNEMPLOYMENT

- Managing the claims made for unemployment by former employees of LDWF and clients.

POLICIES, PROCEDURES, ANNUAL REPORTING

- Developing, recommending, implementing, reviewing, interpreting and revising all LDWF personnel and compensation policies.
- Coordinating the Human Resources Strategic Plan.
- Processing all personnel/payroll actions and various other documents relating to employee status to ensure data integrity and quality assurance are maintained in accordance with SCS rules and regulations, departmental/agency policies and procedures, and federal and state laws.
- Facilitating the annual audits of human resources practices conducted by SCS, the Louisiana State Employee's Retirement System, the Teacher's Retirement System of Louisiana, the Louisiana Legislative Auditors, and the LDWF internal audit section.
- Managing public record requests specific to Human Resources.
- Managing all required human resources reporting (i.e., annual drug testing reporting to the Division of Administration, annual reporting to SCS, annual reporting to the Office of Statewide Reporting and Accounting Policy, annual Affirmative Action reporting, etc.).
- Drafting and maintaining departmental policies.
- Identifying and bringing to the attention of management employee trends which need to be addressed, current developments in labor and employment law which would impact the department, recommending implementation of best Human Resources practices in dealing with all employee matters.

WORKPLACE SAFETY

- Leading LDWF's safety program including, but not limited to, preparing Headquarters (non-Enforcement) for annual audits/compliance reviews; preparing quarterly safety meetings, providing assistance to field offices, maintaining-up-to-date Office of Risk Management training records and providing training reminders to employees, as necessary.

TRAINING AND DEVELOPMENT

- Ensuring employee compliance with training required by law, departmental policies, SCS and Office of Risk Management.
- Monitoring compliance with Minimum Supervisory Training, training required by law and legislation such as Ethics and Sexual Harassment and required Office of Risk Management training such as defensive driving.
- Leading management development and supervisory training by providing training to supervisors and other management personnel beyond that required by the Comprehensive Public Training Program and ensuring that these employees are aware of required training and training resources.

WORKER'S COMPENSATION

- Advising employees and coordinating with Office of Risk Management/Sedgwick concerning all issues relating to Workers' Compensation.
- Administering LDWF's Return to Duty policy for employee's suffering on-the-job illness/injury.

The table below highlights of some of the actions that were processed by Human Resources staff in FY 2023-2024. This is not an all-inclusive list of every action processed.

ACTION PROCESSED	NUMBER
Position Description Reviewed and Processed	451
Applications Received and Reviewed	2486
New Hires	157
Retirements	43
Separations	157
Career Progression Group Reallocations	89
Promotions	83
Market Adjustments	701
Miscellaneous Entries	473
Performance Evaluation System (PES) Documents Processed	1353
Worker's Compensation Claims	41

ADMINISTRATIVE SERVICES

The Administrative Services Section is responsible for managing and providing statewide regulatory oversight and assistance for LDWF's procurement, contracts, property, risk management insurance claims, fleet management programs, LaCarte Purchasing Card program, fuel card program, construction projects, leases, mail services, printing, and shipping and receiving services. The section has seven full-time employees and one student.

The administrative staff works closely with and supports the other divisions of LDWF. The staff insures compliance with all federal, state and department laws and regulations concerning the procurement process from acquisition to disposal.

During FY 2023-2024 this section accomplished the following:

PROCUREMENT & CONTRACTS

- Reviewed for compliance and approved 708 shopping carts
- Administered and maintained 170 Professional Service Contracts
- Served as Program Administrators for 568 Pcard accounts
- Served as Program Administrators for 2332 Fuel card accounts
- Administered and maintained 70 Leases including real estate, storage units, boat stalls, alligator egg and harvest, haying, timber sales and equipment
- Administered and maintained 23 construction projects

PROPERTY CONTROL PROGRAM

- Certified moveable property inventory, which consisted of 11,376 items for a total acquisition cost of $87,868,002
- Annually, the program is responsible for ensuring that a physical inventory of moveable property is conducted at its locations throughout the state.
- Driver's authorization and annual certification for LDWF's approximate 771 employees is also a responsibility of the Property Control program. This process is accomplished in accordance with Office of Risk Management's loss prevention guidelines.

FLEET MANAGEMENT PROGRAM

Recorded, approved and processed requests for personal assignment or home storage, daily vehicle usage, vehicle maintenance, and title, registrations and vehicle licenses for LDWF's approximately 570 fleet vehicles and 1,325 other licensed equipment.

RISK MANAGEMENT PROGRAM

Filed insurance claims and recovering payment from the Office of Risk Management and third party insurance companies for property damage, automobile physical and liability damage, and wet marine, aviation, boiler and machinery damage. The section is also responsible for filing general liability insurance claims.

GENERAL SERVICES

General Services consists of one employee supporting all divisions of LDWF by maintaining the mail system, receiving all deliveries, and shipping all packages for the Baton Rouge office. Also, maintains all printing job requests and a supply of paper and envelopes to be distributed to the Baton Rouge and various field offices.

LICENSING

The Licensing Section serves as the information hub for more than 1 million customers who operate businesses, fish commercially, recreationally fish and hunt, and use state lands for non-consumptive purposes. The staff provides customers with state, federal and commission laws, rules and regulations that govern fishing, hunting and titling/registration of boats and motors in Louisiana. The Licensing Section handles the issuance of all commercial licenses, boat and motor title and registration services, and various permits; and manages the statewide electronic licensing system providing recreational license availability at more than 700 locations statewide. The Licensing Section continues to evaluate processes and streamline to improve availability and reduce processing time for licenses and boat titles and registrations.

License and boat and motor title/registration activities and related revenue collections are as follows:

- Issued over 1.7 million recreational hunting, fishing, trapping and non-consumptive use licenses and permits sold to 800,000+ customers, generating in excess of $28 million in revenue. Maintained license records for in excess of 100,000 lifetime licensees.
- 48,100 commercial licenses sold, representing 8,600 commercial fishermen, 3,500 business entities, 1,000 charter businesses, and various permits that generated in excess of $7 million in revenue.
- 344,000 boat registration/title transactions that generated in excess of $5.9 million in revenue. Maintained boat data in excess of 1 million records- 315,000 of which are actively registered.
- Made available various types of game harvest tags to deer and turkey hunters and oyster tags to oyster fishermen and processors as required by federal and state law- in excess of 1.8 million.

FISCAL

The Fiscal Section staff consists of 13 employees who are responsible for the financial operations of LDWF. The main goals of the Fiscal Section are to achieve compliance with all applicable laws, rules, policies and regulations governing the functions managed, to provide guidance and support, and to provide accurate and timely financial reports, all with exceptional customer service to all interested parties. This section also develops and implements fiscal controls, monitors program spending and provides advice, assistance and training, and standardizes procedures for approximately 800 employees.

The functions include:

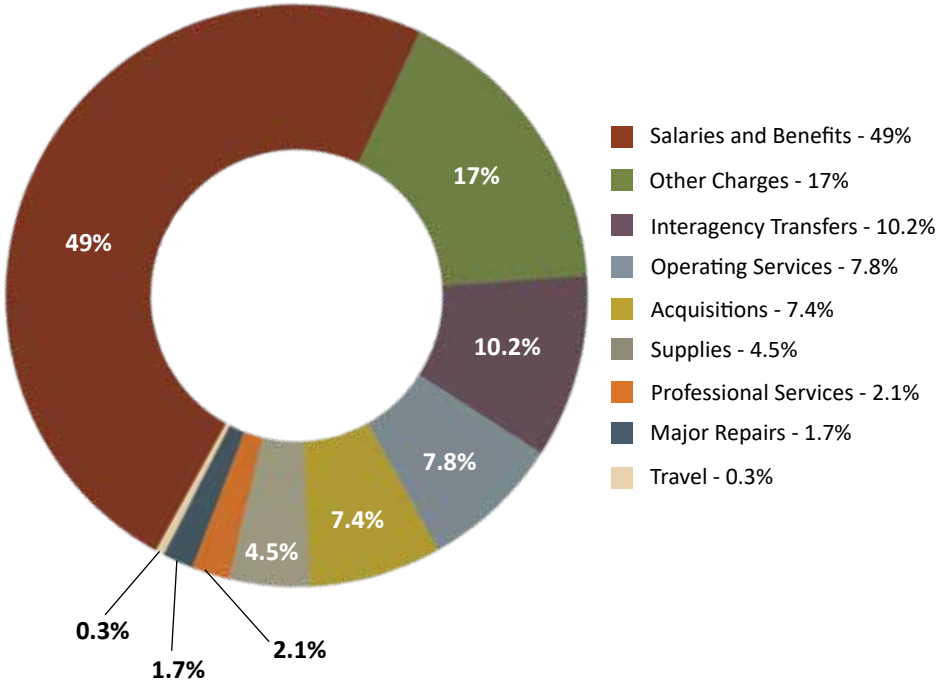
- Preparation of the annual operating and capital outlay budgets.
- Budget and expenditure control and monitoring.
- Federal grant tracking and reporting.
- Self-generated and interagency transfer agreement tracking and reporting.
- Preparation of annual financial report.
- Preparation of all required expenditure and fund financial reports.
- Reviewing and processing professional, consulting, Title 38 and Memorandum of Understanding contract payments.
- Processing of employee purchasing card transactions.
- Processing of employee travel reimbursements.
- Payment of all vendors.
- Receipt and classification of various sources of revenue.
- Fund management.
- Receipt of civil fines.
- Strategic and operational planning.
- Reviewing legislation and preparing fiscal notes.
- Consulting with internal and external auditors on all financial audits.
- Financial management of FEMA projects and other disasters.

During FY 2023-2024, the Fiscal Section staff:

- Controlled and monitored four agency budgets consisting of five programs totaling $281 million.
- Monitored department capital outlay budget totaling $219 million.
- Warranted funds and prepared periodic reports for 119 federal grants.
- Warranted funds and prepared periodic reports for five self-generated agreements.
- Warranted funds and prepared periodic reports for two interagency agreements.
- Audited and processed 4,544 contract invoice payments with a total amount payable of $58.7 million.
- Processed 4,595 vendor invoice payments.
- Audited and processed 11,952 purchasing card transactions.
- Audited and processed 914 travel reimbursements.
- Processed 401 checks through QuickBooks.
- Deposited $72,267,673 in receipts from various sources on 742 pay in vouchers.

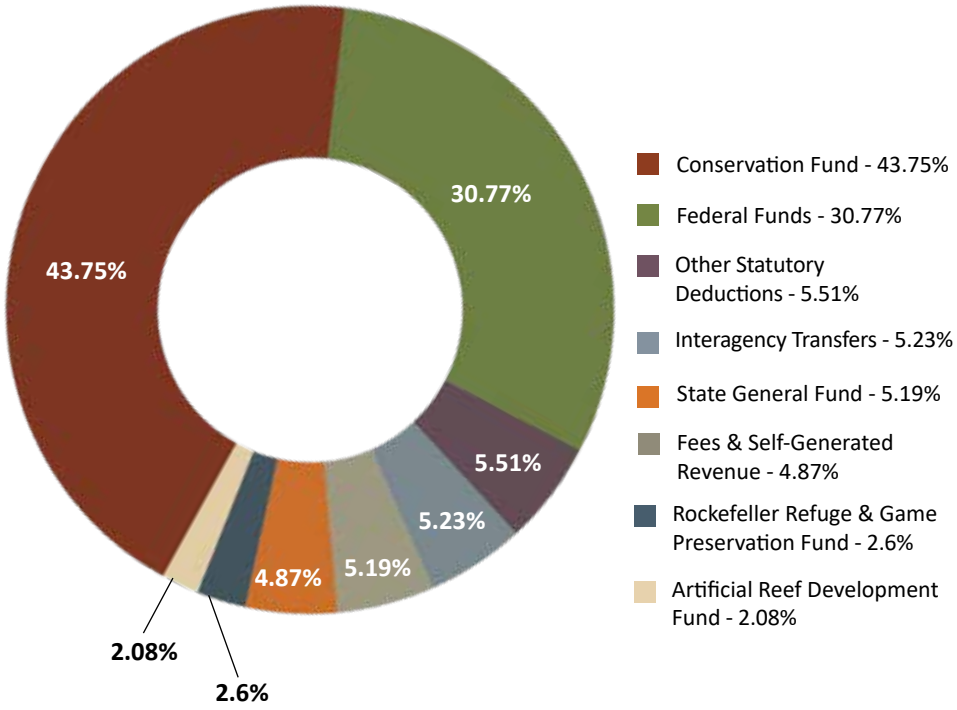
LDWF EXPENDITURES BY CATEGORY (FY 2023-2024)

Total Expenditures: $168,084,533



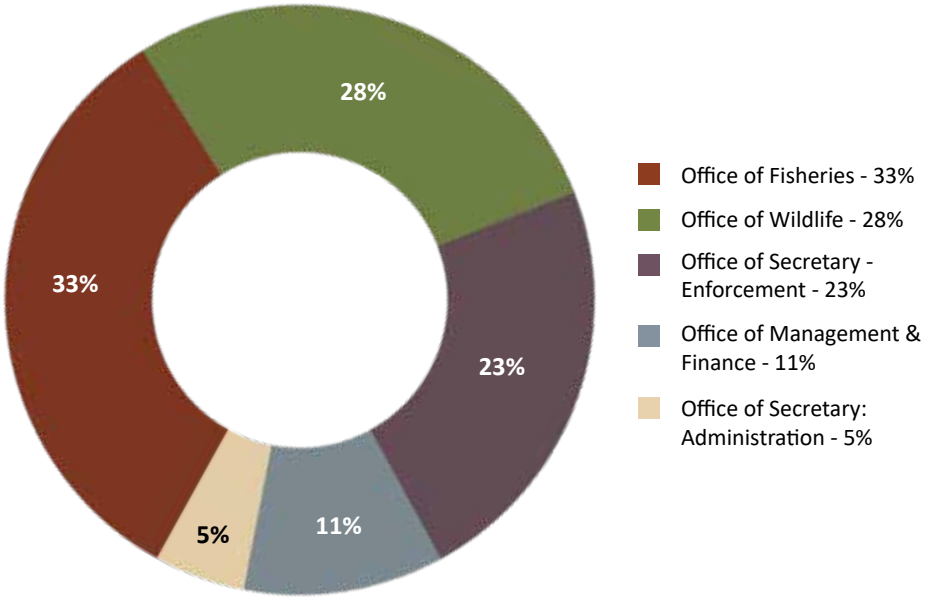
HOW EXPENDITURES WERE FUNDED (FY 2023-2024)

Total Expenditures: $168,084,533



LDWF EXPENDITURES BY PROGRAM (FY 2023-2024)

Total Expenditures: $168,084,533

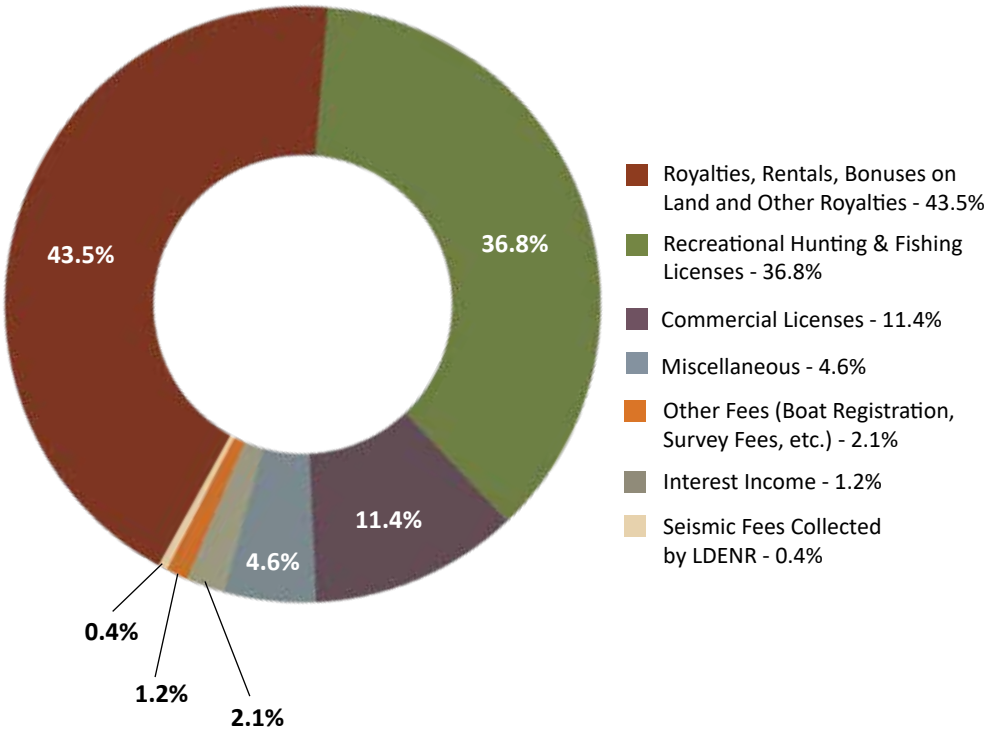


EXPENDITURES BY CATEGORY	
Salaries and Benefits	$82,281,517
Other Charges	$28,559,123
Interagency Transfers	$17,179,564
Operating Services	$13,035,563
Acquisitions	$12,451,475
Supplies	$7,630,330
Professional Services	$3,496,360
Major Repairs	$2,923,109
Travel	$527,492
TOTAL	***$168,084,533***

HOW EXPENDITURES WERE FUNDED	
Conservation Fund	$73,541,212
Federal Funds	$51,723,789
Other Statutory Dedications	$9,260,644
Interagency Transfers	$8,787,571
State General Fund	$8,716,442
Fees & Self-Generated Revenue	$8,189,348
Rockefeller Refuge & Game Preservation Fund	$4,371,646
Artificial Reef Development Fund	$3,493,881
TOTAL	***$168,084,533***

SOURCES OF REVENUE TO THE CONSERVATION FUND (FY 2023-2024)

Total Revenue: $52,986,239



EXPENDITURES BY PROGRAM	
Office of Fisheries	$54,908,544
Office of Wildlife	$47,288,522
Office of Secretary - Enforcement	$39,253,401
Office of Management & Finance	$18,728,081
Office of Secretary - Administration	$7,905,985
TOTAL	***$168,084,533***

SOURCES OF REVENUE TO THE CONSERVATION FUND	
Royalties, Rentals, Bonuses on Land, and Other Royalties	$23,073,643
Recreational Hunting & Fishing Licenses	$19,521,743
Commercial Licenses	$6,050,850
Miscellaneous	$2,422,341
Other Fees (Boat Registration, Survey Fees, etc.)	$1,103,096
Interest Income	$616,300
Seismic Fees Collected by LDENR	$198,266
TOTAL	***$52,986,239***

SOCIOECONOMIC RESEARCH & DEVELOPMENT

The Socioeconomic Research and Development 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 Socioeconomic Research and Development Section prepares Fiscal and Economic Impact Statements that accompany the Notices of Intent for rules and regulations considered for adoption by the Louisiana Wildlife and Fisheries Commission. During FY 2023-2024, 15 Fiscal and Economic Impact Statements were developed and published along with the Notices of Intent in the Louisiana Register.

SURVEYS

FLOOD EVENT EQUIPMENT MODERNIZATION GRANT SURVEYS

The Socioeconomic Research and Development Section worked with Marine Fisheries to develop questionnaires for recipients of Flood Equipment Modernization Grants. They will be deployed in 2024-2025 after the completion of the grant program.

LDWF WATERFOWL ENFORCEMENT SURVEY

The Socioeconomic Research and Development Section assisted the Law Enforcement Division with an internal survey of agents regarding waterfowl regulation enforcement matters. Results were presented in a SWOT format.

LDWF LAW ENFORCEMENT DIVISION AGENT SURVEY

The Socioeconomic Research and Development Section aided the Law Enforcement Division with the design of the questionnaire for an internal survey of agents, assisted in the collection of data, and in the summarization of survey results.

2023 NATIONAL HUNTING AND FISHING DAY SURVEY

The Socioeconomic Research and Development Section sent survey invitations to 276 participants at the Baton Rouge National Hunting and Fishing Day event using e-mail addresses that they provided when entering. The survey revealed a high degree of satisfaction among attendees. Eighty-two percent of the respondents rated their experiences at the event as "excellent" and 18% as "very good."

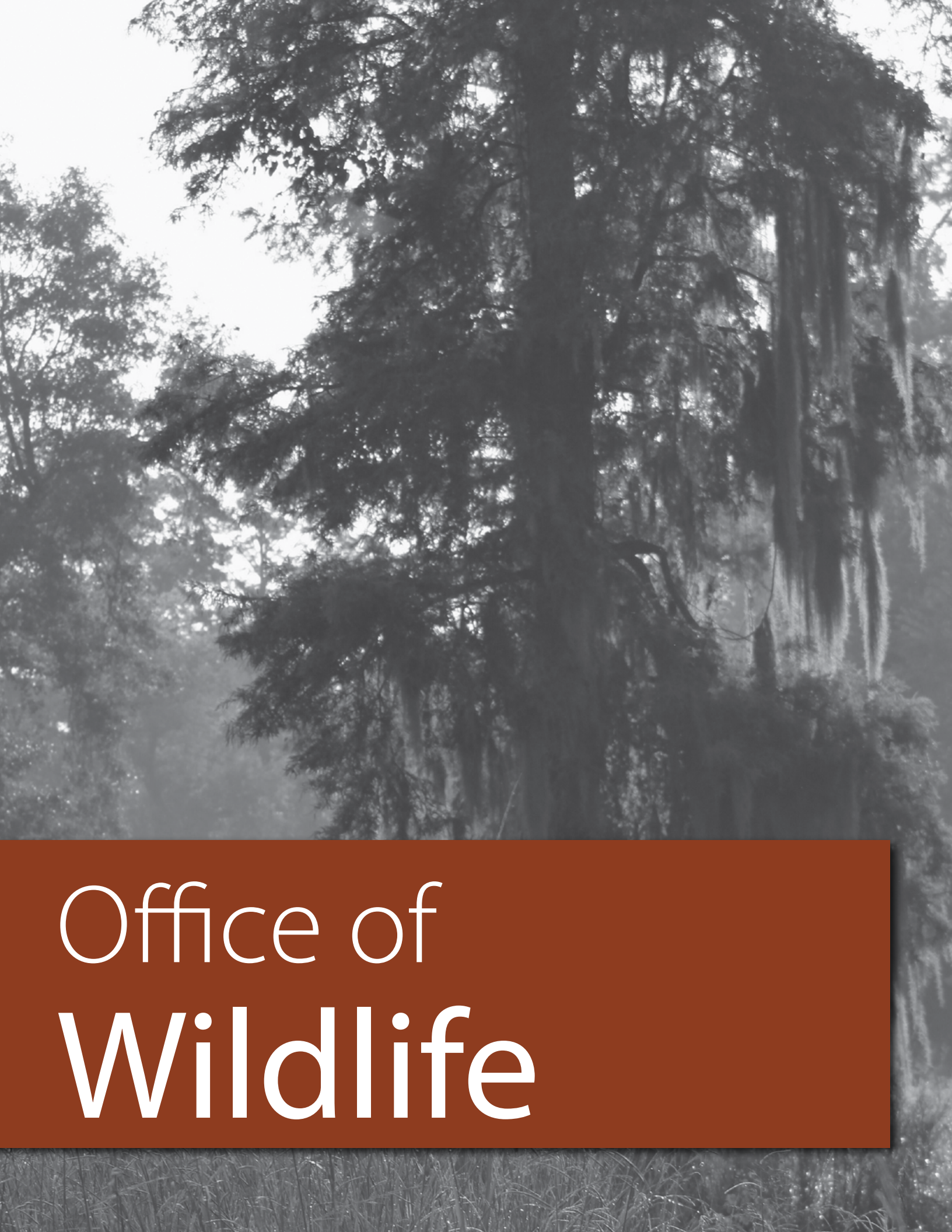
PUBLICATIONS, REPORTS AND PRESENTATIONS

Isaacs, Jack C. "Shrimp Product Imports Presentation June 2024" Presentation Given to the Louisiana Shrimp Task Force, June 2024.

REPRESNTATION ON TASK FORCES, STUDY GROUPS AND COMMITTEES

During FY 2023-2024, Socioeconomic Research and Development staff members represented LDWF on the following task forces, study groups and committees:

- Louisiana Blue Crab Task Force
- Louisiana Finfish Task Force
- Louisiana Gulf Hypoxia Working Group
- Louisiana Shrimp Task Force
- Socioeconomic Scientific and Statistical Committee of the Gulf of Mexico Fishery Management Council



Office of Wildlife

WILDLIFE DIVISION

ORGANIZATIONAL STRUCTURE & PERSONNEL

LDWF's Office of Wildlife is headed by the Deputy Secretary, who reports directly to LDWF's Secretary and oversees administration of the division. Reporting to the Deputy Secretary are three Biologist Administrators, who oversee the Wildlife Division, Habitat Management and Operations/Outreach sections. The Wildlife Division is responsible for the state's wildlife conservation program, gathering biological data to properly manage wildlife resources, and conservation of coastal wildlife species and their associated habitats, along with statewide responsibility for nongame and threatened and endangered species, mandatory hunter education and training, minerals management, and wetlands conservation through regulatory programs.

The LDWF Office of Wildlife is currently headed by Randy Meyers, Scott Longman, and Tommy Tuma

The Office of Wildlife structure is comprised of the following sections and programs:

- ***Wildlife Research***- to maintain healthy productive populations of wildlife and provide wildlife-associated recreational opportunities.
- ***Wildlife Diversity Program***- to manage conservation of Louisiana's rare, threatened, and endangered plant and animal species, all nongame birds, and natural communities.
- ***Education Program***- to provide hunter education and general wildlife education/outdoor skill development.
- ***Land Development & Management***- to improve forest and wildlife habitat on WMAs, deliver conservation priorities to Louisiana's landscape and provide an array of outdoor recreational opportunities to the public.
- ***Rockefeller Wildlife Refuge*** - to provide a refuge and preserve for all wildlife and fisheries species
- ***White Lake WCA***- to manage and enhance the property for recreational hunting, fishing and non-consumptive opportunities and agricultural use
- ***Furbearer & Management***- to monitor the annual furbearer harvest, conduct research and provide educational opportunities
- ***Alligator Management***- to research/manage the wild alligator population and monitor statewide farm/ranch program.
- ***Habitat***- to gather and compile data on fish and wildlife resources and determine requirements for conserving resources.
- ***Minerals Management***- to ensure that mineral activities on LDWF properties are compatible with the environment and that such activities do not prevent LDWF from meeting WMA/refuge goals and objectives.
- ***Response & Restoration Program***- to implement habitat and species restoration projects throughout coastal Louisiana; to document statewide response to oil spills and their impacts.

WILDLIFE RESEARCH

A wide range of research and management work is conducted in order to maintain healthy productive populations of wildlife and to provide wildlife-associated recreational opportunities for citizens to enjoy. Louisiana Department of Wildlife and Fisheries (LDWF) staff biologists conduct research and surveys for use in formulating hunting regulations and for development and management of habitat. They present information to the public and develop workshops for LDWF personnel and other agencies. In addition, the staff represents LDWF on state, regional and national committees, providing input to a wide array of public agencies, non-governmental organizations and private industry. The species programs are White-tailed Deer, Webless Migratory Birds, Wild Turkey and Resident Small Game, Waterfowl, Large Carnivore and Wildlife Disease.

ANNUAL HUNTER HARVEST SURVEY

Big and small game harvest indices for the 2023-2024 hunting season were obtained through an online survey based on the purchases of basic resident hunting licenses or any other resident license that included the basic resident hunting privileges for 2023-2024. The 2023-2024 Game Harvest Survey was emailed to 13,688 (6% sample of email addresses) residents who had purchased the license for the current year's hunting season (or had a lifetime license). The survey questionnaires were completed and returned by 2,499 individuals before the cutoff date. The estimated harvest and hunter efforts for the 2023-2024 hunting seasons utilized 1,738 responses. The procedures used to calculate the 2023-2024 estimates were the same as those used for the 2022-2023 harvest estimates. The 2023-2024 harvest estimates were extrapolated based on the current year's license sales of 296,212. Hunter numbers reflect those that hunted a species even if they did not harvest an animal. No attempt was made to adjust the statistics to compensate for the lack of residents under 16 years old who are not required to purchase a basic license.

WHITE-TAILED DEER

During the statewide 2023-2024 deer season, 221,500 deer hunters (-2.5%) harvested an estimated 262,400 white-tailed deer, a 20.5% increase over last year's estimate of 217,700. The sex ratio of deer harvested was 55% male and 45% The estimated number of deer harvested and hunters was derived from the annual online hunter survey. While the annual mail survey has been used since 1970, 2024 marked the fifth year that all surveys were conducted online. Both mail and online surveys were used to estimate harvest trends for the 2016-2017, 2017-2018 and 2018-2019 hunting seasons in order to determine compatibility between the two methods.

LDWF managed wildlife management areas (WMAs) provide abundant opportunities for public land deer hunters. LDWF staff collects biological data from deer harvested during the WMA-managed deer hunts through mandatory deer checks at designated weigh stations on pre-determined days. While not all deer are checked throughout the season, the mandatory checks serve to collect an adequate sample size of known age deer harvest data for the purpose of monitoring the health and productivity of the deer herd. WMA hunters harvested 1,940 deer during the WMA-managed deer hunts. While deer harvest on WMA-managed deer hunts has been trending down over the past 10 seasons, harvest per effort has been better over that same period. Fewer hunters participating in the hunts has contributed to the lower harvest but the percentage of hunters bagging a deer has increased. The harvest per effort over the past two years of WMA managed hunts include the best ratio of success ever recorded. It is taking fewer efforts to harvest a deer than ever before. Where supported by data, WMA seasons have been lengthened to provide more opportunity for deer hunters. This provides more possible days afield while meeting harvest objectives at a time in which WMA deer hunter numbers are declining. A combination of harvest, habitat and user data is utilized to adjust the number of available deer hunting days and hunting allowances. Collection of the user data is achieved through the use of self-clearing permits with both digital and paper options. Habitat monitoring and management is part of an extensive forest management plan as well as browse surveys which serve to measure the relationship between deer and available forage. This balance is important for ecosystem health and the health of all species that depend on the habitat provided by the WMA. Each WMA is managed independently for deer based on data collected for that particular site.

Mandatory tagging and reporting of deer entered the 16th year in 2023. Similar to the estimated harvest derived from the online survey, reported harvest increased significantly last season. The reported deer harvest last season was the highest reported harvest since mandatory tagging began. While the estimated number of deer and reported deer harvest numbers do not match, they are both following comparable trends. Mandatory deer tagging and reporting data is used by LDWF biologists and managers to assess deer population parameters by parish and deer area. The percentage of bucks and does, number of deer reported by hunter, and harvest trends derived from the reporting system are recorded and assessed at the parish and deer area level.

The Deer Management Assistance Program (DMAP) provides detailed statewide harvest information while providing the largest known age sample of physical deer data. The cooperative between properties enrolled in DMAP and LDWF allows the agency to provide technical assistance for enrolled properties while those same properties collect known age harvest data for LDWF. The DMAP harvest last season was 14,455. More than 1.6 million acres were enrolled in DMAP. Since the 760 participating properties are located in every major habitat type in the state, the data collected provides valuable insight into deer condition across Louisiana. DMAP harvest rates were one deer per 113 acres, which was up slightly from the previous season and near the 10-year average. In addition to known age measurements of harvested deer, habitat data is also collected in the form of browse surveys. Browse availability and utilization is recorded and assessed utilizing a browse transect survey. These indices provide managers an in depth analysis between available browse resources and utilization by deer on the landscape. DMAP cooperators continue to harvest a high percentage (77%) of 3.5-year-old and older age bucks. That number was good enough to be second best in the nation as reported in the 2024 National Deer Association Whitetail Report.

Utilizing deer harvest data from the previously mentioned programs allows managers to assess deer health and harvest at the parish, WMA, deer management area and statewide level. Deer regulations are influenced by these evaluations.

LDWF continues to maintain an active Louisiana records program for deer and turkey. Minimum qualifications have been established by weapon type for deer. A total of 19 bucks meeting the minimum qualification for the recognition program were reported by hunters in 2022-2023. In addition, 12 of the 19 bucks meeting the recognition program minimum also qualified for the all-time Louisiana Big-Game Records. Of note, six of the 19 new records were harvested on LDWF WMAs. The Louisiana Big Game Records Recognition Program and State Records List is available on the LDWF website. All entries are officially measured and there is no charge for participation in the records program.

Unfortunately, Louisiana became the 29th state to detect chronic wasting disease in 2022. Chronic wasting disease is a neurodegenerative disease that is transmissible and 100% fatal to deer. Due to the positive detection, the LDWF Chronic Wasting Disease Response Plan was activated. Mitigation measures include the prohibition of bait and deer carcass export restrictions. These measures were implemented for the Chronic Wasting Disease Control Area, which consists of the immediate area of the detection as well as a buffer area around the known positives. At this time, parish boundaries and major roadways beyond 25 miles of the nearest positive are utilized for Chronic Wasting Disease Control Area boundaries. All detections through the end of the reporting year were located in Tensas Parish. The total number of chronic wasting disease detections as of June 30, 2024 was 22.

LDWF collected approximately 2,370 chronic wasting disease samples in 2023-2024 and 18,511 since 2002. The bulk of samples are collected directly from hunters, but LDWF secured additional samples from deer hit by vehicles, drop off coolers, taxidermists, processors and target deer which include symptomatic deer reported by the public.

Hunters wishing to have their harvested deer tested for chronic wasting disease are encouraged to visit the LDWF website at *www.wlf.la.gov/page/cwd-testing* and follow the steps outlined, or call the nearest LDWF Field Office for assistance. Surveillance efforts are necessary for early detection. Additional drop-off locations are available in seven parishes in northeast Louisiana. Hunters may bring deer heads to designated drop off sites within the Control Area and surrounding parishes for submission by following the instructions provided. Locations are listed on the LDWF website. Proactive measures such as following recommended disposal practices as well as limiting the placement of bait on the landscape could help slow the spread of chronic wasting disease. More on chronic wasting disease and current Chronic Wasting Disease Control Area regulations is available at *www.wlf.la.gov/page/cwd*.

WEBLESS MIGRATORY BIRDS

DOVE

Dove hunting regulations for Louisiana in 2023-2024 were set at 90 days with a bag limit of 15 birds. A survey of resident license holders indicates that approximately 31,200 Louisiana hunters harvested approximately 566,200 doves during the 2023-2024 hunting season. Additionally, an estimated 29,300 Eurasian collared doves and 51,100 white-winged doves were also taken.

In addition to dove fields on 12 WMAs, LDWF leases property from one private landowner

for public hunting. This land is leased for public hunting on opening day only. In 2022-2023, two fields totaling 700 acres were leased. During the opening day hunt, 261 hunters participated, bagging 246 doves.

In the spring of 2003, U.S. Fish and Wildlife Service (USFWS) adopted a National Mourning Dove Harvest Management Plan. Determining current harvest rate in each management unit was identified as a key component of the plan. Wildlife Division personnel banded 1,124 doves during July through August 2022 as part of a national effort to provide information needed to develop harvest rate estimates for mourning doves. Another aspect of this study has been the development of production indices from mourning dove wings collected from hunters. A Wildlife Division biologist participated in the annual Mourning Dove Wing Bee in Missouri. Biologists at the wingbee aged doves by feather molt. State and federal biologists from across the country aged more than 5,989 wings.

WOODCOCK

LDWF bands woodcock annually in order to determine impacts of hunting on woodcock populations in the state via direct recoveries. As part of this project, 367 woodcock were banded. This project is ongoing.

Biologists from the Central and Eastern Woodcock Management Units met in Spanish Fort, Alabama, for the annual Woodcock Wingbee. Hunters sent in 8,564 usable woodcock wings that biologists were able to age and sex woodcock based on wing patterns. LDWF had two biologists participate in this Wing Bee. Data derived from aging and sexing these wings were used to develop trend data on woodcock production and hunter success. These data, in combination with breeding bird surveys, are used to develop management strategies for woodcock. Although many people in Louisiana consider woodcock an under-utilized species, Louisiana's harvest of woodcock at one time ranked among the nation's highest. However, the number of woodcock hunters has decreased by over 90% since their peak in the early 1980s. Nonetheless, Louisiana still consistently ranks fourth in the nation for woodcock harvest. A survey of resident license holders indicates that approximately 4,300 Louisiana hunters harvested 12,300 woodcock during the 2023-2024 season.

WILD TURKEY & RESIDENT SMALL GAME

WILD TURKEY

The most recent turkey hunter survey estimated 22,300 turkey hunters harvested approximately 6,000 wild turkeys during the spring of 2024. Estimated turkey hunter numbers remained stable from that of 2023, while the estimated turkey harvest increased 20% from that of 2023. Estimated hunters decreased approximately 8.6%. The number of recreational days spent turkey hunting (132,300) decreased approximately 5.8% compared to 2023 (132,300).

A poult production survey was initiated in 1994 to assess annual brood rearing success and monitor long-term production trends. The 2023 Summer Wild Turkey Survey indicates an increase in average poult-per-production for the Northwest Loblolly/Shortleaf/Hardwood, Western Longleaf Pine, and North Mississippi Delta regions over last year's index while the Southeast Loblolly Pine and Atchafalaya and South Mississippi Delta regions declined. Long-term (30-year) declines have been occurring in turkey poult-per-production for four of five habitat regions; these regions are producing fewer poults each year. The only habitat region not experiencing a long-term decline in poult-per-production is the Southeast Loblolly Pine region which is experiencing a long term increase in poult-per-production.

LDWF is involved in several wild turkey research projects. In 2015, a research project was initiated on Fort Johnson North WMA and Kisatchie National Forest to study female wild turkey movements and production in relation to habitat improvements. From 2019-2022, this project was extended and expanded to include Washington, Tangipahoa and St. Helena parishes in southeast Louisiana. This work is being done in conjunction with LSU and U.S. Forest Service (USFS) and is scheduled for completion in 2026. LDWF is also engaged in banding gobblers on the Kisatchie National Forest. Banding and subsequent reporting by hunters of banded gobblers provides information needed to estimate wild turkey harvest rates. In addition, a wild turkey restocking project was initiated for a portion of Rapides Parish in 2023 and is set to conclude in 2025. Collectively 114 wild turkeys were captured and tagged as part all of these research projects in 2024.

SMALL GAME

Squirrels and Rabbits

Small game populations and harvests are highly dependent on year-to-year habitat conditions. As a result, it is common to see more variation in populations and harvests of small game species when compared to other species from one year to the next. The 2023-2024 harvest survey results indicate that there were approximately 55.600 squirrel hunters in Louisiana, which is an increase of 8.6% from 2022-2023. Total harvest estimates increased 29.0% to 711,200 squirrels for 2023-2024. The number of rabbit hunters was estimated at 20,800, which is a 17.5% increase from the previous year. In addition, estimated rabbit harvests increased 45.2% from the previous year to 165,800.

To expand small game hunting opportunity, LDWF has established Small Game Emphasis Areas on the following WMAs: Big Colewa Bayou, Bayou Macon, Bayou Pierre, Boeuf, Dewey Wills, Pomme de Terre, Richard K. Yancey, Russell Sage, Sandy Hollow, Sherburne, Tunica Hills and Walnut Hill WMAs. Within these WMAs on that portion designated as the Small Game Emphasis Area, small game hunting and training with dogs is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allowed for extended periods of time throughout the season and year. Specific dates vary as hunting regulations indicate each year.

LDWF staff continued a research project in Southeast Louisiana assessing home range size and habitat use of Bachman's fox squirrels. In the Winter of 2019, LDWF staff deployed 10 GPS/VHF collars on Bachman's fox squirrel on two separate study sites in southeast Louisiana. Data collection began with deployment in East Feliciana and Tangipahoa parishes. LDWF staff deployed another three collars in 2021 and collected home range and habitat data through 2022. A final home range/habitat summary is currently being developed.

Quail

Statewide fall whistling counts were conducted on four randomly located routes and an additional five routes on LDWF WMAs and the Kisatchie National Forest. All regions continue to exhibit significant long-term (1983-2021) declines in calls per stop. Spring bobwhite surveys were also conducted on the Sandy Hollow WMA and Kisatchie National Forest. Inferences about population status and habitat conditions were developed based on the results of these surveys during the breeding season.

A survey of resident license holders indicates that approximately 500 Louisiana hunters harvested 1,700 wild quail during the 2023-2024 season. Hunters were also asked about their harvest of pen-raised quail. About 2,200 hunters harvested an estimated 42,600 pen-raised quail.

LDWF continues to work with its partners to address the decline in bobwhite populations. Habitat development efforts using U.S. Department of Agriculture (USDA) Farm Bill programs and the State Wildlife Grants Program have been implemented to promote management practices such as prescribed burning.

The Louisiana Bobwhite Recovery Plan which details basic quail biology, reasons for decline, and solutions that are needed for statewide population recovery was also completed and made available in 2023 at the following link: *www.wlf.louisiana.gov/assets/Resources/Publications/Quail/Louisiana-Bobwhite-Recovery-Plan.pdf*

WATERFOWL

Louisiana has approximately 3.5 million acres of coastal marsh that winter large and diverse waterfowl populations. Aerial waterfowl inventories of the entire coastal marsh, as well as associated agricultural lands and managed wetlands in the Mississippi Alluvial Valley and northwest Louisiana are conducted each winter.

The estimate of 0.584 million ducks calculated for the November 2023 aerial waterfowl survey, consisting of 27 coastal transects and the Little River Basin, was a 27% decrease from the estimated of 802,000 ducks in November 2022 and the lowest November estimate since the survey began. It was 36% lower than the most recent five-year (915,000) and 61% lower than the most recent 10-year (1.5 million) averages. Seventy-one percent of the coastal estimate of ducks was observed in southwest Louisiana. Waterfowl abundance in the southeast marshes was mostly confined to the eastern margin of the state, as usual, and found at the mouth of the Mississippi River. Survey results showed marked improvement from November to December, increasing 46% to 853,000, which was also a 60% decrease from the previous December (2.12 million). Ducks increased in January 2024 to 1.47 million, but represented a 26% decrease from the previous January (2023). The January 2024 survey was 25%, 34% and 50% lower than the most recent five-year, 10-year, and long-term averages respectively. The January 2024 duck estimate for the Little River Basin (formerly Catahoula Lake) was 5,000 representing a 94% decrease from the previous January. Substantial fluctuations in survey estimates are not uncommon as Litter River Basin is surveyed during the open hunting season in January and can experience significant disturbance. Mottled ducks increased in January to 28,000, up from a record low in 2023 of 19,000. Only blue-winged teal and ring-necked ducks were above their January long-term average by 30%, 10% respectively.

The special scaup survey, flown on lakes Maurepas, Pontchartrain and Borgne decreased 25% and increased 13% from the previous year December and January, respectively. The 11,000 scaup estimated in December decreased from 15,300 in 2022 and the January 2024 count increased to 30,000 from 26,400 in January 2023.

MID-WINTER WATERFOWL INVENTORY

The mid-winter waterfowl inventory is a formerly USFWS, but current Mississippi Flyway coordinated effort including other states that winter waterfowl. The Louisiana effort includes the January coastal, Little River Basin and scaup survey with the addition of all other major waterfowl habitats throughout the state. The 2024 mid-winter total included 2.19 million ducks and 489,000 geese. Mid-winter duck estimates decreased by 6% and the goose estimate decreased 25% from 2023. Species composition of the goose estimate included 412,000 light geese (snow geese & Ross' geese) and 76,000 greater white-fronted geese. The white-fronted goose estimate increased 105% from the 37,000 counted in 2023 and was 5.2% below the most recent 10-year average.

Based on federal harvest estimates, 55,000 active duck hunters (up 55% from 36,000 in 2022) spent 419,000 days afield (up 173% from 153,000 in 2022), for an average of 7.6 days per hunter during the 2023-2024 season. Total duck harvest was 1,079,000 during the 2023-2024 season, a 103% increase from 531,000 during the 2022-2023 season. Seasonal duck harvest per hunter also increased to 19.8 from 15.2 the previous year. Blue-winged teal were harvested in the greatest numbers (276,000) followed by green-winged teal (266,000), gadwall (163,000), wood duck (95,000) and northern shoveler (38,000). Annual mallard harvest increased 78% from 23,000 to 41,000 in 2023-2024.

The goose hunter estimate increased 71% to 12,000 goose hunters spending 81,000 days afield, for an average of 6.75 days afield per goose hunter. Success decreased, as total goose harvest was estimated at 50,000 (up 47% from an estimated 34,000 in 2022) for an average seasonal harvest of 4.1 geese per hunter. Greater white-fronted goose harvest (41,000) made up 82% of the harvest, light geese 15% and Canada goose 3% of total goose harvest in Louisiana.

Use of the federal harvest data over LDWF's Big and Small Game Harvest Survey is necessary because federal data 1) are collected the same way in every state allowing for comparison over states and times which likely index changes in distribution and local abundance, 2) are species specific, and 3) include age-ratios in the harvest which are the most important large-scale index to reproductive success on the breeding grounds. The federal-estimated Louisiana harvest of 544,000 ducks included 25% blue-winged teal, 24% green-winged teal, 15% gadwall, 9% wood ducks, 4% mallard, 6% ring-necked duck, and 3% northern shoveler. Other species made up no more than 2% of Louisiana duck harvest, including: northern pintail, lesser scaup, wigeon, canvasback, bufflehead, redhead, greater scaup, goldeneye and ruddy duck.

NORTH AMERICAN WATERFOWL MANAGEMENT PLAN

Louisiana continues to play an important role in the North American Waterfowl Management Plan as LDWF maintains ongoing projects and other activities associated with the goals of the North American Waterfowl Management Plan. In addition to the contin-

ued maintenance and management of existing wetland infrastructure, North American Wetlands Conservation Act funds have played a vital role in achieving new conserved wetland acres in Louisiana since its inception in 1991. In FY 2023-2024 the development and submission of new projects in both coastal and north Louisiana continued.

The Louisiana Waterfowl Project, a private land conservation partnership between LDWF, Ducks Unlimited, USDA Natural Resources Conservation Service (NRCS), USFWS and private landowners completed six projects, totaling 1,927 acres and there are 12 projects for the upcoming fiscal year totaling 6,445 acres that have been approved by the committee and are currently under development. There are currently 76,239 acres under wetland development agreements as a result of past completed projects. The Louisiana Waterfowl Project has now enhanced a cumulative total of 127,973 acres of wetlands statewide since its inception in 1992. Two projects in progress within the Gulf Coast Joint Venture's Chenier Plain Initiative Area were initiated, developed, and funded beginning in 2022.

The Louisiana Mottled Duck Project, also a partnership with Ducks Unlimited, incentivizes landowners to manage vegetation and hold water on coastal properties during spring and summer months for mottled duck brood habitat. During FY 2023-2024, six projects totaling 1,080 acres were enrolled in the Louisiana Mottled Duck Project, including 838 acres enrolled in a water pumping practice, 242 enrolled in water holding, and 539 acres underwent vegetation management to improve mottled duck brood habitat.

The Coastal Grasslands Restoration Incentive Program, a Gulf Coast Joint Venture partnership, provides technical and financial assistance to reclaim and enhance working coastal lands to provide grassland cover for a suite of birds of conservation concern, including nesting mottled ducks. This year there were two projects funded encompassing only 75 acres. Due to weather constraints, some projects were pushed back until FY 2024-2025. Total acreage enhanced through two years of this project is 558.

WOOD DUCKS

During 2023-2024, LDWF banded 3,261 wood ducks, a 5% increase from the 3,097 banded last year. Pre-season rocket-netting and night-lighting accounted for 2,990 of the total bandings, and 225 hens were captured in nesting boxes. An additional 46 bandings in nest boxes included individuals fitted with auxillary markers for a university research project. In addition, 1,020 black-bellied whistling ducks were banded during the winter and spring. This is a slight decrease from the 1,512 banded last year. The training of new regional employees in trapping, sexing and banding of this species continues and has led to both increased effort and success. Plans still include increasing the distribution of banding sites throughout the state to build a more representative database that may have to depend on recaptures rather than hunter-recoveries to obtain information on movement and survival of these birds and support future harvest management decisions.

The wood duck nest-box program completed its 35th year in 2024. LDWF personnel maintained 1,800 and monitored 1,776 of those boxes in spring 2024. That is a 2% decrease in maintenance from last year and still below the annual goal of 2,000 boxes. Replacement of deteriorating boxes and those lost to flooding, as well as relocating both unused boxes and those with high rates of dump-nesting to more suitable habitat continues to be a focus of this program.

LARGE CARNIVORE PROGRAM

LARGE CARNIVORE RESEARCH

Of the 16 American black bear subspecies, the Louisiana black bear is the only to have received formal protection under the United States Endangered Species Act; listed as threatened in 1992. Recovery and delisting of the bear occurred in April 2016. Therefore, LDWF's current bear research efforts are mostly targeted at long-term monitoring to collect the critical demographic, genetic and spatial information required to effectively monitor population health. This information will also be used to sustainably manage bear populations into the future.


Photo by Jamie Wagnon

2023-2024 Bear Research

1. Reproductive Vital Rates-
To collect information on reproductive vital rates, we attempted to conduct den visits across all four bear subpopulations during February and March 2024 to count and mark cubs-of-the-year, and to count yearlings. Den visits and cub counts were attempted on 33 collared females. Twenty-five cubs of the year and six yearlings were observed during den visits. During cub counts 21 cubs and four yearlings were observed.

2. Survival and Mortality-
To monitor survival and cause-specific mortality, we maintained bears outfitted with VHF or VHF-GPS radio-collars. Using monthly aerial telemetry, we monitored radio-collared bears from all four subpopulations during 2023-2024. We documented mortalities during FY 2023-2024, most known mortalities are from roadkills. Forty-one road kills, two illegal kills, one euthanasia, and two fatalities of unknown cause (likely roadkills) were documented during 2023-2024.

3. Abundance, Density and Growth-
To estimate abundance and density and monitor temporal changes in population growth in the Pointe Coupee area, Pointe Coupee, St. Landry, West Feliciana, West Baton Rouge, Iberville, and St. Martin parishes we conducted spatially explicit hair snare work during the summer of 2024; 204 hair snares were monitored for six weeks. Hair snare traps allowed us to collect hair samples. All collected samples will be sent to Wildlife Genetics International for microsatellite genotyping at eight to 21 markers, depending on study objectives.

BEAR MANAGEMENT

LDWF personnel responded to 91 human-bear conflict calls from the public and other government agencies. LDWF personnel also responds to approximately 300 calls a year that are related to seeing bears at deer feeders, on hiking trails, or encountering bears during other outdoor activities. These are not considered conflicts but technical assistance and education are provided to the caller. Response varied from technical assistance being provided over the phone to site visits with recommendations provided to reduce conflict and trapping. During FY 2023-2024, we captured eight bears to address human-bear conflict issues reported to LDWF.

Work continued with the U.S. Geological Survey (USGS) to improve the BearTrak database, and USGS is working to update and add additional features to the online database.

EDUCATION AND OUTREACH

The Large Carnivore Program Manager and Large Carnivore Biologist attended the Southeast Association of Fish and Wildlife Agencies Large Carnivore Working Group meeting. The BearWise program is now being taken nationally to be included under the umbrella of the Association of Fish and Wildlife Agencies.

In continuation of our black bear outreach, the majority of efforts conducted in FY 2023-2024 centered on exhibition and presentation of information and displays to schools and other interested groups around the state.

Bear Safety in Mind (St. Mary Parish Program)

Accomplishments during 2023-2024 include:

- Maintained close communications with biologists to assist specific call areas by working with caller reporting the nuisance bear behavior to ensure all bear proofing efforts were being implemented in the area with the nuisance bear problems.
- Daily monitoring of bear proof cans to assist the homeowner or small business with questions, damages and procedures to further bear proof their property and facilities.
- Work closely with Pelican Waste to monitor bear proof garbage cans and bear proof dumpsters concerning residential and small business compliance with waste hauler and new procedures for services.
- Besides assisting residents of St. Mary Parish with repairs and replacements of damaged bear resistant garbage cans, time is provided for additional education in home/property bear proofing measures through written, internet and verbal communications with assessments of nuisance bear activities during and after any implementations of shared measures.
- Provided door to door outreach opportunities through door knob bag distribution campaigns sharing bear proofing informational flyers as well as open conversations with concerned homeowners of these outreach areas.
- The City of Franklin is working with Pelican Waste & Debris to expand the use of bear proof garbage cans in areas with nuisance bear activities.
- Worked closely with the Public Works Director for St. Mary Parish, Parish Council Member, Rodney Olander and Cypremort Point residents to improve services at the Louisa Road/Cypremort Point Bridge dump site. The fence and gates have been repaired so now the gates are chained closed every evening by the St. Mary Parish Sheriff's Department to help deter the bears from getting into the dumpsters. The property outside the fence area has been cleared and cleaned of all garbage piled by the bears. New signs and rules have been implemented at this site as well as new bear proof dumpsters.
- Assisted residents with repairs, lost and stolen bear proof cans throughout St. Mary Parish and the municipalities of Berwick and Patterson. We make a site visit to each location with a broken or "lost" garbage can to assess the condition of the can and/or the property to make further suggestions for bear proofing. We also monitor the area to make sure Pelican Waste and Debris repairs or replaces the bear can in a timely fashion.
- Working with St. Mary Parish to change and implement more bear proof dumpsters at parks and public sites like Elizabeth Davis Park in the Four Corners area, Sorrell Park, Burns Point and Verdunville Boat Launch.
- Working with residents in the Ashton/Four Corners/Sorrel area with nuisance bear activities.
- The Parish is negotiating plans with Pelican Waste & Debris for the use of residential bear resistant garbage cans in the Ashton/Four Corners/Sorrel, which are the western most area of St. Mary Parish south of U.S. Highway 90.
- Working with Pelican to help provide additional hardware for better locking capabilities of bear resistant cans for use in the high bear activities areas South of U.S. Highway 90 throughout St. Mary Parish.
- We delivered bear resistant garbage cans to residents establishing new waste services in the "bear can" designated areas so I may provide flyers, property assessments, reference websites and contact information related to black bear activities and deterrents.

WILDLIFE HEALTH

The statewide Wildlife Health and Disease Monitoring Program is administered by the state wildlife veterinarian, the assistant state wildlife veterinarian and the wildlife disease biologist.

As part of the LDWF white-tailed deer chronic wasting disease surveillance program, 2,354 samples were collected statewide for chronic wasting disease surveillance. Samples were submitted to the Louisiana Animal Disease Diagnostic Laboratory at the LSU School of Veterinary Medicine. This brings the total number of wild white-tailed deer tested in Louisiana to 15,926 animals since the inception of the program in 2002.

In addition to the first case of chronic wasting disease in January 2022 in Tensas Parish, an additional six chronic wasting disease-positive deer were discovered in Tensas Parish during the 2022-2023 season, bringing Louisiana's chronic wasting disease total to 18 deer. The Chronic Wasting Disease Control Area including Tensas and parts of Madison and Franklin parishes was extended to include a portion of northern Concordia Parish as well as Henderson Island in southern East Carroll Parish but located east of the Mississippi River.

LOUISIANA WILDLIFE DIVERSITY PROGRAM

The Louisiana Wildlife Diversity Program (WDP) is charged with the conservation of Louisiana's rare, threatened, and endangered plant and animal species, all nongame birds, and natural communities. WDP staff conducts, guides, funds, and facilitates research, monitoring, and inventory of Species of Greatest Conservation Need (SGCN) and their associated habitats as identified in LDWF's State Wildlife Action Plan. In addition, WDP staff directs and provides on-the-ground management to maximize habitat restoration to benefit at-risk species. The WDP also maintains a geospatial database of all at-risk elements. These data are vital for determining potential adverse impacts to the environment from proposed construction and development projects and for providing guidance to prevent, minimize, or mitigate such impacts. Data are also frequently requested by researchers and other conservation professionals to inform scientific studies or restoration. The WDP is composed of subject-matter experts who focus on botany, community ecology, zoology, State Wildlife Grants and the Louisiana State Wildlife Action Plan, and database management.

WDP OUTREACH AND PUBLIC EVENTS

In addition to WDP staff regularly interacting with the public during field work, staff participated in many outreach presentations and public events throughout Louisiana in FY 2023-2024 including:

- Louisiana Master Naturalist Program spring and fall workshops and statewide meeting
- Guest speakers and field leaders for university courses and birding and gardening clubs
- Guest speakers for Louisiana Wild Ones organization
- Articles for the Wildlife Insider
- Articles for the Louisiana Conservationist
- National Hunting and Fishing Day

SCIENTIFIC RESEARCH AND COLLECTING PERMITS

Review and issuance of Scientific Research and Collecting Permits for all rare, threatened and endangered species and all terrestrial species, including insects and plants, are in the purview of the WDP. Scientific Research and Collecting Permits are utilized by many researchers from bird banders to mussel surveyors. During FY 2023-2024, 100 Scientific Research and Collecting Permits were issued to academic institutions, museums, consultants, private individuals, and others. These permits are issued at no-cost. Permit holders are mandated to submit reports at the expiration of their permits; occurrence data of rare, threatened, and endangered species provided in these reports assist the WDP in supporting its mandate to conserve at-risk species.

WILDLIFE ACTION PLAN AND STATE WILDLIFE GRANTS PROGRAM

In November 2001, the U.S. Congress created the State and Tribal Wildlife Grants (State Wildlife Grants) Program "for the development and implementation of programs for the benefit of wildlife and their habitat, including species that are not hunted or fished." The inclusion of species that are not hunted or fished (i.e. nongame species) is a crucial aspect of the State Wildlife Grants Program, as many of these at-risk species previously had no existing source of funding. The State Wildlife Grants Program is now the primary funding source for nongame conservation nationwide, with the stated goal of preventing species from being federally listed as threatened or endangered.

STATE WILDLIFE ACTION PLAN AND REVISIONS

In order to participate in the State Wildlife Grants Program, Congress mandated that states develop a Comprehensive Wildlife Conservation Strategy, now known as the State Wildlife Action Plan. These plans are required to undergo a comprehensive revision every 10 years to ensure that they remain a relevant and effective tool for conservation planning and implementation. In response, LDWF developed the Louisiana State Wildlife Action Plan to establish conservation needs and guide the use of State Wildlife Grants funds for the next 10 years. A crucial aspect of the State Wildlife Action Plan is the identification of SGCN, those species most in need of conservation action as identified by each state. Coauthored by WDP staff and peer-reviewed by a diverse group of colleagues from state and federal agencies, academia, nongovernmental groups, citizen scientists, and others, the State Wildlife Action Plan is truly a collaborative effort by subject-matter experts best positioned to positively affect conservation and restoration actions in our state. The first edition of the State Wildlife Action Plan was submitted to the USFWS National Advisory Acceptance Team for approval and was subsequently approved in December 2005. The State Wildlife Action Plan is the roadmap for nongame conservation in Louisiana and is a proactive document meant to identify actions needed to conserve wildlife and their habitats before species become too rare and restoration efforts too costly.

The first comprehensive revision of the Louisiana State Wildlife Action Plan was completed and submitted to the USFWS in 2015. Work has already begun on the second comprehensive revision due in October 2025. A total of nine taxa teams have participated in over 60 meetings combined since the official start of the 2025 revision. Taxa teams have been reviewing the SGCN lists and adding/removing species as necessary, filling out action tables for the most commonly needed conservation actions, listing species-specific and general action items not covered by action tables, and revising the introductions and threats sections. Members of the invasive species team reviewed the list of species and placed them in tiers, revised the tier definitions, and revised the management actions. Members of the core team worked with partners from the USFWS, the Southeast Conservation Adaptation Strategy, and the Southeast Climate Adaptation Science Center to revise the boundaries of the Conservation Opportunity Areas and develop new chapters on regional conservation and threats.

The Louisiana State Wildlife Action Plan (2015) is available via the LDWF website: *www.wlf.la.gov/assets/Resources/Publications/Wildlife_Action_Plans/Wildlife_Action_Plan_2015.pdf*

GRANT MANAGEMENT ACTIVITIES AND STATE WILDLIFE GRANTS FUNDING CYCLE OF FY 2023-2024

The State Wildlife Grants Program is funded by annual congressional appropriations. USFWS apportions these funds to state fish and wildlife agencies based on the land area and population of each state. Since the inception of the State Wildlife Grants Program, the State of Louisiana has received approximately $18 million in federal State Wildlife Grants funding, with an apportionment of approximately $800,000 in FY 2023-2024. Louisiana has funded over 200 projects through the

State Wildlife Grants Program to date; funded projects have included biological inventories, monitoring, research projects, habitat management, and the development and maintenance of databases. A wide range of SGCN has benefited from State Wildlife Grants funding in Louisiana, including freshwater mussels, alligator snapping turtle, reddish egret, whooping crane, swallow-tailed kite, Neotropical migratory landbirds, Louisiana black bear and many more.

State Wildlife Grants proposals are accepted by the WDP on an annual basis and include projects developed by LDWF personnel, non-governmental organizations, universities, and others. State Wildlife Grants proposals are reviewed by LDWF's State Wildlife Grants Committee, consisting of 10 biologists of varying expertise from the Office of Fisheries and the Office of Wildlife.

During FY 2023-2024, four new project proposals were submitted to USFWS for approval (*Table 1*). At the end of the state fiscal year, 24 State Wildlife Grants-funded projects remained ongoing (*Table 2*).

Seven State Wildlife Grants were closed in FY 2023-2024 (*Table 3*). Copies of final reports for all closed State Wildlife Grants are available to interested parties upon request. LDWF submitted 33 grant reports to USFWS during FY 2023-2024. A total of 15 formal grant amendments were submitted to and approved by USFWS. Since the inception of the State Wildlife Grants Program in Louisiana, research funded through these grants has produced over 70 peer-reviewed publications, adding greatly to the body of knowledge of Louisiana's fish and wildlife and their habitats.

DATA SECTION

The WDP procures and compiles occurrences and associated data of rare, threatened, and endangered animal and plant species and natural communities. Constantly updated data are integral in determining the status and state conservation rankings of these at-risk elements. These data drive the direction of nongame species' projects and conservation in Louisiana. The information is stored in a secure, centralized, geospatial database known as Biotics, developed by NatureServe, with whom the WDP collaborates. Biotics currently houses almost 12,000 records of Louisiana's Element Occurrences, carefully vetted data on SGCN and their associated habitats collected by staff biologists or conservation partners.

TABLE 1.

New Louisiana State Wildlife Grants Opened During FY 2023-2024
Assessing Seasonal Survival, Habitat Use, and Movements of Brown Pelicans and Reddish Egrets on Barrier and Coastal Islands in Louisiana
Assessing Habitat Connectivity in the Bayou Pierre Watershed with Emphasis on Freshwater Mussel Assemblage Structure
Distribution and Habitat Assessment of Crayfish, with Emphasis on Species of Greatest Conservation Need, in the Pearl River Basin in Louisiana
Natural Communities 2025
Improving Restoration and Management Recommendations for Black Rails and Yellow Rails in High Marsh Habitats

TABLE 2.

Ongoing Louisiana State Wildlife Grants During FY 2023-2024
Completion of the SPDOR VHF Network to Inform Conservation of SGCN: Phase II Extension
Assessing the Conservation Status of the Western Sand Darter Using Both Field and eDNA Approaches
Turtle Species of Greatest Conservation Need
Movement Patterns of Diamondback Terrapin (*Malaclemys terrapin*) within Barataria Bay
Occurrence of Western Chicken Turtle
Herpetofaunal Species of Greatest Conservation Need 2022
Using Environmental DNA to Survey for Amphibians and Reptiles of Greatest Conservation Need in Two Established Priority Amphibian and Reptile Conservation Areas
Benefits of Native Seed Mixes for Wild Pollinators in Longleaf Pine Habitats
Parameterizing a Matrix Population Model to Inform Management of Razor-backed Musk Turtles in Louisiana
Natural Communities of Louisiana 2022
Estimating the Distribution of Unionids and the Western Sand Darter in the Sabine and Calcasieu Rivers Using eDNA
Invertebrates, Mammals, and Aquatic SGCN 2022
Natural Communities of Louisiana 2022
Two-year Survey of the Occurrences, Distributions, Habitats, and Threats to Four Crayfish and the Frosted Elfin
Estimating the Distribution of Unionids and the Western Sand Darter in the Sabine and Calcasieu Rivers Using eDNA
Coastal Prairie Conservation Opportunity Area Corridor Evaluation and Survey
Louisiana State Wildlife Action Plan Comprehensive Revision 2025
Life History of the SGCN Pontchartrain Painted Crayfish (*Faxonius hobbsi*) in Louisiana
Habitat associations of Chuck-will's-widow (*Antrostomus carolinensis*) and Greater Roadrunner (*Geococcyx californianus*) in managed pine forest: a pilot study using autonomous recording units
State Wildlife Grant Program Coordination and Administration 2022
Detection of Species of Greatest Conservation Need using Camera Traps, with an Emphasis on Eastern Diamond-backed Rattlesnakes, Harlequin Coralsnakes, and Black Pinesnakes
SGCN Database and Environmental Review 2023
Surveys at Non-historic Locations for Crayfish Species of Greatest Conservation Need and Their Assemblages in Louisiana and Southwestern Arkansas
Investigating the Life History and Distribution of the Southern Snaketail (*Ophiogomphus australis*)
Diversity and Distribution of Aquatic Snails in the Louisiana Section of Bayou Bartholomew Drainage with a Focus on Species of Greatest Conservation Need
Long-Tailed Weasel Camera-Trap Surveys on Vernon Unit of Kisatchie National Forest
An Update on the Distribution, Abundance, and Diversity of Freshwater Mussels in the Ouachita and Tensas River Basins, and the Identification and Monitoring of Mussel Hot Spots in Bayou Bartholomew
Improving Restoration and Management Recommendations for Black Rails and Yellow Rails in High Marsh Habitats

TABLE 3.

Louisiana State Wildlife Grants Closed During FY 2023-2024
East Gulf Coastal Plain Prescribed Burn Initiative
Assessing Seaside Sparrow Abundance, Distribution, Annual Survivorship, and Nesting Productivity in Southwest Louisiana
Population Size and Ecology of Four Rare Dragonflies in Louisiana
Invertebrates, Mammals, and Aquatic SGCN 2022
Natural Communities of Louisiana
Two-year Survey of the Occurrences, Distributions, Habitats, and Threats to Four Crayfish and the Frosted Elfin
Eastern Spotted Skunk Baited Camera Trap Array Surveys on Coastal Prairies

TABLE 4. Wildlife Diversity Program database updates in FY 2023-2024.

CATEGORY	# TYPES OF ELEMENTS[1]	SOURCE FEATURES		ELEMENT OCCURRENCES	
		New	Updated	New	Updated
Mollusks	22	162	34	32	67
Crustaceans	17	608	122	426	128
Non-Crustacean Arthropods[2]	3	77	10	18	9
Fishes	1	0	1	0	1
Amphibians	5	20	6	8	7
Reptiles	20	246	99	66	86
Birds	4	77	18	8	67
Mammals	7	32	33	28	67
Plants	110	1039	92	847	105
Natural Communities	4	5	1	5	3
Total	***193***	***2266***	***416***	***1438***	***540***

1. Number of animal or plant species or natural communities
2. Includes arachnids and insects

The Biotics database is used daily by WDP staff to review proposed construction activities and development projects planned by government, industry, and other private entities throughout the state in order to determine potential impacts of the projects on SGCN and natural communities. Proposed projects range from small-scale construction such as cell phone towers, residential, commercial and industrial development, and dredging activities to large-scale construction such as pipeline projects and interstate development. Clients may also request digital data for proposed project siting or for scientific studies; data may be queried by the species of interest, the client-supplied project footprint, the footprint plus a buffer, or by 7.5-minute USGS quadrangle (quad) boundaries. Because persistence of native species is constantly threatened by loss and alteration of habitat, an up-to-date database of known Element Occurrences is crucial for informing decisions on countering such threats - minimizing, mitigating or eliminating the threats altogether.

In April 2023, the Data Section received State Wildlife Grants funding for the "Species of Greatest Conservation Need Database and Environmental Review" project, which provides the WDP with additional latitude in project reviews and data requests. This allows additional maintenance of the database and further ensures that new and updated records are available to inform construction, development, conservation, and restoration projects in Louisiana.

DATABASE MAINTENANCE

During FY 2023-2024, more than 2,600 Source Features, the building blocks of Element Occurrence Records, were added (2,266) or updated (416) in Biotics along with the associated information such as geographic location, habitat condition, emerging threats, and population status (*Table 4*). These Source Features resulted in more than 1400 new Element Occurrence Records. Newly added Element Occurrence Records (1,438) included 153 animal and plant SGCN - mussels (11 species), crawfish (14), insects (two), salamanders (two), toads (one), turtles (six), snakes (five), lizards (three), birds (four), bats (four), mice (one), weasel (one), manatee (one), and plants (98). Additions and updates resulted from actual new detections from field surveys of staff or contractors but also from museum records.

PROJECT REVIEWS

For practical purposes, project reviews are subdivided into three types. One subset of project reviews, referred to as private consultant projects, are submitted by consulting firms on behalf of government and private entities. The requesting organization submits a description of the proposed project as well as a detailed map to the WDP, and a query of the WDP database determines the SGCN and natural communities within one mile of the project area. A comment letter identifying potential impacts to SGCN, communities, and critical habitats is submitted to the requesting organization. The letter also indicates the presence of scenic rivers and state and federal parks, wildlife refuges, and WMAs occurring within 0.25 miles of the project area.

WDP also receives Coastal Use Permit applications submitted to LDWF by Louisiana Department of Energy and Natural Resources (LDENR). Coastal Use Permits are required for commercial, residential, and oil and gas projects occurring within Louisiana's Coastal Zone. LDENR houses an abridged version of the WDP database, allowing LDENR to flag Coastal Use Permit projects that occur near at-risk elements. These flagged permit applications are forwarded to WDP biologists for further review. As with private consultant reviews, comments are generated for potential impacts to SGCN, critical habitats, and natural communities. The presence of scenic rivers and state and federal parks, wildlife refuges, and WMAs within the project area are also included in the comment letter. The WDP's comments, along with comments from other programs within LDWF, are compiled, and an agency-wide letter is submitted to LDENR.

In addition, WDP reviews U.S. Army Corps of Engineers (USACE) permit applications as well as applications from other regulatory agencies. These reviews are collectively referred to as internal project reviews due to the fact they are received by WDP from other programs within LDWF.

In FY 2023-2024, the WDP Assistant Data Manager conducted 1,338 project reviews, which included 373 private consultant project reviews, 860 new or modified Coastal Use Permits, and 105 internal project reviews.

DATA REQUESTS

To receive data, a requesting organization submits a description of the proposed project to WDP, and a query of the WDP database shows the SGCN and natural communities within a

predetermined distance stated in the client's project request. A response letter identifying potential impacts to SGCN, natural communities, and critical habitats, along with point and/or polygon data and associated species and habitat information are provided to the requesting organization. The information provided by the WDP is applied to land use decisions, environmental impact assessments, resource management, conservation planning, threatened and endangered species reviews, species status assessments, research, and education. In FY 2023-2024, the WDP Data Manager processed 81 digital data requests from municipal (one request), state (four) and federal (eight) agencies; private consultants (59); timber companies (two); nongovernmental organizations (three); and universities (four). Four (5%) of the 81 requests were used to advance research projects. Nineteen requests (23%) were utilized for conservation planning. Fifty-eight requests (72%) related to environmental compliance of industry including oil/gas facilities, pipelines, renewable energy, and timber. Of these 58 requests, 12 were used to inform timber management. As in the previous fiscal year, renewable energy projects continued to comprise a significant portion of requests (11 of the 58 industry requests in FY 2023-2024). However, pipeline construction/abandonment projects comprised the largest portion of industry requests (21 of the 58) this period.

BOTANY & COMMUNITY ECOLOGY SECTION

The main responsibilities of the Botany and Community Ecology Section include:

- Actively monitoring all at-risk (rare, threatened and endangered) or otherwise sensitive plant species and natural communities in Louisiana to ensure conservation and management actions benefit those elements
- Promoting proactive measures to preclude the need for federal listing of plant species as threatened or endangered and working to improve the status of those plants that are already listed as such
- Conducting botanical inventories and ecological assessments on all types of land ownership
- Interacting with landowners and managers to promote conservation of native plants and natural communities to benefit wildlife and improve ecological services rendered
- Administering the Natural Areas Registry Program
- Implementing habitat stewardship practices on LDWF-owned properties and private lands to benefit wildlife and improve ecological services rendered
- Providing plant identification services to LDWF staff, natural resources professionals with other state and federal agencies or private entities, and the public
- Contributing expert knowledge on Louisiana's natural community ecology and flora for conservation decision making processes including environmental impact reviews, conservation planning, and habitat management

Butterfly milkweed (Asclepias tuberosa) is a showy native species found throughout much of the eastern and southwestern USA.

BOTANY & COMMUNITY ECOLOGY SECTION PROJECTS

Most of the work of the Botany and Community Ecology Section is grant project-based. Currently, all projects are being carried out successfully using external grant support:

- Natural Areas Registry Program (State Wildlife Grants)
- Botanical and Ecological Surveys on Kisatchie National Forest (USDA Good Neighbor Agreement)
- Longleaf Pine Flatwoods Savanna Restoration and Management Plan for Kisatchie National Forest (USDA Good Neighbor Agreement)
- Coastal Prairie Conservation Opportunity Area Corridor Evaluation and Survey (State Wildlife Grants)
- Natural Communities of Louisiana (State Wildlife Grants)
- Benefits of Native Seed Mixes for Wild Pollinators in Longleaf Pine Habitats Study (State Wildlife Grants)
- Louisiana Quillwort (*Isoetes louisianensis*) Population Status Assessment in Southeast Louisiana (USFWS Section 6)
- Bog Spicebush (*Lindera subcoriacea*) Status Assessment (USFWS Section 6)
- Pollinator Diversity of Texas Trillium (*Trillium texanum*) Populations in Northwest Louisiana (USFWS Section 6)
- Southwest Louisiana Coastal Prairies (State Wildlife Grants)

NATURAL AREAS REGISTRY PROGRAM

Almost 90% of Louisiana's 43,566-square-mile area is privately owned. Therefore, private landowners hold the key to conservation of Louisiana's native habitats and the animal and plant species they support. Motivated by this fact, the Louisiana Natural Areas Registry (also known as Registry) was created by an act of the Louisiana State Legislature (Acts 1987, No. 324, §1, effective July 6, 1987) to establish a program through which landowners of all types may voluntarily agree to protect the natural integrity of their properties, thereby safeguarding the best remaining examples of the state's natural heritage. Enrollment of properties in the registry involves a voluntary, non-binding agreement between landowners and LDWF. The Natural Areas Registry Program is coordinated by the WDP Botany and Community Ecology Section. To date, more than 100 properties are enrolled in the registry, capturing more than 50,000 acres distributed across at least 38 of Louisiana's 64 parishes.

Responsibilities of the Natural Areas Registry Program include:

- Assessing habitats on existing Natural Areas and providing information to landowners

- Evaluating properties for potential inclusion in the Natural Areas Registry
- Enrolling new properties in the Natural Areas Registry
- Providing technical assistance regarding species and habitat ecology and management to landowners
- Directing landowners to outside funding opportunities to implement habitat stewardship as well as providing direct financial assistance for beneficial management practices on-site
- Implementing appropriate habitat management
- Advocating for protection of Natural Areas
- Modifying agreements and deactivating Natural Areas when appropriate (e.g., ownership changes)
- Distributing a regular newsletter, Bluestem, to registry participants and others interested in Natural Areas

Funding for the Natural Areas Registry Program is provided in the Natural Communities project, supported by the State Wildlife Grants Program. This funding allows for the operation of the program through 2025. The Natural Areas Registry has the ability to directly assist landowners with habitat stewardship practices on Natural Areas. For example, Sugar Creek Farm Natural Area received funding for prairie and pollinator enhancement plantings; Sugar Creek Farm Natural Area was planted in winter 2020, and the planted area received its first prescribed burn in winter 2021-2022. Site visits to monitor the progress of restoration at Sugar Creek Farm Natural Area continued through this reporting period. Seventeen site visits were made to existing Registry properties for either ecological check-ups or landowner assistance and consultation. Seven site visits were made to assess new, potential Registry properties. The site visits made to new properties resulted in the enrollment of Richardson Ravine Natural Area near Plain Dealing, Louisiana, and WDP staff are in the process of enrolling the Baton Rouge Audubon Society's Peveto Woods Natural Area in Cameron Parish. In addition to the above mentioned site visits, WDP staff provided technical assistance to USACE by locating sites to host training workshops for their staff, assisted with the shortleaf pine/oak-hickory restoration field day hosted by West Gulf Coastal Plain Joint Venture and USFS, participated in plant Regional SGCN meetings hosted by the Center for Plant Conservation and NatureServe, and composed three letters of support for Natural Areas Registry members. In addition, the State Botanist served as a board member for the Briarwood Nature Preserve.

Since January 2023, WDP staff have served on a committee composed of partners from The Nature Conservancy and the USFS to provide input on stewardship activities on the Keiffer-Tancock Natural Area. This work is ongoing and involves the Natural Areas Registry Program Coordinator as well as two recently hired LDWF/USFS botanists.

BOTANICAL AND ECOLOGICAL SURVEY ON KISATCHIE NATIONAL FOREST

Cost-sharing positions between LDWF and USFS were created under the authority of a USDA Good Neighbor Agreement to support two botanists to perform botanical and ecological surveys on Kisatchie National Forest. Surveys target rare, threatened, and endangered species, nonnative invasive species, and natural community assessments. These surveys aim to document new elements and to update previously detected elements within focal project areas slated for timber harvests, restoration projects, and other habitat management activities. Deliverables include stand-level status update reports within each project area and georeferenced detections of at-risk plant species, sensitive habitats, and invasive plants. In addition to these responsibilities, WDP staff have continued to monitor longleaf pine flatwoods savanna restoration on Kisatchie National Forest.

COASTAL PRAIRIE CONSERVATION OPPORTUNITY AREA CORRIDOR EVALUATION & SURVEY

Coastal prairie is an extension of tall-grass prairie from the eastern Great Plains. Historically, this grassland occupied approximately 2.2 million acres in southwest Louisiana. Because of modern agriculture practices, less than approximately 0.2% (4,000 acres) of this prairie remains intact in Louisiana. The Coastal Prairie Research and Stewardship Initiative began in 2013 following the discovery of new coastal prairie remnants in the Lake Charles area that quadrupled the known acreage of remnant prairie in Louisiana. Calcasieu and Cameron parishes still feature a considerable amount of grazing lands, in contrast to the prairie region of Acadiana, which

LEFT: *LDWF staff and botany interns conducting botanical surveys for the Kisatchie National Forest Longleaf Pine Flatwoods Savanna Restoration Project located near Fort Johnson in Vernon Parish.* ***RIGHT:*** *Pinewoods lily (Alophia drummondii), a charismatic member of the Iris family, blooming in a Longleaf Pine Savanna on the Catahoula Ranger District of Kisatchie National Forest.*

is largely under rice or sugarcane cultivation. The newly discovered prairie remnants are used as rangeland. While "passive" farming has been carried out on some of this prairie acreage, most of the rangeland prairies have never been plowed, which would have greatly undermined the integrity of the community by disrupting the microbial community and destroying the root and seed bank.

Remotely sensed data are being used to identify additional grasslands that could serve as connective corridors or buffers for known coastal prairie remnants in Calcasieu, Cameron and Jefferson Davis parishes. The results of these data will assist with conservation and management of grassland dependent SGCN in Louisiana.

These surveys have determined that three coastal prairie remnants have likely been extirpated. However, an additional six coastal prairie remnants and other high quality areas have been identified due to these efforts. Soil, topographic, land use/land cover data, and other spatial data have been collected and are being compiled to develop priority areas for coastal prairie conservation. This project is ongoing, and additional ground-truthing efforts and the identification of quality grasslands and coastal prairie remnants have continued beyond this reporting period.

NATURAL COMMUNITIES OF LOUISIANA

Natural community identification and management are crucial to the conservation of Louisiana's native animal and plant species. Through this grant, LDWF works with organizations and individuals to achieve conservation goals identified in Louisiana's State Wildlife Action Plan. Objectives of this grant are to perform:

1. technical assistance,
2. research, surveys, data collection and analyses,
3. outreach activities, and
4. direct habitat and species management that will benefit the natural communities of Louisiana and ensure conservation actions are implemented.

Through funding from the State Wildlife Grants Program, WDP botanists were able to perform research on Louisiana natural communities and provide technical guidance to public, nongovernmental organizations, private businesses, and all levels of government agencies. During FY 2023-2024, WDP botanists provided technical assistance to over 400 entities (individuals, committees, and organizations). WDP botanists conducted natural community surveys on private and public lands, exceeding 1,000 acres. This grant also supported natural community surveys and the development of natural community conservation benchmarks for Clean Water Act Section 404 Wetland Mitigation Banks. These surveys included communities such as coastal prairies, flatwoods ponds, longleaf pine flatwoods savannas, shortleaf pine/oak-hickory woodlands, and calcareous prairies, aiding in further development of assessment tools and habitat restoration techniques. WDP staff coordinated with The Land Trust for Louisiana to facilitate the donation of a tract of land in Caddo Parish that has saline prairie and calcareous woodlands on the property. Spring and fall vegetation surveys were completed on a 1,000-acre prairie remnant for an ongoing coastal prairie management study seeking to identify best management practices to restore coastal prairie on actively grazed rangeland. Staff also initiated a pilot study to reestablish prairie grasses that are highly palatable to domestic cattle on rangeland prairies. Survey work on additional sites owned by these ranching families is ongoing.

Additionally, this grant provided funding for three student research internships focusing on several imperiled natural communities. These internship projects included investigations of coastal prairies, longleaf pine savannas, and flatwoods ponds.

In addition to this research, WDP botanists also participated in outreach and education events by supporting and teaching Louisiana Master Naturalist classes and contributing articles to the LDWF Wildlife Insider. Initially, WDP staff maintained and developed the Louisiana Native Plant Gardens to provide outreach opportunities and celebrate our state's natural beauty. However, due to the workload required to maintain the gardens, WDP hired an outside contractor to assist with the final design and maintenance of the gardens. The gardens contain two interpretive stations and over 160 native plant species grouped into smaller gardens to resemble natural communities across Louisiana. Many people come to view the gardens and learn about various natural communities, native plants, and how to support wildlife in an urban landscape. Funding from this grant also supported collaborative work with Quail Forever, LDWF Private Lands biologists, the Piney Hills Prescribed Burn Association, and private landowners.

BENEFITS OF NATIVE SEED MIXES FOR WILD POLLINATORS IN LONGLEAF PINE HABITATS

Historically, the longleaf pine (*Pinus palustris*) ecosystem encompassed over 90 million acres in the southeastern United States. Only 3-5% remains today. Conversion to agriculture and intensively managed pine plantations, the introduction of invasive species, and fire suppression are the greatest threats to these habitats. Longleaf pine natural communities are of great conservation interest, because they contain high rates of species endemism and support a richness of floral species unmatched outside of the equatorial tropics. Knowledge gaps exist in restoring longleaf pine ecosystems in Louisiana compared to more extensively studied eastern ecosystems, where the dominant understory plants greatly differ. Additionally, prescribed fire is crucial for restoration of longleaf pine communities, but little is known about how it affects invertebrate communities.

As part of a collaboration with the University of Louisiana at Lafayette, LDWF botanists assisted in setting up a two-year-long project to study the use of native seed mixes to restore the understory of longleaf pine ecosystems after prescribed fire and to survey for the variable cuckoo bumble bee (*Bombus variabilis*), a very rare bee species considered for listing under the Endangered Species Act. In early spring 2024, six 24m x 12m plots were set up in the flatwoods section of the Western Gulf Coastal Plain ecoregion, with half of the area seeded using a curated seed mix of native ecotypes and the other half left unseeded as a control. LDWF botanists will conduct botanical surveys collecting information on plant species richness as well as abundance and biomass of invasive species within these plots. This project aims to achieve a more informed understanding of management for longleaf pine ecosystems in Louisiana and to provide the data needed to guide the status and management of the variable cuckoo bumble bee.

THREATENED AND ENDANGERED PLANT SPECIES

Of the more than 300 species of at-risk plants included in Louisiana's State Wildlife Action Plan, four species are federally listed as threatened or endangered:

- earth-fruit (*Geocarpon minimum*)- threatened
- American chaffseed (*Schwalbea americana*)- endangered

***LEFT:** The gray hairstreak (Strymon melinus), like several related species, use the projections on its hindwings to mimic antennae. This leads predators to attack the wrong end of the butterfly, allowing its escape.* ***RIGHT:** Pollination of plants is critical for the maintenance of life on Earth. Butterflies, moths, flies, bees, and wasps such as this feather-legged scoliid wasp (Dielis plumipes) are important pollinators.*

- Louisiana quillwort (*Isoetes louisianensis*)- endangered
- pondberry (*Lindera melissifolia*)- endangered

During FY 2023-2024, WDP botanists focused on quillwort and two additional species under federal review for inclusion in ESA protections - bog spicebush (*Lindera subcoriacea*) and the Texas trillium (*Trillium texanum*).

Bog Spicebush Status Assessment

In FY 2023-2024, WDP botanists conducted field surveys for bog spicebush in Washington Parish in the vicinity of the only known location for this species in Louisiana. The location is on private timberland, and, historically, the population has not been thriving. Prior to surveys in 2023, the site was last surveyed in 2003, when only two stems were relocated; at that time, the population did not appear sustainable. During surveys in spring 2023 and spring 2024, no stems were observed. Additional surveys should be conducted in the coming years to confirm if this species is extirpated from Louisiana.

Texas Trillium Surveys in Northwest Louisiana

Texas trillium is a spring ephemeral, perennial herb known from less than 30 locations in East Texas and Northwest Louisiana. This species is currently under review by USFWS for possible listing under the Endangered Species Act, which prompted the need to prioritize surveys of known populations in Louisiana and to search for potential new sites with suitable habitat. In spring 2019, Botany and Community Ecology Section staff surveyed all three known locations for this species in Caddo Parish as well as sites with suitable habitat in Bossier Parish. During survey efforts, two populations were determined to be threatened by feral hog activity, and one population was determined to be healthy and secure. The landowners at one threatened site are utilizing the property as a private hog hunting club. Due to the heightened threat of increased hog activity, staff requested permission from the landowners to remove Texas trillium plants. Approximately 50 individual plants were transplanted to The Nature Conservancy's Caddo Black Bayou Preserve. During a follow-up survey at Caddo Black Bayou Preserve in spring 2020, about 60 stems of Texas trillium were observed, with one of those stems being in flower. Given that Texas trillium is not known to be a prolific flower producer, having only one individual in flower is not surprising. In spring 2021, Botany and Community Ecology staff continued to transplant Texas trillium plants from the privately owned hog hunting club; this time, plants were transplanted to an additional site on Caddo Black Bayou Preserve. During follow-up surveys at the two sites on the preserve in spring 2021, a total of about 120 stems, one of which was in flower, was observed. In March 2023, WDP again monitored transplanted populations of Texas trillium at Caddo Black Bayou Preserve. During this survey, WDP staff observed 218 stems with six of those stems flowering. Given that the transplanted populations appear to be thriving at Caddo Black Bayou Preserve, WDP staff spoke with representatives from The Nature Conservancy about the possibility of transplanting additional propagules in the coming years. The Nature Conservancy gave permission to transplant additional propagules to Caddo Black Bayou Preserve.

LDWF and USGS staff set up game cameras on flowering Texas trillium specimens in the USGS garden and successfully captured images of invertebrates visiting the plants. In 2022, WDP staff submitted a funding proposal to USFWS to extend the pollinator project to in situ populations as well as introduced populations in Louisiana. This project was funded, and beginning in February 2024, WDP staff scouted and identified suitable locations to set up game cameras for monitoring pollinators of Texas trillium. Camera traps were deployed in March 2024 and monitored through April 2024. In total, cameras were active for 802.15 hours (202 hours at Caddo Black Bayou Preserve and 600.15 at Gray Beard Woods) and captured 51,362 photos. Staff completed reviewing and sorting images from this project in October 2024. A more detailed review of the images will begin in early 2025.

During FY 2023-2024, LDWF staff participated in several virtual meetings with USFWS staff and botanists from state agencies with known populations of Texas trillium to provide input to the Species Status Assessment USFWS is developing for this species. This information will be used to inform future conservation measures and management of this species. Research conducted by WDP staff and part-

ners continue to provide data that allow us to make informed management decisions concerning this species.

ZOOLOGY SECTION: Threatened, Endangered, and Other At-risk Species, Reptile & Amphibian Program, and Nongame Bird Program

THREATENED, ENDANGERED AND OTHER AT-RISK SPECIES PROJECTS

The WDP administers federal aid grants for SGCN through the Endangered Species Act Section 6 Program, Multi-state State Wildlife Grants, and Louisiana's State Wildlife Grants Program. In FY 2023-2024, Section 6 projects included threatened and endangered species coordination and work on the following species: Louisiana pinesnake and gopher tortoise. Section 6 Cooperative Agreements were renewed among LDWF, USFWS, and the National Oceanic and Atmospheric Administration (NOAA).

Section 6 Projects

Section 6 funds allowed staff to work on a multitude of rare, threatened and endangered species issues and to participate in regional and national meetings including:

- Participation in Southeast Association of Fish & Wildlife Agencies (SEAFWA) working groups and associated committee meetings including the Wildlife Diversity Committee, to address at-risk species in the southeastern United States.
- Participation in Association of Fish and Wildlife Agencies (AFWA) working groups and associated committee meetings including the WDP Managers meeting and the Amphibian and Reptile Conservation Committee Meeting
- Prescribed burning of public and private properties
- Mississippi Longleaf Implementation Team Steering Committee- Louisiana State Representative
- Gopher tortoise population assessment
- Collaboration with private landowners for gopher tortoise status and habitat restoration
- Response and coordination for waif gopher tortoises
- Louisiana pinesnake research and monitoring
- Collaboration with private landowners for Louisiana pinesnake conservation management agreements
- Maintenance of database of West Indian manatee sightings and response to stressed/dead manatees

ZOOLOGICAL STATE WILDLIFE GRANTS PROJECTS

Zoological projects funded through State Wildlife Grants included:

- Breeding Bird Surveys
- Long-tailed Weasel Camera Trap Surveys on Vernon Unit of Kisatchie National Forest
- Habitat Associations of Chuck-Will's-widow (*Antrostomus carolinensis*) and Greater Roadrunner (*Geococcyx californianus*) in managed pine forest: a pilot study using autonomous recording units
- Statewide Passive Detection for Organismal Research (SPDOR) Wildlife Tracking VHF Network
- Invertebrate, Mammal, and Aquatic SGCN
- Southern Unstriped Scorpion Surveys
- Detection of SGCN using Camera Traps, with an Emphasis on Eastern Diamond-backed Rattlesnake (*Crotalus adamanteus*), Harlequin Coralsnake (*Micrurus fulvius*), and Black Pinesnake (*Pituophis melanoleucus lodingi*)
- Turtle SGCN
- Herp SGCN

SPECIES STATUS ASSESSMENTS/RECOVERY PLANS

Staff represented LDWF on the following Species Status Assessments and Recovery Plans:

- Alabama Hickorynut (*Obovaria unicolor*)- LDWF Representative and member of the Species Status Assessments Technical Team
- Inflated Heelsplitter (*Potamilus inflatus*)- collaborated with USFWS on future Inflated Heelsplitter reintroductions as part of its recovery plan
- Red Wolf (*Canis rufus*)- LDWF Representative and member of the Recovery Team
- Pearl River Map Turtle (*Graptemys pearlensis*)- reviewed status assessment document and provided comments
- Western Chicken Turtle (*Deirochelys reticularia miaria*)- LDWF Representative and member of the Species Status Assessments Technical Team
- Alligator Snapping Turtle (*Macrochelys temminckii*)- LDWF Representative and member of the Species Status Assessments Technical Team
- Eastern Diamond-backed Rattlesnake (*Crotalus adamanteus*)- LDWF Representative and member of the Species Status Assessments Technical Team

GOPHER TORTOISE

The gopher tortoise (*Gopherus polyphemus*) can be found in Tangipahoa, Washington and St. Tammany parishes and is listed as state and federally threatened in Louisiana. Gopher tortoises dig extensive subterranean burrows that have been documented to provide shelter to over 360 other species. During FY 2023-2024, LDWF hired two technicians to assist with range-wide surveys in the state. Surveys were conducted on two public lands: Sandy Hollow WMA (LDWF) and Lee Memorial Forest (LSU). Surveys were also conducted on several privately-owned lands including industrial and non-industrial timber property in Washington and St. Tammany parishes and on several pipeline and power line rights-of-way. Transect surveys, which included assessing burrow status and detecting tortoise presence using a burrow camera, were conducted January through March 2024. Preliminary data analysis depicts a total of 310 burrows assessed among all sites: Sandy Hollow WMA (148), Lee Memorial Forest (23), industrial timberland (98), non-industrial private land (12), and rights-of-way (29).

The WDP State Herpetologist serves as the Louisiana State Representative on the Gopher Tortoise Council and attended two informal, virtual Gopher Tortoise Council Executive Committee meetings. WDP staff continue to collaborate with state, federal and nongovernmental partners to work towards species recovery by prioritizing and implementing action items and assessing threats to the species. WDP staff also reviewed various development projects in St. Tammany and Washington parishes to assess potential impacts to gopher tortoises and provided consultations on preventative measures, as necessary. Additionally, coordination with USFWS and other state and federal partners was initiated to address the increasing impacts from solar energy development. The WDP State Herpetologist attended the "Southeast Solar Power and Wildlife/Natural Resources Workshop" in Atlanta, Georgia, in June 2024 and presented an overview of Louisiana's regulations related to solar development. This workshop provided opportunities to network, share information and challenges, and discuss collaboration potential with stakeholders and partners.

WDP staff continue to coordinate with LDWF WMA staff to prioritize and implement habitat restoration on Sandy Hollow WMA in order to provide optimal habitat for gopher

tortoise, northern bobwhite, and wild turkey. WDP staff will continue to build partnerships with private landowners and timber companies to survey new properties and conduct habitat restoration efforts to increase the amount of quality habitat for tortoises. Land acquisition for gopher tortoise conservation remains a goal of this program and, coupled with habitat restoration, is critical to create a long-term viable population in Louisiana.

The following activities were conducted for gopher tortoise conservation during FY 2023-2024 by WDP staff:

- Collaborated with USFWS Lafayette Ecological Services office and advised on impact avoidance measures for gopher tortoises within a proposed solar development project in Washington Parish
- Provided husbandry care for two, head-start juvenile gopher tortoises that were found on a food plot on a privately-owned (but severely degraded) upland pine forest in St. Tammany Parish
- Attended a field meeting with Weyerhaeuser and University of New Orleans colleagues to discuss gopher tortoise nest/hatchling/predation study on Ben's Creek property
  - Seven eggs were collected from Ben's Creek property and delivered to Natchitoches National Fish Hatchery for inclusion in a head-start program
- Hired two technicians to assist with gopher tortoise surveys in Tangipahoa, Washington, and St. Tammany parishes
- Provided Gopher Tortoise Right-of-Way Best Management Practices and associated information for pipeline/power line company
- Coordinated with Audubon Nature Institute staff for collaboration opportunities for gopher tortoise conservation and recovery
- Coordinated reports, transport, and care of "waif" gopher tortoises with private citizens, LSU Veterinary School, and University of Florida - Mycoplasma Diagnostic and Research Laboratory

LOUISIANA PINESNAKE

USFWS listed the Louisiana pinesnake (*Pituophis ruthveni*) as a federally threatened species on April 6, 2018. Prior to listing, LDWF signed the "Programmatic Candidate Conservation Agreement with Assurances for the Louisiana Pinesnakes" to promote forest management practices that increase suitable habitat for the species and protect private landowners from future regulations. Since the creation of the agreement, private landowners have voluntarily enrolled approximately 4,317 acres for management of the Louisiana pinesnake, with 1,422 of those acres intensively managed for the species. WDP staff continue working with federal and nongovernmental partners to conserve the species. Additionally, WDP staff assisted USFWS with providing a response to the Louisiana Pinesnake Conservation Benefit Agreement and Section 106 Review. WDP staff also attended a meeting with stakeholders to discuss the Louisiana Pinesnake Population Management Plan and

LDWF staff detected a single female Louisiana pinesnake while conducting surveys for the species (June 2024).

LDWF staff detected a young timber rattlesnake while conducting Louisiana pinesnake surveys in Northwest Louisiana (May 2024).

LDWF staff detected a young eastern hog-nosed snake while conducting Louisiana pinesnake surveys in Northwest Louisiana (May 2024).

Species Survival Plan. Additionally, WDP staff attended meetings with stakeholders to determine future release sites for the planned 2025 Louisiana pinesnake releases, with the Vernon Unit of Kisatchie National Forest site being the leading candidate.

During FY 2023-2024, WDP staff continued to monitor several Louisiana pinesnake populations throughout the state using trap-arrays. Personnel detected two Louisiana pinesnakes (one male, one female) over 3,315 box-trap-nights. Both individuals were recaptures from previous years. In addition to box-trap-arrays, WDP staff continued to utilize camera-trap-arrays to detect Louisiana pinesnakes. Cameras detected five Louisiana pinesnakes over 4,867 camera trap-nights. One of the detected snakes was a new individual, while the other detections were recaptures from previous trapping.

RED-COCKADED WOODPECKER

WDP personnel continued to implement the Louisiana Statewide Red-cockaded Woodpecker (*Dryobates borealis*) Safe Harbor Program to benefit the federally and state-listed endangered species. Over the life of the program, LDWF has entered into 15 Safe Harbor Management Agreements with nonfederal landowners. A total of 493,861 acres are currently enrolled in the Red-cockaded Woodpecker Safe Harbor Program with 103 baseline red-cockaded woodpecker family groups and nine above baseline red-cockaded woodpecker family groups. The Red-cockaded Woodpecker Safe Harbor Program Coordinator conducted annual site visits to 10 Safe Harbor Program properties. During these site visits, staff confirmed compliance of voluntary red-cockaded woodpecker management activities implemented by landowners on their properties, and staff provided technical assistance regarding red-cockaded woodpecker management. WDP staff continued to promote the Safe Harbor Program via press releases, presentations at public forums, and the LDWF website.

WDP personnel continued to perform red-cockaded woodpecker demographic monitoring and management for 12 red-cockaded woodpecker family groups at Alexander State Forest WMA located in Woodworth. These activities include, but are not limited to:

- annual activity status checks of 200+ cavity trees,
- capture and color banding of adults,
- nest checks and nestling color banding,
- fledgling checks to determine survivorship,
- artificial cavity installation and maintenance,
- midstory control in 14 red-cockaded woodpecker cluster sites, and
- technical assistance to Louisiana Department of Agriculture and Forestry staff regarding beneficial timber management practices for the species.

WEST INDIAN MANATEE

The West Indian manatee (*Trichechus manatus*) is a transient species in Louisiana, occasionally traveling from Florida during the summer months when water temperatures are warm. Manatees typically return to Florida by October when water temperatures begin to decrease in Louisiana. WDP staff coordinated with USGS, USFWS, Florida Fish and Wildlife Conservation Commission, Alabama Department of Natural Resources, Dauphin Island Sea Lab, Audubon Zoo and Texas Parks and Wildlife staff and exchanged information on manatee sightings across their range. WDP staff documented sightings reported by LDWF staff and the public and used this information to update the WDP database. In FY 2023-2024, two sightings of live manatees were reported in Louisiana, both of which from St. Tammany Parish. There were zero manatee strandings reported to LDWF. Manatee caution signs (posted at all public boat launches in the state) include the LDWF 24-hour dispatch number to assist and encourage citizens to report live manatee sightings as well as possibly injured or deceased manatees. WDP staff reviewed various development projects, including those associated with the Louisiana Watershed Initiative, to assess potential impacts to manatees and provided consultations on minimization of those impacts, as necessary.

REPTILE AND AMPHIBIAN PROGRAM ACTIVITIES

A need exists to manage, conserve, and restore populations of reptiles and amphibians and their associated habitats in order to ensure the long-term persistence of these species in the wild in Louisiana and that the objectives and requirements of the State Wildlife Action Plan and State Wildlife Grants Program are met. Through the State Wildlife Grants Program, the WDP has been able to implement conservation actions that directly benefit reptile and amphibian SGCN and their habitats. These actions include research, surveys, data collection and analysis, technical assistance, and outreach activities. The WDP has worked with organizations to achieve conservation goals, provide current information on reptile and amphibian SGCN, and increase public awareness of threats to reptiles and amphibians and their habitats as well as solutions to such threats.

WDP biologists have conducted surveys and participated on various technical committees regarding threatened, endangered, and other at-risk herpetofaunal species. In addition to conservation projects, LDWF staff have spent a considerable amount of time during the fiscal year reviewing the state's reptile and amphibian laws and regulations and proceeding with necessary revisions in order to effectively conserve and manage native herpetofaunal populations.

The following activities were conducted during FY 2023-2024:

- Responded to 231 public inquiries, constituent requests, and reported sightings of snakes, salamanders, turtles, frogs, and toads
- Participated on the Southeast Partners in Amphibian and Reptile Conservation (SEPARC) Steering Committee as the Ex-officio Co-Chair and Louisiana State Representative and attended the annual SEPARC meeting at Camp McDowell in Nauvoo, Alabama
- Participated on SEPARC's Gopher Frog/Crawfish Frog Task Team
- Facilitated necessary revisions to LDWF's reptile and amphibian regulations:
  - Presented a Notice of Intent during the Louisiana Wildlife and Fisheries Commission December 2023 meeting and reviewed public comments received
  - Presented a summary of public comments during the Louisiana Wildlife and Fisheries Commission March 2024 meeting
  - Facilitated an in-person meeting with Louisiana Department of Agriculture and Forestry licensed Turtle Farmers and U.S. Association of Reptile Keepers President to discuss proposed regulation revisions
- Deployed Automated Recording Units at three sites in Kisatchie National Forest in Vernon Parish that had detected positive eDNA samples for southern crawfish frogs
- Provided information on wild turtle harvest to USFWS Division of Scientific Authority for CITES Appendix II export permit applications

Restricted Snakes

Act 1221 of the 2005 Louisiana Legislative Session required LDWF to adopt rules regarding possession of all venomous snakes and any large constrictors in excess of eight feet. Those rules, now RS 76.101.K, include a permit system (Restricted Snake Permit) whereby Louisiana residents or non-residents who bring restricted snakes to Louisiana may

conditionally possess such snakes. Restricted snakes must be kept under secure conditions, and those interested in possessing venomous snakes must demonstrate no less than one year of substantial, practical experience (to consist of no less than 500 hours) in the care, feeding, handling, and/or husbandry of the species in captivity. Permittees are subject to inspection of facilities by LDWF personnel and, as of 2017, must provide digital images of their facilities as well as an inventory of their restricted snakes. During FY 2023-2024, 57 individuals received permits. WDP staff assisted LDWF Enforcement staff with home inspections, species identifications, confiscations, and re-homing of several unpermitted large constrictors and venomous snakes.

Turtle Species of Greatest Conservation Need State Wildlife Grant

Thirty-two species and subspecies of native turtles occur in Louisiana. Several of these species are in need of immediate conservation action to maintain or improve populations to avoid additional species listings. Currently, 19 turtle species are considered SGCN by LDWF with eight of those species listed as state and federally threatened or endangered. Successful conservation requires plans of action to assess species status and to ensure long-term viability of populations. To address these needs, LDWF convened a conservation planning working group to draft the Louisiana Turtle Conservation Plan. The primary objective of the plan is to offer a strategic approach to the restoration and conservation of Louisiana's native turtle species by providing the necessary information to facilitate these actions. This document provides information on the following:

- Life history
- Regulations
- Threats and associated solutions
- Inventory and Monitoring
- Habitat management and restoration
- Partnership and Collaboration

In addition to detailing the topics above, the document includes fact sheets for all species covered by this plan (sea turtles and gopher tortoise are not included in this plan, as they are treated at length in various other documents) as well as the cultural significance of turtles in Louisiana and the history of turtle harvest and farming. LDWF recognizes that the implementation of the strategies outlined in this plan will be contingent upon budgetary constraints. The purpose of this plan is to identify conservation goals, strategies, and actions to help guide management decisions that will contribute to the long-term recovery and sustainability of viable native turtle populations in Louisiana. LDWF completed the draft document and submitted the draft to 67 colleagues from regional and national organizations and agencies for partner review, with feedback provided by 10 external partners (federal and state agencies, universities, and non-governmental organizations). During FY 2023-2024, WDP staff began reviewing and incorporating partners' suggested revisions into the draft document. The draft document is in the final stage of completion with a publishing date expected in early 2025.

USFWS Coastal Program Project - Nesting Habitat Restoration and Nest Protection Measures for the Ringed Map Turtle and Pearl River Map Turtle on the lower East Pearl River

The Pearl River is home to the federally threatened ringed map turtle (*Graptemys oculifera*) and the federally threatened Pearl River map turtle. Quality nesting habitat for these species is typically composed of an open canopy with elevated sandbar deposits, usually found on the inside of river bends. Nesting habitat is generally absent along the lower portions of the Pearl River due to river alterations, with only one naturally occurring sandbar on the lower East Pearl River. Invasive tree species, primarily Chinese tallow (*Triadica sebifera*) and river birch (*Betula nigra*), have colonized this open sandbar and reduced suitable conditions for turtle nesting. Additionally, previously installed wildlife cameras detected nearly 100% turtle nest depredation, primarily by crows (*Corvus sp.*) and raccoons (*Procyon lotor*). Therefore, there is a significant need to increase nesting area, nest success, and hatchling recruitment for these two map turtles as well as other freshwater turtle species that utilize this sandbar for nesting along the East Pearl River. Likely, project methods and deliverables (i.e. sandbar restoration and nest protection measures) will be applicable to other areas within the Pearl River system and potentially other river systems within the Southeast.

Nest exclosures constructed during the previous fiscal year consisted of five compartments linked together to form one nesting area. Each exclosure is 8 feet long and 4 feet wide. A Zareba 0.04 joules, solar powered, low impedance, electric fence charger was installed with galvanized steel electric fence wire along the front opening of the nesting area to further deter entry and subsequent predation by raccoons. Six wildlife cameras were installed to monitor both turtle nesting activity and presence/behavior of potential nest predators.

Turtle nest evaluations conducted post-nesting season revealed several intact nests within nest enclosures, primarily ringed map turtles (Graptemys oculifera; federally threatened) and one intact box turtle nest.

LDWF staff, along with partners from along with partners from USFWS, USGS, Audubon Nature Institute, Buhlmann Ecological Consulting, and Stennis Space Center, conducting turtle nest evaluations within nest enclosures in September 2023.

LEFT: *LDWF staff, along with partners from USFWS, Audubon Nature Institute, Buhlmann Ecological Consulting, and Stennis Space Center, removing vegetative debris and repairing nest enclosures to prepare for the 2024 turtle nesting season. A solar fence charger and electric wire was used to reinforce the nest enclosure and further deter predation by raccoons.* ***RIGHT:*** *Ringed map turtle (Graptemys oculifera) hatchlings discovered during nest evaluations conducted in September 2023.*

Since turtles are often the same temperature as their surrounding substrate and fail to trigger infrared detectors, wildlife cameras were programmed to take pictures every 30 minutes regardless of movement detection. When set to take a photo every half hour, cameras are more likely to capture turtles constructing nests. The cameras also record motion-triggered events such as raccoons or crows moving through the frame. Habitat restoration was successful at minimizing the encroachment of woody vegetation on the sandbar.

A site visit was conducted in September 2023 to perform full post-season nest evaluations and assess results from the nest protection measures for freshwater turtles. Staff from WDP, Buhlmann Ecological Consulting, Stennis Space Center, USFWS, USGS, Audubon Institute, and Nichols University (graduate student) inspected each nesting exclosure and performed careful hand excavation of the nesting substrate. Eggshell fragments from at least 13 different nests were discovered, which indicated successful hatching. At least one of the nests contained eggs that perished early in development. Of the 13 nests, three nests also contained recently hatched, live ringed map turtle hatchlings that had not yet emerged from the nest chamber. Clutch sizes of the three yet-to-emerge nests were three, three, and seven, totaling 13 individuals. Additionally, one box turtle (*Terrapene sp.*) hatchling was observed within the nest exclosures. Overall, the protective nesting exclosure with the solar-powered electric fence charger appeared effective at preventing the depredation of a substantial number of turtle nests. In April-May 2024, three additional nesting exclosures were installed adjacent to the existing exclosures along with a 5-mile Zareba solar charger and additional layers of electric wire along the front entrance and sides of the nest exclosures. Hardware cloth was also installed along the front slope of the sandbar leading up to the entrance of the nest exclosures. The hardware cloth was secured into the sand substrate with wooden stakes and then buried with loose sand. Eight wildlife cameras were installed to continue to monitor turtle nesting activity and presence/behavior of potential mammalian and avian turtle nest predators. Analysis of trail camera photos to document predator visitation and nest depredation is on-going.

NONGAME BIRD PROGRAM ACTIVITIES

Louisiana's avifauna is diverse, encompassing more than 490 species, over 400 of which are nongame species that fall under the responsibility of the WDP. The WDP is responsible for facilitating and directing research, monitoring, and conservation actions for all nongame birds in our state as well as providing peer-review for scientific and layperson products. The bulk of the responsibilities involve coordinating or participating in scaled-down monitoring that feeds into regional, national, or international datasets. During FY 2023-2024, the WDP Nongame Ornithologist (hereafter, ornithologist) maintained the role of coordinating Louisiana's efforts for the North American Breeding Bird Survey (coordinated nationally by USGS), maintaining route assignments and recruiting qualified volunteers, including WDP staff, to ensure adequate coverage of the state's 67 survey routes and timely data submission. The ornithologist and WDP staff conducted and submitted data for 20 Breeding Bird Survey routes distributed statewide, an important contribution to the program's success in Louisiana where willing and qualified surveyors are few. Breeding Bird Survey data represent the primary dataset by which landbird population trends are monitored continentally and at the state level, allowing WDP to evaluate bird SGCN and their conservation needs for the State Wildlife Action Plan. The ornithologist also continued a pilot effort to initiate nocturnal bird surveys using the Nightjar Survey Network protocol, conducting two Nightjar Survey Network surveys in north Louisiana. Similar to the Breeding Bird Survey, the Nightjar Survey Network is a large-scale monitoring program dependent on volunteers, state agencies, and nongovernmental organizations for data collection. These geographically expansive and long-term bird projects, including the Statewide Passive Detection for Organismal Research (SPDOR) VHF Network, are crucial for the conservation and management of bird SGCN. All of these programs have benefitted greatly from LDWF's financial commitment to nongame birds and have been matched by generous support from ConocoPhillips, the Louisiana Wildlife and Fisheries Foundation, the Barataria-Terrebonne National Estuary Program, and federal aid grant opportunities such as Section 6 funds and the State Wildlife Grants Program. In fact, State Wildlife Grants have contributed, in part, to the majority of the projects previously mentioned. In FY 2023-2024, the ornithologist continued a

project in Bienville Parish, Louisiana, initially funded by a State Wildlife Grant, using autonomous recording units to examine habitat associations of two poorly known SGCN- Chuck-Will's-widow (*Antrostomus carolinensis*) and greater roadrunner (*Geococcyx californianus*). In FY 2023-2024, WDP biologists documented many rare and noteworthy birds, which were submitted for verification and inclusion into state and national datasets, including eBird, thereby contributing to the ever-evolving understanding of bird status, distribution, and trends in Louisiana. The ornithologist continued to track limpkin (*Aramus guarauna*) range expansion in the state, which is associated with its primary prey, the invasive giant apple snail (*Pomacea maculata*), thus potentially important for biocontrol, and of great interest to the public. The ornithologist continued efforts in FY 2023-2024 to monitor a recently discovered and continentally important whimbrel (*Numenius phaeopus*) roost at Rockefeller Wildlife Refuge by conducting 10 flight-line surveys in spring 2024, recording a maximum count of over 3,600 whimbrels utilizing the Rockefeller roost. In tandem, the ornithologist facilitated and assisted Manomet's efforts to capture and equip five whimbrels with GPS/GSM transmitters. The ornithologist also assisted Office of Wildlife (Coastal Division staff and Restoration Program staff) to document bird use of coastal WMA and refuge properties by conducting bird surveys at Atchafalaya Delta WMA, Isles Dernieres Barrier Island Refuge, and the recently restored Queen Bess Island Wildlife Refuge. The ornithologist coordinated and compiled data for three Christmas Bird Count surveys in southwestern Louisiana, including LDWF's White Lake Wetlands Conservation Area Christmas Bird Count, the Lacassine National Wildlife Refuge - Thornwell Christmas Bird Count, and the Sweet Lake - Cameron Prairie National Wildlife Refuge Christmas Bird Count. WDP biologists alone tallied more than 132,000 individual birds of 153 species on LDWF-coordinated Christmas Bird Counts and documented a number of significant bird records, including lesser black-backed gull (*Larus fuscus*), white-tailed hawk (*Geranoaetus albicaudatus*), least flycatcher (*Empidonax minimus*), Say's Phoebe (*Sayornis saya*), ash-throated flycatcher (*Myiarchus cinerascens*), cave swallow (*Petrochelidon fulva*), Audubon's yellow-rumped warbler (*Setophaga coronata auduboni*), and others. Sixteen surveyors, including WDP biologists, contributed to the White Lake Wetlands Conservation Area Christmas Bird Count, tallying more than 118,000 birds of 141 species. Results from these and other Christmas Bird Counts in the region continue to highlight the critical need of preserving rice cultivation and culture for the benefit of both the human and bird communities of the region.

In addition to the collaborative field work outlined above, the ornithologist spent a significant portion of time representing LDWF on standing committees and working groups and at meetings and workshops. The ornithologist assisted in organizing and executing the Gulf Coast Joint Venture's Bird Nesting Island Cooperative Forum Summit (February 2024), including presenting an update on the status of Louisiana's colonial waterbirds and coastal restoration efforts. The ornithologist also continued representing Louisiana as a co-chair on the Bird Nesting Island Cooperative, and, in that role, presented an update on the Cooperative's progress at the Gulf Coast Joint Venture Management Board spring meeting in April 2024. The ornithologist served on Gulf Coast Joint Venture's Monitoring, Evaluation, and Research Team's Landbird working group, performing various tasks throughout the year. In addition, the ornithologist continued serving on the Gulf of Mexico Avian Monitoring Network Coordination Committee, whose rapidly expanding Community of Practice includes more than 100 individuals representing more than 30 state and federal agencies, universities, nonprofit organizations, and others. The ornithologist also served on LDWF's State Wildlife Grants Committee in FY 2023-2024 and on the Barataria-Terrebonne Na-

A bird of the arid western and southwestern USA, the ash-throated flycatcher (Myiarchus cinerascens) is an uncommon, winter visitor to Louisiana. This individual was discovered by LDWF staff during the White Lake Wetlands Conservation Area Christmas Bird Count in December 2023.

***LEFT:** The Say's phoebe (Sayornis saya) is a species of flycatcher typically found in the western USA. This individual was discovered by LDWF staff in Thornwell, Louisiana, during the Lacassine National Wildlife Refuge - Thornwell Christmas Bird Count in December 2023.*
***RIGHT:** LDWF staff detected a reclusive king rail during Breeding Bird Surveys (June 2024).*

tional Estuary Program's Biological Resources Action Plan Team. Finally, the ornithologist represented Louisiana on the Nongame Bird Technical Section of the Mississippi Flyway Council and served as Secretary for the section. The Nongame Bird Technical Section serves to represent the Mississippi Flyway and to provide guidance to the Mississippi Flyway Council on important issues affecting nongame birds in the Flyway (e.g., regarding proposed changes to the federal permitting processes) and to facilitate critical nongame bird research and monitoring.

The ornithologist fulfilled numerous requests for print, audio, and video media interviews, including an article on limpkins and apple snails for Audubon magazine. The ornithologist worked with LDWF Public Information staff to prepare articles featured in Louisiana Conservationist (e.g., brown pelican restoration efforts). The ornithologist contributed to other outreach and education efforts on several occasions, including giving lectures to public groups (e.g., acoustic monitoring for the Orleans Audubon Society) and at the Louisiana Master Naturalists of Greater Baton Rouge's biannual bird biology workshops. The ornithologist provided additional public outreach by leading field trips for the annual Yellow Rails and Rice Festival in Thornwell. The ornithologist also responded to general information requests from the public on issues including bird identification, injured birds, nuisance birds, guidelines on avoiding disturbance to birds, and many other topics; in FY 2023-2024, the ornithologist replied, either by phone or email, to a total of 266 such general information requests.

The ornithologist provided significant technical guidance (approximately 75 instances) within LDWF and to partners, other agencies, nongovernmental organizations, consultants, contractors, and industry on a myriad of bird-related issues. Internally, technical guidance involved drafting or reviewing comment letters on behalf of LDWF to federal partners or agencies (e.g., regarding proposed changes to federal rules), drafting written or providing oral comments on bird-related issues for LDWF administrative staff, reviewing scientific research and collecting permit applications, and providing technical input on bird ecology and life history for bird island restoration project development. The ornithologist spent a significant amount of time and effort in FY 2023-2024 representing LDWF in the initial stages of offshore wind energy development in state waters. These efforts involved providing technical guidance to LDWF upper administration and giving oral presentations reflecting LDWF's concerns about offshore wind energy development to partners with state and federal agencies, non-governmental organizations, offshore wind energy operators, and the general public. The ornithologist also frequently replied to requests from partners, consultants, contractors, and private industry for technical advice and comments on best management practices and measures necessary to avoid negatively impacting birds associated with coastal restoration activities (e.g., construction buffer reduction requests), industrial work in the vicinity of bald eagle nests or colonial waterbird rookeries, and survey planning in advance of proposed invasive activities. As one example, the ornithologist served on an Ivory-billed Woodpecker expert panel with USFWS partners to evaluate documentation submitted as support for claims of the species persistence in Louisiana. The ornithologist also provided technical input to various municipalities regarding public space improvements to benefit birds (e.g., Moncus Park in Lafayette; James Lake Park in Dubach). The ornithologist was a core member of the bird taxa team, participating in monthly calls and fulfilling action items designed to revise and develop content for the 2025 revision of Louisiana's State Wildlife Action Plan.

Restoration-Related Bird Activities

The ornithologist continued to play an important role in restoration planning and monitoring efforts to benefit Louisiana's coastal birds, including many SGCN, by participating in technical discussions on restoration projects coordinated by the Louisiana Trustee Implementation Group, the LDWF Restoration Program, and the Coastal Protection And Restoration Authority (CPRA), and funded by the 2010 *Deepwater Horizon* oil spill Natural Resources Damage Assessment settlement. During FY 2023-2024, the ornithologist contributed guidance on bird island restoration and monitoring priorities for state and regionwide funding opportunities and on island restoration design alternatives (e.g., Raccoon Island). The ornithologist also contributed to Regionwide Trustee Implementation Group projects, serving on the Chandeleur Island Restoration Project's bird team to provide guidance on bird survey design and protocol development, and by conducting field surveys at Chandeleur Island. He also provided language to constitute an LDWF letter of support to nominate Breton National Wildlife Refuge, including Chandeleur Island, as a site of hemispheric importance within the Western Hemisphere Shorebird Reserve Network.

Statewide Passive Detection for Organismal Research (SPDOR) VHF Network

Funded by ConocoPhillips, the Louisiana Wildlife and Fisheries Foundation, Barataria-Terrebonne National Estuary Program, the State Wildlife Grants Program, and LDWF's Rockefeller Trust, the SPDOR VHF Network entered its seventh year. This passive network facilitates radio tracking of hundreds of organisms simultaneously, provided those organisms are first fitted with nanotags (tiny coded radio tags) and then move through the approximately 9-mile detection radius of at least one receiver station. The potential for such a network of stations to contribute to our current knowledge level of SGCN is substantial and is identified as a strategy for full annual cycle conservation of migratory birds in Louisiana's State Wildlife Action Plan. In addition, this network contributes to the projects of many other scientists currently utilizing the Motus Wildlife Tracking System, an international collaborative network of scientists that is coordinated and maintained by Birds Canada, and thus provides invaluable migratory connectivity data that may inform full annual cycle conservation efforts. As of June 2024, the WDP's network of receiver stations had logged more than 1,800 detections of approximately 460 individual research birds of 33 species, primarily shorebirds (13 species, including the federally threatened red knot) and songbirds (13 species), but also one to two species each representing nightjars, rails, seabirds, herons, and falcons. This work has almost limitless potential for collaborating with other agencies, industry, nongovernmental organizations, academia, and others from across the Western Hemisphere. Activities in FY 2023-2024 included downloading of data from receiver stations, uploading these data to the Motus network, repairing damaged stations, coordinating memorandums of understanding with partners for new station establishment, and establishing new stations at Rockefeller Wildlife Refuge and at the University of Louisiana- Monroe.

WDP SCIENTIFIC PRESENTATIONS AND PUBLICATIONS

Battaglia, C. D. 2004. An Overview of Louisiana's Turtle Conservation Plan by LDWF. Southeast Partners for Amphibian and Reptile Conference. Nauvoo, Alabama. Oral.

Dobbs, R.C. 2024. Louisiana update, 2024. Gulf Coast Joint Venture Bird Nesting Island Cooperative annual meeting, 14-15 March 2024, Biloxi, Mississippi. Oral.

EDUCATION PROGRAM

Conservation education is a vital part of the LDWF mission. The Education Program focuses on two main areas: Hunter Education and General Wildlife Education/Outdoor Skill Development.

Staffing for the Education Program consists of nine biologist educators, four supervisors who have field responsibility in addition to their supervisory duties, two education biologist managers, and one education program manager. Three full time technicians staff LDWF-operated shooting ranges.

HUNTER EDUCATION

Hunter and bow-hunter education classes cover firearm safety and operation, hunting ethics, principles of wildlife management, outdoor survival, and tree-stand safety. Hunter education certification is mandatory for hunters born on or after Sept. 1, 1969. There are exceptions to the hunter education requirement that allow persons to hunt without hunter education certification if they are directly supervised by someone 18 or older with hunter education certification or by a licensed hunter born prior to Sept. 1, 1969. An exemption is also provided for persons with a current POST certification or military experience, and a hunter education exemption card is issued to those who qualify. Most states have mandatory hunter education requirements, and these exemptions, including the POST/military exemption, apply only in Louisiana. The regular Louisiana hunter education certification card is honored in all 50 states.

Students have three options for taking a hunter education class. The classroom course consists of 10 hours of instruction, usually spread over two to three days. The blended format consists of an internet course that the student can complete at home and is followed by a mandatory four-to-six-hour field day event. The field day reinforces the lessons learned in the online course and provides an opportunity for hands-on learning. The third option allows students 16 and above to obtain their hunter education certification solely through the internet course. Both the classroom course and the online/field day include a live-fire or firearm handling exercise where students must demonstrate that they can safely handle and/or discharge a firearm. The online-only option does not have any in-person or live-fire requirements. The online-only option is open to both residents and non-residents.

Hunter education classes are taught by Education Program staff and a network of volunteer instructors. There are approximately 987 active volunteer hunter education instructors in Louisiana. Volunteer instructors complete an instructor training course and background check prior to being certified. Education Program staff coordinate the delivery of classes with volunteers, recruit and train volunteer instructors and keep volunteer instructors supplied with materials to teach classes. In all, 107 new volunteer instructors and range safety officers were trained through 14 instructor courses. The annual volunteer instructor workshop was held at Camp Grant Walker with 66 instructors attending. The time volunteered by hunter education instructors, volunteer range officers, and Archery in Louisiana Schools coaches to deliver hunter education classes, shooting range operation and to train archers is used as in-kind match for the hunter education federal grant. In FY 2023-2024, volunteers contributed 36,076 hours of service time valued at approximately $1.3 million.

STUDENT CERTIFICATION

Total hunter education certifications reduced slightly from last fiscal year (11,386 in FY 2022-2023 versus 10,561 in FY 2023-2024). This reduction was expected after an initial surge in online-only certifications in the previous year. Traditional in-person classroom courses saw a significant percentage of total student attendance (44.9%). The online-only option for those 16 and above remained incredibly popular and represented 47.5% of total certifications.

Hunter Education

LA Hunter Education Courses FY 2023-2024			
Course Type	No. of Courses	No. of Students	Percentile
Classroom Course	221	4714	44.9%
Home Study/ Field Day	79	792	7.6%
Online-Only	N/A	4991	47.5%
Total	***300***	***10,497***	

LEFT: *Instructor Workshop/Non-Lead Partnership Field Demonstration* ***RIGHT:*** *Hunter Education class instruction*

HUNTING INCIDENTS

During FY 2023-2024, there were four reported hunting incidents involving injury or death. One of the four incidents resulted in fatality. Two incidents involved falling from an elevated stand and the remaining two incidents involved firearms. All incidents were compiled and entered into the International Hunter Education Incident Database. Information on these incidents were provided to Hunter Education Instructors and regional staff. Education Program staff and volunteer instructors are placing additional emphasis on tree-stand safety in their hunter education classes and field days, with all Education staff receiving Tree-Stand Safety instructor training. Additionally, per legislative request, LDWF developed and disseminated tree-stand safety materials through print, website and social media again this year.

Primary causes for these incidents are shown below.

Hunting Incidents (FY 2023-2024)	
Type	No. of Incidents
Failure to Identify Target	2
Fall from Stand	2
Total Incidents	***4***

SHOOTING RANGE/ TRAINING FACILITIES

Two education centers and four shooting ranges are available to the public and managed by the LDWF Education Program. In FY 2023-2024, approximately 31,877 user visits occurred on LDWF shooting ranges.

BODCAU SHOOTING RANGE

The Bodcau range is located in Bossier Parish on the Bodcau WMA. Accommodations for public use include five 200-yard and 21 100-yard rifle, and 18 (25-yard) pistol shooting positions, a shotgun range with four manual clay target throwers, an archery range, an elevated archery tower, and a 3-D archery trail. The range is open to the public three days a week and recorded 5,137 user visits in FY 2023-2024.

WOODWORTH EDUCATION CENTER

The Woodworth Education Center located in Rapides Parish contains a classroom, lodging facilities and a public shooting range. Range facilities consist of a rifle range, handgun range, a five-stand shotgun range, an archery range, and 3-D archery trail. The range is open for public access three days a week, and recorded 5,391 user visits in FY 2023-2024.

SHERBURNE SHOOTING RANGE

Located in Pointe Coupee Parish on the Sherburne WMA, the Sherburne range consists of two shotgun ranges, one archery range, one handgun range and one rifle range. It is open to the public six days per week and recorded 6,496 user visits in FY 2023-2024.

WADDILL OUTDOOR EDUCATION CENTER AND REFUGE

The Waddill Outdoor Education Center and Refuge in East Baton Rouge Parish provides an outdoor education environment in an urban setting. A classroom, shotgun range, archery range with elevated archery tower, and air rifle range are used for hunter education instruction and recreational shooting opportunities. Waddill Refuge recorded 4,090 user visits in FY 2023-2024.

HONEY ISLAND SHOOTING RANGE

The Honey Island Shooting range is located on the Pearl River WMA in St. Tammany Parish. The range is managed under an agreement with Southeast Louisiana Firearms Safety, Inc (SELFS). SELFS is a non-profit organization staffed by volunteers that maintains and operates the range for public use. Shotgun, rifle and handgun shooting opportunities are available to the public. The range is open to the public three days per week. There is a $10 per day fee to use the range that is collected by SELFS to fund operation and maintenance of the range. This range recorded 10,763 user visits in FY 2023-2024.

TOP LEFT: *Honey Island Shooting Range*
BOTTOM LEFT: *Woodworth Shooting Range*

GENERAL WILDLIFE EDUCATION AND OUTDOOR SKILL DEVELOPMENT

Education Program staff are involved in a variety hunter education related activities. Staff provide information and make presentations on topics of interest to civic organizations, school groups and other affiliations. Outdoor skill development programs and efforts have increased in recent years. Demand is high for programs that teach beginners about getting started in hunting and shooting sports. In recognition that funding and support for conservation are directly linked to hunters and shooters, the LDWF Education Program has expanded its efforts to recruit and teach skills to new outdoor enthusiasts.

NON-CONSUMPTIVE PROGRAM

The Non-Consumptive program was created to encourage more interaction with non-hunters and anglers. The program looks to identify, promote, and improve non-consumptive activities throughout Louisiana, such as hiking, kayaking, canoeing, and bird watching. This comes after the Louisiana Department of Wildlife and Fisheries were given special priority to engage outdoor users who may not take part in hunting and fishing.

NATIONAL HUNTING AND FISHING DAY

The general public is invited to join LDWF and other conservation partners in an open house atmosphere that involves hands-on activities and information about conservation. National Hunting and Fishing Days were implemented in four locations statewide resulting in an estimated 5,681 user contacts for FY 2023-2024.

BECOMING AN OUTDOORS WOMAN (BOW)

BOW is a popular program with women interested in learning about outdoor recreation. During the BOW weekend workshop, education staff and volunteers conduct classes on a variety of outdoor skills, including shooting, fishing, canoeing, hunting, orienteering, camping and wildlife appreciation. The Hunter Education section held one Becoming and Outdoors Woman (BOW) workshop, and one Beyond BOW Deer Hunt, reaching a total of 141 participants for FY 2023-2024.

Fur/Trapping Education Presentation

Small game cleaning presentation at 2024 Becoming an Outdoors Woman (BOW)

***LEFT:** Beyond BOW Deer Hunt 2024* ***RIGHT:** YHEC State Competition 2024*

Archery exhibit at National Hunting & Fishing Day

FAMILIES UNDERSTANDING NATURE (FUN) CAMP

Families Understanding Nature provides both fun and education to a parent and youth(s) through a weekend of staff-led outdoor activities. Family members are introduced to archery, rifle and shotgun shooting, kayaking and camping. Two FUN Camps; Mother/Child and Father/Child were implemented at Woodworth Education Center reaching 19 families in FY 2023-2024.

Mother/Child FUN Camp

HUNTING 101 WORKSHOPS

Hunting Introductory (101) workshops are being developed and implemented by Education staff to give beginning hunters the knowledge and confidence to begin hunting on their own. Five hunting 101 workshops have been developed and implemented; Wood Duck 101, Waterfowl 101, Bow-Hunting 101, Tree Stand Safety, and Squirrel Hunting 101. In FY 2023-2024, 44 students were instructed at Waddill Refuge and Woodworth Education Center.

***LEFT:** Father-Child FUN Camp **RIGHT:** Hunting 101 - Tree Stand Safety*

ARCHERY IN LOUISIANA SCHOOLS (ALAS)

ALAS is Louisiana's version of the National Archery in the Schools Program. ALAS promotes international style target archery as part of the physical education curriculum for grades 4-12. At the end of FY 2023-2024, 149 active schools were participating in the program, impacting 20,576 students. LDWF hosted four regional tournaments, a state 3D, and a state bullseye tournament. A total of 1,800 archers participated in regional and state tournament competitions.

***LEFT:** North Regional Bullseye Tournament **RIGHT:** ALAS State 3D Tournament*

TARGET RANGE ENHANCEMENT GRANT PROGRAM

LDWF designed and implemented a Target Range grant program in cooperation with Wildlife and Sport Fish Restoration staff to sub-award wildlife restoration funds to third party entities to build, expand, and improve public shooting ranges. Two planning and development, and one construction sub-awards were issued in FY 2023-2024. The next round of the projects were submitted at the close if of fiscal year, and LDWF intends to award funding through this process for FY 2024-2025.

Bodcau Handicap Archery Tower

LAND DEVELOPMENT & MANAGEMENT

FORESTRY PROGRAM

The mission of the Forest Management Program is to improve forest and wildlife habitat on WMAs through sound forest management, reforestation practices, and active forest/wildlife research activities. To demonstrate wise stewardship of LDWF's forests, 545,695 acres of forestland is certified through the Sustainable Forestry Initiative Program. LDWF completed its recertification audit and was found to be in accordance with the requirements of the Sustainable Forestry Initiative Standard. This marks the LDWF's seventh year under Sustainable Forestry Initiative forest certification.

General forest inventories and habitat evaluations were conducted to facilitate the development of management prescriptions and to evaluate the effectiveness of prescribed treatments for Bayou Macon, Big Lake, Boeuf, Buckhorn, Dewey Wills, Little River, Richard K. Yancey, Russell Sage, Sandy Hollow, and Sherburne WMAs.

Harvest preparations including forest inventory, regeneration evaluations, timber marking, GIS map development, timber sale proposal preparations, timber sale development, contract development, and timber contract amendments were conducted on Boeuf, Dewey Wills, Richard K. Yancey, Russell Sage, and Sandy Hollow WMAs. Harvests to improve wildlife habitat were initiated and/or completed on Bayou Macon, Richard K. Yancey, Russell Sage, and Sandy Hollow WMA WMAs.

As a result of depressed timber markets for hardwood pulpwood across most of Louisiana, non-commercial timber treatments were carried out to improve wildlife habitat on Boeuf WMA. The treatment was used to improve forest structure, enhance hard and soft mast production, provide patches of dense understory to serve as important escape cover, and to stimulate understory and midstory development.

Chemical treatments of invasive/non-native species, primarily Chinese tallow tree, cogon grass, and trifoliate orange were carried out on Big Lake, Dewey Wills, Sandy Hollow and Spring Bayou WMAs.

Prescribed burning treatments were conducted on Alexander State Forest, Little River, Marsh Bayou and Sandy Hollow WMAs to promote and improve habitat conditions for fire dependent wildlife and plants.

The annual statewide WMA mast survey was conducted to estimate annual mast production. The survey is used as an indicator of mast availability for wildlife as well as a predictor of small mammal populations. The mast survey is also used to map local abundance which aids in seed collection efforts.

Our reforestation program inventoried and evaluated hardwood plantations on LDWF-owned WMAs as well as private properties. Habitat evaluations and management plans were developed for eleven bottomland hardwood restoration sites on properties enrolled in the NRCS Wetland Reserve Program and the prescribed treatments have been carried out on 10 of the 11. Evaluations of state-owned properties include Boeuf, Buckhorn, Little River, Richard K. Yancey and Russell Sage WMAs. Our reforestation program coordinated and assisted in planting 14,646 acres on Manchac, Salvador and Timken WMAs as part of a coastal forest restoration partnership.

Our GIS program continues to update timber sale data, forest inventory, boundaries, prescribed burning, roads, and streams data input relative to our WMA forest management activities. The forestry GIS allows us to monitor, analyze, and evaluate for performance and outcomes of the entire forestry program.

Growth Monitoring Plots were reevaluated on Boeuf, Floy McElroy, Hutchinson Creek and Russell Sage WMAs. These permanent plots aid in monitoring habitat conditions and effects of our forest management program on the habitat components represented on the WMAs.

Research continued on several ongoing studies investigating seedling survival, sapling development, tree growth, wildlife response to various silvicultural treatments, and hydrological changes across our WMA properties. Forestry Section staff hosted several training and outreach workshops to share research results and management experiences. Continuing education for the Forestry Section staff was practiced through participation at various symposiums, workshops, seminars, research meetings and conferences throughout the year, in and out-of-state.

WILDLIFE MANAGEMENT AREAS

The Wildlife Division of LDWF currently manages over 1.3 million acres in its WMA Program. These areas are distributed across the state and are comprised of a vast array of habitat types. The WMA Program's mission is to deliver conservation priorities to Louisiana's landscape, as well as provide an array of outdoor recreational opportunities to the public. The lands in the program serve to protect, conserve, replenish and manage the wildlife resources occurring on those areas. Habitats within these lands harbor and help conserve a multitude of endangered species such as the red-cockaded woodpecker and gopher tortoise. The majority of these lands are available for the public to utilize in recreational pursuits. Recreational opportunities range from a variety of hunting and fishing, to canoeing, hiking, ATV riding and berry picking. Habitats range from upland pine-hardwood, to cypress tupelo, pine savanna, bottomland hardwood, fresh to brackish marshes, with many globally rare habitat types and plant communities as well. For administrative and management purposes, the WMAs are grouped by region - Hammond, Lafayette, Lake Charles, Pineville, Monroe and Minden regions.

HAMMOND

Wildlife Management Areas
(*Total Acres - 255,186 acres*)

- Biloxi
- Hutchinson Creek
- Joyce
- Lake Ramsay Savannah
- Manchac
- Maurepas Swamp
- Pearl River
- Sandy Hollow
- Tangipahoa Parish School Board
- Tunica Hills

Habitat types on these WMAs include marshes and swamps, natural longleaf and plantation loblolly pine stands, bottomland hardwoods, and rugged loess bluff uplands. The WMAs are managed to provide outdoor recreational opportunities for all user groups. Most of the areas are accessible via extensive road and trail systems that are maintained by LDWF staff, while other areas are accessible mainly by boat.

A total of 50,309 user days were reported for Hammond WMAs during FY 2023-2024 through the Self-Clearing Permit process. This is a 10% increase in reported user days from FY 2022-2023. User days were up year on year in almost every category, with notable increases in non-consumptive users (+8.5%), all hunting (+11.4%), and crawfishing (+370%).

Alligator hunting opportunities were available to the public on Joyce, Manchac, Maurepas Swamp and Pearl River WMAs for 2023. Alligator Tags are offered in two separate forms. The first opportunity is in the form of a Commercial Alligator Slot. Seventeen slots are offered for a three-year period, the slots are open to public bid, with hunters bidding on the percentage of value to be returned to LDWF, with a minimum of 40%. The number of tags for each slot is based on the WMA and habitat types, and range from 36 to 83 tags per hunter with a total tag allocation of 1,297 tags. 2023 is the second year of the current three-year contract. Seventy-five recreational slots were offered through a general lottery system. Successful lottery applicants were issued three tags for $40 per tag plus license fees. Lastly, contracts are awarded for the collection of Alligator Eggs on Joyce, Pearl River, Manchac, and Maurepas Swamp WMAs. Staff monitor and coordinate collections to ensure activities are compliant with other users and do not impact habitats. In 2023, contractors collected 28,329 eggs. In total, these activities generated approximately $500,000 for the Alligator Resource Fund.

Deer hunting on the WMAs of the region continues to be the most popular hunting activity (34% of all hunting activities). There were 9,217 efforts across the region, which was up 23% from the previous year. Hunters reported a harvest of 541 (+98%) deer for a 17 efforts/deer average. Staff also conducted a managed hunt on Maurepas Swamp WMA the Friday and Saturday after Thanksgiving. The managed hunt had 325 efforts, 64 deer harvested for a 5.1 efforts/deer average. These numbers are greatly improved over the previous two years due to either-sex hunts being closed due to impacts from Hurricane Ida.

After deer hunting, waterfowl hunting is second in efforts at 6,374 across the region. This year's efforts is also up (+11%) over last season. Hunters reported harvesting 7,256 waterfowl for a 1.1 ducks/effort average, which is slightly down from last year's 1.3 ducks/effort average. Of the WMAs in the region, Pearl River WMA had the most waterfowl hunting efforts.

LDWF personnel issued Special Use Permits for a variety of activities on the WMAs of the region. These activities include oil and gas, public utility maintenance, restoration, research and monitoring, etc. LDWF WMA staff work diligently to ensure that business of state interest continues, but that impacts to both habitat and users of the WMA are minimized. This year staff made significant progress in initiating a new Special Use Permit for private entities to engage in Eco-tourism on the Pearl River WMA and Maurepas Swamp WMA. A proposed rule change was adopted that specifies the process in which an entity can apply and receive a Wild Louisiana Guide License and Special Use Permit. This process will involve the purchase of a $500 license, and the vendors will provide a $2 access fee for each tour participant. This process will be in place for the 2025 calendar year.

The construction of a new boathouse was completed in October 2023 on Manchac WMA this year. Hurricane Ida destroyed the original boathouse, which was constructed in 1981. This boathouse is used by LDWF and by the Southeastern Louisiana University Turtle Cove Research Unit. A new memorandum of understanding between LDWF and Southeastern Louisiana University for use of the new boathouse began May 1, 2024.

At Sandy Hollow WMA, staff prescribed burned 100 acres and treated invasive cogon grass on another three within longleaf pine stands. The 2023 drought slowed the growth of native warm season grasses.

Staff worked with the Restore the Earth Foundation to plant approximately 1,400 acres of Bald Cypress at Manchac and Joyce WMAs.

Hammond personnel maintained 17 wood duck boxes. Personnel also participated in the statewide mourning dove banding program, responded to numerous deer and nuisance animal complaints, provided technical assistance to the public, conducted public meetings, and collected 196 white-tailed deer brain and lymph node samples across the region for chronic wasting disease testing.

Feral hogs have become a serious nuisance and ecological threat throughout the state. Aggressive control methods have been used on certain WMAs, such as Pearl River and Tunica Hills, to reduce their numbers. Each year, feral hog blood samples are collected and tested for a variety of diseases.

The Hammond Region Operations program offers assistance to the public in 17 parishes on a variety of wildlife related topics and programs. Biologists conducted data collection for research programs, disease monitoring, habitat evaluations, Wetland Reserve Easement monitoring, drafted habitat management plans for private landowners, conducted public outreach, and offered technical assistance regarding wildlife and nuisance animal issues. The DMAP program was delivered to 134 cooperators on more than 245,039 acres. In addition, staff participated in several bird banding programs for black-bellied whistling ducks, wood ducks, woodcock and mourning doves. During

Prescribed burning

2023-2024, regional personnel banded 751 wood ducks, 43 black-bellied whistling ducks, and 256 woodcocks. Region biologists conducted 59 Private Lands site visits offering technical assistance to landowners regarding wildlife and habitat management for 8,355 acres.

LAFAYETTE

Wildlife Management Areas (*Total Acres - 191,178 acres*)

- Acadiana Conservation Corridor
- Attakapas
- Elm Hall
- Grassy Lake
- Pomme de Terre
- Richard K. Yancey
- Sherburne
- Spring Bayou
- Thistlethwaite

Habitat types range from backwater bottomland hardwoods interspersed with agricultural lands, and cypress-tupelo swamps to open-water areas. One USFWS refuge (Atchafalaya National Wildlife Refuge) and two USACE properties (Bayou des Ourses and Shatters Bayou) are managed within the Lafayette region.

Lafayette WMA personnel administer and manage a variety of wildlife-oriented activities. These personnel work in conjunction with and provide technical advice to many different agencies, including USFWS, USACE, LDENR, Louisiana Department of Environmental Quality, USDA and local parish entities. Lafayette WMA personnel helped deliver alligator and nuisance animal programs and assisted with program projects such as dove and wood duck banding, as well as deer, woodcock, turkey, black bear and nongame research projects.

The WMAs are maintained and managed to provide outdoor recreation opportunities for all user groups, including both consumptive and non-consumptive. WMA personnel performed a variety of development and maintenance functions such as boundary marking, building maintenance, self-clearing station maintenance, sign replacement, road and trail maintenance, culvert replacement, water control structure operation, moist soil management, feral hog and other nuisance animal control, equipment maintenance, public user data collection, vegetation control, food plot planting, reforestation, and conducting managed hunts.

A total of 91,410 user days were reported on Lafayette WMAs during FY 2023-2024.

White-tailed deer is the most popular game animal hunted on the Lafayette WMAs. Either-sex deer hunts, with mandatory deer checks were held on the WMAs, with 2,493 user-days recorded and 370 deer harvested. An additional 900 deer were harvested during other either-sex, bucks-only, youth/handicapped, archery and primitive weapons hunts, where self-clearing permits were utilized. Deer hunters totaled over 22,500 efforts for the 2023-2024 season. Turkey hunts were held on two WMAs, but no turkeys were harvested by an estimated 20 users. This includes eight youth hunters who were selected for the Spring Bayou and Pomme de Terre WMA youth lottery hunts. Squirrel and rabbit hunting is also very popular on the ecoregion's bottomland hardwood WMAs, accounting for over 12,500 user days. Waterfowl hunting is popular as well on Lafayette WMAs in moist soil impoundments, green tree reservoirs, swamps, and flooded bottoms. Waterfowl user days totaled over 4,500 for this period. In addition, dove fields are maintained, along with many acres of wildlife openings.

Youth lottery deer and duck hunts were also held on Lafayette WMAs, with great success on these hunts. Twelve youth waterfowl lottery hunters harvested 44 ducks, for an average of 3.7 ducks per youth hunter. A disabled veteran's waterfowl hunt was held where five disabled veterans participated and harvested 30 ducks, for an average of six ducks per hunter. Thirty-six youth deer lottery hunters harvested 22 deer on eight hunts. Youth hunters observed many deer on these hunts. The hunts are held in refuge areas set aside for youth, where these youth hunters have a quality hunt and learn about hunting in a safe environment. Three different Physically Challenged Hunter Permit wheelchair hunters went on 24 hunts utilizing wheelchair-bound waterfowl and deer blinds.

Biologists and technicians maintain and monitor approximately 524 wood duck boxes, conduct pre-season wood duck banding, and collect samples for chronic wasting disease, avian influenza and other disease testing. They also assisted with numerous complaints regarding black bears, sick wildlife and various nuisance animals. Biologists assisted researchers with ongoing research projects.

Lottery alligator hunter applications were reviewed and 450 tags were issued to 150 lottery hunters. This lottery is conducted with an online application process, with each hunter selected receiving three alligator tags. This gives the public an opportunity to participate in the alligator harvest on WMAs and public lakes.

There were also four contract alligator hunters that were issued 188 tags for the Lafayette Region WMAs.

Major projects being initiated, worked on, or completed included:

- Boat launch replacement and parking lot upgrades on Acadiana Conservation Corridor
- Culvert Replacement at the borrow pit at the entrance to Sherburne WMA South Farm
- Replaced the water control structures on the Sherburne WMA Green Tree Reservoir along Big Alabama Bayou
- Replaced the large culvert at the Bayou Johnson crossing on Sherburne WMA

Sherburne WMA hiking trail

The Lafayette Region Private Lands Biologists offer assistance to the public in 12 parishes on a variety of wildlife related topics and programs. Biologists conducted data collection for research programs, disease monitoring, habitat evaluations, Wetland Reserve Easement monitoring, public outreach, and offered technical assistance regarding wildlife and nuisance animal issues. The DMAP program was delivered to 273 cooperators on more than 580,376 acres. Private Lands Biologists assisted the Large Carnivore Program with black bear den visits, cub counts, research collaring, and the hair snare project in the UARB. Region biologists conducted 86 WRE site visits offering technical assistance to landowners regarding wildlife and habitat management for 20,275 acres. In addition, Biologists collected 301 CWD samples in the Region.

COASTAL LAFAYETTE

Wildlife Management Areas
(*Total Acres - 321,503 acres*)
- Atchafalaya Delta
- Lake Boeuf
- Pass-a-Loutre
- Pointe-aux-Chenes
- Salvador
- Timken

Refuges
(*Total Acres - 93,274 acres*)
- Marsh Island
- State Wildlife
- St. Tammany
- Isle Dernieres Barrier Islands
- Queen Bess

Habitats on these WMAs/refuges are primarily fresh, intermediate and brackish marshes with some agriculture lands, bottomland hardwoods and cypress-tupelo swamp. Most of the WMAs/refuges in this region are only accessible by boat, and these coastal properties include two active deltas and three barrier islands. The majority of the Coastal Lafayette WMAs/refuges are owned by LDWF with the remaining acreage under lease. St. Tammany Refuge is managed in cooperation with the USFWS along with Big Branch National Wildlife Refuge.

The Coastal Lafayette Region WMAs/refuges are maintained and managed to ensure optimum habitat conditions as well as provide outdoor recreational opportunities for all user groups. A total of approximately 27,000 user days were estimated for Coastal Lafayette WMAs and refuges during FY 2023-2024. Fishing, crabbing and shrimping make up the majority of the activities on some WMAs/refuges in this region. The most popular consumptive activities include hunting, fishing, crabbing and cast-netting for shrimp. Non-consumptive uses include boating, camping, bird watching and nature photography. To facilitate public use, Coastal Lafayette staff maintained parking lots, docks, bridges, boat ramps and campgrounds as well as posted boundaries and provided public assistance (including emergency assistance to boaters).

Marsh Island Refuge - two water control structures (Northeast Unit and Joe Aucoin West) were replaced in FY 2023-2024.

Marsh Management, Restoration & Habitat Enhancement

Wetland management, enhancement, restoration and protection activities are high priorities on the Coastal Lafayette WMAs/refuges. Staff strive to manage all wetlands on these areas when and where feasible. In general, Coastal Lafayette WMA/refuge wetlands are managed to provide appropriate water levels and conditions (salinity, turbidity, flow) to optimize wetland health and wintering waterfowl conditions, establish/increase desired wetland vegetation and ensure proper habitat conditions for fisheries and other wildlife. Annual wetland management and enhancement activities included water level and salinity management, prescribed burning, species management, vegetative plantings, dredging/beneficial use, etc. There are 12 active management units on three of these WMAs/refuges (Pointe-aux-Chenes WMA, Marsh Island Refuge and State Wildlife Refuge). These management units total approximately 45,000 acres and are managed via 25 water control structures. Staff routinely monitor water quality and conditions and adjust water control structures appropriately to ensure proper management. Staff continue to maintain and repair all water control structures, levees, etc. to ensure these management units function properly. During FY 2023-2024 several projects designed to improve wildlife habitat quality were either implemented, completed, or moved forward in the process to be implemented. On Marsh Island Refuge, two water control structures (Northeast Unit and Joe Aucoin West) were replaced in FY 2023-2024. LDWF worked on agreements for Ducks Unlimited to address levee breaches in the West Impoundment and to replace the East Impoundment water control structure on Marsh Island Refuge. Construction is expected to begin in late FY 2024-2025 or early FY 2025-2026 for both of these projects. Ducks Unlimited was also successful at obtaining NAWCA funding for replacement of the Southeast Unit water control structure on Marsh Island Refuge, with design likely to begin in FY 2025-

2026. Ducks Unlimited obtained NAWCA funding for replacement of the Hog Bayou water control structure on State Wildlife Refuge, with design likely to begin in FY 2025-2026. The Mississippi River Delta Crevasses Phase II Project on Pass-a-Loutre WMA and Delta NWR was bid in April 2024 with construction expected to be completed early in FY 2024-2025. Ducks Unlimited received NAWCA funding for this project and, with oversight provided by LDWF, performed all engineering, design and construction management. The Atchafalaya Delta Crevasse Phase III Project consists of the construction of two new crevasses and the extension of two existing crevasses on Atchafalaya Delta WMA. This project will begin early next fiscal year, will be completed in September 2024 and was funded through Ducks Unlimited.

Coastal Lafayette staff continued to identify needs and search for funding opportunities to address habitat related work (including coastal restoration) on these WMAs/refuges. Staff worked with federal, state and local government agencies (e.g., NRCS, U.S. Environmental Protection Agency, USACE, USFWS, CPRA Terrebonne Levee and Conservation District, Lafourche Parish Government), non-governmental organizations (e.g., Ducks Unlimited, Restore the Earth), universities and private landowners for assistance with possible projects, partnerships, and funding opportunities to address habitat issues. Staff routinely worked closely with the USACE for maintenance dredging of the lower Mississippi and Atchafalaya rivers and associated beneficial use of dredge material. Staff continued to work with Restore the Earth on ongoing efforts to restore cypress swamp on Salvador and Timken WMAs. Restore the Earth contractors planted nearly 2.5 million cypress tree seedlings totaling 12,500 acres on these WMAs during FY 2023-2024. Although feral hogs damaged many of the cypress trees in areas, overall, the project was a success. CPRA received $1 million of state surplus funding to engineer and design the State Wildlife Refuge Marsh Creation and Shoreline Protection Project (TV-100). CPRA began assessments during this fiscal year. LDWF staff worked closely with NOAA and other agencies on the Raccoon Island Restoration Project. This project will restore a large portion of Raccoon Island, which is part of LDWF's Isle Dernieres Barrier Islands Refuge. Ducks Unlimited used NAWCA funds to purchase the property comprising Timken WMA from the New Orleans City Park Improvement Association. The property was officially transferred to LDWF in July 2023 and will continue to be managed by LDWF as Timken WMA.

Consumptive Activities & Invasive Species Control

Waterfowl are the most popular animal hunted on the Coastal Lafayette WMAs. Coastal Lafayette staff manage wetlands on WMAs/refuges to provide optimum wintering waterfowl habitat conditions. The 2023-2024 waterfowl season was from Nov. 11, 2023 - Jan. 21, 2024 (closed Dec. 4-10 and Jan. 8-12) on coastal WMAs. Self-Clearing permits submitted by hunters indicated that 6,568 hunters hunted on the coastal WMAs harvesting 17,952 waterfowl for a success of 2.73 birds per hunter effort. The 2023-2024 teal season was from Sept. 15-30, 2023. Self-Clearing permits submitted by hunters indicated that 1,011 teal hunters hunted on the Coastal Lafayette WMAs this year during the September teal season. These hunters harvested an estimated 2,152 teal for a success of 2.12 teal per hunter effort.

Deer are the second most popular game animal hunted on Coastal Lafayette WMAs. Self-clearing permits revealed that 1,127 deer hunter efforts yielded 92 deer harvested during the 2023-2024 hunting season on Coastal Lafayette WMAs. This equates to a success of one deer for every 12.25 efforts. The majority of the deer hunter user days and deer harvested on coastal WMAs were on Atchafalaya Delta WMA.

Approximately 70 acres of dove fields were maintained on Pointe-aux-Chenes WMA and many acres of wildlife openings maintained on all WMAs.

Personnel regulated and monitored alligator and furbearer harvest activities on the Coastal Lafayette WMAs/refuges. A total of 1,779 alligator tags were issued on the Coastal Lafayette WMAs/refuges for the 2023 alligator season; 309 tags to lottery alligator hunters and 1,470 tags to contracted alligator hunters. The vast majority of the alligator tags were filled and 13,633 nutria were harvested on these WMAs/refuges for FY 2023-2024.

Feral hogs were identified on Marsh Island Refuge for the first time in FY 2023-2024. Monitoring and trapping efforts in this same time period resulted in the removal of 105 hogs from the refuge. The USDA-APHIS Wildlife Services program removed 306 hogs from Salvador and Timken WMAs in an effort to reduce further damages to trees and wetlands.

Research & Species Management

Coastal Lafayette personnel assisted with project field trips and inspections, data collection and research as needed. Staff continued to assist LSU AgCenter researchers collect data on the Roseau cane scale on Pass-a-Loutre WMA. Assistance provided included vessel support and lodging to aid researchers in data collection throughout the WMA.

Coastal Lafayette staff continue to conduct species management related activities as well as provide assistance as needed to species management programs including assistance with research projects, habitat assessments and updates, surveys, harvest data collection, species updates, waterfowl banding efforts (mottled ducks, black-bellied whistling ducks and gallinules), etc.

Mineral Management

Personnel also reviewed, commented on proposed oil and gas production activities and monitored ongoing oil and gas production activities, facilities and spills as well as and other easement related activities on all Coastal Lafayette WMAs/refuges.

Maintenance of Facilities & Equipment

Hurricanes have caused significant damages to equipment and infrastructure in this region during the last several fiscal years. Coastal Lafayette Region staff continued to repair, replace and assess appropriate paths forward related to hurricane damages.

Routine maintenance activities on the Coastal Lafayette region areas also included road maintenance, sign replacement, self-clearing permit kiosk maintenance, vegetation control, public use data collection, equipment maintenance, facility/building maintenance, etc.

LAKE CHARLES

Wildlife Management Areas (*Total Acres - 301,195 acres*)

- Clear Creek
- Fort Johnson-Vernon
- Fort Johnson North
- Marsh Bayou
- Sabine Island
- Walnut Hill
- West Bay

Habitat on these WMAs is mostly upland, with pine plantations and natural pine stands covering the majority of the acreage, but also includes areas of bottomland hardwoods, upland hardwoods, cypress-tupelo swamps, and mixed pine-hardwoods.

West Bay WMA - Wolf Bay Campground

There were a total of 46,205 user days for Lake Charles Region WMAs during FY 2023-2024. In addition to hunting and fishing opportunities, the areas provide many types of non-consumptive outdoor activities including camping, hiking, bird watching, boating, and more. These WMAs are generally easy to access, making them very popular with the public.

Deer hunting continues to be the most popular activity on the region's WMAs, with 27,570 deer hunting efforts and 1,793 deer harvested during the 2023-2024 season. Either-sex managed deer hunts conducted on Clear Creek, Fort Johnson-Vernon, Fort Johnson North, and West Bay WMAs allow biologists to collect biological data and samples, which provide information on herd health and hunter success rates. These managed deer hunts resulted in 5,652 hunter efforts and 581 deer harvested on region WMAs.

Lake Charles Region WMAs also provide special opportunities for youth and physically challenged deer hunters. Clear Creek WMA's youth only weekend had 100 participants harvesting nine deer. West Bay WMA's youth/physically challenged hunt resulted in 143 efforts with 10 deer harvested. Additionally, 10 specialized hunting stands are available by reservation to wheelchair-bound hunters in the region, including four each at Clear Creek and Fort Johnson-Vernon, and two at West Bay.

Other special hunting opportunities on Lake Charles Region WMAs include youth-only lottery turkey hunts held on Clear Creek, Fort Johnson-Vernon/Fort Johnson North, and West Bay WMAs, with 62 participants harvesting eleven gobblers. The Fort Johnson-Vernon/Fort Johnson North youth lottery turkey hunt paired youth participants with experienced volunteer guides, providing a unique experience and quality hunt for young hunters who might not otherwise have the opportunity to hunt turkeys.

Clear Creak WMA - Physostegia (left) and Delphinium (right)

Most of the region's WMAs were leased to LDWF from private and government entities (Manulife Investment Management, Roy O. Martin, U.S. Army, USFS, Agvictus Capital Management, Calcasieu Parish School Board, Rayonier, and the State of Louisiana) for public use from the landowners. WMA landowners do not receive direct payments for the leases. Instead, the owners are compensated through a combination of tax exemptions, road and infrastructure maintenance, mowing, prescribed burning contracts, reduced theft and vandalism (due to regular presence of LDWF staff), as well as public goodwill. Each year, LDWF personnel meet with landowner representatives to negotiate annual agreements for leased acreages. The leases help the landowners with property maintenance and wildlife management, and allow LDWF to make these properties available to the public for recreation.

Area infrastructure work conducted as part of the "In-Kind Service" agreements during FY 2023-2024 included 151 miles of WMA roadway grading and reconstruction, 249 miles of roads and trails bush hogged, 70 miles of boundary marked, and 20 miles of fire breaks installed. Region staff also planted 126 acres of agricultural forage to create wildlife habitat, food plots, and dove fields. Additionally, 76 acres of wildlife openings were maintained using chemical control or were manipulated by fallow disking and mowing to maintain native grasses and forbs in early successional stages. Several WMA agreements also require the removal of nuisance wildlife, with


***LEFT:** Fort Johnson-Vernon - Fullerton check station.* ***RIGHT:** Marsh Bayou WMA - road work*

emphasis on feral hogs and beavers. This was accomplished through trapping operations and opportunistic shooting.

Lake Charles Region WMA personnel participated in a variety of Wildlife Division activities, including environmental assessments, technical assistance, research, planning, development, species management, and alligator and nuisance animal programs. WMA staff assisted with a joint (USFS, U.S. Army and LDWF) turkey project on Fort Johnson WMAs and Kisatchie National Forest. A total of 117 turkeys were trapped, banded, and fitted with transmitters. The project will continue into the next fiscal year as part of an on-going research program. WMA staff also assisted with the maintenance and monitoring of 50 wood duck nest boxes on Sabine Island WMA.

Prescribed burning was conducted on Marsh Bayou WMA with a total of 30 acres burned and 12 miles of firebreaks maintained. This burning is part of an effort to reduce competition in a longleaf pine planting, and has improved habitat for a variety of wildlife species including songbirds, turkey, deer, reptiles, amphibians and small mammals.

Personnel also reviewed and monitored oil and gas production activities and interstate pipeline installations on several Lake Charles WMAs.

Private Lands Program

During FY 2023-2024, Lake Charles Region biologists conducted 33 individual land site visits on private lands, and provided technical assistance and recommendations for 19,550 acres. They produced seven comprehensive habitat management plans, 49 written assists by mail and email, and provided technical information to an additional 118 callers and visitors to the Lake Charles field office. Biologists also assisted 217 callers with nuisance and injured wildlife complaints and responded in person to 35 incidents. Additionally, they fielded 381 requests for general information from the public. Lake Charles biologists also performed outreach to the public by conducting four interviews for the media and giving six presentations at various workshops and meetings.

Lake Charles biologists were responsible for delivery of the DMAP program in the region. They conducted three browse surveys on DMAP lands and provided habitat recommendations, data analysis, and harvest recommendations to 32 clubs on 79,892 acres. Biologists also collected 66 samples for Chronic Wasting disease testing as well as multiple other samples submitted for disease testing.

Region biologists participated in banding operations for multiple species, capturing and collecting biological data from 299 wood ducks, 164 black-bellied whistling ducks, six mottled ducks, 11 doves, and two woodcock. They conducted seven quail surveys routes through private lands, and 12 quail surveys on region WMAs and Kisatchie National Forest. Region biologists also conducted four alligator surveys, with two each on Anacoco Lake and Lake Chicot.

Private lands biologists inspected 18 Wetland Reserve Easement properties and provided written assessment reports. They formulated three C-GRIP plans for landowners, and continued monitoring activities and technical assistance on previously enrolled properties. Biologists also leased 500 acres of private land and hosted a public dove hunt on the opening day of dove season, issued alligator licenses and tags, and conducted alligator hide inspections.

PINEVILLE

Wildlife Management Areas (*Total Acres - 90,594 acres*)

- Alexander State Forest
- Esler Field
- Dewey W. Wills
- Elbow Slough
- Little River
- Sabine

The Pineville region is arguably the most ecologically diverse region in the state. If you were to visit all six of the WMAs, you could experience cypress swamps and sloughs, riparian habitat, mature hardwood bottomlands, mixed hardwood and pine uplands, natural and commercial pine timberland, as well as managed and mature longleaf pine habitat. In the Pineville region, a WMA user could hunt alligators and pick mayhaws in our swamps and bottomlands and, later in the season, hunt woodcocks or observe the endangered red-cockaded woodpecker in mature longleaf pine habitat. These WMAs are readily accessible and very popular with the public, documenting 42,774 user days. Along with public hunting and fishing opportunities, these areas are also utilized for many types of non-consumptive outdoor opportunities such as scouting, boating, camping, hiking, birding and nature photography.

In FY 2023-2024, the most popular activities performed within Pineville region's WMAs in descending order were deer hunting, fishing, scouting, waterfowl hunting, and squirrel hunting. White-tailed deer hunting was the most popular activity, documenting 9,750 user days and 707 harvested deer. Freshwater fishing (recreational) was the second most popular activity documenting 7,334 user days. Scouting accounted for 6,880 user days. Waterfowl contributed with 4,722 user days and 9,260 ducks harvested. Lastly, squirrels contributed with 3,836 user days and 4,708 squirrels harvested.

The most popular non-consumptive activity was sightseeing with 2,401 user days. The next two popular activities were boating 1,238 user days and hiking 901 user days.

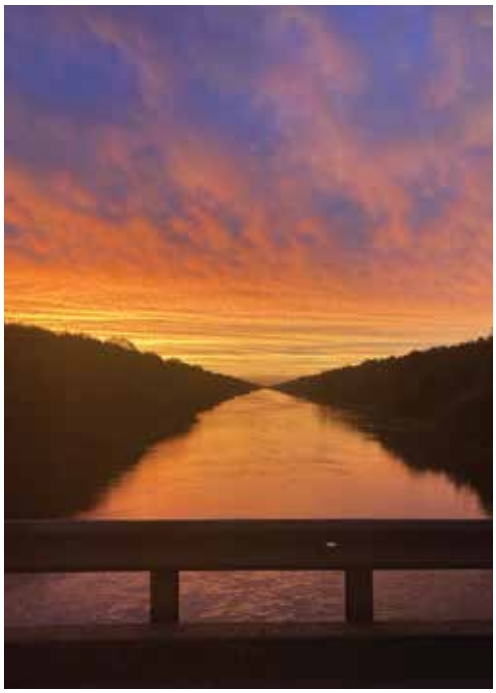
There are a regulated number of days when WMA users can utilize a primitive or modern firearm for deer hunting. During these dates, 6,074 hunters utilized Pineville region's WMAs and harvested 599 deer. Three of the WMAs (Alexander State Forest, Esler Field and Dewey W. Wills) require mandatory deer checks of harvested animals. During these mandatory deer check dates, Pineville regional biologists collected data such as sex, lactation rate, body weight, antler measurements and also extracted chronic wasting disease samples. Any diseased or abnormal physiological characteristics observed during these checks are evaluated and, when necessary, are submitted to Southeastern Cooperative Wildlife Disease Study for testing and diagnosis. All of this information is utilized to track and evaluate deer herd health, population structure, and breeding success.

Alexander State Forest WMA offers very specific hunting opportunities for youth lottery winners as well as wheelchair-bound, visually impaired, and upper body amputee hunters. These hunters are able to hunt multiple weekends for deer from modified ground blind adjacent to food plots. These blinds are all located within restricted use areas increasing the odds of seeing or harvesting deer.

Four weekend lottery youth deer hunts occur on Dewey Wills WMA. This hunt is very popular and many youth enjoy the opportunity to harvest their first deer. LDWF staff provide overnight bunking, permanent deer stands overlooking food plots, game retrieval, and assistance with deer processing.

Another unique opportunity for the youth at Dewey Wills WMA is the chance to be guided on a rabbit hunt with dogs. This hunt is always highly enjoyed by the participants and the staff really appreciate the volunteer dog handlers/guides that make it possible.

LEFT: *Dewey Wills WMA - culvert installation* ***RIGHT:*** *Sabine WMA - bald eagles*



LEFT: *Dewey Wills WMA - youth hunt* ***RIGHT:*** *Dewey Wills WMA - diversion canal*

LEFT: *Esler Field WMA - hog trapping* ***RIGHT:*** *Elbow Slough WMA - duck trapping*

Alexander Forest WMA - self-clearing permit check station

LEFT: *Little River WMA - boat ramp repair* ***RIGHT:*** *Little River WMA - rosy maple moths*

While a few of the WMAs in the Pineville region are owned by LDWF, some of the WMAs are leased to LDWF for public use from private landowners (Manulife Investment Management, RoyOMartin, Red Oak Timber Company, Louisiana National Guard, Louisiana Department of Agriculture and Forestry, USACE, and LaSalle Parish School Board). Landowners do not receive direct payments for the leases. Instead the owners are compensated through a combination of tax exemptions, road maintenance, mowing, prescribed burning contracts, reduced theft and vandalism (due to regular presence of LDWF staff), as well as public goodwill. To continue these lease areas, LDWF personnel are required to negotiate and meet annual agreements with the landowners. The leases help the landowners and LDWF to properly manage and maintain these properties for wildlife and public recreation.

LDWF staff burned approximately 214 forested acres on the Sabine WMA, 506 acres on Little River WMA, and 800 acres on Esler Field WMA. These burning prescriptions are steadily improving this upland habitat for a variety of wildlife species such as songbirds, turkey, deer, quail, and small mammals. The burns are helping to control high density sweetgums and yaupons that are dominating the understory and reducing plant diversity. Presently, after many planned fire rotations, we are seeing an increase in native bunchgrasses, wildflower and forb abundance, and wildlife usage.

Biological and habitat management work done on the WMAs include dove trapping and banding, wood duck box monitoring and maintenance, wood duck trapping and banding, mowing of road sides and timber openings, timber health checks, prescribed burning, green tree impoundment flooding, moist soil unit manipulation and flooding, fe-

ral hog trapping and removal, wildlife disease sampling, food plot planting, timber stand improvement, and invasive species control.

Private Lands Program

Wildlife biologists in the Pineville Region diligently collected 228 samples from white-tailed deer to be tested for chronic wasting disease. Chronic wasting disease was not detected in any of the samples. In addition to these samples, numerous other samples from wildlife species were submitted because of unusual behaviors or poor body condition. All diagnoses were reported to Dr. Rusty Berry, assistant state veterinarian, for evaluation. This is yet another way our agency is on the front lines when it comes to wildlife and human health disease concerns and interactions.

Pineville regional biologists participated in a wide variety of other Wildlife Division activities. These include habitat assessments, public presentations, technical assistance, species research, Wetland Reserve Easement monitoring, species banding and monitoring, and habitat management. LDWF personnel were also actively involved in disease monitoring, managed and lottery deer hunts, waterfowl bag checks, black bear population research, nuisance animal response, and alligator licenses and tag allotment.

Within the Pineville region, private lands biologists provided general and technical assistance to 1,060 citizens owning 121,910 acres. Providing requested habitat management guidance on such a large amount of acreage has a significant impact on our region's natural resources and ecosystems. Regional biologists work with many animal species - deer, bear, turkey, waterfowl, woodcock, songbirds, etc. Pineville biologist monitored 569 wood duck boxes and banded 522 wood ducks. They also captured and banded 372 doves across central Louisiana.

MONROE

Wildlife Management Areas (*Total Acres - 138,558 acres*)

- Bayou Macon
- Ben Lilly
- Big Colewa Bayou
- Big Lake
- Boeuf
- Buckhorn
- Bussey Brake
- Floy Ward McElroy
- Russell Sage
- J.C. Sonny Gilbert

The primary habitat type found on Monroe Region WMAs is the Mississippi River Alluvial Valley bottomland hardwood forest, with the exception of J.C. Sonny Gilbert, which provides a unique mixed pine upland hardwoods habitat on the fringe of the Mississippi Alluvial Valley. Several of the WMAs feature reclaimed agricultural lands, which have been reforested with bottomland hardwood forest species. Moist soil management units and green-tree reservoirs are managed to provide habitat for waterfowl and other wetland birds.

Monroe WMA biologists and technicians conducted a wide range of activities including research and surveys involving species, mourning doves, wood ducks, wild turkey, shorebirds and white-tailed deer. These included collecting harvest records of white-tailed deer through managed WMA bag checks, disease investigation such as chronic wasting disease and avian influenza testing, as well as habitat evaluations through vegetation surveys and timber cruising. Biologists and area personnel assisted the large carnivore program with bear management activities, including trapping/collaring, den visits, and handled numerous nuisance complaints. Additional effort was expended conducting public meetings, interacting with various constituents to collect concerns and interests about our management activities.

Biologists and technicians maintain and monitor over 182 wood duck boxes, conduct preseason wood duck banding, and collect samples for avian influenza and other disease testing. Biologists participated in LDWF's woodcock/turkey monitoring efforts where they were able to capture, band, and attach GPS backpack units to monitor birds. They also assisted with numerous nuisance animal complaints, illegal captive deer and sick deer complaints.

White-tailed deer is the most popular game animal hunted on the Monroe WMAs; 17,883 deer hunter user-days were recorded harvesting 1,592 total deer in the Monroe Region. Wild turkey hunts were held on four WMAs, where 467 hunter user-days harvested 32 turkeys. Squirrel and rabbit hunting is also very popular on the ecoregion's bottomland hardwood WMAs, accounting for over 4,246 user days. Waterfowl hunting is very popular as well on Monroe WMAs in moist soil impoundments, green-tree reservoirs, swamps and flooded bottoms. Waterfowl user days were above average, a total of 4,877 hunters harvested 8,539 total waterfowl.

***LEFT:** Boeuf WMA - mulcher **RIGHT:** Monroe Private Lands - dove banding*

ABOVE: *Monroe Private Lands - deer capture study* ***BELOW:*** *Monroe Private Lands - Bear Den Visit*

Alligator harvest applications were accepted, and licenses and tags were issued to 134 WMA lottery hunters & helpers who received 402 tags. This lottery hunt is done through an application process, with each hunter selected receiving three tags. This gives the public an opportunity to participate in the alligator harvest program.

Routine maintenance activities on Monroe region areas included road grading, culvert replacement, road and trail repairs, drainage improvements, nuisance animal control, boundary maintenance, sign replacement, self-clearing station maintenance, vegetation control, equipment maintenance, and facility upkeep. Repairs on all WMA roads and trails were made as funding allocations allowed.

Major projects being initiated or completed include:

- WRP SWA improvements, which included the replacement of structures, levee repair, and restoring optimum grade and elevations of these units.

Private Lands Program

During FY 2023-2024, Private Lands Program biologists conducted 44 site visits and they fielded 1,170 requests for information from the public.

Private Lands Program biologists are also responsible for carrying out activities such as migratory and resident bird surveys and banding, collection of biological data for research, habitat evaluations, disease investigations including over 1,423 chronic wasting disease samples throughout the region, nuisance animal response, and administration of the alligator program to 116 license holders, delivery of deer management assistance to 151 DMAP cooperators, biologists and area personnel assisted the large carnivore program with bear management activities, including trapping/collaring of 16 bears, nine den visits, responding to roughly 32 nuisance complaints, as well as over 40 black bear education and outreach contacts. Biologists were able to band 513 wood ducks, 186 mourning doves and 278 black-bellied whistling ducks. Regional private land biologists are able to use outreach workshops and media outlets to spread information on wildlife and its habitat to the public.

MINDEN

Wildlife Management Areas (*Total Acres - 49,180 acres*)

- Bayou Pierre
- Bodcau
- John Franks
- Loggy Bayou
- Soda Lake

Minden Office personnel are responsible for administering all wildlife division activities in northwest Louisiana. The following parishes are covered: Bossier, Bienville, Caddo, Claiborne, DeSoto, Jackson, Lincoln, Red River and Webster. Historically, the area's predominant habitat type was shortleaf pine-hickory with large areas of bottomland hardwoods along major drainages. Over the last 75 years, there have been major changes in land use in upland areas. Shortleaf pine - hickory habitat has been almost completely replaced by commercial loblolly pine stands with some areas retaining hardwood components in streamside zones. Improved pastures have replaced scattered areas of cropland. As a result, there is currently much less habitat diversity in the current landscape. Acreages that were once longleaf pine have experienced a similar conversion to commercial pine stands. Large tracts of bottomland hardwoods originally found throughout the Red River drainage are non-existent, having been converted to agricultural use over the last 200 years. Scattered remnant stands of hardwood are still found in small acreages mostly in very low-lying terrain. The Red River provides primary drainage for the area with the Sabine River draining the western most portion of the region. Numerous bayous and lakes are located throughout northwest Louisiana, which provide additional habitat to a variety of wildlife species. Biologists and technicians assigned to the Minden office are assigned to either the WMA or Private Lands sections. However, they all work on a regular basis in cooperation on projects within both sections.

Habitat on the WMAs includes bottomland hardwoods, upland hardwood bottoms, pine plantations, natural pine stands, and mixed pine-hardwoods.

A total of 32,622 user days were estimated for Minden WMAs during FY 2023-2024. These areas are readily accessible and very popular with the public. Along with public hunting and fishing opportunities, these areas provide many types of non-consumptive outdoor activities. Managed deer hunts conducted on Bodcau and Loggy Bayou WMAs collected accurate information on herd

LEFT: *Loggy Bayou WMA - GTR Spillway mats installation* ***RIGHT:*** *Bodcau WMA - dove field prep*

health and hunter success rates. Collectively, managed deer hunts on Minden WMAs resulted in 436 hunter efforts accounting for 80 deer harvested.

Most of the Minden WMA acreage is owned by other governmental agencies. LDWF is the sole owner of Bayou Pierre WMA and owns 65% of Loggy Bayou WMA. USACE, Red River Waterway Commission and Caddo Parish Levee Board all provide acreage to the Minden WMA program. At present, landowners do not receive direct payments for the leases, but instead are compensated through a combination of road maintenance, mowing, prescribed burning projects, reduced theft and vandalism (due to regular presence of LDWF staff), as well as public goodwill. To continue these lease areas, LDWF personnel are required to meet with and negotiate lease agreements with the landowners. The leases help the landowners and LDWF to properly manage and maintain these properties for wildlife and public recreation.

Prescribed burns conducted on Bodcau WMA improved upland habitat for a variety of wildlife species including songbirds, turkey, deer, reptiles, amphibians and small mammals. Routine trapping and banding of wood ducks and woodcock were conducted on WMAs. Dove fields were planted and maintained on Bodcau and John Franks WMAs. All Minden WMAs have at least one waterfowl impoundment with a total of seven actively managed. Management activities include regulation of water levels, control of nuisance vegetation, mowing and disking to promote desirable vegetation, maintaining nest boxes, and monitoring of waterfowl activity.

ABOVE: *John Franks WMA - dove field* ***BELOW:*** *John Franks WMA - dove field prep*

Feral hog control operations continued by shooting and trapping on all WMAs, and contract aerial shooting on Bayou Pierre WMA. Trapping activities resulted in the removal of 147 hogs. An additional 133 feral hogs were killed on/or on property immediately adjacent to Bayou Pierre WMA by the USDA- Animal and Plant Health Inspection Service aerial shooting. Nuisance animal control activities also included the removal of beavers and coyotes.

Minden WMA personnel participated in a variety of Wildlife Division activities. These include environmental assessments, technical assistance, research, planning, development, management, and alligator and nuisance animal programs. Sixty-four wood duck nesting boxes were maintained and monitored by Minden WMA personnel.

Personnel also reviewed and monitored oil and gas production activities and pipeline maintenance activities on Minden WMAs.

Private Lands Program

The Private Lands Program assists landowners, land managers, hunting clubs and others who desire to improve habitat and/or manage wildlife on their property. Assistance can vary from answering simple questions to a comprehensive written management plan. Assistance is not only available for traditional game species such as deer, ducks and turkey, but includes all wildlife and their habitats.

Many landowners are already working with a natural resource professional, such as a consulting forester, or are enrolled in state or federal programs such as DMAP, Forest Stewardship, and/or NRCS programs such as the Wetland Reserve Easements, Conservation Reserve Program or Environmental Quality Incentives Program. Minden Private Lands biologists cooperate with other natural resource professionals to achieve the landowner's objectives. Most importantly, landowners are encouraged to develop a cooperative relationship with LDWF Private Lands biologists and other natural resource professionals. Wildlife habitat is dynamic, and with the assistance of knowledgeable wildlife professionals, landowners can provide productive habitat for wildlife while meeting other goals they may have, such as income generation and optimizing recreational opportunity.

During FY 2023-2024, Minden Private Lands biologists conducted four site visits. They fielded 1,487 requests for information from the public. Under an agreement with NRCS, Private Lands biologists conducted six inspections of Wetland Reserve Easement properties to assess conditions and make recommendations for management. Minden biologists and technicians monitored and maintained 55 wood duck boxes on USFS property.

Minden Private Lands biologists are also responsible for carrying out activities such as migratory and resident bird surveys and banding, collection of biological data for research, habitat evaluations, disease investigations, nuisance animal response, as well as administration of the alligator program to 214 license holders, delivery of the DMAP program to 65 cooperators, and public outreach via workshops and media outlets.

FARM BILL/GRANTS PROGRAM

FARM BILL

The Farm Bill Program provides support for species management programs and the Private Lands Program within LDWF. A primary function of the program is to provide input on conservation and other programs contained within the Farm Bill at the national, state and local levels to enhance wildlife habitat. During FY 2023-2024, the program provided direct input on many conservation programs, such as the Agricultural Conservation Easement Program, Conservation Reserve Program, Environmental Quality Incentives Program, Regional Conservation Partnership Program, Conservation Stewardship Program, and Working Lands for Wildlife Program that were included in the Agricultural Improvement Act of 2018. In addition, the program provided training for Private Lands Program staff and developed recommendations on individual properties to facilitate enrollment into Farm Bill conservation programs. The Farm Bill Program continued implementation of agreements with the NRCS to provide technical assistance and restoration activities for the Wetland Reserve Program and Agricultural Conservation Easement Program. This agreement provides funding to develop wildlife habitat management recommendations in response to Compatible Use Authorization requests on Wetland Reserve Program/ Agricultural Conservation Easement Program easements in Louisiana, which currently total over 300,000 acres. The program also implemented habitat enhancements on several of those properties through our Wetland Reserve Easement Restoration Agreement. Over 50 projects are at some level of development to deliver timber stand improvements and enhancements to shallow water habitat for migratory birds. Additional accomplishments in FY 2023-2024 included continued implementation of a Regional Conservation Partnership Program Project in conjunction with NRCS, American Bird Conservancy and many other public and private conservation partners. The project is focused on managing open pine habitats in northwest Louisiana through timber stand improvement and implementation of prescribed fire. Upon completion, over $7 million will be delivered to improve forest health and wildlife habitat in this landscape. Program staff continue to work with Louisiana landowners to provide technical assistance and connect them with Farm Bill funding to implement habitat projects across the state. We continue to be active, along with partners from across the country, in providing information to policy makers to ensure Louisiana's interest are represented in the next Farm Bill, likely to be produced in 2025.

GRANTS

During FY 2023-2024, work was completed implementing a grant project aimed at developing markets for fiber produced from restored bottomland hardwood stands on Wetland Reserve Easements. These forest thinning projects were completed with funds from a National Fish and Wildlife Foundation Grant, coordinated through the Louisiana Wildlife and Fisheries Foundation. Habitat enhancements were achieved on 747 acres through public/private partnerships facilitated by LDWF staff. We continued to work with the Louisiana Wildlife and Fisheries Foundation to deliver funding to update and revise the document that guides how bottomland hardwood forests are managed in the Mississippi Alluvial Valley. This effort will facilitate training private landowners, as well as professionals, to actively manage these forests while providing desired habitat conditions for multiple species of at risk wildlife. This document will be complete and go to print in early 2025.

ROCKEFELLER WILDLIFE REFUGE

Rockefeller Wildlife Refuge (RWR), located in coastal Cameron and Vermilion parishes, was created in 1920 through a land donation developed by E.A. McIlhenny. He later persuaded the Rockefeller Foundation to deed the land to the State of Louisiana. Along with serving as a refuge for wildlife and fisheries species, RWR is also considered an "outdoor laboratory," with the property serving as a site for marsh-related research pursued by RWR staff, collaborators as well as governmental and academic researchers. RWR staff also provides professional expertise regarding the sustainable use of alligators, management of coastal wetlands, and other important wildlife and fisheries resources. Further, management expertise, technical assistance and guidance is provided by RWR staff to local landowners for the wise use of their marshland. Lastly, RWR serves as a recreational outlet for the local populace, as well as a destination for regional tourists.

Based on the original deed of donation, the primary goal of RWR is to provide a refuge and preserve for all wildlife and fisheries species. Therefore, management activities are used to promote appropriate habitat and conditions for waterfowl species (the original intent of E.A. McIlhenny for the property), establish/maintain historic flora and fauna of RWR, and maintain the hydrology of the Mermentau River Basin. In many cases, refuge management activities positively benefit other marsh inhabitants including shorebirds, wading birds, alligators, furbearers and estuarine organisms (i.e., fish, shrimp and crabs).

Another main goal is the study of wildlife, fisheries and wetlands in order to address pertinent ecological research questions and to disseminate findings to local, state, national and international audiences. Since 1955, RWR staff has published 350+ peer-reviewed manuscripts, while also preparing technical reports and contributed papers to professional conferences. Secondary goals include providing technical assistance and public outreach and providing a popular destination for recreational activity, primarily through the use of abundant fisheries resources (i.e., fishing, shrimping, crabbing) and the diversity of watchable wildlife (i.e., birdwatching); it should be noted that these two activities never supersede the main goals of RWR.

CONSTRUCTION & HURRICANE REPAIRS

RWR personnel and administrators continue to work with Louisiana Facility Planning and Control (FP&C) on projects exceeding $250,000. Construction continues on the Phase III Levee Repair project from Hurricane Rita (2005). Facility Planning and Control awarded the project at a cost of $3,179,999. This project consists of approximately 21 miles of levee to be rebuilt to an elevation of 9.5 feet. Project construction was unexpectedly interrupted due to a contract dispute. RWR awaits resolution and project completion.

RWR's maintenance and construction staff continue to maintain other levees for the protection and management of critical habitat for wildlife and fisheries. This continual practice maintains the refuge's levee system, comprised of over 200 miles. Additional rip-rap has been placed at the base of levees that have been impacted from wave action near the Gulf of Mexico. This work will reduce the long-term cost associated with the maintenance of these levee reaches.

The partnership with Ducks Unlimited and the Louisiana Waterfowl Working Group donated $356,621.46 for the purchase of a hydraulic pump and materials that RWR will install to manage water levels in Unit 3. Unit 3 is approximately 3,800 acres of brackish to intermediate coastal marsh managed for migratory waterfowl. The pump and material have been delivered to RWR; the estimated completion of installation will be within the summer of the FY 2024-2025.

On June 19, storm tide events caused by Tropical Storm Alberto in the lower Gulf of Mexico over topped the beach system and levees at RWR. This event caused damage to Price Lake Road and other Roads across RWR. The portion of Price Lake Road south of the

Unit 3 Pump

Price Lake Road flood event

watch tower was closed from June 19 to July 2 to conduct necessary repairs. Approximately 300 tons of limestone were used to make the necessary repairs on Price Lake Road.

Over 85 miles of levees were impacted by Hurricane Laura storm surge within RWR. Approximately 27 miles of these damaged levees protect the Mermentau River Basin from saltwater intrusion, making this section of levee critical in maintaining the native flora and fauna. In 2018, the protection levee was reconstructed to a finished elevation of 9.5 feet above sea level in response to damages from Hurricane Rita. However, there are several locations within this critical section of levee that were eroded to marsh level as a result of Hurricane Laura. Facility Planning and Control received $500,000 from RWR to begin the necessary repair work. Surveys have been conducted, and FP&C is awaiting approval from ORM to proceed with bidding the project. Project costs will be reimbursed by FEMA.

Following Hurricane Audrey (1957), RWR constructed the onsite offices which were completed in 1959. In FY 2018-2019 a contract was awarded by Facility Planning and Control to Angelle Architects to design a new office complex, replacing the damaged structure. The current design plans are to construct the new office just west of the existing office. Contractors broke ground on the new office beginning construction in FY 2021-2022 and construction continued throughout FY 2022-2023. The completion date of construction is estimated for the end of FY 2024-2025. Refuge staff have continued to work out of the Research Laboratory until the new office is complete.

Hurricane Laura impacted and damaged 43 water control structures throughout RWR. FP&C selected two engineering firms in FY 2023-2024 to begin design and oversee repairs. Fenstermaker was selected for the eastern portion of water control structures and GIS Engineering was selected for the western portion of water control structures. Additional damage assessments were conducted by both firms and modifications to the original plans have been submitted to FEMA for necessary approvals.

FP&C awarded the backup generator project for the West End Dorm to Ernest P. Breaux Electrical, L.L.C. in August 2023. The project amount under contract is $527,000. The project completion date is anticipated for January 2025.

RWR staff and equipment assisted White Lake Conservation Area with levee maintenance, ditch maintenance, and with the construction of the new guillotine gate in FY 2023-2024.

MINERAL MANAGEMENT

Hilcorp Oil Company continues active oil production on the refuge. The program manager and staff continue to work with Hilcorp regarding maintenance and safe operations on RWR. Two tracts on RWR were submitted to the Louisiana Mineral Board for leasing. Bids were accepted for both tracts, and drilling plans are being developed for FY 2024-2025.

MARSH, WILDLIFE AND FISHERIES MANAGEMENT

MARSH MANAGEMENT

RWR staff maintains over 200 miles of levees and 55 water control structures for the conservation of approximately 71,000 wetland acres within RWR. This infrastructure also provides protection and benefits to approximately 100,000 acres of private lands within the Mermentau River Basin. Maintenance and manipulation of RWR's system of levees and water control structures vary somewhat by management unit, but general goals are to maintain marsh health, provide conditions favorable for waterfowl forage, and incorporate multi-species management when possible. Biological staff implement the approved RWR management plan, which guides management and research on the property.

Furthermore, staff have also applied for USACE and LDENR - Coastal Management Division wetland permits for RWR levee restoration and maintenance. Hydrologic restoration and unit management have improved as a result of maintenance activities. In addition to water control, staff routinely perform vegetation control with herbicides via airboat and contract aerial applications. Approximately 500 acres of invasive and undesirable vegetation were treated by aerial applications in FY 2023-2024.

In February 2024, RWR received a Marsh Master amphibious machine from the Louisiana Wildlife Foundation. Funds donated to the foundation for the purchase of the machine were provided by Cameron LNG, Sempra LNG, and Cheniere Energy. RWR management staff used the Marsh Master in the spring and summer of 2024 to control unwanted vegetation within marsh units and moist soil units. Approximately 177 acres of unwanted vegetation were sprayed and 405 acres of unwanted vegetation was either mowed or buffaloed using the machine in FY 2023-2024. Control of unwanted vegetation with this machine has directly increased waterfowl usage of targeted areas of RWR. Future management of these areas will allow more annual moist soil plant and submerged aquatic vegetation growth that will provide optimal forage for wintering and resident waterfowl.

Prescribed burns conducted during certain times of the year decrease fuel loads present in marshes, prevent catastrophic fires when the marsh is excessively dry during the summer, and provide new stem growth for migra-

Unit 5 prescribed burn

tory waterfowl species. Generally, one-third of the refuge is burned on a yearly basis. During FY 2023-2024, staff conducted prescribed burns to approximately 5,230 acres.

Refuge staff continue to monitor feral hog population and property damage caused by the species. Future trapping effort will be initiated by RWR staff as population and problems arise. USDA/APHIS/Wildlife Services also removed 20 hogs via helicopter from an area between Rollover canal and Superior canal.

MERMENTAU BASIN INUNDATION RELIEF PROJECT

RWR is located within the Chenier Sub-basin of the Mermentau Basin, which encompasses over 700,000 acres and historically functioned as a floodplain during high rainfall events. LA Hwy 82, which was constructed in the 1950s, restricts drainage of local communities and marshes north of the highway to outlets located on RWR. That restriction can result in prolonged periods of inundation during high rainfalls and flooding events. A modified system including the East End Lock structure along with constructing additional structures will aid with the increase volume flow to the eight outlets at the Gulf of Mexico.

The goals of this project are to reduce prolonged periods of inundation to relieve flooding stress and restore function, value, and sustainability to thousands of acres of marsh. The proposed project will also allow RWR to accommodate additional water flow during flooding events to relieve flooding of local communities. The project will create marsh and divert water into marsh areas that will benefit from the freshwater, nutrients and sediment.

The proposed project would construct four additional drain structures that would allow for an increase in the flow of water from the upper basin. The current lock system is over 40 years old, is in desperate need of repair, and cannot adequately relieve flooding in much of the Mermentau Basin. In addition to the locks and outflow structures, modifications at Hwy. 82 with cleaning of drainage laterals and connecting flow through outlets to main canals will enhance the project by creating/nourishing 105 acres of marsh. Reduced inundation of marsh is predicted to increase marsh production over the 35,000 acres. The project was funded in FY 2020-2021 by the Louisiana Watershed Initiative with funds provided by a Housing and Urban Development Community Development Block Grant resulting from the great flood of 2016. In FY 2021-2022, an Environmental Review Record was completed with acceptance January 2024. In

Shoreline Protection ME-37

FY 2023-2024, Cameron Parish Police Jury awarded M&C Oilfield Services Phase 1 and Phase 2 of the Mermentau Basin Inundation Relief Project. Phase 1 (East End Locks Rehabilitation) was rewarded to M&C at $10.2 million. Phase 2 (Adding three and replacing one water control structure within RWR) was rewarded to M&C at $9.4 million. Notice to proceed was given in on both Phase 1 and Phase 2 on June 2024 and construction is estimated to extend through the FY 2024-2025.

MARSH CREATION AND HABITAT ENHANCEMENT WITH BENEFICIAL USE OF DREDGE MATERIAL

LDWF entered into an agreement with USACE and other regulatory agencies to construct the Rockefeller Mitigation Bank to offset wetland losses caused by adverse impacts in Louisiana's Coastal Zone. The main objective of the mitigation bank is to compensate for impacts occurring on RWR; however, the project may also provide compensation for impacts outside the refuge (provided there are no other approved mitigation projects available).

LDWF originally permitted three areas on RWR as potential wetland mitigation sites in the year 2000 (totaling 177.7 acres). Staff continues to monitor these sites annually, with very successful grass plantings observed at the 4.7- and 66-acre sites. Consequently, these marsh creation projects have attracted fisheries species, a diversity of birds, and even muskrats.

RWR received the final credit release for Site B. The total credits for each site consist of Site A = 2.7 acres, Site B = 92.4 acres, and Site C = 21.2 acres, totaling 116.3 acres. The credits per acre were increased to $80,000. A total of 10.7 credits have been sold in FY 2023-2024. In the past 10 years, 53.6 acres/credits have been sold. There is a focus on new prospects to develop an additional site in the Deep Lake area on RWR.

SHORELINE PROTECTION AND STABILIZATION

The rate of erosion along RWR's 26 miles of shoreline has steadily increased in recent decades with rates of approximately 30-50 feet per year. In an exceptional case, surveys conducted in 2016 indicated the shoreline along the Price Lake Unit eroded inland 233 feet in nine months.

In FY 2015-2016 RWR was awarded $33 million from the Coastal Wetlands Planning, Protection and Restoration Act to complete a shoreline protection project in the form of segmented breakwaters along a portion of RWR coastline. The project was designed and awarded to the lowest bidder, Leblanc Marine, in FY 2016-2017. Construction began in August 2018 with other future phases planned as funding becomes available.

Another funding source dedicated to shoreline protection along RWR is the CPRA RESTORE Local Match Program funds awarded to the Cameron Parish Police Jury in the amount of $6,671,531. The Cameron Parish Police Jury also used $2 million of Cameron Parish RESTORE funds, $2,116,894.60 in Calcasieu Parish Restore funds, and LADENR

BUDM funds at $2.3 million, totaling $13,088,425.60. This portion of construction funds for ME-35 project was awarded to Rigid Constructors, LLC (Rigid). Construction began November 2023 and a total of 3414 feet was constructed within the FY 2023-2024. Shipment and placement of material is estimated to be completed in FY 2024-2025.

WILDLIFE MANAGEMENT

Alligator Nuisance Harvest

A nuisance alligator harvest, usually in September, has been conducted annually on RWR since the year 2000. This harvest is carried out by alligator hunters with a prior trapping history on RWR, and all are approved by LDWF after the successful completion of an enforcement background check. In September 2023, four trappers were issued 200 alligator harvest tags each. Hunting areas were distributed throughout RWR with the intent of taking alligators from areas with high public use, thus reducing the chance of negative interactions between alligators and humans. The nuisance alligator harvest occurred Sept. 6, 2023 and ended Sept. 9, 2023. Hunters harvested 799 alligators of the 800 tags issued due to an alligator hunter losing one of their CITES tags. The average size of alligators harvested was of 7.2 feet. Sex ratio data were available for all alligators, of which 62% were males and 38% were females. The average price per foot was $14.33 with a total sale value of $82,889.02. RWR's share at 25% was $20,722.27.

FISHERIES MANAGEMENT

RWR continued an active approach with the operation of water control structures across the refuge to facilitate the ingress and egress of estuarine marine organisms without negatively impacting established habitats on RWR and adjacent lands.

In FY 2023-2024 RWR staff continued the stocking of Florida-strain largemouth bass (*Micropterus salmoides floridanus*) in an ongoing effort to augment the species population within the refuge, as well as improve recreational opportunities for the species. In the spring of 2024, the rearing ponds at RWR were stocked with 195,000 fry. Staff seined the ponds after 42 and 49 days, resulting in approximately 150,057 fingerlings (76.71% survival rate).

The Florida-strain largemouth bass fingerlings were released on RWR in May 2024. Normally a portion of the fingerlings are dispersed in other various locations within the state by the LDWF Inland Fisheries Division, but the additional fingerlings were not needed. RWR hopes to continue the cooperative effort to assist Inland Fisheries with their target stocking goals in future years.

Florida largemouth bass fish pond

WATERFOWL/ MIGRATORY GAME BIRD PROGRAM

In 1994, RWR began a long-term mottled duck (*Anas fulvigula*) banding program to monitor annual survival rates and analyze distribution along the Gulf Coast between Texas and Louisiana. Recent studies and mid-winter aerial survey data indicate the Gulf Coast mottled duck population is experiencing declines. Anthropogenic changes, including loss and degradation of coastal wetlands and adjacent prairies are likely responsible for historical recent declines in mottled duck populations. RWR supports research to help scientists and managers better understand mottled duck ecology and population dynamics. Since 1994, LDWF staff at RWR have banded 54,258 mottled ducks, primarily in the coastal marshes of southwestern Louisiana. The banding effort is now a cooperative endeavor among various state and federal agencies in Texas and Louisiana. In FY 2023-2024, RWR staff banded 1,888 mottled ducks and recaptured an additional 74 mottled ducks. An additional 68 wood ducks were capture and banded during duck mottle duck banding efforts.

In FY 2022-2023 RWR staff banded 1,298 black-bellied whistling ducks. This is an increase from the previous year and is due to additional effort and resources directed towards banding.

Winter aerial waterfowl surveys are conducted annually over coastal WMAs and refuges in south Louisiana on a monthly basis from November through January. Transects are flown in each management unit and the unmanaged marsh area, and thereafter, extrapolated to yield an estimate of waterfowl abundance on the area. Survey methodology for the Coastal WMA/Refuge waterfowl survey was changed for the 2022-2023 season. All "cruise" style surveys were eliminated and new transects were established on RWR, State Wildlife Refuge, Marsh Island, White Lake Wetlands Conservation Area, Biloxi WMA, and Atchafalaya Delta WMA. The 2022 December survey was the first survey utilizing this new methodology. The waterfowl survey estimate on RWR during 2023-2024 totaled 40,563 in December 2023 and 50,784 in January 2024.

In FY 2023-2024, RWR staff banded 199 mourning doves. RWR staff also conducted seasonal planting of brown top millet and Peredovik sunflowers at Nunez woods and on RWR to provide favorable condition for mourning dove forage. Approximately 2.5 acres of sunflowers and 2.5 acres of brown top millet were planted to aid in attracting mourning dove to RWR for potential trapping.

WHOOPING CRANES

The maximum size of the Louisiana non-migratory population at the end of the report period was 82 individuals (36 males, 34 females, 12 unknown) with 80 birds located in Louisiana and two of unknown or long term missing status. This total does not include one wild-hatched juvenile that was close to fledging (71 days old), but fledge was not confirmed until shortly after the end of the report period. Based on location data generated via remote transmitters, we documented cranes in 24 parishes throughout

Louisiana. Only three cranes were documented in Texas during the report period, all spending just one night in the state before returning to Louisiana.

Unfortunately, two of the five whooping cranes transferred from the discontinued Florida non-migratory population died during the report period, and a third was discovered with a severe, but non-fatal, leg injury. The remaining two cranes (both female) nested and successfully hatched at least one chick, one of which survived and fledged shortly after the end of the period covered by this report.

Four captive reared juvenile whooping cranes (two parent-reared males, two costume-reared females) were received in early November 2023 from the Freeport-McMoRan Audubon Species Survival Center in New Orleans. Three had been hatched and reared at this location and one had been reared by a pair of captive cranes at the Dallas Zoo's Whooping Crane Center of Texas and transported to New Orleans on Sept. 27 where he was socialized with the other chicks. They were transported to the White Lake Wetlands Conservation Area in Vermilion Parish on Nov. 7, banded and placed in the top-netted section of the release pen until their release five days later. Within a week, all four had left the marsh individually, with the two females quickly reuniting and remaining together. The two single male cranes both died within two months of release (one suspected predation, one due to gunshot). Additionally, five wild-hatched chicks from 2024 survived through the end of the report period.

During the 2024 breeding season, 15 pairs initiated 24 nests in seven different parishes in Louisiana, producing 15 wild-hatched chicks; seven pairs hatched one chick, three pairs hatched two, and one pair hatched two from two separate nesting efforts. All chicks hatched to their biological parents. Four chicks were confirmed fledged by the end of the report period and one was close to fledging at 71 days old (fledge later confirmed). Three pairs with chicks have successfully fledged chicks together in the past, one pair consisted of a female with rearing experience and an inexperienced male, and the last pair had some rearing experience together, with the female previously fledging chicks with a different mate.

Now in its 14th year, the Louisiana whooping crane reintroduction is focusing on the issues surrounding the high amount of embryo mortality that has been documented. We have collected two years of egg, eggshell and embryo samples, as well as a small number of samples from breeding females which our collaborators at the USGS Alaska Science Center will be examining. Despite the embryo mortality issue, we continue to see a small number pairs successfully hatching and fledging their own chicks in the wild.

Unit 2 waterfowl banding

Whooping crane in crawfish field

WILDLIFE AND FISHERIES RESEARCH

RWR places high priority on wildlife, fisheries and marsh management research. Throughout the year, staff biologists conducted independent and collaborative research, while also presenting research findings at regional, national, and international meetings. Several notes or manuscripts describing research results or observations were also accepted for publication in peer-reviewed journals.

Outside researchers made multiple research requests and all were approved to use RWR as a study site. Projects included:

- Phragmites management (LSU).
- Monitoring nesting productivity of beach nesting birds (Audubon Louisiana).
- Monitoring of movement patterns and seasonal migrations of finfish (LSU).
- Evaluating the mottled duck nest predator community in southwestern Louisiana using artificial nests.
- Identifying night roosts of Whimbrel throughout the flyway to be used as an index site for monitoring population trends (Manomet).
- Testing the capabilities of thermal drone imagery to identify Whimbrel night roosts.

STAFF RESEARCH AT RWR

Assessing Seaside Sparrow Abundance, Distribution, Annual Survivorship and Nesting Productivity in Southwestern Louisiana

From 2020-2022, researchers monitored seaside sparrows nesting in managed and unmanaged marsh at RWR to evaluate nest survival and identify factors critical to reproductive success. Fifty-two of 250 known-fate nests (20.8%) successfully fledged at least one offspring. Of the 198 nests that failed, 3.0% were destroyed in wildfires, 5.6% flooded during heavy rains or extreme high tides, and 6.6% were abandoned or failed for unknown reasons. However, predation (84.8%) accounted for the highest percentage of failed nests. Nest survival analyses estimated a daily survival rate of 0.905 ± 0.006 (95% CI 0.892–0.917) for this population, corresponding to a survival probability of 0.091. Nest survival improved with greater amounts of visual obstruction, taller vegetation around the nest site, and lower nest heights. Because successful nests tended to be better concealed, marsh fire management practices in the region should leave suitable amounts of unburned areas with denser vegetation to provide more effective cover from predators.

Because of the high rates of nest predation observed, researchers conducted further investigations into the predator community at RWR. Trail cameras deployed at artificial nests indicated the marsh rice rat was potentially a major nest predator. Consequently, a mark-recapture component of the study was initiated to better assess the impact of this species and other possible predators on seaside sparrow nest survival. Small mammal trapping was conducted in seaside sparrow study plots over the course of 16 weeks. In each plot, baited Sherman live traps were deployed at 18 randomly selected trapping locations and usually checked for two consecutive days per week. Preliminary analyses provide evidence that the marsh rice rat is likely the main predator of seaside sparrow nests in coastal Louisiana, and this species can greatly impact nest survival. Land managers in the Chenier Plain region may potentially mitigate predation pressures by completing controlled burns relatively early (i.e., by the end of January) so that sufficient nesting cover develops prior to the breeding season. This could result in nesting activities to be initiated early during the breeding season when marsh rice rat numbers are lowest and sparrow nests are less susceptible to predation by this species.

Nesting Ecology and Habitat Use of Reddish Egrets

The field component of this project was concluded in 2018, but telemetry data from active satellite transmitters on four adult reddish egrets were downloaded and archived in FY 2023-2024. The telemetry data collected can be used to document novel foraging sites and breeding locations in coastal Louisiana that were previously unknown. In addition, these data can be used to update Element Occurrence records for this Species of Greatest Conservation Need, which is maintained by the Louisiana Wildlife Diversity Program. Data from this study were also used to produce a research article documenting the effects of tropical cyclones and other severe weather events on reddish egret populations in the Journal of Coastal Research. DOI: 10.2112/JCOASTRES-D-22-00119.1. Staff and collaborators continue to work on additional analyses of these data. Additionally, RWR research biologists are developing a State Wildlife Grants proposal to study finer scale reddish egret and brown pelican ecology beginning in spring 2025.

Evaluating the Mottled Duck Nest Predator Community in Southwest Louisiana Using Artificial Nests and Trail Cameras

LSU graduate student Alex Dopkin and RWR researchers continue to work on completing analyses of an artificial nest study to evaluate the predator communities and relative mottled duck nest survival rates in important mottled duck nesting habitats. Alex continues working with a team of LSU undergraduate workers to sort through the database and identify predator species. Data entry and analyses is ongoing.

COLLABORATIVE RESEARCH AT ROCKEFELLER WILDLIFE REFUGE

During FY 2023-2024, RWR biologists collaborated on a number of marsh management, wildlife and fisheries research projects on the refuge, across the region and state, and beyond. These projects include:

- **Monitoring beach-nesting birds in southwestern Louisiana.**
  K. Barnes, R. Temple, and P. Vasseur
- **Seasonal Survival and Habitat Use of King Rail.**
  R. Temple, P. Link, A. Fournier, K. Rowe, and B. Shirkey
- **Estimating Apparent Survival Probabilities of Black-bellied Whistling Ducks in Louisiana.**
  P. Link, P. Garrettson, and J. Dooley
- **Interpreting Greater White-fronted Goose habitat use in a changing landscape.**
  P. Link, B. Beatty, L. Webb, and B. Leach
- **Development of full annual cycle models for Greater White-fronted Geese for holistic conservation planning.**
  P. Link, M. Weegman, B. Ballard. J. VonBank, T. Bidrowski, L. Naylor, and B. Leach
- **Survey of coronaviruses in free-ranging waterfowl and co-occurring wildlife in Louisiana.**
  A. Vestal-Laborde, A. Long, and P. Link
- **Avian influenza in the Mississippi Flyway: providing a risk perspective.**
  R. Poulson, D. Carter, D. Stallknecht, and P. Link
- **Non-breeding Habitat Selection of Blue-winged Teal throughout the Central and Mississippi Flyways.**
  B. Leach, L. Webb, and P. Link
- **Investigating environmental factors influencing blue-winged teal movements, habitat selection, and survival during the non-breeding season.**
  J. Edwards, L. Webb, B. Leach, and P. Link

PUBLICATIONS BY RWR STAFF BIOLOGISTS

Vasseur, P. L. 2024. A new longevity Record for the Seaside Sparrow and documentation of its successful reproduction. North American Bird Bander: Vol. 49 : Iss. 2 , Article 4.

Swift, R., Link, P., Arnold, T., Carter, D., Poulson, R., Stallknecht, D., and Pearse, A. Sampling for disease surveillance: assessing effects on blue-winged teal survival and recovery. Journal of Wildlife Management. In Review.

Stallknecht, D., Carter, D., Link, P., Ferraro, E., McCarty, C., Davis, B., Knutsen, L., Graham, J., Poulson, R. Highly pathogenic H5N1 influenza A virus (IAV) in blue-winged teal in the Mississippi flyway is following the historic seasonal pattern of low pathogenic IAV in ducks. Pathogens. In Review.

VonBank, J., Link, P. Kraai, K., Collins, D., Weegman, M., Cao, L., and Ballard, B. Evidence of Longitudinal Differences in Spring Migration Strategies of an Arctic-nesting Goose. Ecology and Evolution. In Review.

Link, P., Garrettson, P., and Dooley, J. Estimating Apparent Survival Probabilities of Black-bellied Whistling Ducks in Louisiana. In prep.

Beatty, W., Link, P., Leach, B., Houdek, S., and Webb, E. Greater White-fronted Goose habitat use in Louisiana provides insights into a large-scale winter range shift. Ornithological Applications. In prep.

TECHNICAL ASSISTANCE, OUTREACH & EDUCATION

Understanding the ecology of coastal marshes in southwestern Louisiana is paramount to understanding the vital role that RWR plays in the Chenier Plain. RWR places a high importance on education and outreach, ensuring that educational programs are facilitated at the refuge, and the area itself can be used as the classroom.

RWR staff continues to collaborate with adjacent landowners and with state and federal agencies to monitor and maintain ME-20 marsh creation project.

RWR worked in collaboration with the NRCS to reintroduce native coastal wetland vegetation within ME-20. Volunteers from Chenier Energy and student from South Cameron High school and Johnston Bayou High School aided in the planting. Approximately 3,300 individual plants of *Spartina alterniflora* were planted within the eastern ME-20 marsh creation.

In the years prior to COVID-19 & Hurricane Laura, various groups would visit the refuge and receive talks on marsh management, coastal protection and many other educational topics related to wetland ecology. Professional groups that specialize in marsh ecology also utilize RWR for its "outdoor laboratory," and are often visiting from other coastal areas in the United States. The overnight facilities at RWR are used to accommodate these groups and allow them to spend significant time in the field without having to commute to municipalities for housing. The West End Dorms facility can accommodate most groups with 17 beds, full kitchen, dining space and living quarters. With completed repairs, the facility is back in full use hosting college student workers, college classes, and other special interest groups in FY 2023-2024.

Examples of technical assistance provided by RWR staff include:

- Completing mourning dove banding for the statewide dove monitoring program.
- Assisting private landowners in assessing marsh conditions and management for waterfowl.
- Conducting peer-review and editorial duties for scientific journals; reviewing graduate student theses and dissertations.
- Presenting lectures to visiting college and university students on wetlands ecology, wetlands management, waterfowl ecology and conservation research.
- Presented habitat management practices, coastal restoration projects, and flood relief projects at the annual meeting of the Master Naturalists Organization.
- Reviewing research and grant proposals for university students and faculty.
- Assist with CWPRRA and CPRA projects.

RWR staff also participated in guided tours for a number of organizations and groups relating to management and coastal restoration projects.

RECREATIONAL USE

Marsh management units, and more specifically water control structures, continue to be very popular with sport fishermen. All portions of RWR remained open throughout the year from the beginning of March to the end of November. December through February, various areas are restricted to access for wintering migratory bird disturbance avoidance. In FY 2023-2024 RWR saw approximately 100,776 visitors. The Superior Bridge was closed on highway 82 for the months of June 2023 to August. This affected the number of public users on RWR by preventing highway travel from the east to the Refuge.

WHITE LAKE WETLANDS CONSERVATION AREA

LOCATION

The White Lake Property (as referred to in Act 613, 2004 Louisiana Legislature) or White Lake Wetlands Conservation Area (WLWCA) (as referred to by LDWF) is located in Vermilion Parish. The contiguous unit is 71,905 acres, located along the western boundary of Vermilion Parish; it is bounded on the south by White Lake, and the northern boundary is 7.4 miles south of Gueydan at the south end of Hwy. 91. Lafayette is 32 air miles northeast, and Lake Charles is 40 air miles northwest. The southern boundary of WLWCA is 17.5 miles north of the Gulf of Mexico. The property averages approximately 12 miles from east to west and 9 miles from north to south.

HISTORY OF OWNERSHIP

BP America Production White Lake properties have a long history of company ownership and management. Note that Stanolind Oil and Gas Company (Stanolind) preceded Amoco Production Company (Amoco) which preceded BP America Production Company (BP). Stanolind acquired the 70,965-acre property from Wright Morrow by Act of Sale on July 31, 1935. This sale included all of the property acquired by Yount-Lee Oil Company from P. L. Lawrence, et. ux., by Act of Sale dated March 7, 1931, and a portion of the property acquired by M.F. Yount from Elizabeth M. Watkins by Act of Sale dated Nov. 5, 1929. BP owned and managed the BP American Production White Lake Property until July 8, 2002, when BP donated the property to the state of Louisiana. On July 8, 2002, a Cooperative Endeavor agreement between the state and White Lake Preservation Inc. (a 501(c) 3 corporation) for management of the property was executed. On Jan. 1, 2005, Act 613 of the 2004 Regular Legislative Session became effective. This act established:

- Transfer of property management from White Lake Preservation Inc. to LDWF;
- The White Lake Property Advisory Board;
- LDWF and the Wildlife and Fisheries Commission powers and duties relative to the management of the White Lake Property;
- A special account within the Conservation Fund for the White Lake Property.

On Dec. 17, 2004, the state, BP and White Lake Preservation Inc. signed a Transition Agreement for the management of the property by White Lake Preservation Inc. until July 1, 2005, at which time LDWF took total control.

A land swap agreement between LDWF and the Vermilion Parish School Board increased the overall acreage of WLWCA from 70,965 to 71,905 acres in 2014.

SURFACE LEASES

AGRICULTURAL AND HUNTING

There are currently 37,841 acres of property leased out in eight separate tracts. The property is leased to eight separate tenants for the purpose of farming, raising cattle, crawfish farming and hunting. There is a rice base of approximately 4,500 acres on this property. There were approximately 3,100 acres of rice planted in 2023. There were approximately 1,150 acres of crawfish ponds on the property in 2023.

There are over 100 miles of levees, canals and roads on WLWCA agricultural lands that are maintained by our agricultural tenants. They also own and operate the pumping systems that are needed to manage water levels on this impounded agricultural land. All of the farmland on WLWCA was at one time freshwater marsh that was impounded in the late 1940s when agricultural activities first began on the property.

ALLIGATOR TRAPPING AND EGG COLLECTION

There were 355 alligators harvested in the 2023 alligator trapping season. The average length of the alligators trapped was 6.63 feet, with an average live length value of 9.32 per foot.

There was a contract negotiated for the collection of alligator eggs from the WLWCA property in 2023 for a three-year period. In 2023, WLWCA received a payment of $15.50 per egg. A total of 4,205 eggs out of the 12,000 egg quota were collected. An administrative decision was made which allowed the contractor to pick up fewer eggs than required by contract.

OTHER SURFACE LEASES

There are three oil and gas valve site leases on the property. In addition, there is one oil & gas surface use agreement with an associated road servitude agreement.

LOTTERY ACTIVITIES

FISHING LOTTERY

2023 - One-hundred fishing permits were issued at a cost of $40 per permit. Permittees and their guests were allowed to fish the Florence Canal Area and specified well location canals that flow into the Florence Canal. The area was open from sunrise to sunset from March 15- Aug. 15, 2022.

2024 - One-hundred fishing permits were issued at a cost of $40 per permit. Permittees and their guests were allowed to fish the Florence Canal Area and specified well location canals that flow into the Florence Canal. The area was open from sunrise to sunset from March 15- Aug. 15. 2023.

WATERFOWL LOTTERY

Waterfowl Hunting (2023-2024 Season)		
	Total Hunts	Participants
Teal Lottery Hunts	N/A	N/A
Marsh Lottery Hunts	16	149
Youth Hunts	N/A	N/A
Rice Field Lottery Hunts	16	123

Waterfowl Hunting Results (2023-2024 season)		
	Marsh	Rice Field
Total Ducks Harvested	569	111
Average Kill/Hunter (ducks)	3.82	0.90
Total Geese Harvested	27	9
Average Kill/Hunter (geese)	0.18	0.07

**A total of 14 hunts were canceled due to exceptional drought conditions*

NON-CONSUMPTIVE ACTIVITIES

BIRDING TRAIL

The WLWCA birding and nature trail, with accompanying kiosk, was completed in April 2012. The trail is on approximately 30 acres located on the northern boundary of the property where LA-91 ends. Birding paths, a parking area, access bridges, a birding tower and a picnic pavilion are open to the public. There were 117 self-clearing permits completed for people visiting the trail in FY 2023-2024.

LEFT: *White Lake Marsh Lottery hunters hold up their harvest.* ***RIGHT:*** *Banding a recently caught mottled duck while night-time banding in Unit 1 at WLWCA*

EDUCATION, OUTREACH AND RESEARCH

MARSH MANEUVERS

On Dec. 9, 2023, WLWCA hosted a group of 16 teenage 4-H students for a Marsh Maneuvers camp. The camp was designed to educate the students on the importance of coastal erosion, restoration, conservation and ecology. They were able to attend a morning marsh tour, and students were taught waterfowl identification techniques. They also participated in a sporting clay shoot where they were instructed on gun safety and the proper use of a shotgun.

COASTAL PRAIRIE

There is approximately 200 acres of coastal prairie on the WLWCA property located south of the Gulf Intracoastal Waterway and west of the Florence Canal. For the past couple of years, the LDWF Wildlife Diversity Program has been conducting research on various plant species located on this prairie. To date, approximately 95 different native prairie species have been identified.

WHOOPING CRANE REINTRODUCTION PROGRAM

WLWCA assisted the Whooping Crane Reintroduction Program by providing office space, staff and vessel support. WLWCA staff maintained the 700-acre impoundment water levels around the whooping crane pen and associated release site. WLWCA staff assisted with whooping crane captures and releases as needed.

Whooping cranes

DUCK & DOVE BANDING PROJECTS

WLWCA continued banding birds to complement various LDWF statewide programs. In the 2023 calendar year, nine wood ducks were banded and 13 were recorded as recaptures. 11 black-bellied whistling-ducks were banded and six were recorded as recaptures. No mourning doves were banded during the 2023 calendar year.

NESTING BOX PROJECTS

WLWCA continued maintaining and monitoring wood duck nesting boxes to complement the LDWF statewide program. In the 2023 nesting season, 100 nesting boxes were monitored and maintained. These boxes produced 18 successful wood duck nests and 124 hatchlings. Black-bellied whistling-ducks used the same nesting boxes to produce thirteen successful nests and 106 hatchlings. Eastern screech owls also utilized the boxes with six successful nest and 18 hatchlings.

AVIAN NEST PREDATION TRAPPING

WLWCA staff continued predator trapping on agricultural leases to aid ground nesting species, such as mottled ducks, in nesting success. A combination of foothold and bodygrip traps were used to trap coyote, bobcat, otter, raccoon, and opossum.

MARSH MANAGEMENT RESTORATION, HABITAT ENHANCEMENT, AGRICULTURAL MANAGEMENT, AND MINERAL MANAGEMENT

MARSH MANAGEMENT

The WLWCA property consists of approximately 52,000 acres of fresh water marsh. The marsh is comprised of five separate management units. Within these marsh areas there are over 100 miles of trenasses, 10 water control structures, including three pumping stations, and over 40 miles of levees, most of which are operated, managed and maintained by WLWCA personnel. Objectives of maintenance and manipulation of the conservation area's system of levees and water control structures vary somewhat by management unit, but generally goals are to maintain marsh health, provide conditions favorable for production of waterfowl habitat, and incorporate multi-species management when possible. Additionally, WLWCA staff conducted prescribed burns and large-scale herbicide treatments for habitat improvement. These practices allowed for greater plant biodiversity, created open flats and ponds, and ultimately provided higher quality habitat for the wetland species inhabitants. WLWCA also experienced wildfires in FY 2023-2024; overall approximately 6,400 acres of marsh were burned and 850 acres were sprayed.

Drawing Down the White Lake WCA Unit 2.

New Roofs Installed on all Facilities on the WLWCA Island.

AGRICULTURAL MANAGEMENT

Although WLWCA is comprised mostly of marsh, the property also contains approximately 19,000 acres of agricultural land. The agricultural land is separated into seven tracts that are leased out to the highest bidder. Each leaseholder follows a LDWF lease agreement that directs the leaseholder to complete a number of habitat management practices each year. These practices maintain the property in farmable condition, while also providing valuable habitat for wildlife. The benefits to the leaseholder include the ability to farm, graze and hunt the property.

MINERAL MANAGEMENT

There are three producing oil and gas fields on the WLWCA property that were once operated by Amoco Production Company. Amoco sold the subsurface rights in these fields and all the facilities associated with these fields in the latter part of the 1990s to Hilcorp Energy Company. Hilcorp has since sold these fields, and for a period of time they were operated by three separate owners/operators: the West White Lake Field (approximately 1,500 acres) was owned and operated by Energy Quest; the Florence Field (approximately 1,920 acres) was owned and operated by Dune Energy Company; and the South Kaplan Field (approximately 800 acres) was owned and operated by Texas Petroleum Investments. In the spring of 2010, Texas Petroleum Investments purchased the West White Lake and Florence Field and became the sole oil and gas operator on the WLWCA property. However, in July 2011 Magnum Producing secured a mineral lease from BP to drill an exploratory well in the Kaplan Field Area. LDWF granted a Surface Lease to Magnum Producing to facilitate the drilling of this well. This well was successfully completed and is currently producing. In 2013 LDWF granted Magnum Producing an additional Surface Lease for a Salt Water Disposal Well, which also included a road servitude and P/L right-of-way agreement. The State of Louisiana owns the surface of the property that comprises these three production areas. LDWF monitors surface activities and helps enforce the conservation terms of the agreements that were executed by and between Amoco Production Company, BP and the three owners/operators mentioned. Texas Petroleum Investments has responsibilities for maintenance of roads, levees, canals, bridges, etc.

MAINTENANCE OF FACILITIES AND EQUIPMENT

There are approximately 55 acres of property associated with the WLWCA office, dorm, lodge facility, sporting clay course, skeet range, birding trail, and Florence Canal Landing area. This acreage was maintained throughout the year by WLWCA personnel. Routine maintenance on the WLWCA buildings and equipment was conducted throughout the year. Additionally, new roofs were installed on all the island facilities, as well as the structures all being re-painted. Routine maintenance was performed on our fleet of more than 25 boats.

2020 HURRICANE SEASON REPAIRS

Hurricane Laura caused minor roof damage to various structures, but repairs were completed by LDWF staff. Hurricane Delta caused significant damages to facilities. Due to the extent of roof damages, FP&C was tasked with creating a Scope of Work and bid package for roofing contractors to complete the roof repairs. These repairs were successfully completed at the end of FY 2023-2024.

2023-2024 FINANCIAL REPORT

Totals	
Beginning Fund Balance 2023-2024	$4,087,303
Total Revenue	$1,171,479
Total Expenditures	$873,855
Ending Fund Balance 2023-2024	$4,384,927

Expenditures	
Salaries	$292,069
Wages	$23,846
Related Benefits	$150,196
Travel	$784
Operating Services	$96,748
Supplies	$124,365
Professional Services	$13,604
Other Charges	$0
Acquisitions	$111,835
Major Repairs	$58,829
Interagency Transfers (insurance)	$1,570
Total	***$873,855***

Revenue	
Group Hunt Trip Fees	-
Group Hunt Charitable Contributions	-
Agricultural Leases	$580,130
Hunting Leases	$411,000
Alligator Egg Collection	$85,312
Lottery Hunt Fees	$52,551
Alligator Hides/Harvest	$8,779
Interest Income	$9,468
Land Rental	-
Surface Leases	$32,025
Surplus Property	$727
FEMA Reimbursements	-
Oil and Gas Royalty	-
Non-Consumptive Trips	-
Fishing Lottery	$4,810
Prior Year Revenue Adjustments	-
Fund Transfer from Facility Planning	-
Total	***$1,171,479***



Conducting a Prescribed Burn in Unit 1 at White Lake WCA.

Herbicide Treatment at the Observation Tower on the WLWCA Birding and Nature Trail.

FURBEARER MANAGEMENT

MONITORING FUR HARVEST

The 2023-2024 furbearer harvest was monitored by compiling distribution and total harvest data. Each year, fur buyers and dealers are required to submit reports providing information on pelts purchased by species and parish of harvest. Annual audits of all fur dealers provide a record of total pelts by species shipped from Louisiana. Individual trappers are also required to submit records of pelts harvested that they shipped out of state. River otter and bobcat possession tags provide data on timing and location of all bobcat and otter harvested in the state. These tags are necessary to ensure that Louisiana otter and bobcat are tagged with federal export tags (a federal requirement for out-of-country shipment). Additionally, a trapper harvest survey was emailed to every trapper with an email address saved in the Louisiana Outdoors database (approximately 70% of licensed trappers) to gather data on furbearers harvested for reasons other than the fur industry.

Records indicate 2,692 trapping licenses were sold during the 2023-2024 trapping season. Of these, 2,623 were adult resident licenses (18 and older) and 69 were adult non-resident trapping licenses. Youth (under 18) no longer need a separate trapping license, instead, trapping privileges are included with their youth hunting license.

According to shipping records, a total of 6,297 animals were harvested and sold for fur (all species), which was an increase from the previous season's total of 5,463. The total value of the 2023-2024 fur harvest to the state's trappers was estimated at $143,150.69. This total value was an increase from the previous season's total of $85,648.85.

The 2024 trapper harvest survey had a response rate of 19.7%. A total of 122,600 (all species) are estimated from survey responses to have been harvested by trappers during the 2023-2024 season. The most common reason for why trappers participated in the industry was for nuisance control (28.7%), followed by participation in the Coast-wide Nutria Control Program (16.4%). People that trap for recreational and/or commercial purposes followed at 11.3%. Most trappers reported trapping land and water equally (32%).

TABLE 5.

ESTIMATED HARVEST AND 10-YEAR AVERAGE VALUE FOR EACH SPECIES

Species	Trapper harvest survey estimated harvest	Total Harvest for the 2023-2024 Fur Market (shipping data)	10-year Average Harvest (shipping data)	Average Price Paid Per Pelt (includes cost of green fur as well as dried fur)	10-year Average Value for each species (2014-2024)
River Otter	2,200	926	827	$36.13	$20,374.85
Raccoon	18,600	1,390	1,671	$1.99	$5,160.39
Bobcat	930	338	209	$57.75	$6,964.98
Nutria	71,400	319	319	$3.53	$553.53
Beaver	9,100	1,428	1,428	$21.77	$11,206.68
Mink	1,600	339	339	$5.17	$1,801.09
Gray Fox	910	63	112	$5.27	$993.68
Muskrat	110	60	68	$2.00	$140.97
Red Fox	220	2	14	$3.75	$157.87
Coyote	5,100	1	49	$12.41	$490.00
Opossum	5,300	18	54	$0.60	$47.43
Total	122,600	6,297	5,090	-	$47,891.46

The nutria harvest (401,312) nearly doubled from the previous season's total of 221,404. The large increase can be attributed to the prolonged drought in the fall of 2023 that made harvesting nutria easier for participants. The average nutria pelt price paid to trappers during this past season was $3.50. An additional $6 was paid for all nutria taken during the Coast-wide Nutria Control Program by registered participants.

FURBEARER RESEARCH

State Wildlife Grant F22AF01692 Eastern Spotted Skunk Baited Camera-Trap-Array Surveys on Coastal Prairies

This grant provided funding for a one-year study to assess the status of Eastern Spotted Skunk (*Spilogale putorious*) and other Species of Greatest Conservation Need (SGCN) on Coastal Prairies in Southwest Louisiana. Surveys consisted of baited camera-trap-arrays that LDWF deployed near historical localities for ESS in Southwest LA and at sites where ESS are suspected to occur.

Ten camera trap arrays following standard Ah-Drift methodologies were installed at two sites located in Cameron Parish in established Prairie habitat. The arrays were installed in winter on 2022 and checked every two weeks by fur program and diversity staff and removed in winter of 2023.

This project generated 430,589 photos over 6,790 trap nights. Although the project failed to detect spotted skunks, it did detect two non-game mammal SGCN; the northern pygmy mouse (*Baiomys taylori*) and the eastern harvest mouse (*Reithrodontomys humulis*). Other non-game mammals detected with this project include: coyote, striped skunk (*Mephitis mephitis*), raccoon, nine-banded armadillo (*Dasypus novemcinctus*), Virginia opossum (*Didelphis virginiana*), southern short-tailed shrew (*Blarina carolinensis*), North American least shrew (*Cryptotis parva*), marsh rice rat (*Oryzomys palustris*), deer mouse (*Peromyscus sp.*), fulvous harvest mouse (*Reithrodontomys fulvescens*), hispid cotton rat (*Sigmodon hispidus*), and house mouse (*Mus musculus*).

State Wildlife Grant F23AF01649 Long-Tailed Weasel Camera-Trap Surveys on Vernon Unit of Kisatchie National Forest

This grant will provide funding for a one-year study to assess the distribution of long-tailed weasel (*Neogale frenata*) and other SGCN on the Vernon Unit of the Kisatchie National Forest. Surveys will consist of baited camera-traps that LDWF will deploy on USFS property.

Cameras for this project were installed in winter of 2023 and are checked every two weeks. A total of seven stations were deployed with three cameras at each station. The three cameras at each station are bait-

ed with one of three different lures; liquid mouse, salmon oil, or rabbit urine.

Cameras will remain out as funding allows. This project is focused on detecting long-tailed weasels but will also gather data on other mesocarnivore species such as bobcat, coyote, and raccoon. Analysis is pending completion of the project.

COAST-WIDE NUTRIA CONTROL PROGRAM

The Coast-wide Nutria Control Program is funded by the Coastal Wetlands Planning, Protection and Restoration Act. The objective is to decrease nutria-induced damage to coastal vegetation by increasing the incentive for harvest. During the 2023-2024 season, a total of 401,312 nutria tails, worth $2,407,872 in incentive payments, were collected from 258 participants. This showed an increase in participation from the previous year's 224. The fewest number of tails turned in by a single participant was 10 and the greatest number of tails by a single participant was 47,856. Approximately 36% of active participants turned in 800 or more tails. Of the 93 participants who turned in 800 or more tails, 24% turned in more than 4,000 tails.

TOTAL NUMBER OF NUTRIA HARVESTED BY METHOD OF TAKE IN 2023-2024

Eighteen parishes were represented in the 2023-2024 program season with harvests ranging from 62 to 83,582 nutria per parish. The greatest number of tails (83,582) were collected from Plaquemines Parish, followed by St. Mary (53,908) and Terrebonne Parish (49,887).

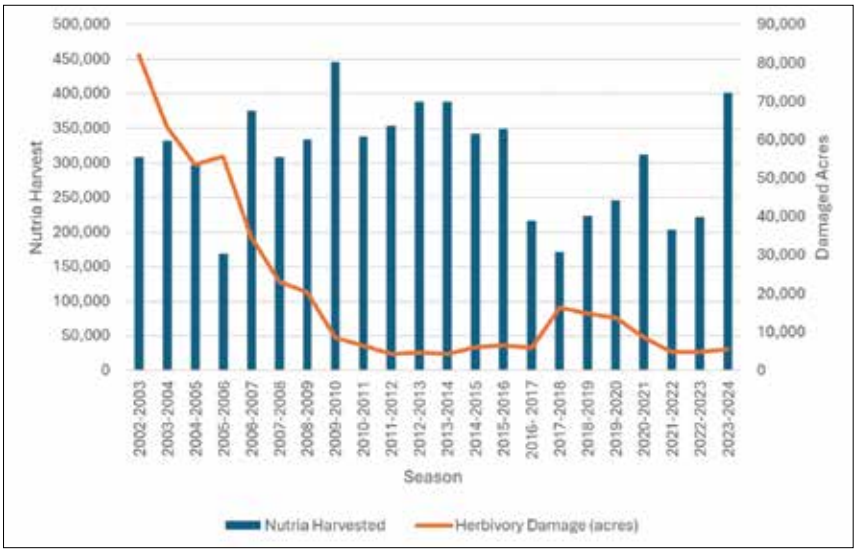
The predominant method of take was by rifle (57%), followed by shotgun (28%) and by trapping (16%).

February was the most active month for harvesting nutria (116,752 tails) while November was the least active month (13,038 tails). (See Coast-wide Nutria Control Program 2023-2024 Report, Coastal Wetlands Planning, Protection and Restoration Act Project LA-03b, *nutria.com/site13.php*).

VEGETATIVE DAMAGE CAUSED BY NUTRIA

As a monitoring requirement of the Coast-wide Nutria Control Program, a coast-wide aerial survey was conducted in April 2024 covering the coastal parishes of Louisiana. Twenty-two sites were visited in 2024, 21 of which were identified as having nutria damage in 2023. One site was identified as recovered and one new sites were identified during the 2024 survey.

FIGURE 1. *Nutria harvest and estimated damaged acres due to nutria herbivory over the 22 years of the program.*



The 21 nutria-damaged sites observed along transects during the 2024 survey had a total of 1,479 acres impacted by nutria feeding activity (5,547 extrapolated). This is approximately a 17% increase in acres impacted by nutria since the 2023 survey (1,263 acres, extrapolated to 4,737 acres coast-wide). The Coast-wide Nutria Control Program continues to be a successful means of controlling the nutria population with an average of over 300,000 animals harvested annually. Despite the fluctuating harvest from year to year, the program has been successful in achieving its goal and the number of nutria-impacted acres in Louisiana's coastal marsh has decreased significantly over the 22 seasons of the program.

FUR PROGRAM OUTREACH

Because of the fur program's role as liaison to the Association of Fish and Wildlife Agencies Furbearer Working Group, which is instrumental in defining the Best Management Practices for trapping, the fur program has taken an active role in developing the curriculum for the statewide trapper education program. This ensures that the methods taught follow the standards for humane treatment set forth by the Association of Fish and Wildlife Agencies. The fur program has worked closely with the Fur and Alligator Outreach Coordinator to provide guidance, support and staff as needed to assist with the workshops.

For the past eight years, the Fur and Alligator Outreach Coordinator has worked closely with the Louisiana Trappers and Alligator Hunters Association, the Louisiana Fur Advisory Coun-

cil, and the LDWF Hunter Education program to educate more than 900 new trappers in the state of Louisiana. The Louisiana Fur Advisory Council with the Fur Education and Marketing Funds and the Hunter Education Program with the Pittman-Robertson Act provided financing for this project. The funding allows for the purchase of trapping equipment and other supplies for the workshops. The purpose of the program is to preserve trapping as a management tool, a recreational activity, and an economic benefit to Louisiana citizens as well as to preserve the cultural role that trapping holds in Louisiana's history. Over the first six years of the program, trapping license sales increased and interest in the classes has stayed strong.

Nine hands-on trapper workshops, which educated about 190 members of the general public, forestry students, and prospective enforcement agents were scheduled and hosted at a wide variety of locations around the state. Approximately forty of these students also attended one of the two intensive, three-day trapper schools hosted at Woodworth Outdoor Education Center. For those that can't attend an in-person class or wish to further their study, LDWF has worked with the Association of Fish and Wildlife Agencies to construct an online trapper education course and see it advertised across LDWF platforms and on local trapper websites (*conservationlearning.org/login/index.php*).

CONTRACTS

LDWF contracted with Glenn Delaney to monitor legislation in Washington D.C. that may impact Louisiana's furbearer management program. Mr. Delaney works closely with the Louisiana delegation to educate them on issues important to LDWF and the Fur Advisory Council. Mr. Delaney focused on new bills introduced in the House and Senate to amend the Lacey Act, similar to legislation included in the "America COMPETES Act" in the 117th Congress, that have the potential to prohibit interstate commerce and imports of certain species if determined by the Department of Interior to be "injurious." Mr. Delaney has also sought funding to benefit a variety of Louisiana wildlife management programs.

ALLIGATOR PROGRAM

Louisiana's Alligator Management Program consists of two complex segments: research/management of the wild population and a statewide farm/ranch program. The program is funded by alligator industry generated revenues (alligator hide tag fees, shipping label fees, alligator hunting license fees, and other alligator related fees).

WILD ALLIGATOR PROGRAM

Inventory methods, harvest regulations, tagging and reporting requirements, and a complex computer program are continually upgraded to regulate and monitor a sustainable-use alligator management program in Louisiana.

FIGURE 2. LOUISIANA COASTAL MARSH ALLIGATOR NEST PRODUCTION (1970-2023)

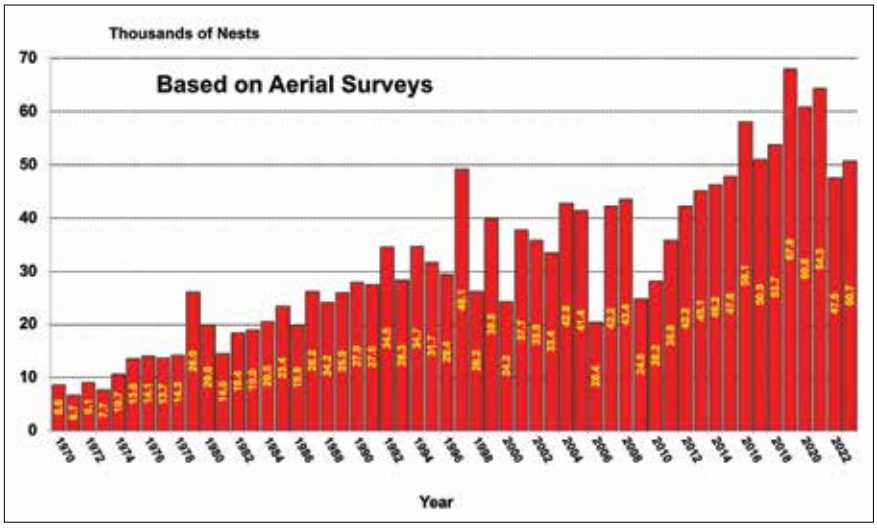


FIGURE 3. LOUISIANA WILD ALLIGATORS HARVESTED (2023 REGULAR HARVEST SKIN LENGTHS)

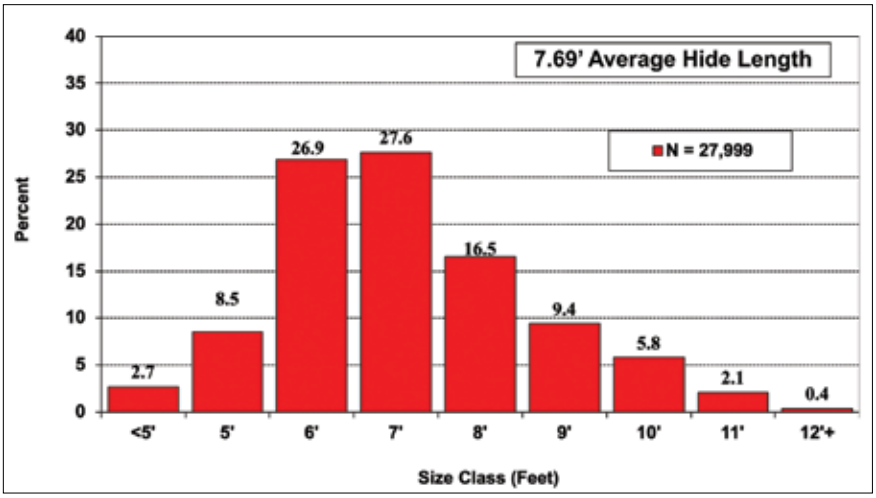
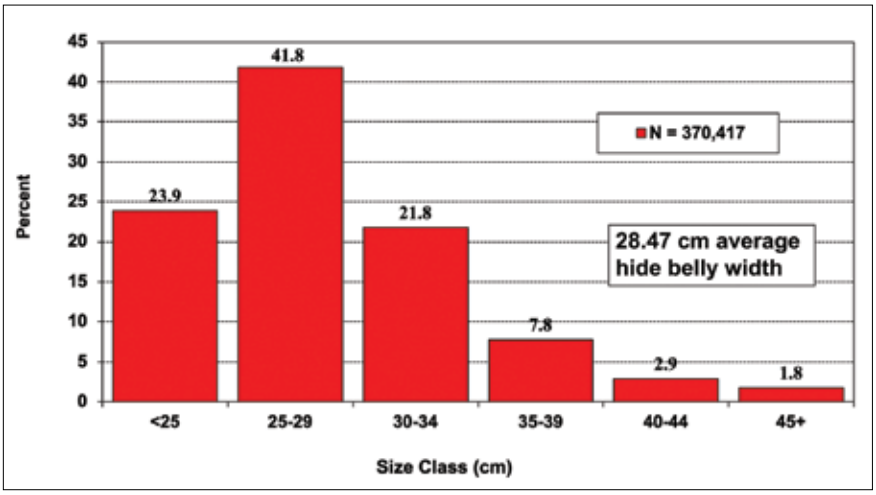


FIGURE 4. LOUISIANA FARM ALLIGATORS HARVESTED (2023 SKIN BELLY WIDTHS)



Annual coast-wide alligator nest surveys are conducted to index alligator populations and to establish harvest quotas in coastal Louisiana. During the summer of 2023, we estimated that 50,699 alligator nests were present in the coastal marsh habitats; a 7% increase from the previous year, and still relatively high compared to historic surveys.

Wild alligator harvest quotas are established to correlate harvest with alligator population density and distribution. Alligator harvest tags are allocated to individuals who either own or lease land that is considered alligator habitat. Digital landowner and survey information are combined with the latest aerial photography images to allow for an accurate assessment/classification of each participant's property. The majority of the lands enrolled in the wild alligator harvest program have been entered in the GIS system for property ownership and habitat assessment.

Each year the alligator program staff works closely with landowners and alligator hunters to provide assistance regarding alligator management on their respective properties. We have provided numerous habitat base maps to landowners for their use in participation of both the wild and alligator egg harvest programs. Harvest reports summarizing average lengths and size class frequency distribution of harvested alligators are available upon request.

Under this sustained use alligator program, nearly 1.2 million wild alligators have been harvested since 1972. The annual harvest takes place in September and October to specifically target the adult males and immature segments of the alligator population. Adult females, which typically inhabit interior marshes in September, would be more susceptible to harvest if the season was scheduled during the spring or summer. During the 2023 wild season, 29,228 alligators were harvested by 3,707 licensed alligator hunters. Alligators harvested averaged 7.69 feet in length, with an estimated value of nearly $7 million. Adult-sized alligators (those 6 feet and larger) comprised the majority of the harvest. The 2023 wild harvest was much higher than the previous year, and represents the highest harvest since 2016.

LDWF provided additional alligator harvest opportunities for the general public by continuing its lottery alligator harvest program. In 2023, the lottery alligator harvest program provided opportunities for 646 alligator hunters to harvest 1,938 alligators. Lottery alligator harvests were conducted on 50 public areas (WMAs and public lakes) throughout the state.

FARM ALLIGATOR PROGRAM

The January 2024 statewide farm/ranch inventory totaled 623,598 alligators, down from 713,897 alligators in January 2023. Nest production increased from the level observed in 2022, but there was a moderate decrease in egg demand in 2023. Since late 2016, alligator farm inventories have remained above those observed prior to the worldwide economic recession of 2009. Although slightly reduced from the levels seen a few years ago, market demand for farm hides remains substantial, but low demand for wild hides continues to be an issue.

During the 2023 tag year (January through December 2023) an estimated 370,417 farm-raised alligators were harvested, averaging 28.47 cm belly width. The total estimated value of these alligators was $76 million.

Farmers participating in the wild alligator egg collection program are required to return a percentage of the eggs hatched as 4-foot alligators, which compensates the wild alligator population for the collection of eggs. This return rate percentage was 5% for the 2023-year egg permits. The remaining animals can be sold by the farmer. During 2023, a total of 19,225 farm-raised alligators were released to the wild. All released alligators were measured, marked, tagged and sexed. Survival of farm-released alligators appears to be similar to wild alligators. Re-trapped alligators were harvested in September 2023, and data on size class and sex ratio collected. Data evaluation continues on survival rates of the farm-released alligators.

Program staff members routinely communicate with various alligator industry partici-

pants including trappers, farmers, landowners and dealers. Information is provided regarding wild alligator and alligator egg harvests, harvest statistics and management recommendations (*Table 6*). Staff routinely visit alligator farms providing recommendations on alligator husbandry and culture. Numerous requests for information are handled each year.

TABLE 6.

WILD ALLIGATOR EGG COLLECTIONS BY ALLIGATOR FARMERS (2017-2023)		
Year	Wild Alligator Eggs Collected	Hatchlings Yielded
2017	387,373	332,711
2018	587,776	536,361
2019	650,878	579,008
2020	303,883	260,192
2021	462,537	406,208
2022	473,417	414,041
2023	453,827	380,057

NUISANCE ALLIGATOR PROGRAM

LDWF manages a statewide nuisance alligator control program. The nuisance program is designed to remove problem alligators in order to avoid potential human/alligator conflicts. Through the process of nuisance alligator hunter appointments and annual renewals, LDWF maintains a statewide network of qualified nuisance alligator hunters. Nuisance alligator complaints are phoned into various LDWF offices, where complaints are recorded and then forwarded to a nuisance alligator hunter in the vicinity of the complaint. Nuisance hunters respond promptly and catch and remove the alligator as deemed necessary. Hunters are allowed to harvest the nuisance alligator and to process the meat and skin of the alligator for commercial sale. This process provides for immediate response to problem alligators and for payment to the nuisance alligator hunter, thereby minimizing the program operating costs to the department. Beginning in 2018, LDWF authorized incentive payments per complaint resulting in the removal of an alligator to participating nuisance hunters to help alleviate challenges presented by low hide prices.

During FY 2023-2024, approximately 58 nuisance alligator hunters were enrolled in the program; annually nuisance hunters respond to several thousand complaints and harvest more than 1,000 alligators.

RESEARCH ACTIVITIES

The following list provides a summary of the various research and monitoring projects that the alligator program staff conducted and/or participated in during FY 2023-2024.

MONITORING

1. Evaluation of Survival, Growth and Reproduction in Farm-Released Alligators: This activity involves numerous projects related to survival analysis, growth, and reproductive success (farm-released vs. native wild). Information on size class frequency distribution of wild alligator populations and susceptibility to harvest is provided annually to enhance survival estimates. We now have "re-traps" that were captured over 21 years since release, and this is undoubtedly one of the largest mark-recapture projects currently in progress. Following the survival, growth and dispersal of farm-released alligators is a key component to our management, monitoring and research programs that will continue for many years to come.

2. Coast-Wide Nest Survey: The annual coastal nesting survey is essential for monitoring our alligator population, and is used annually to determine wild alligator and wild alligator egg harvest quotas (for the adult harvest each September as well as egg ranching quotas). This is an integral part of our required "finding of no detriment" needed to achieve export authorization by the USFWS.

3. Evaluation of Statewide Harvest Program: We continue to analyze size class frequency distribution, average size, sex ratios, etc. for alligators harvested each year. This project, coupled with the coast wide nest survey provides critical information regarding the status of the wild alligator population. Data generated from these projects provides the basis for evaluating the impact of our current harvest strategies and for establishment of annual wild harvest quotas.

4. Evaluation of Alligator Nest Density: Department biologists work with cooperating alligator farmers to gain access to their GPS data from annual egg collections. This data will facilitate comparisons between our coastwide nest survey and estimates of nest density as recorded by the farmer during egg collections. Some farmers have previously advised staff of notable changes in nest production on selected wetlands; close review of this nesting production data allows us to evaluate nest distribution and density changes over time.

5. West Nile Virus: LDWF, in conjunction with LSU School of Veterinary Medicine, continues to monitor occurrence of West Nile Virus on alligator farms in Louisiana. Initial mortality related to West Nile Virus occurred in fall/winter 2003. Aggressive mosquito control on farms has reduced on farm mosquito populations and seems to have reduced the incidence of West Nile Virus in recent years. During FY 2023-2024, LDWF was able to secure a $500,000 grant to monitor West Nile Virus and other infectious diseases to alligators. A research program was developed to monitor the transfer of West Nile Virus antibodies from breeding females directly to their eggs and newly hatched offspring. Another aspect of the grant was used to identify *Chlamydia sp*. Strains that are prevalent in alligator farms in Louisiana. Approximately 3,000 liver samples were collected from harvested alligators at various farms across the state. The LSU School of Veterinary Medicine is testing these samples for the presence of *Chlamydia sp*. All positive samples are being

sent to the University of Georgia for additional analysis. The University of Georgia will attempt to identify the particular strain effecting alligators so we can evaluate treatment options. We continued to have expertise from staff at the LSU School of Veterinary Medicine available if needed to collect samples from farm alligators to monitor for any health concerns, provide diagnostics as needed, and assist with other health surveillance parameters.

6. Best Management Practices: The LDWF and the LSU School of Veterinary Medicine, in conjunction with the Louisiana Alligator Farmers and Ranchers Association, developed a document entitled "Best Management Practices for Louisiana Alligator Farming." The document was first distributed in June 2011 and details recommended practices to ensure animal welfare of captive reared alligators in Louisiana, including egg collection, hatching, rearing, release to the wild and euthanasia. This document continues being updated (most recently in January 2022) as new information pertinent to alligator farming becomes available. The intent of this document is to ensure that licensed alligator farms/ranches are employing humane methods of working with alligators. Through industry contributions, Dr. Javier Nevarez at LSU's School of Veterinary Medicine has continued to work with LDWF staff to update Best Management Practices as needed. This has been even more important recently with international recognition of animal welfare concerns on crocodilian farms worldwide.

7. Night Count Surveys: Due to increasing public demand for alligator harvest opportunities, the LDWF Alligator Management Program has been tasked with developing and implementing more intensive alligator population survey methodologies outside of the state's coastal zone. Prior research has shown that habitats in Louisiana's riparian zones support fewer alligators than coastal marsh habitats. Since July 2023, LDWF staff have been developing a modern nightlight survey protocol to begin collecting better population data in central and north Louisiana. From May 15 - June 30, 2024, LDWF staff ran 16 surveys across the state's riparian zone. These surveys were conducted on private and public waterbodies throughout the area of interest. The information gathered from these surveys will enhance LDWF's understanding of alligator population dynamics outside of coastal marsh habitats and therefore assist in developing management goals and objectives.

CONTRACTS

1. Diagnostic Services (LSU School of Veterinary Medicine - Dr. Javier Nevarez): Dr. Javier Nevarez is contracted to provide diagnostic services as needed for the alligator industry. Farmers may consult with Dr. Nevarez at any time for assistance with any alligator husbandry or disease issue. Our staff often assists with logistics and transport of alligators/samples to the LSU School of Veterinary Medicine in Baton Rouge for evaluation. Periodic health surveillance of farm released alligators is conducted to monitor health status of farm alligators released to the wild. Dr. Nevarez and colleagues continued working with LDWF to evaluate possible culture of Chlamydia and Mycoplasma from wild and captive (farm-releases) alligators in 2023.

2. Health Monitoring (LSU School of Veterinary Medicine - Dr. Javier Nevarez): Dr. Javier Nevarez has been instrumental in providing guidance in evaluating concerns over possible disease introduction from alligators (predominantly hatchlings) imported from other southeastern states. Concerns are focused on Mycoplasma and Chlamydia. In 2023, we contracted with him to collect and analyze samples from imported hatchlings and additional wild alligators to survey for prevalence of these microorganisms, if present.

OTHER RESEARCH

In addition to LDWF research studies, we continued to support and collaborate with graduate students, post-doctoral research associates, and university faculty with their research studies on numerous projects. Associates from several universities were hosted at Rockefeller Wildlife Refuge in 2023-2024 to collect additional samples for several studies, or we provided samples to them if travel costs were prohibitive.

ALLIGATOR ADVISORY COUNCIL

The Alligator Advisory Council is responsible for reviewing and approving recommended marketing, research and educational programs funded through the Alligator Resource Fund. The Alligator Advisory Council monitors and addresses numerous issues affecting the alligator industry at local, national and international levels. The council supports husbandry and disease research through LSU AgCenter, addresses public concerns regarding animal welfare through media and education, engages in international conservation and trade issues, carefully monitors local and national legislation that may impact wildlife management, and communicates with designers and manufacturers to promote the use of sustainable Louisiana products.

LDWF administrative and biological staff participated in several international conservation groups including the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Crocodile Specialist Group, and the International Union for Conservation of Nature. The department and council's participation in these groups continues to provide a strong foundation for sustainable international trade.

The Alligator Advisory Council has continued to interface with the public through local events such as Ocean Commotion, Louisiana Envirothon, National Hunting and Fishing Day

events, the Big Bass Rodeo, 4-H events and library presentations. The council engaged in multiple K-12 science focused events such as Recipe for Rural STEM and a number of summer educational camps. Department staff also presented at school-wide events with Louisiana themes. The council website carried the educational story to a much broader audience (*www.louisianaalligators.com*).

The following list provides a summary of the various issues and projects the Alligator Advisory Council supported with the use of contractors to address during FY 2023-2024

CONTRACTS

MONARCH MARKETING

LDWF contracted with Monarch Marketing to assist with technical representation at national and international meetings involving wildlife trade issues. LDWF staff and Monarch Marketing grew alliances within CITES, Crocodile Specialist Group and International Union for Conservation of Nature. Ms. Plott played a supportive role at both international and domestic conferences focused on wildlife conservation and policy. A notable contribution was at the 27th CSG-IUCN Working Group Meeting in Darwin, Australia, from April 12-20, 2024, where her involvement helped spotlight the issues facing crocodilian conservation, including the global wildlife trade, human-wildlife conflicts, and the illegal wildlife trade, among others. She also participated in major European leather exhibitions, aligning with her commitment to sustainable practices within the industry.

WORLD CONSERVATION AND MONITORING CENTER

LDWF contracted with the World Conservation and Monitoring Center to develop the International Alligator and Crocodile Trade Study report. This report has been funded since 1988 to monitor world trade in all crocodilians and to increase accountability of sustainable management practices.

GLENN R. DELANEY

LDWF contracted with Glenn Delaney to monitor legislation in Washington D.C. that may impact Louisiana's furbearer management program. Mr. Delaney works closely with the Louisiana delegation to educate them on issues important to LDWF and the Fur Advisory Council. Mr. Delaney also focused on new bills introduced in the House and Senate to amend the Lacey Act, that have the potential to prohibit interstate commerce and imports of certain species if determined by the Department of Interior to be "injurious." This included reptiles and their offspring and eggs. Advancing legislation to extend the Nutria Eradication and Control Reauthorization Act was also on his agenda. With letters of support from the AAC, he also continued to successfully pursue the LA Congressional Delegation for the funding of research on infectious diseases affecting Louisiana's alligator farms in both the FY 24 and FY 25 appropriations cycles. Adding to the $500,000 in funding Mr. Delaney was able to secure through the FY 23 appropriations cycle, the final FY 24 Appropriations Conference Report included funding requested by Mr. Delaney and championed by Senator Bill Cassidy (R-LA), Rep. Garret Graves (R-LA) and Rep. Julia Letlow (R-LA) through which USDA APHIS will provide a second tranche of $500,000 for this research.

MINERALS MANAGEMENT

The Minerals Management Program, hereafter called Mineral Program, is responsible for ensuring that mineral activities on all LDWF properties are compatible with the environment and that such activities do not prevent LDWF from meeting WMA/refuge goals and objectives. In FY 2023-2024 Mineral Program staff reviewed, evaluated and authorized 26 well locations, pipeline projects and other mineral exploration related activities on LDWF properties. During FY 2023-2024, the program also issued eight rights-of-way, surface leases and servitudes for oil and gas activities occurring on LDWF properties. All of these projects are reviewed and coordinated with field personnel to ensure that they are compatible with LDWF management area programs.

In FY 2023-2024 the Mineral Program continued to generate significant revenues for LDWF, which includes mineral royalties, rights-of-way, surface leases and seismic fees. The Mineral Program represented LDWF at each monthly meeting of the State Mineral and Energy Board. Mineral Program staff continues to work closely with other programs within LDWF and the LDENR Office of Coastal Management in an ongoing effort to streamline the Coastal Use Permitting process.

WETLAND MITIGATION BANKING

The Mineral Program continued to ensure regulatory compliance and coordinate credit sales for LDWF's wetland mitigation bank located on Rockefeller Wildlife Refuge in Cameron Parish. These restored wetland ecosystems, totaling more than 160 acres, functionally compensate unavoidable habitat impacts, such as those associated with oil and gas exploration and production, occurring within LDWF's WMA and refuge system.

DREDGE FILL PROGRAM

In addition to the above-mentioned duties, the Mineral Program has continued to administer LDWF's Dredge Fill Program. This program issued 47 licenses in FY 2023-2024 for the dredging and severing of state water bottoms. This program also collects approximately $1.26 million in annual severance royalties associated with dredging and severing state water bottoms. In FY 2023-2024 commercial dredge fill pits were inspected to ensure operator compliance with program regulations and LDWF also actively investigated unlicensed commercial pit operators.

PERMIT ACQUISITION

The Mineral Program applied for and received five USACE permits and five LDENR Consistency Determinations that authorized LDWF to undertake management actions on LDWF properties statewide. All permit requests must also be coordinated with and approved by federal resource agencies (i.e., USFWS, Environmental Protection Agency and NOAA- National Marine Fisheries Service).

WATER RESOURCES

Minerals Management staff did not serve on the Louisiana Water Resources Commission this past year. Matt Weigel is the new representative

HABITAT

The objectives of the Habitat Section are to gather and compile data on fish and wildlife resources, determine the requirements for conserving the resources, and provide information to governmental agencies, nongovernmental organizations and the public. Data are also gathered on the potential impacts of human activities on the resources. These data and technical assistance are provided to regulators, planners and decision-makers in advance of execution of projects in order to avoid, minimize and/or mitigate any adverse environmental impacts. The Habitat Section is comprised of the four following programs: Statewide Environmental Investigations, Louisiana Natural and Scenic Rivers Program, Permits Coordination, and Seismic Section.

STATEWIDE ENVIRONMENTAL INVESTIGATIONS

PERMIT REVIEW AND COMMENT - LDENR & USACE

Statewide Environmental Investigations is authorized under the Fish and Wildlife Coordination Act and is partially funded by a USFWS grant. Staff is responsible for reviewing and providing comments and mitigation recommendations on all permits sought from state and federal environmental regulatory agencies, primarily LDENR and USACE. Staff members reviewed and provided comments to 1,171 state and federal permit applications during FY 2023-2024 (*Figure 5*). Written comments and recommendations aimed at avoiding, minimizing and/or mitigating adverse impacts were issued by LDWF for all state and federal permit applications received.

Staff continued to receive a number of USACE Section 10 permit applications for the withdrawal of surface water classified as waters of the United States. These water withdrawal requests were primarily for hydraulic fracturing of shale formations. LDWF responded to all such permit requests with recommendations on how to conduct these substantial water withdrawals while also avoiding adverse impacts to fish and wildlife resources. A total of approximately 28 such permits were issued during FY 2032-2024.

In addition to permit review, staff participated in permit site inspections and habitat evaluations, provided technical assistance to the public on wetland issues, and worked with private developers and consultants involved in the regulatory process. During FY 2023-2024, staff conducted a dozen on-site field inspections and participated in multiple meetings and conference calls with applicants, agents and regulatory agency personnel. Staff gave presentations to non-governmental organizations, state agencies and user groups.

Staff members also represented the agency on two Mitigation Bank Interagency Review Teams chaired separately by the USACE Vicksburg and New Orleans Districts. The purpose of the Interagency Review Teams is to provide regulatory review, approval and oversight of wetlands mitigation banks. During FY 2023-2024, staff evaluated, inspected and provided technical comments and recommendations on dozens of wetlands mitigation banking proposals, mitigation banking instruments and mitigation banking monitoring plans. Four new wetland mitigation banks were approved and authorized in Louisiana during FY 2023-2024. Staff attended all Interagency Review Team meetings, including 33 site investigations.

Staff continued to provide technical assistance to USACE related to several large- and small-scale maintenance dredging projects, beneficial use projects, flood control projects, and navigation projects being undertaken by the New Orleans and Vicksburg Districts. As Bipartisan Budget Act 2018 project planning progressed, Habitat Section staff remained abreast of developments and supplied comments and recommendations to several USACE led project development teams.

Statewide Environmental Investigations also assisted in protecting all lessees of private oyster grounds by reviewing and approving, sometimes with modification, water bottom assessments submitted by project applicants prior to the initiation of activities affecting state water bottoms under lease to private parties for oyster production. Coastal Use Permit applicants can be required at the request of Statewide Environmental Investigations staff to modify the activity if the proposed project unnecessarily impacts oyster resources. There were 41 water bottom assessments reviewed and approved by staff during FY 2023-2024.

PROJECTS OF OTHER AGENCIES AND THE PRIVATE SECTOR

LDWF worked with numerous governmental agencies in conducting environmental investigations including:

- USFWS
- National Marine Fisheries Service
- U.S. Environmental Protection Agency
- USACE: Fort Worth, Galveston, New Orleans, and Vicksburg Districts
- USFS
- USDA
- Federal Highway Administration
- Federal Aviation Administration
- U.S. Coast Guard
- Department of Energy
- Federal Energy Regulatory Commission
- Department of Defense
- National Park Service
- Louisiana Department of Transportation and Development
- Louisiana Department of Natural Resources
- Louisiana Department of Environmental Quality
- Louisiana Department of Culture, Recreation and Tourism
- Louisiana National Guard
- Louisiana Division of Administration-Office of Community Development

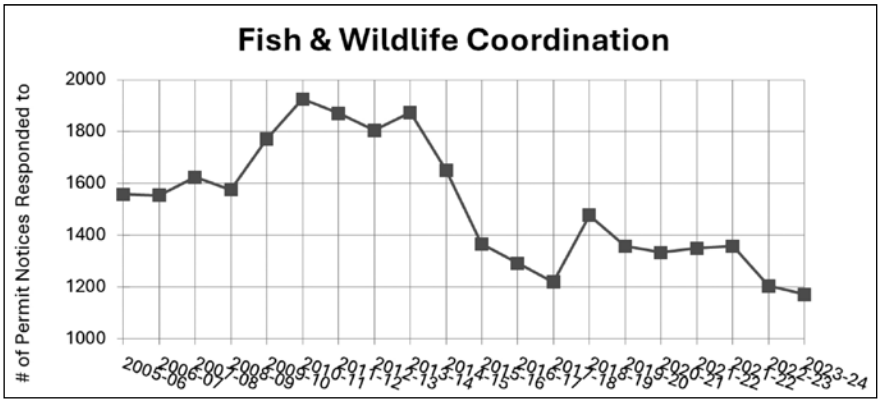


FIGURE 5. *Number of permit notices responded to from 2005-2024.*

LOUISIANA NATURAL AND SCENIC RIVERS PROGRAM

The Scenic Rivers Program is charged with the administration of the Louisiana Natural and Scenic Rivers Act. The act requires that LDWF, through the Scenic Rivers Coordinator, administer a permitting system for activities that have potential for significant ecological impact to designated Natural and Scenic Rivers, as well as a system of monitoring, surveillance, investigation and enforcement for the purpose of ensuring compliance with the act. The act, and the rules and regulations promulgated under its authority, provide for the development of management plans, stream surveys and enforcement. There are currently approximately 80 streams and/or stream segments in the system constituting an estimated 3,100 linear miles of Louisiana's streams, rivers and bayous.

Three enforcement actions were initiated in FY 2023-2024. This also included an issuance of a Compliance Order. Three citation requests for a violation of the Scenic Rivers Act were sent to LDWF's Enforcement Division. The coordinator and staff, through routine surveillance, project inspections and response to complaints, ensured compliance with permit conditions, utilization of adequate best management practices, and appropriate cleanup and restoration of permitted project sites. Staff continued to monitor numerous sand and gravel operations as to insure that previous water management plans and riparian buffers aimed at minimizing impacts to Scenic Rivers were implemented. Scenic River's staff also coordinated closely with the Louisiana Department of Environmental Quality, to address some of the construction site stormwater and sanitary issues impacting several system streams.

Staff made 93 site investigations and surveyed over 247 miles of streams. During surveys, Scenic River staff noted potential violations and compliance issues.

A total of 50 Scenic River Permits were issued during FY 2023-2024. In addition to considering permits, the Scenic Rivers staff made 19 determinations of "no permit required" for activities undertaken near Scenic Rivers but with no potential to significantly degrade the ecological integrity of a Scenic River. Staff held 20 meetings and conference calls with applicants and agents, specific to Scenic River issues. The coordinator and staff maintained regular contact with both state and federal agencies to ensure that designated Scenic Rivers were considered in all levels of planning and permitting, which required working closely with city planners, police juries, mayors and local interest groups and organizations throughout the state.

PERMITS COORDINATION

The purpose of the Permits Coordination Program is to ensure that LDWF receives, reviews and responds to and distributes comments and mitigation recommendations on all permit notices received from state and federal environmental regulatory agencies in an efficient and timely manner (i.e. prior to public notice comment period deadlines). LDWF's written comments are in-turn used by the regulatory agencies to make final determinations on how to best avoid, minimize and/or mitigate adverse impacts to fish and wildlife resources.

In order to accomplish this task, the LDWF permits coordinator serves as the primary liaison and "single point of contact" for all regulatory agencies, primarily LDENR and USACE. It is the responsibility of the permits coordinator to ensure that the LDWF biologist with the appropriate authority and expertise is included in the formulation of written comments and mitigation recommendations. The permits coordinator also ensures that there is adequate LDWF representation at all LDENR Geologic Review and pre-application meetings.

The permits coordinator also utilizes, maintains and populates a comprehensive searchable database for all permit notices. This database is of critical importance to ensure a timely response from LDWF. The database also archives LDWF's formal response to all permit notices dating back to 2006. During FY 2023-2024, the permits coordinator received, processed, tracked and disseminated 1,171 permit notices.

SEISMIC SECTION

The LDWF Seismic Section was created in 1939 specifically to protect fish, oysters, shrimp, wildlife and other areas of concern from the effects of seismic exploration. Seismic exploration uses energy waves to generate a profile of sub-surface reflective layers that help define potential oil and gas traps. The energy waves can be produced by explosives detonated below the ground, by air guns that emit a burst of air at the surface of water bodies, by large vibrating pads placed on the surface, or other means. These projects can occur in sensitive wetlands, water bodies and other habitats.

LDWF performs a Natural Heritage Review on each individual seismic job to determine the presence of rare, threatened and endangered species and other areas of conservation concern. The Wildlife Diversity Review includes specific conditions that the applicant must adhere to for the protection of such resources. LDWF Seismic agents also monitor geophysical activities to protect Louisiana's fish and wildlife resources by ensuring compliance with LDWF seismic rules and regulations.

Some of the Seismic Section's Accomplishments for FY 2023-2024 are:

- Staff issued four seismic permits throughout the state
- Staff closely interacted with seismic companies to ensure compliance with the rules and regulations of the Seismic Section. Staff continued to field questions on conceptual proposals and past projects
- Staff continued to ensure protection of threatened and endangered species and other areas of concern. One Natural Heritage Review was completed by staff.

RESPONSE & RESTORATION PROGRAM

Program Manager - Jon J. Wiebe
Biologist Supervisor - Laura Carver
Biologist - Kacie Rome

OVERVIEW

The Response and Restoration Program is responsible for overseeing LDWF's state-wide oil spill planning, emergency response and Natural Resource Damage Assessment (NRDA) activities that fall under the jurisdiction of the Oil Pollution Act. LDWF is statutorily mandated to work with state and federal agencies, "to provide for coordinated, immediate and effective protection, rescue, and rehabilitation of, and minimization of risk of injury to fish, and wildlife resources and the habitat on which they depend," as defined by the Louisiana Oil Spill Prevention and Response Act L.R.S. 30:3451.

The Response and Restoration Program activities are divided into five main categories: Oil Spill Planning, Emergency Response, NRDA, Restoration Planning, and Deepwater Horizon/BP Restoration Planning and Implementation.

OIL SPILL PLANNING

Agency Oil Coordinator works with State and Federal Agencies, Oil and Gas companies (RPs), and Oil Spill Response Organizations to develop oil spill response protocols and procedures to be used in the event of an actual oil spill. This includes identifying resources as risk, establishing protocols and procedures for the protection and rescue of wildlife and fisheries in the event of an incident, and documentation and evidence collection procedures for impacted wildlife and fisheries. Primary Projects for FY 2023-2024 include:

- Continued development of Louisiana Oiled Wildlife Response Plan, which outlines LDWF's roles and responsibilities in relation to oil spills, as well as protocols for implementing oil spill response surveys, data collection, evidence collection, and rehabilitation requirements.
- Serve as the LDWF representative for the Regional Response Team (RRT-6), Area Committees, and State-wide Oil Spill Committee.
- Work with Committees to update and refine Area Contingency Plans, and Regional Response plans, including the development of the RRP-6 Fish Wildlife and Sensitive Environments Plan and Wildlife Response Plan for the Regional Contingency Plan.
- Participate in large-scale oil spill response drills and serve as the Wildlife Branch Director.
- Oversee Oil Spill Response Training and HAZWOPER certification for Office of Wildlife personnel.

OILED WILDLIFE RESPONSE

LDWF is mandated to provide immediate response in the event of an oil spill for the protection, rescue and rehabilitation of impacted wildlife and fisheries resources. In order to facilitate LDWF's response involvement, personnel monitor all incident reports and notifications submitted via the Louisiana State Police Hazmat and the USCG National Response Center (NRC). During FY 2023-2024 staff received a total of 7,727 reports (2,388 USCG National Response Center and 5,339 Louisiana State Police Hazmat). All spill reports are evaluated using established screening criteria to determine if a significant oil spill has occurred or an incident poses a threat to wildlife, and if additional information is required.

Once an incident has occurred LDWF will work with State and Federal Agencies, as well as Responsible Parties and Oil Spill Removal Organizations as part of Unified Command. LDWF oil spill response responsibilities include:

- Identify resources at risk, and develop protection methods and response protocols to minimize the impact to wildlife and fisheries resources.
- Conduct systematic wildlife response surveys to document the extent of oiling, identify and document any wildlife or fisheries impacts utilizing established survey and documentation protocols. Conduct wildlife rescue, field triage and carcass collection activities as warranted.
- Serve as the Wildlife Branch Director within the Incident Command System.
- Oversee Oiled Wildlife Rehabilitation Center; operations, documentation, evidence protocols and rehabilitated wildlife release.
- Coordinate LDWF response field teams, and resources.
- Serve as evidence custodian for all original field documentation, chain of custody forms for all live and dead wildlife and fisheries collected.

REPRESENTATIVE SPILLS (FY 2023-2024)

During FY 2023-2024 staff received and evaluated a total of 7,727 reports (2,388 USCG National Response Center and 5,339 Louisiana State Police Hazmat). Only a portion of the reports received were oil spill related and required additional response actions, some of the key incidents are listed in *Table 7*.

TABLE 7. Representative Spills (FY 2023-2024)

SPILL DATE	NRC#	SPILL NAME	RESPONSIBLE PARTY NAME
July 8, 2023	NRC# 1372468	Lafitte	Hilcorp Energy
July 31, 2023	NRC#1374815	Joseph's Bayou	Whitney Oil & Gas
Oct. 2,2023	NRC#1380715	Burrwood Bayou	Hilcorp Energy
Oct. 17, 2023	NRC#1382018	St. Mary #45	TPIC
Oct. 21, 2023	NRC#1382332	Little Lake	Extex
Oct. 24, 2023	NRC#1382574	Catfish Lake	TPIC
Nov. 8, 2023	NRC#1383739	Main Pass #35	TPIC
Nov. 16, 2023	NRC#1384438	Main Pass-MPOG 11015	Third Coast Midstream
Dec. 11, 2023	NRC#1386435	Weeks Island	Central Crude
Jan. 18, 2024	NRC#1389268	Freshwater Bayou	Hilcorp Energy
March 13, 2024	NRC#1393722	Mississippi River MM-27	Crescent Midstream
April 2, 2024	NRC#1399309	Lake Pelto	TPIC
April 2, 2024	NRC#1395429	South Pass #24	Hilcorp Energy
April 2, 2024	NRC#1400723	Carencro	Bull Operating
May 30, 2024	NRC#1400344	Bayou Long	Rouxopco

TABLE 8. Natural Resource Damage Assessment Case Summary

RESTORATION IMPLEMENTATION ACTIVITIES	INJURY ASSESSMENT	RESTORATION PLANNING
ACL Gretna-MS River / DM-932 *Status:* Woodlands Conservancy Land Acquisition & Conservation Servitude, Crevasse Splay and Recreational Project Identification	Hilcorp Bay St. Elaine *Status:* Settlement Discussions	ExxonMobil Torbert *Status:* Settlement Discussions
Citgo Calcasieu River *Status:* Long Point Bayou Marsh Creation Project , Oyster Cultch and Recreational Project Identification	Hilcorp Rattlesnake Bayou & Hilcorp Bay Long *Status:* Injury Assessment	Whitney Oil & Gas Garden Island Bay Area of Concern *Status:* Remediation Planning and Permitting
LWMIWCB Exxon Mobil (Lake Washington, Mendicant Island, West Champagne Bay) *Status:* Lost Lake Marsh Creation NRDA Increment: South Pass Crevasse Cleanout and spur.	Collins Pipeline Mississippi River Gulf Outlet *Status:* Injury Assessment	Mississippi Canyon-20 Taylor Energy *Status:* Settled Project TBD
Shell Green Canyon *Status:* Bird Island Restoration, Living Shoreline in Calcasieu Lake, Pantropical Spotted Dolphin Genetic Stock Assessment	MV Pac Antares Gallagher Marine *Status:* Injury Assessment	Raphael Pass Gulf Production *Status:* Settled Project TBD
Sunoco Logistics Mooringsport *Status:* Alligator Snapping Turtle Head Start Program and Habitat Conservation / Management	Bayou Lafourche Crescent Midstream *Status:* Injury Assessment	Lake Grand Ecaille/Lake Washington Hilcorp
Green Canyon 248 Shell Pipeline *Status:* Calcasieu Lake and Sabine NWR living shoreline; Genetic stock assessment of Pantropical Spotted Dolphins; South Pass Bird Island	MPOG 11015 Third Coast Midstream *Status:* Injury Assessment	Grand Bay LOBO Operating *Status:* Settled Project TBD
Breton Island Hess Corporation *Status:* Breton Island Brown Pelican Habitat Creation (Additional increments)	Terrebonne Bay Hilcorp Energy *Status:* Injury Assessment	

NATURAL RESOURCE DAMAGE ASSESSMENT ACTIVITIES

Within FY 2023-2024, LDWF's Restoration Program continues to make concerted efforts involving new and ongoing NRDA case management.

Program personnel spent extensive time and effort engaging with state and federal trustees on 25 NRDA case activities (*Table 8*). Much of these activities involved detailed data review (e.g., response and pre-assessment information) and technical resource analyses (e.g., Habitat Equivalency and Resource Equivalency Analyses) to quantify resource injury extent, as well as scale representative restoration.

DEEPWATER HORIZON RESTORATION

During the 2010 *Deepwater Horizon* oil spill, approximately 134 million barrels of oil and other substances were released into the Gulf of Mexico. Many of Louisiana's coastal resources were significantly impacted. As such, Louisiana factors prominently ($5 billion) in its ability to restore for these injured resources as outlined by the Trustee Council's Final Programmatic Restoration Plan.

Within FY 2023-2024, our program's activities encompassed all project phases (engineering and design, construction, operation and maintenance and monitoring and adaptive management) in support of restoring the state's historic colonial waterbird colonies, large-scale marsh creation projects and coast-wide recreational-use projects.

ONGOING RESTORATION PROJECTS

QUEEN BESS ISLAND

Queen Bess Island has a rich and diverse history. LDWF utilized the island as one of its principal reintroduction localities for brown pelican, a species that was once extirpated from the state. Today, the island ranks as the third most productive breeding colony for the species, as well as providing critical historic nesting habi-

tat for over 60 bird species. That stated, this island experienced expansive and repeated oiling events during the 2010 *Deepwater Horizon* oil spill, and significant direct and indirect bird losses and habitat damage associated with response activities. To that point, the island had less than 5 acres of suitable colonial waterbird nesting and brood-rearing habitat remaining. Restoration of Queen Bess Island was prioritized by LDWF within the Deepwater Horizon Louisiana Trustee Implementation Group Restoration Plan #1: Restoration of Wetlands, Coastal and Nearshore Habitats; Habitat Projects on Federally Managed Lands; and Birds (October 2016). Island construction was completed in February 2020, with 30 acres of shrub-nesting bird habitat and 7 acres of ground-nesting bird habitat.

Monitoring and Adaptive Management Plan

Louisiana Trustee Implementation Group developed the Monitoring and Adaptive Management Plan for the Queen Bess Island (BA-202) Restoration Project. The Plan aims to identify activities that can be implemented to evaluate and document restoration project effectiveness or need for corrective actions. Designated activities includes colonial waterbird aerial nest surveys and nest dotting analyses, brown pelican banding, vegetation surveys, vegetation species removal, invasive vegetation species removal, predator control, anthropogenic disturbance funds, and artificial nesting structures.

Colonial Waterbird Aerial Nest Surveys and Nest Dotting Analyses

For FY 2023-2024, the project team implemented colonial waterbird aerial nest surveys and nest dotting analyses (see Louisiana Trustee Implementation Group: Monitoring and Adaptive Management section) and habitat management activities. A brief overview follows.

Aerial photographs were acquired utilizing accepted methods. Photos from May and June surveys were evaluated for their representation of peak breeding population size for each species at each colony. For most species, photos from May surveys represented peak breeding numbers and were selected for future analyses. For some species, especially black skimmer (*Rynchops niger*), photos from June surveys better represented peak numbers and were used for future analyses. Occasionally, especially for brown pelican (*Pelecanus occidentalis*), royal tern (*Thalasseus maximus*), and Sandwich tern (*Thalasseus sandvicensis*), well-developed colonies are counted using May photographs, but additional large nesting groups that form after the May survey will also be counted from June photographs and summed with May counts for a total number of nests.

Nest dotting analyses encompass the manual marking (dotting) of nests and birds (Ford 2010) within the mosaic of high resolution, low altitude oblique aerial photographs; an ArcGIS-based platform. Upon completion, all dotting results are automatically tabulated and displayed within a designated point count window. By design, the template standardizes both the feature domain and symbology of species and bird/nest delineations. Although the primary objective will be to determine number of nests, individual birds and chicks of each species will be counted in each photograph (*Figure 6*).

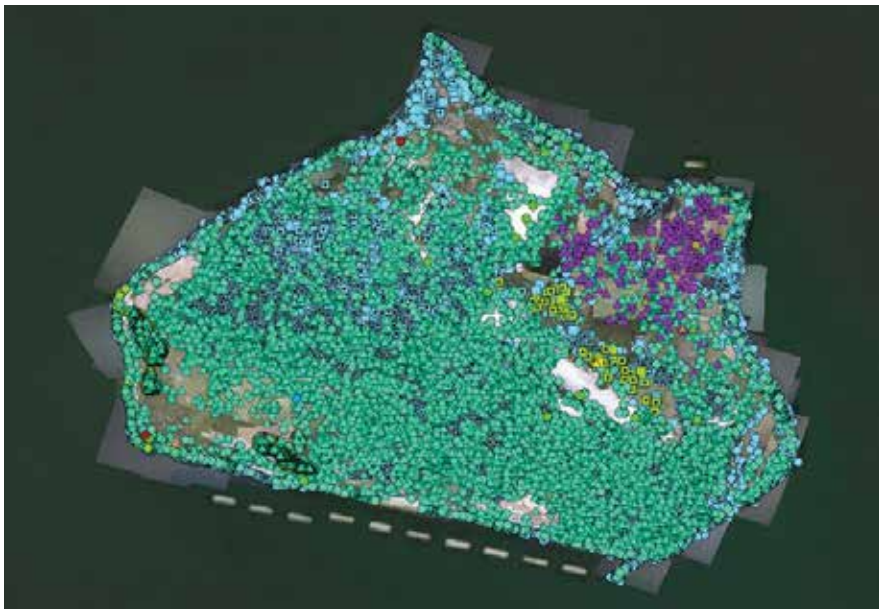


FIGURE 6. *Queen Bess Nest Dotting Analyses*

Aerial nest surveys on Queen Bess Island.

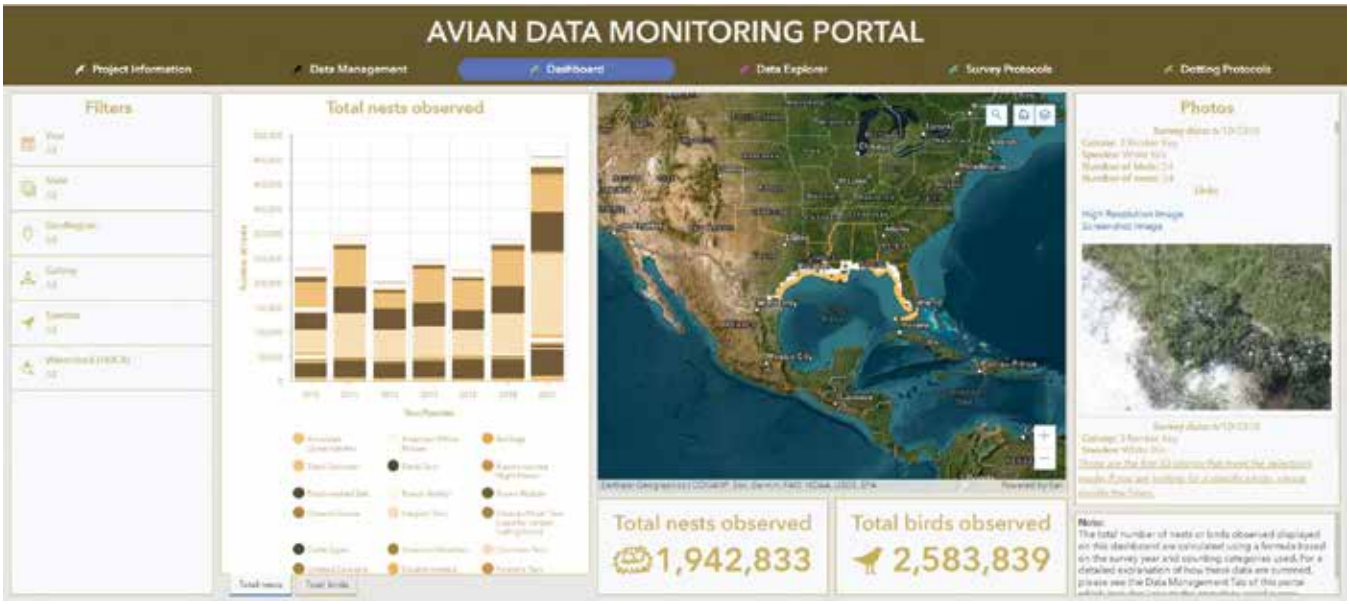


FIGURE 7. *Avian Data Monitoring Portal*

Prescribed burn within ground-nesting bird habitat on Queen Bess Island.

Expansive royal and Sandwich tern nesting following adaptive management on Queen Bess Island.

Additionally, unique symbol-color combinations were assigned to different nest and bird categories for each species. Where overlapping images were used to analyze portions of a colony, one or more lines were drawn on the selected image to delineate the area to be counted using that image. Areas outside any such lines were then be counted using different images. This process continued until the colony was counted completely with available photographs.

Assessing Colony Conditions

Each analyzed image was evaluated to characterize conditions at each colony. Factors that will be considered will include the following:

- Stage of the Breeding Cycle (e.g., early-, mid- or late-incubation, early chick-rearing, etc.) for each species;
- Habitat Occupancy (numerical and geographic extent to which each species occupied the habitat);
- Reproductive Performance (e.g., pattern of abandonment, if any, chick production, etc.).

Colonial Waterbird Aerial Nest Surveys and Nest Dotting Analyses (2010 to current) can be located at *avianmonitoring.com* and, related information can be queried within the Avian Data Monitoring Portal (*Figure 7*).

Invasive Vegetation Species Removal

Adaptive management remains a central element towards extending nesting habitat benefits for target colonial waterbird species. Within FY 2023-24, the project team (LDWF (Restoration, White Lake Wetlands Conservation Area and Coastal Operations), CPRA (Thibodaux Office) and Resource Environmental Services implemented targeted herbicide applications followed by a prescribed burn. Collectively, these actions significantly increased available nesting area and generating thousands of royal and Sandwich terns. As these and other colonial waterbirds are habitat limited, our ability to both restore and maintain these habitats remain critically important for these Species of Greatest Conservation Need as identified within the State's Wildlife Action Plan.

RABBIT ISLAND

Rabbit Island is the only brown pelican colony in southwest Louisiana, and has historically provided essential nesting habitats for a number of species that were impacted by the 2010 *Deepwater Horizon* oil spill. According to LDWF's Wildlife Action Plan, the island also provides critical nesting habitat for 12 SGCN, including the reddish egret (*Egretta rufescens*) and American oystercatcher (*Haematopus palliates*). Historically, due to the islands low mean elevation (+1.01' NAVD88), nest inundation due to high water, was the leading source of colonial waterbird mortality. As such, restoration of Rabbit Island was prioritized by LDWF within Louisiana Trustee Implementation Group Restoration Plan #1: Restoration of Wetlands, Coastal, and Nearshore Habitats; Habitat Projects on Federally Managed Lands; and Birds (October 2016). Island construction was completed in February 2021, with 87 acres of shrub-nesting and ground-nesting bird habitats along with several hundred acres of marsh-nesting bird habitat.

Project Timeline

FY 2023-2024, a living shoreline feature was installed on the island's N/NE island extent to limit ongoing shoreline erosion that directly threatens colonial waterbird nesting habitat. Additionally, this restoration feature is generating significant benefits for oysters and associated fisheries thereby achieving multi-resource benefits within an individual project; a central theme within the 2010 *Deepwater Horizon* oil spill restoration.

BIRD'S FOOT DELTA HYDROLOGIC RESTORATION: ENGINEERING AND DESIGN

The Mississippi River Bird's Foot Delta remains one of North America's most unique and vibrant wetland habitats. Nowhere else does a shallow fresh riverine system mix with the deep saline waters of the continental shelf. The area maintains a unique assemblage of wildlife and fisheries species including freshwater and marine fisheries, migratory and resident birds, a unique blend of marine and freshwater reptiles, and marine mammals among others. Collectively, the Delta (approximately 165,000 acres) is managed by USFWS and LDWF. These agencies are charged with the implementation of wildlife conservation measures while ensuring the public access and opportunities to enjoy those same natural resources year-round.

The Mississippi River Bird's Foot Delta received another designation: the closest landmass to the 2010 *Deepwater Horizon* oil spill. As such, the delta experienced some of the most pervasive and repeated oiling events which caused extensive damage throughout these unique habitats and, impacting a host of wildlife species that rely on its services. Due to the size and scale of this specific injury, Trustees asserted that landscape-scale restoration was the most appropriate and effective means to address 2010 *Deepwater Horizon* oil spill impacts to the delta. This project entails hydrologic restoration of the Mississippi River Bird's Foot Delta by dredging select passes (Pass-a-Loutre, South Pass and Southeast Pass). In doing so, the Mississippi River will be reconnected to the Bird's Foot Delta's eastern and central marsh complexes.

The project seeks to accomplish four principal goals:

- Restore riverine processes to enhance natural marsh accretion via existing small sediment diversions (crevasses) - creating approximately 750 acres of tidal wetlands.
- Build and enhance over 1,500 acres of subtidal mudflats and submerged aquatic weed beds.
- Use dredged sediment beneficially to create over 1,000 acres of fresh and brackish marsh.
- Use dredged sediment to create approximately 20 acres of beach habitat for colonial nesting waterbirds such as terns, black skimmers and solitary shorebirds.

The project will initially yield measurable benefits by building new wetlands from the dredged sediment; however, the primary long-term project benefits will result from restoring the hydrology of the Bird's Foot Delta. With flow increased through the passes proposed for dredging, the Mississippi River will be able to disperse its sediment laden freshwater payload (land building) and lower salinities within to the marshes and bayous of the delta (approximately 100,000 acres). This project is truly a total ecosystem restoration project, as it would have a positive influence on land manager's ability to implement wildlife conservation measures which have a direct nexus to enhancing the public's recreational opportunities (fishing, hunting, boating, camping, and several other non-consumptive activities) within the Bird's Foot Delta.

***ABOVE:** Diverse array of beneficial colonial waterbird habitats following restoration on Rabbit Island.* ***BELOW:** Living shoreline feature generating multi-resource benefits on Rabbit Island.*

Proposed Timeline
Approved by the Louisiana Trustee Implementation Group. Engineering and design activities are ongoing.

PROPOSED RESTORATION PROJECTS

TERREBONNE BAY HNC RESTORATION: CONSTRUCTION

Terrebonne Bay HNC represents one of the state's remaining historic brown pelican colonies. Located in Terrebonne Parish, the island is currently 32 acres, however, only less than 10 acres serve as suitable nesting habitat for brown pelican, roseate spoonbill (*Platalea ajaja*), royal tern (*Thalasseus maximus*), tricolored heron (*Egretta tricolor*), laughing gull (*Leucophaeus atricilla*) and various other species. As such, restoration of Terrebonne Bay HNC was prioritized by LDWF within Louisiana Trustee Implementation Group Restoration Plan and Environmental Assessment #7: Wetlands, Coastal, and Nearshore Habitats and Birds (October 2020).

Initial project design will restore the island's original rock containment dyke footprint (approximately 50 acres) (*Figure 8*). This action will serve two primary purposes: First, contain future deposited sediment and second, provide erosion protection from wind driven wave energy. Upon completion, island elevation will be increased via dredge sediment and suitable vegetation will be planted. Limestone aggregate will be deposited along the island's perimeter thereby a low maintenance beach-like feature for nesting terns and black skimmers. Collectively, these actions are intended to prevent routine tidal inundation and increase overall nesting success.

Proposed Timeline
Project was approved by the Louisiana Trustee Implementation Group. Construction proposed for fall 2024.

RESTORATION PLAN #8

Raccoon Island: Engineering and Design

Raccoon Island provides geomorphic function including frontline storm protection for Terrebonne Parish and ecosystem functions supporting unique transitional terrestrial and aquatic habitats between the marine and estuarine environments. Raccoon Island has environmental significance given that it is the western most limit of LDWF's Isle Dernieres Barrier Island Refuge and supports valuable avian nesting and fish habitat. It is one of the most productive avian nesting areas in the northern Gulf of Mexico and provides nesting habitat for target shrub and select ground-nesting bird species. Specifically, the island is one of the 10 remaining brown pelican colonies in Louisiana and provides foraging and nesting habitat for piping plovers. The island is also used by neotropical migrants for resting and feeding during migration. Proposed habitat types include back barrier marsh, mounds, intertidal back barrier marsh, beach and dune.

Proposed Timeline
Project was approved by the Louisiana Trustee Implementation Group. Engineering and Design was initiated in late 2023.

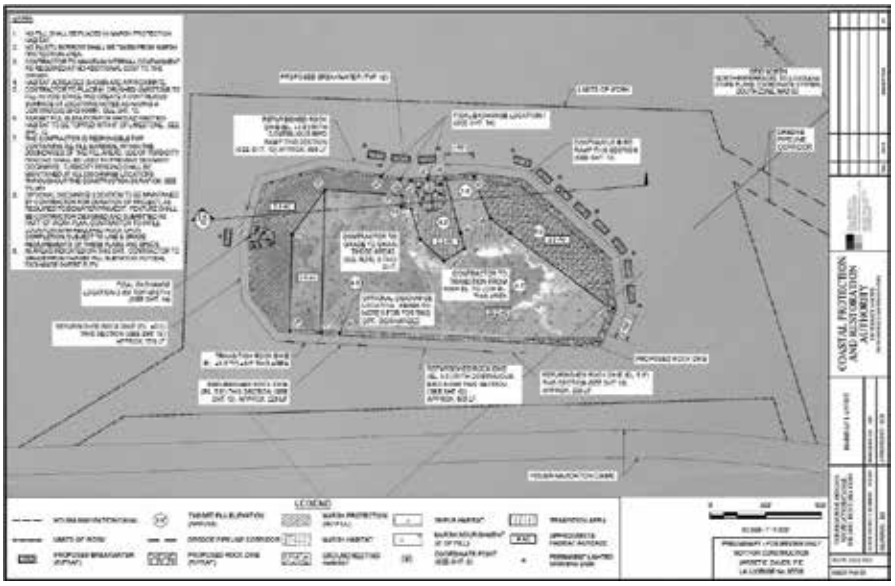


FIGURE 8. *Terrebonne Bay HNC restoration*

LOUISIANA TRUSTEE IMPLEMENTATION GROUP: MONITORING AND ADAPTIVE MANAGEMENT

Coastwide Colonial Waterbird Aerial Photographic Nest Surveys and Nest Dotting Analyses, Louisiana

Multi-year project (2024-2029) supported by targeted investments by the Louisiana and Regionwide Trustee Implementation Groups is intended to address priorities: address significant informational needs (e.g. relative abundance, diversity, distribution trends and breeding status) that will facilitate Trustees' ability to evaluate restoration effectiveness, address potential uncertainties related to restoration planning and implementation, and provide feedback to inform future colonial waterbird restoration decisions (*Figure 9*).

Due to the large geographic scale of the 2010 *Deepwater Horizon* oil spill restoration effort within the Louisiana Restoration Area, and the capabilities of waterbird habitat to move across broad and diverse landscapes, Trustees require a holistic approach to document effects of colonial waterbird restoration projects. The effects of these projects extend across both un-restored and NRDA-funded restored bird islands and other rookeries. Further, information gained from this Monitoring and Adaptive Management activity will provide Trustees with greater insight as to the need and benefit(s) of correction factors for detection and visibility among bird species (e.g. herons and egrets) and habitats, with the potential to assist in the development of draft SMART objective(s) for Trustee Implementation Group consideration, and thereby further understanding of bird benefits generated by NRDA-funded restored bird islands and other rookeries.

Project goals include:

- Document select target colonial waterbird habitat utilization (photomosaic imagery and georeferenced nest dotting) of unrestored and NRDA-funded restored bird islands and other rookeries;
- Directly support baseline determination (pre and post spill) for restored or enhanced habitat occupied by target shrub and select ground-nesting bird species in conjunction with previously collected Louisiana colonial waterbird datasets;
- Provide Trustees with greater insight as to the need and benefit(s) of additional quantification correction factors and;
- Inform implementation need and effectiveness of adaptive management strate-

FIGURE 9. *Significant investment in colonial waterbird management and future decision making*

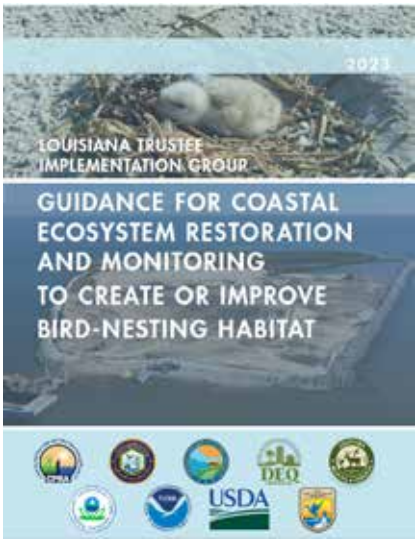


FIGURE 10. *Avian Guidance Document informing future avian restoration, management and monitoring activities.*

Secretive Marshbird Population Modeling: clapper rail telemetry informs habitat utilization in association with changing coastal processes.

gies for NRDA-funded restored bird islands and other rookeries in order to maintain or increase colonial waterbird project benefits generated over time

Beyond stated project goals, this Monitoring and Adaptive Management activity will implement significant upgrades to the State of Louisiana's and the broader northern Gulf of Mexico previously collected colonial waterbird data collection and associated data delivery system (*https://avianmonitoring.com*). Colonial waterbird data includes coastwide Louisiana colonies to determine combined/overall benefits across multiple restoration projects.

Proposed Timeline

Project was approved by the Louisiana Trustee Implementation Group Project will be initiated in 2024 (*http://tinyurl.com/56bx4w2v*).

Secretive Marshbird Population Modeling

Based on available habitat, Louisiana's coastal wetlands quite possibly supports the largest populations of secretive marshbirds in North America. However, the expansive and somewhat inaccessible nature of these habitats has generated significant data gaps (e.g., secretive marshbird species abundance and distribution within coastal basins), a fact that greatly limited the trustees' ability to document potential 2010 *Deepwater Horizon* oil spill injury to this guild. To address this problem, LDWF and the trustees proposed and received funding via Louisiana Trustee Implementation Group resolution in support of a multi-year collection of remotely sensed and local habitat data. These activities were accomplished in tandem with call back surveys (i.e., the principal survey means for the guild) to create robust predictive models for estimating secretive marshbird densities within select coastal basins. Information generated from this project will address identified data gaps and greatly assist the trustees' ability to characterize and promote beneficial habitat features that may likely benefit this bird guild.

Within FY 2023-2024, the contractor has been implementing associated data analyses, preparing the final project report and will be incorporating project information within an upcoming Marsh-nesting bird update within the Avian Guidance Document (see Avian Guidance Document).

Proposed Timeline

Project completion scheduled for June 2025.

Avian Guidance Document

Louisiana represents one of the largest and most dynamic coastal systems in the world consisting of a vast complex of freshwater, intermediate, brackish, and saline marshes, sandy barrier islands and headland beaches, estuaries, and nearshore marine habitats. These critical habitats support regionally, nationally, and, in some cases, globally important populations of migratory and resident bird species (Remsen et al. 2015). The 2010 *Deepwater Horizon* oil spill caused extensive negative impacts (injuries) to these bird populations and to their habitats, reducing habitat quality and resource availability necessary for the recovery of these bird populations.

Within the Louisiana Trustee Implementation Group, the Small Bird Group continues to identify and prioritize critical informational needs (Louisiana Trustee Implementation Group Resolutions: Colonial Water Birds, Secretive Marsh Birds) to facilitate more efficient and representative bird restoration projects throughout Louisiana. As such, the Small Bird Group proposed and received funding for the development of a Guidance Document for Avian Habitat Restoration and Monitoring in Louisiana (Avian Guidance Document or Deliverable); a deliverable(s) which integrates coastal processes and avian ecology requirements with potential coastal engineering/construction specifications within representative individual coastal habitats/regions, based on Taxonomic Working Groups.

With the initial iteration completed in 2023, these deliverable(s) are addressing major knowledge gaps and directly supporting ongoing and future 2010 *Deepwater Horizon* oil spill avian restoration activities. Further, deliverable(s) are greatly enhancing the Louisiana Trustee Implementation Group's ability to inform the general public regarding restoration of their injured natural resources (*Figure 10*).

Final Deliverables

For each of the following bird types (Shrub Nesting Birds, Ground Nesting Birds and Marsh Nesting Birds), the final deliverable(s) will document:

1. Habitat(s) and beneficial features within these habitat(s) utilized for meeting targeted aspects of avian species life history requirements, with emphasis placed on increased nesting and reproductive productivity, to efficiently and effectively restore Louisiana's injured coastal bird species.
2. Guidelines for project engineering and construction to maximize the develop-

ment of productive avian habitat(s) and/or incorporation of beneficial habitat features within restoration projects.

3. Standard comprehensive monitoring protocol(s) required to facilitate documentation of avian benefits generated by both individual (i.e., site-scale) and broader coastwide Louisiana restoration projects.

Proposed Timeline

Project was completed in spring 2023 (*http://tinyurl.com/4djwu3km*). Marsh-nesting bird section will be updated utilizing information generated from the Secretive Marshbird Population Modeling Project. Projected completion date: June 2025.

REGION-WIDE TRUSTEE IMPLEMENTATION GROUP: RESTORATION PLAN #1 / ENVIRONMENTAL ASSESSMENT

Chandeleur Islands Restoration: Engineering & Design

2010 *Deepwater Horizon* oil spill Region-wide Trustee Implementation Group funds have been designated to complete engineering and design for a large-scale restoration project benefiting the Chandeleur Islands and the many species that use them with a particular focus on birds. The Chandeleur Island chain is a series of barrier islands in eastern St. Bernard and Plaquemines parishes in Southeast Louisiana. The islands are located between the Gulf of Mexico and Chandeleur Sound. The Chandeleur Islands include Chandeleur Island, Gosier Islands, Grand Gosier Islands, Curlew Islands, New Harbor Island, North Island, Freemason Island, and a few unnamed islands. This engineering and design project focuses on restoration of the large Chandeleur Island, the seagrass beds behind it, its southern fragmented portion, and New Harbor Island; a significant historic colonial waterbird nesting colony (*Figure 11*). The islands and seagrass beds that would be the focus of this engineering and design project are state and federally owned and collectively managed by the USFWS via memorandum of agreement with LDWF as Breton National Wildlife Refuge.

There are more than 50 species of flora and fauna designated as SGCN on the Chandeleur Islands. Some of these species' only occurrence in Louisiana is on these islands. New Harbor Island contains the largest density of nesting birds on the island chain. The Chandeleur Islands are also the only significant site of sea turtle nesting in Louisiana, the northernmost nursery for lemon sharks, and provide important habitat for a variety of fisheries species.

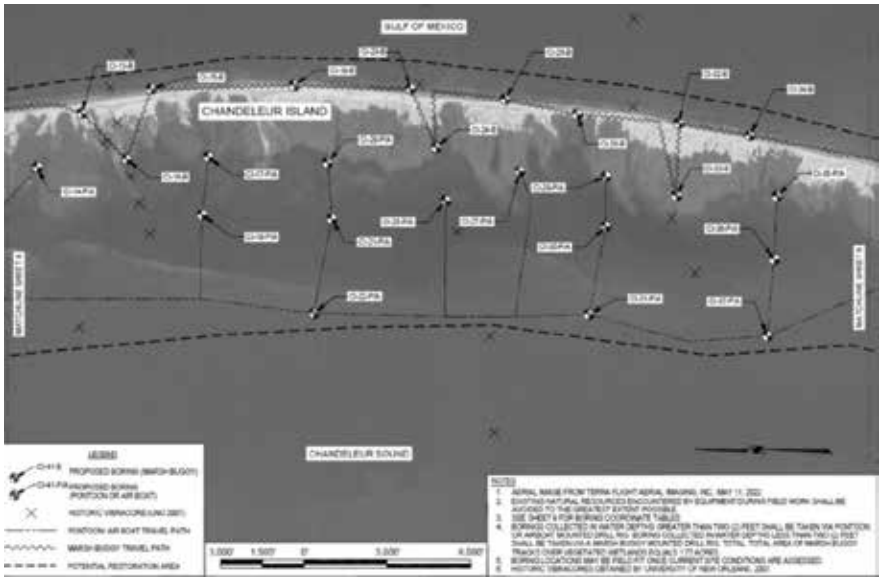


FIGURE 11. *Chandeleur Islands Restoration*

The islands have suffered extensive damage from hurricanes, especially Georges in 1998 and Katrina in 2005. They are also subject to subsidence, sea level rise, and suboptimal sediment input. The islands and seagrass beds were damaged by the 2010 *Deepwater Horizon* oil spill, and then benefitted from the construction of spill-related mitigation sand berms. Despite the berm project, the project area is experiencing a high rate of land loss, which threatens the dozens of avian and aquatic species that depend on it as critical habitat.

This restoration project will complement and enhance ongoing efforts of Deepwater Horizon Trustees and other partners to address habitat loss and degradation to nesting and foraging habitats for a large number and wide variety of species.

Proposed Timeline

Project was approved by the Regionwide Trustee Implementation Group. Engineering and design activities are ongoing.

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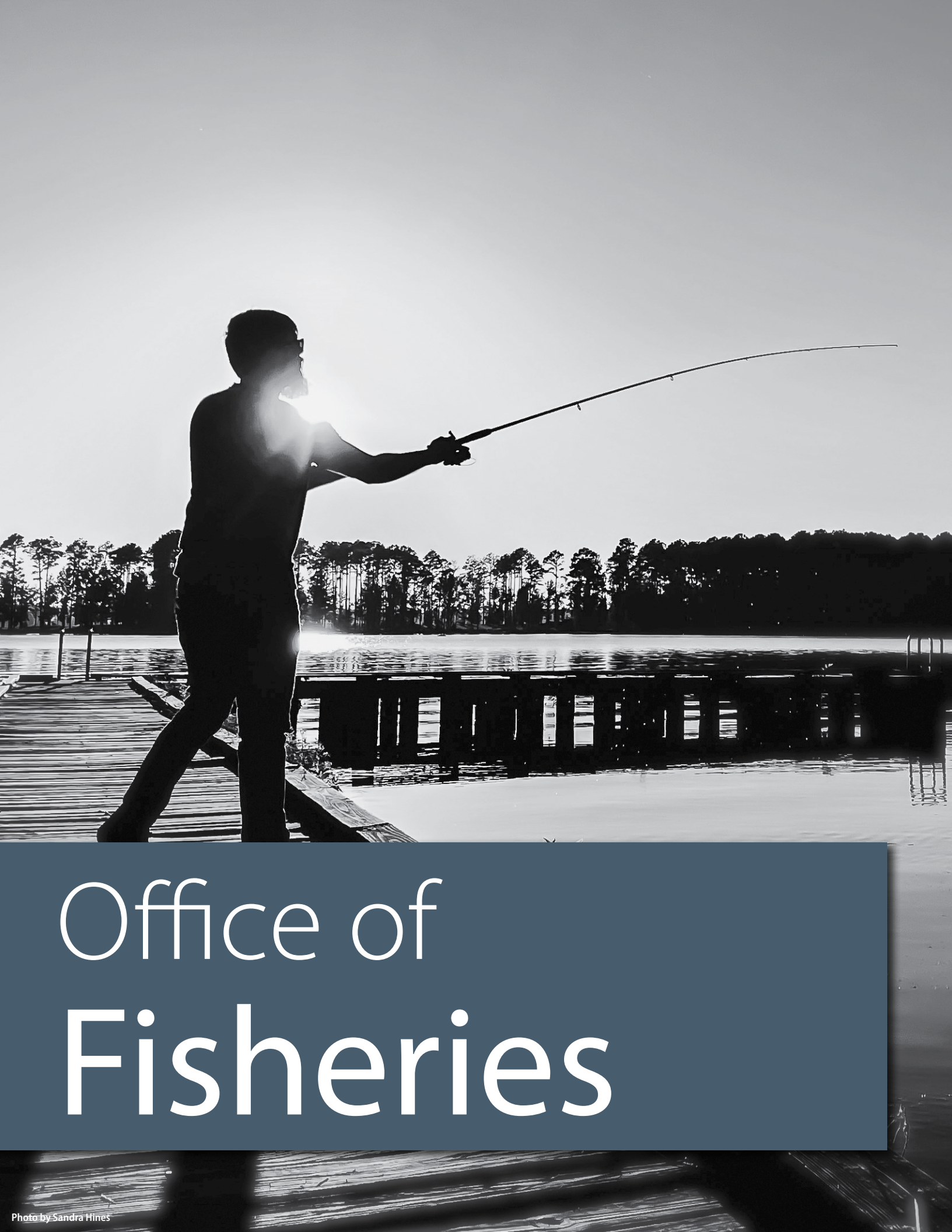


Office of Fisheries

Photo by Sandra Hines

ORGANIZATIONAL STRUCTURE & PERSONNEL

LDWF's Office of Fisheries is headed by the Assistant Secretary of Fisheries, who reports directly to LDWF's Secretary and oversees administration of the division. Reporting to the Assistant Secretary are the Deputy Assistant Secretary of Fisheries and two Biologist Administrators. The purpose of the Office of Fisheries is to manage 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.

The LDWF Office of Fisheries is currently headed by Ryan Montegut. After graduating with a B.S. in Zoology from Louisiana State University and a J.D. from Loyola University New Orleans College of Law, Ryan began his career managing wetlands restoration projects along the Louisiana coast, while pursuing post-graduate studies in wetlands ecology and environmental biology at the University of Louisiana at Lafayette. Ryan then served as General Counsel for the Iberia Parish Sheriff's' Department, maintained a private law practice for approximately 15 years, and most recently served as an assistant attorney general in the Lands, Environmental, and Natural Resources section in the Civil Division of the Louisiana Department of Justice.

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

- ***Marine Fisheries***- to manage the marine (saltwater) fisheries resources of the state.
- ***Inland Fisheries***- to manage the inland (freshwater) fisheries resources of the state.
- ***Oyster Lease Program***- to manage oyster lease agreements.
- ***Fisheries Research and Assessment***- to provide technical and scientific research in support of fisheries management.
- ***Fisheries Extension***- to provide guidance and assistance to Louisiana's valuable commercial fishing industries, and to provide fishery management information to the recreational sector through improved fishing and boating access, aquatic outreach and volunteer activities.

MISSION

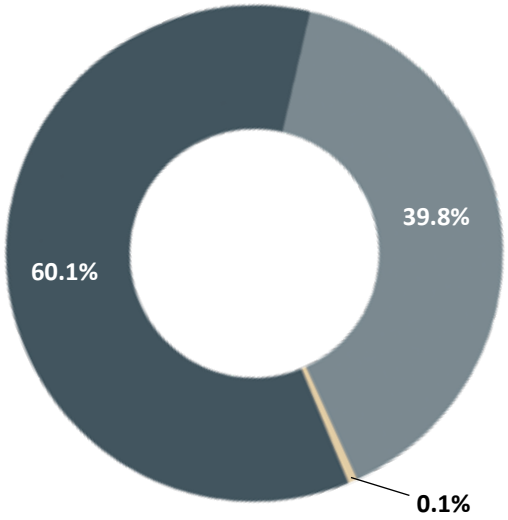
The purpose of the Office of Fisheries is to manage aquatic resources and their habitat, to support the fishing industry, and to provide access, opportunity and understanding of the Louisiana aquatic resources to the state's citizens and other beneficiaries of these sustainable resources. The Office of Fisheries is comprised of two Divisions: the Fisheries Management Division and the Fisheries Research and Development Division. The Fisheries Management Division includes the Marine Fisheries, Inland Fisheries, and Oyster Lease sections, The Fisheries Research and Development Division includes Fisheries Extension, Fisheries Habitat, Fisheries Research and Assessment, and Socioeconomic Research sections.

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 the 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.

FISHERIES FUNDING

FISHERIES FUNDING SOURCES
(APPROPRIATED FUNDING)
Total: $116,648,873



The Statutory Dedications utilized by the Office of Fisheries are primarily from the Conservation Fund and the Artificial Reef Trust Fund. The Conservation Fund is funded primarily by license revenue and oil and gas revenue from Louisiana Department of Wildlife and Fisheries (LDWF) property. The Conservation Fund is a general funding source used to fund invasive aquatic plant control, marine commercial fisheries monitoring, socioeconomic analyses and reports, and general office operations. The Artificial Reef Trust Fund is funded through donations from oil and gas companies. Oil and gas companies donate one half of the realized savings over a traditional onshore removal of obsolete oil and gas offshore structures. The Artificial Reef Trust Fund is used to fund the building and monitoring of inshore, nearshore and offshore artificial reefs, and operations of the Artificial Reef Program.

Federal funds used by LDWF come from various federal entities, such as the U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA) and Gulf States Marine Fisheries Commission. Funds from USFWS are primarily from federal assistance through the Sport Fish Restoration Program. These funds are dedicated to marine and freshwater monitoring, research, management and boating access, aquatic education, and aquatic outreach. The funds from NOAA represent various grants that are utilized to collect offshore fisheries independent data and commercial fisheries dependent data. The funds from Gulf States Marine Fisheries Commission represent various grants that are utilized to collect recreational and commercial fisheries dependent data.

Interagency transfer funds are provided by other state agencies and used to fund various projects. These projects include fisheries monitoring associated with the state coastal master plan, oil spill response and damage assessment, and oil spill restoration projects.

Self-generated funds are provided by other non-governmental entities and are used to fund various projects. These activities include participation in Gulf of Mexico Fisheries Council and collaborations with various universities.

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 and maintaining healthy fish populations and habitat for the benefit of Louisiana's residents and visitors of both 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, turbidity, dissolved oxygen, salinity and water temperature) are collected with each biological sample, as are air temperature and unusual or other significant conditions. 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 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 and offshore shrimp sampling continued during FY 2023-2024. In inshore waters, 336 6-foot and 1,714 16-foot trawl samples were collected. In state offshore territorial waters and the Exclusive Economic Zone, 234 20-foot trawl samples were collected. Information crucial to setting the opening dates of the 2024 spring inshore shrimp season, closure dates of the 2024 spring inshore shrimp season, opening and closing dates of the 2023 fall inshore shrimp season, and the closing and reopening of shrimping in portions of state territorial waters in 2024 was collected using these sampling procedures.

OYSTER SAMPLING

Management of the public oyster grounds and reservations relies heavily upon data gathered through a comprehensive biological monitoring program. State biologists use four gear types (24-inch hand dredge, 24-inch mesh bag dredge, quarter-meter frame, and square-meter frame) when sampling the public reef areas, and analyze the data collected to determine overall health of the oyster resource. For annual stock assessments, LDWF biologists collect field samples in July from each coastal study area across Louisiana to perform a quantitative evaluation of the oyster stock on the state's public oyster areas. Biologists SCUBA dive on designated sampling stations within each coastal study area. At each sampling station, an aluminum square-meter frame (quadrat/m^2) is randomly placed on the oyster reef, and all live and dead oysters, reef-associated organisms, and exposed reef material are collected by hand from the upper portion of the substrate within the quadrat. Square-meter frames are used to access natural reefs and quarter-meter frames are used to sample cultch plants due to the increase in reef density. Square-meter frame sampling is the primary method used to assess oyster populations on the state's public oyster areas. At each station, five replicate samples were collected and data were combined to produce average density of spat, seed, and sack oysters per square-meter. Oyster density was multiplied by the associated reef acreage to obtain an estimate of total oyster population size. Data is also collected on fouling organisms and oyster predator densities if present on the reef. Water temperature, dissolved oxygen, and salinity data are collected in conjunction with the m^2 samples. Cultch material types are identified, weighed, and assessed using the sustainable oyster shellstock model. Sampling conducted as part of the annual oyster stock assessment plays a valuable role in making


LEFT: *Shrimp Sampling - 16ft trawl retrieval* ***CENTER & RIGHT:*** *Shrimp Sampling - 16ft trawl sample processing*

***LEFT:** Oyster dredge sample **RIGHT:** Oyster square meter sample processing*

biological recommendations for the upcoming oyster season, which can open as early as mid-September and run through the end of April of the following year. However, the season may be closed or delayed if biological concerns or enforcement problems are encountered. LDWF uses the annual oyster stock assessment information to make recommendations regarding setting the oyster season to the Louisiana Wildlife and Fisheries Commission.

Oyster seasons are driven by data from the annual Oyster Stock Assessment square-meter sampling event. In July 2023, 590 square-meter samples were collected from 128 sample stations (including Sabine Lake, Lake Felicity, and Lake Chien which are sampled biennially) coast-wide for the Oyster Stock Assessment. Seventy-five square-meter samples were collected at the same time from 25 sample stations in the Barataria Basin as per the Coastal Protection And Restoration Authority (CPRA) System-Wide Assessment and Monitoring Program (SWAMP) agreement. In the fall of 2023, 234 square-meter samples were collected from 78 stations in the Barataria and Pontchartrain basins for SWAMP. That sampling was repeated in spring 2024. In total, 1,058 square-meter replicates were collected in FY 2023-2024.

In addition, the Sustainable Oyster Shellstock Model is being utilized to provide harvest thresholds for the public oyster areas of Louisiana. This model will help maintain reef material over time and was created in partnership with Dr. Thomas Soniat at The University of New Orleans. This computerized model guides fisheries management to conserve the oyster reef base. Oyster stock assessment sampling provides model input data such as estimates of reef mass (grams per m^2) and size-frequency of oysters. Utilizing additional data on oyster growth, mortality, salinity, and estimated commercial harvest rates, the model estimates the amount of oyster harvest allowed on each reef while preserving sufficient reef mass to keep the reef viable. The model outputs harvest rates based on three different conditions- low, medium and high salinity patterns for each basin. At this time, the Sustainable Oyster Shellstock Model is applied to all reefs in the state. The model harvesting thresholds are used by the oyster program manager to facilitate oyster season recommendations and can be used to close over-harvested reefs during the commercial public oyster season.

Dredge data is used to monitor the overall health of the oyster resource during the year and to assess the recruitment of new age classes of oysters into the population. Two replicates were taken per station per month, except July, to monitor size frequency, recruitment, mortality, and the presence and/or absence of resource, predators, and reef fouling organisms. July is reserved for (square-meter) stock assessment sampling mentioned above. For FY 2023-2024, 1,612 dredge samples were collected from 78 sample stations. Included in this sample station count and annual sample tally are three (monthly) SWAMP stations in the Barataria Basin and there were nine sample stations sampled quarterly as opposed to monthly, including six in Sabine Lake and three in Terrebonne Parish.

Field biologists also gather hydrological data when conducting square-meter and dredge sampling. During oyster seasons, field staff conduct boarding report surveys of oyster boats harvesting from public oyster areas. Boarding survey data allows them to develop harvest and fishing effort estimates for their respective region. During bedding season, in which commercial fishers collect live oysters from the public oyster areas and transport them to their private leases, field biologists sample bedding loads to determine that the portion of non-living reef material does not exceed a set maximum benchmark value. For the 2023-2024 oyster season, 15% non-living material was the maximum allowance in bedding loads. Biologists work with Enforcement agents in monitoring oyster bedding vessels for the duration of oyster bedding seasons. During the 2023-2024 oyster season, LDWF instituted a daily reporting requirement for vessels harvesting on the public oyster areas. Vessels were required to provide the following information: Captain's name, oyster harvester number, boat number, total number of sacks or total amount of seed resource harvested that day, and the public oyster area fished via phone call or by ereporting smart phone application by Shellcatch. The 2023-2024 oyster season had an estimated 98% compliance in harvest reporting across the state's public oyster areas, with 75 vessels using the call-in option and 52 vessels reporting via the e-reporting application.

Annual Oyster Stock Survey

The statewide public oyster stock size in 2023 increased from 2022 levels, where approximately 472,381 barrels (one barrel = two sacks) of oysters increased to 1,028,994 barrels available on the public oyster areas of Louisiana (excluding Sabine Lake). While the 2023 stock estimate represents an increase of 118% compared to 2022, it is 21% lower than the 20-year long-term average (2003 through 2023). *Table 1* illustrates that most reef areas across the state have seen an increase in oys-

TABLE 1. Estimated oyster stock (in bbl.) on Louisiana's public oyster areas by basin for 2023. Percentages are change from previous year.

CSA	BASIN	SEED	SEED % CHANGE	MARKET-SIZED	MARKET-SIZED % CHANGE	TOTAL STOCK	TOTAL % CHANGE
1N	Lake Borgne/ MS Sound	101,274	302%	24,842	207%	126,116	279%
1S	East of MS River, South of MRGO	18,632	-60%	21,436	84%	40,068	-31%
3	Hackberry Bay	5,902	-59%	1,349	-50%	7,251	-58%
5E	Lake Chien/ Felicity	0	n/a	0	n/a	0	n/a
5W	Sister Lake	166,731	151%	175,485	508%	342,216	259%
7	Calcasieu - East Side	26,499	83%	14,352	17%	40,851	52%
7	Calcasieu - West Cove	181,223	510%	289,342	42%	470,565	101%
Statewide Totals		***502,149***	***148%***	***526,845***	***95%***	***1,028,994***	***118%***

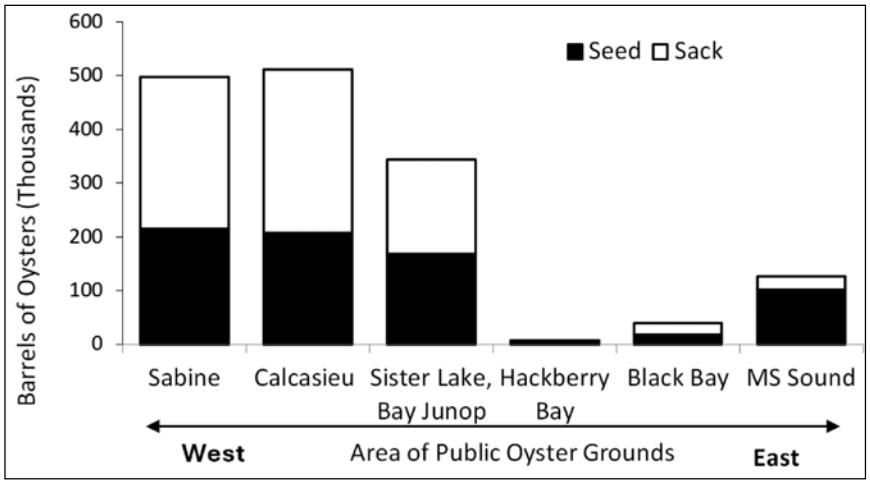


FIGURE 1. 2023 Oyster stock distribution in Louisiana's public oyster areas by basin.

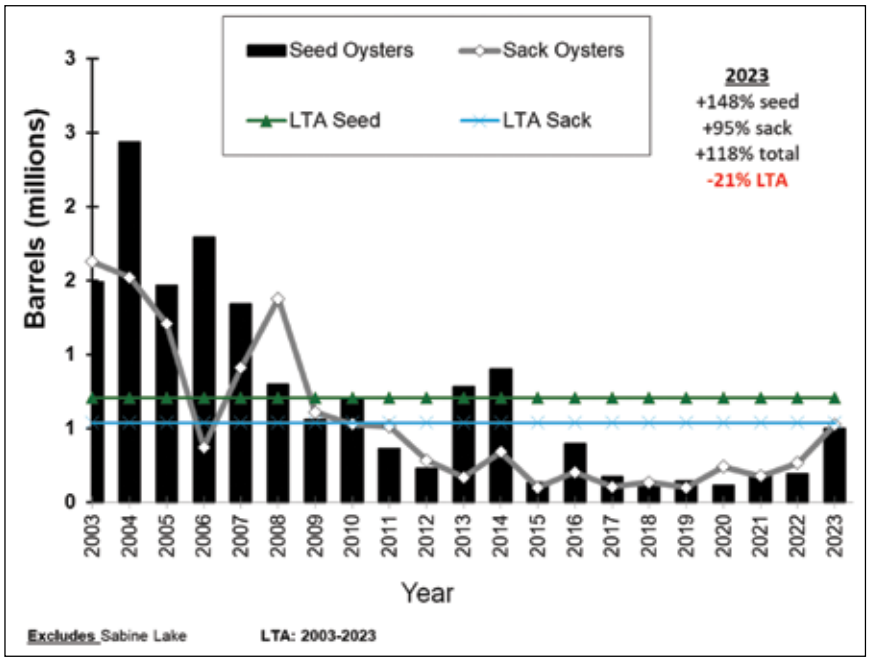


FIGURE 2. Seed and market-size oyster stock availability in Louisiana's public oyster areas. Long-term average denotes the long-term average from 2003 through 2023. Percentages indicate change from 2022.

ter resource. Similar to recent years, most of the live oyster stock is in Calcasieu Lake (Coastal Study Area 7), which holds 49.7% of the 2023 estimated availability (*Table 1, Figure 1*). Statewide, seed oysters increased by 148%, while market-size oysters increased by 95%, compared to 2022. While significant increases were observed in Sister Lake, east of Mississippi River (north of the Mississippi River Gulf Outlet [MRGO]), and Calcasieu Lake, the 2023 public oyster area resource is 21% below its 20-year long-term average (*Figure 2*), and is still considered severely stressed. *Figure 2* shows that while there was an increase in the oyster populations from 2022, the numbers are far below what was seen over a decade ago.

LDWF has monitored oyster populations in Sabine Lake using established monitoring stations and conducting annual oyster stock assessments, but in the 2018 regular legislative session, Act 159 was passed, placing a permanent moratorium on the harvest of oysters in Sabine Lake. LDWF currently conducts population stock assessments in Sabine Lake every other year due to the moratorium. Sabine Lake oyster stock availabilities are not included in statewide estimates, again, due to the moratorium on harvesting. Sabine Lake was assessed this year, where the availability was reported to be 107,768.2 barrels of seed oysters and 140,919 barrels of market oysters.

Spat-on-Shell Monitoring

Michael C. Voisin Oyster Hatchery located in Grand Isle, LA is operated cooperatively by both LDWF and Louisiana Sea Grant and it produces oysters set on recycled oyster shells. Many collaborations were made to construct, set, and deploy hatchery-produced spat-on-shell. LDWF collaborated with the Coalition to Restore Coastal Louisiana's oyster shell recycling program, which began in FY 2013-2014. The Coalition to Restore Coastal Louisiana collected and stockpiled oyster shell from Louisiana restaurants. The April 2023 spat-on-shell deployment to Petit Pass, with an estimated 1,159,030 spat, were sampled at the six-month interval in November 2023. Seventy shells were assessed and showed 131 oyster spat, 80 seed-sized oysters, and two market-sized oysters, with a total mortality of 50.2%.

In this reporting period, there were four additional spat-on-shell deployments throughout the oyster spawning stock sanctuary network. An estimated 2,007,500 larvae were set on macro-cultch and deployed to Independence Island, Barataria Bay, in August 2023, with an estimated 341,889 seed oysters deployed. Another estimated 8 million larvae were set and deployed as spat-on-shell to the Lake Borgne artificial reef in May 2024, with an

Vessels loaded with spat-on-shell for deployment

estimated 2,032,100 spat. The Lake Borgne artificial reef deployment was monitored at the one-month interval; 60 shells were assessed and showed 20 oyster spat and nine seed-sized oysters with a total mortality of 80%. The final deployment was a private hatchery contractor deployment of 1,833 cubic yards of spat-on-shell over 20 acres in Drum Bay for future broodstock reef development.

Oyster Kill Monitoring

LDWF is charged with managing, conserving and promoting fisheries resources in Louisiana's waters. Investigating fish and/or mussel kills is a high priority that requires the immediate attention of Fisheries personnel. LDWF is responsible for responding to fish kills in a timely manner because the cause and effects of fish kills are typically unknown at the time of initial notification.

In June 2022, LDWF Office of Fisheries created and distributed an Oyster Kill Response Plan, similar in design to the Fish Kill Response plan, but modified to meet the needs of the Oyster Fishery. During FY 2023-2024, no oyster kills were reported to, or investigated by, LDWF Marine Fisheries personnel.

Michael C. Voisin Oyster Hatchery Operation Overview

The Michael C. Voisin Oyster Hatchery is operated cooperatively by both LDWF and Louisiana Sea Grant. Louisiana Sea Grant is contracted to operate the facility and to provide recommendations to LDWF for hatchery operations. Louisiana Sea Grant hatchery staff work to produce oyster larvae and algae. Phycologists grow marine microalgae, which is used to feed oyster larvae and supplement broodstock holding systems. The Louisiana Sea Grant staff

TABLE 2. *2023 Michael C. Voisin Oyster Hatchery fall production of oyster larvae and seed used by Louisiana Sea Grant and LDWF for restoration, sales and research.*

	PURPOSE	DIPLOID
Total Pediveligers	LDWF Sales	0
Total Pediveligers Set on Microcultch	Produce Seed for LDWF Sales	0
Total Pediveligers	LDWF Restoration	0
Total Pediveligers Set on Macrocultch	LDWF Restoration	2,007,500

TABLE 3. *2023 Michael C. Voisin Oyster Hatchery fall production of diploid, triploid, and tetraploid pediveligers and seed used by Louisiana Sea Grant and LDWF for sales, restoration and research.*

PLOIDY	STAGE	SALES TOTAL	RESTORATION TOTAL	RESEARCH TOTAL
Diploid	D-Stage	0	0	0
	Veliger	0	0	0
	Pediveliger	0	0	0
	Seed	12,000	341,889	0
Triploid	D-Stage	0	0	0
	Veliger	0	0	0
	Pediveliger	0	0	0
	Seed	0	0	0
Tetraploid	D-Stage	0	0	0
	Veliger	0	0	0
	Pediveliger	0	0	0
	Seed	0	0	0
Larval Totals		***0***	***0***	***0***
Seed Totals		***12,000***	***341,889***	***0***

TABLE 4. *Fall 2023 hatchery-produced spat-on-shell production.*

LOCATION	LARVAL BROOD NAME(S)	EST. TOTAL # OF PEDIVELIGERS SET ON MACROCULTCH	DEPLOYMENT DATE
Independence Island, Barataria Bay	N/A	2,007,500	August 2023

TABLE 5. *2024 Michael C. Voisin Oyster Hatchery spring production of diploid pediveligers and seed used by Louisiana Sea Grant and LDWF for restoration, sales and research.*

	PURPOSE	DIPLOID
Total Eggs Fertilized	Hatchery Production	1,261,403,332
Total Pediveligers	Hatchery Production	109,590,000
Total Pediveligers Set on Microcultch	Produce Seed for LDWF Sales	4,405,537
Total Seed	LDWF Sales	450,000
Total Seed	LDWF Restoration	4,439,537
Total Pediveligers Set on Shell	LDWF Restoration	40,540,000

TABLE 6. *2024 Michael C. Voisin Oyster Hatchery spring production of diploid, triploid, and tetraploid pediveligers and seed used by Louisiana Sea Grant and LDWF for restoration, sales and research.*

PLOIDY	STAGE	SALES TOTAL	RESTORATION TOTAL	RESEARCH TOTAL
Diploid	D-Stage	0	0	0
	Veliger	0	0	0
	Pediveliger	0	40,540,000	64,050
	Seed	450,000	4,439,537	1,350
Triploid	D-Stage	0	0	0
	Veliger	0	0	0
	Pediveliger	0	0	0
	Seed	0	0	0
Tetraploid	D-Stage	0	0	0
	Veliger	0	0	0
	Pediveliger	0	0	0
	Seed	0	0	0
Larval Totals		***0***	***40,540,000***	***64,050***
Seed Totals		***450,000***	***4,439,537***	***1,350***

TABLE 7. 2024 Hatchery Facilitated Restoration Deployments

LOCATION	TOTAL # OF PEDIVELIGERS SET	EST. TOTAL # OF SPAT	DEPLOYMENT DATE
Lake Borgne Artificial Reef	8,000,000	2,032,100	May 7, 2024
Lake Machias Broodstock Reef	7,500,000	697,604	July 11,2024
West Karako Artificial Reef	7,500,000	539,226	July 23, 2024
Lake Fortuna Cultch Plant	13,497,666	3,955,537	June 26,2024
Hotel Sid Artificial Reef	37,990,000	484,000	Oct. 9, 2024

includes a director, an operations manager, and four research associates. All research associates are responsible for the overall production of algae and oyster larvae and must be up-to-date in hatchery operations. The research associates do have some specialized tasks focusing on phycology, broodstock conditioning, larval production, and farm and nursery operations. Louisiana Sea Grant provides additional staff support through workforce development with undergraduate student workers. In addition, Louisiana Sea Grant hatchery staff provide extension services for people interested in topics such as growing oysters, producing larvae and operating seed nursery systems. Louisiana Sea Grant staff work to produce diploid, triploid, and tetraploid larvae and seed for orders, restoration, and research.

Louisiana Sea Grant manages several lines of wild, diploid broodstock and the Louisiana tetraploid oyster. Diploid and tetraploid refers to the number of chromosome sets an organism contains (diploid being two sets and tetraploid four sets). Tetraploid oyster sperm is used to fertilize diploid oyster eggs, which reliably produces 100% triploid (three chromosome sets) oysters. 4Cs Breeding Technologies, Inc., has intellectual property rights for these tetraploids. 4Cs licenses the use of these tetraploid oysters to LDWF.

Historically, LDWF focused on producing diploid larvae and spat for restoration, but that mission changed in 2018 when LDWF was tasked with directing larval and seed sales. Prior sales had been processed by the Louisiana Oyster Dealers and Growers Association overseen by the hatchery director, since the hatchery opened in 2015. Thus, throughout the hatchery season, which goes from March through November, LDWF distributes both diploid and triploid larvae and seed, produced by Louisiana Sea Grant, to fulfill customer sales orders and complete restoration projects.

2023 Fall Production

2023 Total Fall Production

Production in the fall of 2023 was limited due to hydrological conditions and limited staff. Michael C. Voisin Oyster Hatchery operations were shut down in early fall to prepare facilities and new equipment acquisitions for spring production.

Fall Spat-on-Shell

The LDWF Michael C. Voisin Oyster Hatchery produces diploid oyster larvae for setting on shell, which is then referred to as spat-on-shell and is used for state oyster restoration projects. To prepare for setting on shell, mesh bags (shell bags), approximately 3 feet in length, are filled with recycled oyster shell. Recycled shell was obtained through a collaboration with the Coalition to Restore Coastal Louisiana's Oyster Shell Recycling Program. If conditions do not allow for immediate deployment, the hatchery will set larvae on micro-cultch and hold in the facility for later deployment. One micro-cultch restoration deployment occurred in August 2023, where an estimated 2,007,500 oyster spat were deployed to Independence Island artificial reef.

2024 Spring Production

Algal Production

Algal stock production began early spring 2024 and continued throughout the year.

Larval Production

The 2024 spring larval production began in April with diploid spawn attempts. Production began with diploid larvae for LDWF restoration efforts in the beginning of spring 2024. During this production season, the estimation of eggs fertilized to produce oyster larvae were quantified by the hatchery. Total spring diploid production was an estimated 1,261,403,332 oyster eggs, used to produce 109,590,000 oyster larvae for hatchery goals. One tetraploid spawn was attempted, but triploid production was unsuccessful. The hatchery is working to obtain new tetraploids from Auburn Shellfish Lab by the end of this season and is planning on developing a new line of tetraploids next season. There were several unsuccessful brood batches over the course of the season. In late summer, the oyster larvae were experiencing high mortality at the hatchery. Through testing, it was concluded that several strains of Vibrio that are pathogenic to oyster larvae had contaminated the larval holding tanks. The hatchery will be adding UV light to the water holding tanks and the broodstock holding tanks over the offseason to combat this. The hatchery will also implement cleaning of the hatchery seawater lines monthly with bleach or peroxide in an attempt to eliminate the buildup of biofilms that coat the plumbing and may harbor *Vibrio spp*.

Seed Production

A portion of the 2024 diploid larval production was set aside for seed sales. Four oyster farmers purchased 450,000 seed; the unpurchased seed was used for restoration efforts.

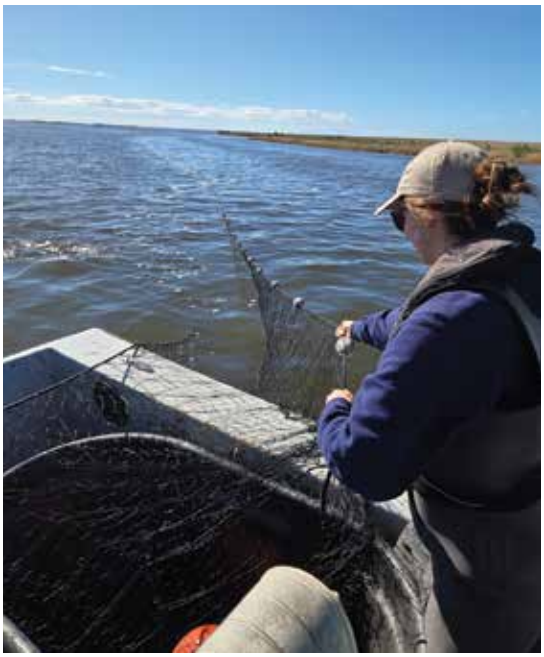
MARINE FINFISH SAMPLING

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 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.

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 monthly.
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 FY 2023-2024, the fishery-independent finfish sampling program collected 972 of 972 gill net samples (100%), 1,280 of 1,280 seine samples (100%), and 271 of 270 trammel net samples (100%), for a 100% overall completion rate statewide.



LEFT: *Marine Finfish Sampling - 50ft bag seine retrieval* ***RIGHT:*** *Marine Finfish Sampling - trammel net retrieval*

Marine Finfish Sampling - seine sample processing

FRESHWATER FINFISH SAMPLING AND MANAGEMENT

Waterbodies throughout Louisiana differ in their importance to the overall state fisheries and in the degree to which they can be managed. LDWF routinely samples a subset of rivers, streams, lakes and reservoirs based on their importance to the fishing public, size, productivity and, in the case of reservoirs, drawdown capability. Other considerations include existing and potential management needs that are specific to the waterbody. Waterbody sampling schedules are developed each year and monitoring and management results are reported in LDWF Waterbody Management Plan updates, which can be accessed on the LDWF website.

Freshwater fisheries resources are monitored and managed through various sampling methods. In FY 2023-2024, biologists estimated relative abundance, age, growth and mortality, size class structure, species composition and genetic composition of sportfish populations in addition to physiochemical characteristics of the water on 110 lakes, rivers and streams. Sampling sites on inland lakes, reservoirs and rivers are predetermined and selected to represent available aquatic habitats within the various water bodies. Sampling protocol is standardized to the extent possible to allow for comparison of data over time and includes electrofishing, lead net, seine net, hoop net and gill net gear types. Lotic sampling methodology follows lake methodology closely, with the addition of habitat type and river stage parameters. LDWF Inland Fisheries biologists have developed standard operating procedures for sampling rivers and wadeable streams for biomonitoring of fish and mussel communities.

Electrofishing samples are collected in both spring and fall to provide an estimation of population trends including abundance, size, distribution, age structure and genetic composition. Sampling includes largemouth bass and crappie in the spring and fall for species population assessments, and fish community assemblage samples of all species collected in the fall of each year. A total of 666 electrofishing samples were taken for 142 hours of timed electrofishing during FY 2023-2024.

Seine samples are taken in many water bodies to determine fish community relative abundance and young-of-the-year recruitment of popular sport fishes that might be underrepresented with electrofishing gear. These samples occur from June to August each year. Eighty-seven seine hauls were made during the FY 2023-2024.

Entanglement and trap net webbing are also used during standardized sampling throughout the year to collect crappie, catfish and sunfish species as well as nongame commercial species. A total of 329 gill net samples were taken on various lakes and rivers, and 263 lead net and hoop net samples were fished during FY 2023-2024.

With increased public demand for evaluation of freshwater fish harvest regulations, three-year population assessments of largemouth

bass and crappie to investigate age, growth, and mortality in select waterbodies began in 2009. Inland Fisheries staff collected age, growth, and mortality samples of largemouth bass in two waterbodies and samples of crappie in three waterbodies in FY 2023-2024. The extensive age, growth and mortality data collected for these assessments are used to inform and evaluate future management decisions. More information can be found in the Stock Assessment section of this report.

Water quality data is collected each time a fisheries sample is collected on a waterbody. In FY 2023-2024, water quality samples were taken for physical and chemical criteria including temperature, dissolved oxygen, pH, salinity and conductivity coinciding with each biological sampling event, and to monitor conditions following events such as tropical storms, droughts, and drawdowns.

Stocking data for LDWF waterbodies can be found in the Freshwater Fish Hatchery Program section of this report

RIVER AND STREAM SAMPLING

Understanding river basin biotic assemblages is an important aspect of fisheries management. Changes in community structure of aquatic biota in river and tributary systems within a watershed are indicators of anthropogenic and natural disturbances. Fish and mussel communities are sensitive to a wide array of direct and indirect stresses, including the effects of point source and non-point source pollution, sedimentation and changes in substrate deposition, habitat loss, riparian zone disruption, physicochemical changes in water chemistry, and flow modification. Fish and mussels occupy positions throughout the aquatic food web and share a unique relationship. The larval mussel stage, or glochidia, is attached and parasitic on the host fish's gills or fins. After a period of time, the larval mussel drops off the fish and settles to the stream bottom. All Inland Fisheries districts performed sampling on flowing waters to analyze species composition of fish, sport fish populations, crawfish, freshwater mussels, and to conduct habitat assessments. Fifty-nine sections of rivers, streams, bayous, and canal systems were sampled during FY 2023-2024.

FISH KILL MONITORING

LDWF is charged with managing, conserving and promoting fisheries resources in Louisiana's waters. Investigating fish and/or mussel kills is a high priority that requires the immediate attention of Fisheries personnel. LDWF is responsible for responding to fish kills in a timely manner because the cause and effects of fish kills are typically unknown at the time of initial notification. In addition, fish kills are highly visible to the public and often prompt related questions that must be addressed, and they may serve as a symptom of more significant problems in an area. When responding to a fish and/or mussel kill, LDWF biologist managers refer to the American Fisheries Society Special Publication #30 Investigation and Monetary Values of Fish and Freshwater Mussel Kills for protocol. The selection of the most appropriate method for estimating fish kill numbers and species composition is dependent on the type of habitats involved. In some cases, strand line counts may be used, while in other cases, transects, segments or other methods are often necessary.

During FY 2023-2024, LDWF Office of Fisheries, Inland Fisheries Section investigated 30 fish kills throughout the state. Twenty-seven were attributed to naturally occurring low oxygen conditions in the rivers, lakes, and marshes. One fish kill was caused by a sewage lift failure, one was likely a net dump (following hypoxic conditions), and one was of indeterminate origin. Most of the fish kills in 2023 were related to extreme heat and drought experienced through much of the state that year. These fish kills could be attributed to elevated temperatures in low waters, saltwater intrusion that led to vegetation mortality, and/or occasional heavy storms. Early 2024 saw moderate to heavy rain across the state, and many fish kills occurred following violent storms that moved across the state in May.

During FY 2023-2024, LDWF Office of Fisheries, Marine Fisheries Section investigated seven fish kills throughout the state. Most causes were attributed to naturally occurring low oxygen conditions in the rivers, lakes, canals and marshes.

OYSTER LEASE PROGRAM

The leasing and permitting of state water bottoms for cultivating oysters is administered by the Office of Fisheries. The Oyster Lease Program is responsible for maintaining records, collecting revenue and issuing lease agreements for this purpose. In April 2020, the Wildlife and Fisheries Commission approved a notice of intent lifting an 18-year moratorium on new oyster lease agreements. Currently, the program continues to work with the Office of State Lands and CPRA to issue new oyster lease applications in various coastal parishes throughout the state in Phase 0 of the moratorium lifting process: Pre-Moratorium Lease Applications. Of the 35 applications in Phase 0, 17 new leases were granted, 15 were not granted, and three were protested and are awaiting adjudication. The completion of these final three applications will conclude Phase 0.

At this time, there are 7,898 leases covering 398,426 acres of water bottom. These leases account for over $1.2 million in annual rental revenue. This revenue is specifically deposited into the Public Oyster Seed Ground Development Account for the enhancement of the state's public oyster resource. During FY 2023-2024, the Oyster Lease Program renewed 550 leases. There is a $30 renewal fee for each application, totaling $16,500. The Oyster Lease Program transferred and documented the exchange of 576 leases sold in FY 2023-2024. There is a $10 fee for each lease transfer, totaling $5,760. The Oyster Lease Program provides a Geographical Information Systems downloadable dataset to the public free of charge.

The Oyster Lease Program worked with CPRA to modify 27 lease boundaries to accommodate coastal restoration projects in FY 2023-2024. The Oyster Lease Program assisted the LDWF Enforcement Division by publishing 61 maps to be used in court cases across the state.

ALTERNATIVE OYSTER CULTURE PERMITTING PROGRAM

Beginning in 2013, the Office of Fisheries was tasked with issuing Alternative Oyster Culture Permits. These permits offer commercial fishermen an opportunity to cultivate oysters using alternative methods on state leases or on privately owned water bottoms. Currently, 10 sites are permitted, which is two more than the previous FY. The 10 sites cover approximately 169 acres of water bottom; an increase of 48 acres over the last FY. Out of the 10 sites, seven permits have been issued on private property.

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. In the Gulf of Mexico, 78% of the seafood production comes from Louisiana shrimpers, crabbers, oyster harvesters and fishermen. There were 8,567 commercial fishermen and 6,479 seafood dealers/processors and brokers register each year to provide the nation with fresh seafood.

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 157,029 commercial fishing trips reported in FY 2023-2024 producing in excess of 660 million pounds of seafood. Seafood landings reported now include menhaden, which explains the large increase from the last reported landings.

Beginning in May 2000, a computerized electronic trip ticket program was developed and made available to dealers. To date, 116 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, 2010 *Deepwater Horizon* oil spill, CARES Act, and floods.

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.

Historically, shrimp are the state's most valuable fishery, but dockside value in FY 2023-2024 declined substantially. In FY 2023-2024, total shrimp landings measured nearly 69.9 million pounds (all species combined/heads on weight) and had a dockside value of approximately $54.6 million. Brown shrimp landings in FY 2023-2024 measured 9.1 million pounds (heads on weight) with a dockside value of $6.2 million, while white shrimp landings in FY 2023-2024 measured 60.7 million pounds (heads-on weight) with a dockside value of $48.3 million (*Figure 3*). Since the inception of the state trip ticket program in 1999, brown shrimp landings in FY 2023-2024 are the lowest recorded during any previous fiscal year. Brown shrimp price per pound in FY 2023-2024 averaged $0.68, which is $0.14 below the previous FY 2022-2023 and $0.38 below the long-term average (FY 2000-2024). White shrimp landings remained stable, but a substantial decline in dockside value was observed. Similar to the average price per pound in brown shrimp, the average price per pound for white shrimp in FY 2023-2024 was $0.80, which is $0.44 lower than FY 2022-2023 and $0.79 below the long-term average (FY 2000-2024). Landings for brown shrimp were directly affected by price and effort. Due to the lower demand for shrimp by processors because of reduced sales and an abundance of surplus inventory, the number of fishers participating in the fishery and the number of trips per year have declined, directly impacting annual shrimp landings.

Louisiana commercial blue crab landings for FY 2023-2024 totaled approximately 36.6 million pounds and had a dockside value of $70.4 million (*Figure 4*). Blue crab landings in FY 2023-2024 were negatively impacted by the severe drought in 2023. Blue crab landings in FY 2023-2024 were approximately 14 million pounds below FY 2022-2023 and 8 million pounds lower than the long term average (FY 2000-2024). While blue crab landings decreased, dockside price per pound in FY 2023-2024 was $1.92; FY 2023-2024 price per pound was $0.21 above FY 2022-2023 and $0.82 higher than the long-term average (FY 2000-2024).

Louisiana regularly leads the nation in commercially harvested oyster landings. From 2004 through 2023, Louisiana accounted for 32.7% of the nation's oyster landings. In 2023, Louisiana produced 29% of annual landings by weight (*Figure 5*) and 25.6% by value (*Figure 6*) in the United States. Of the Gulf of Mexico states, Louisiana accounted for 77.6% of the oyster meat production and 80% of the landings value in 2023. Of that production, approximately 7.3% came from public oyster reefs, while private oyster reef landings were 92.7%. Louisiana's total landings in 2023 were reported at approximately 6,068,981 pounds of meat (*Figure 5*), which led the nation for Eastern Oyster annual production. In Louisiana, there are approximately 398,726 acres of state oyster leases. The public oyster areas also yield a supply of market-size oysters (greater than or equal to

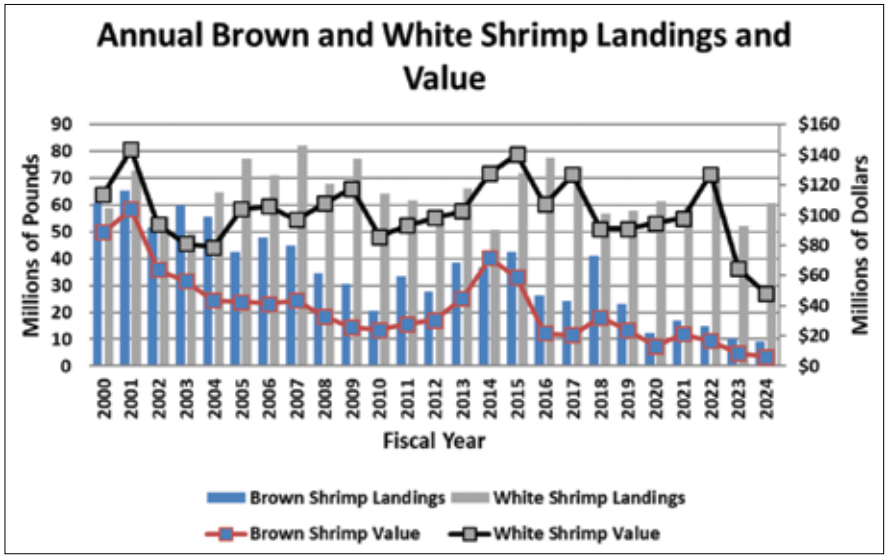


FIGURE 3. *Annual white and brown shrimp dockside landings and value (Source: LWDF trip tic et data).*

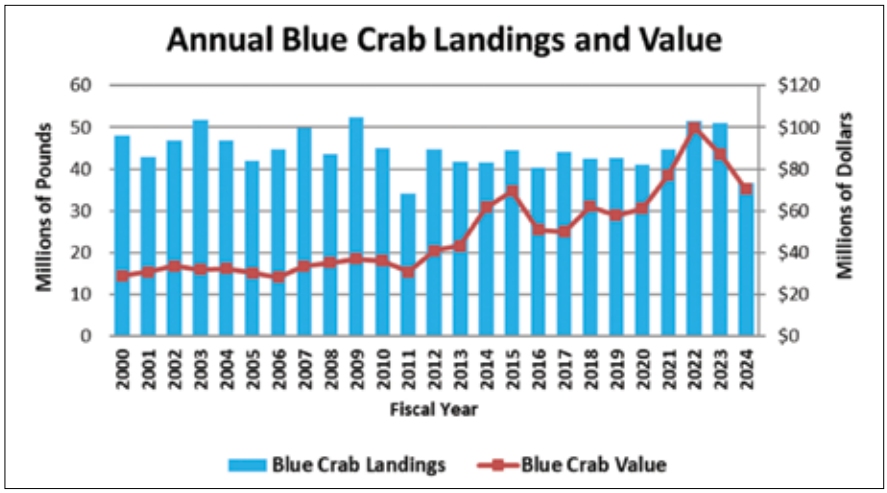


FIGURE 4. *Annual blue crab dockside landings and values (Source: LDWF trip ticket data)*

3 inches in length), which may be taken directly to market during oyster seasons. Louisiana leads the nation in oyster production primarily due to this public/private oyster production system. Louisiana's annual dockside sales have reached as much as $85 million as recently as 2017. The value of Louisiana's 2023 production was $61,631,759 (*Figure 6*). Louisiana's public oyster reef landings have greatly diminished over the last decade. In 2020, the landings from public grounds totaled approximately 34,000 pounds of meat, while private oyster reef landings totaled approximately 3.5 million pounds of meat (99%) of all oyster landings in the state. Total 2020 landings were the lowest ever recorded, a reflection of the unprecedented extreme 2019 floods that impacted the oyster reefs across the state (*Figure 7*). Currently, 2023 combined landings of 6.07 million pounds of meat) indicate a continued recovery. Louisiana's oyster landings are showing an upward trend from 2020; however, the landings have not returned to the 20-year long-term average of approximately 10.7 million pounds of meat (*Figure 7*).

Louisiana commercial freshwater finfish landings for FY 2023-2024 totaled approximately 11.2 million pounds and included common species such as alligator gar, blue catfish, channel catfish, flathead catfish, freshwater drum, buffalo, bowfin, carp and gizzard shad. Total dockside value of these species was approximately $4.7 million. Wild caught crawfish landings in Louisiana for FY 2023-2024 was approximately 2.9 million pounds with a dockside value of $5.8 million.

COMMERCIAL CONVERSION FACTORS

With the exception of oysters, commercial landings are reported as whole weight of the animal in pounds. To achieve this, landings that are not reported as whole weight must be converted from their reported conditions into whole weight. This process utilizes conversion factors specific to the individual species and their reported units and conditions. The conversion factors currently in use were provided to the Gulf States by the National Marine Fisheries Services and have remained unchanged since the inception of Louisiana's Trip Ticket program in 1999.

In June 2019, the Gulf States began a collaborative process to recalculate conversion factors for select species. The species included brown shrimp (*F. aztecus*), white shrimp (*L. setiferus*), pink shrimp (*F. duorarum*) and royal red shrimp (*P. robustus*). The new factors were accepted for use after review and have been implemented retroactively to 1999.

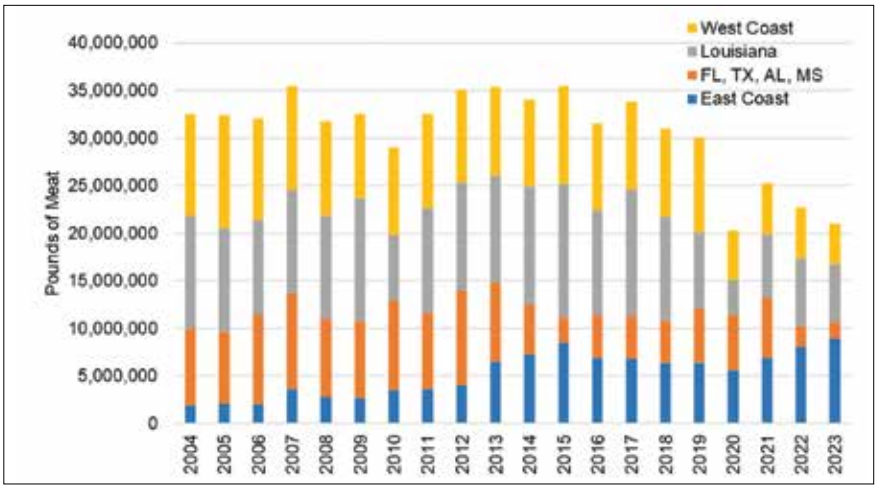


FIGURE 5. *Annual commercial oyster landings (all species) in pounds of meat. Data provided by NOAA Fisheries.*

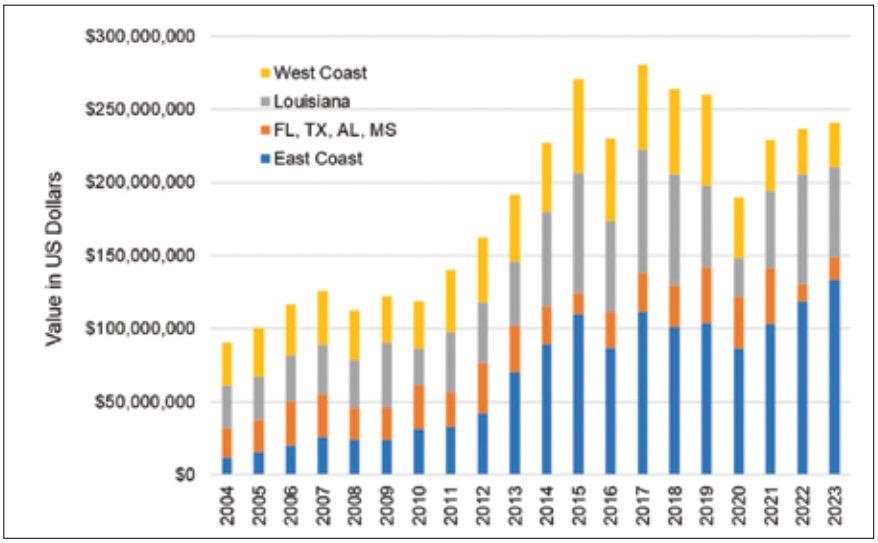


FIGURE 6. *Annual commercial oyster landings (all species) in dockside value. Data provided by NOAA Fisheries.*

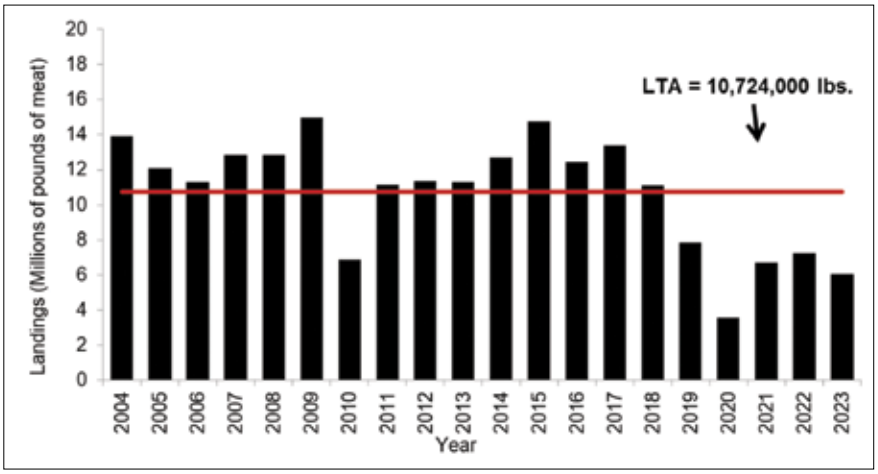


FIGURE 7. *Louisiana oyster landings for public oyster areas and private oyster leases, 2004- 2023 (LDWF and NOAA Fisheries data). Long-term average is 20 years from 2004-2023.*

In August 2022, Louisiana selected red snapper (*L. campechanus*) and black drum (*P. cromis*) as its target species for update. Work was completed in October 2023 and the new conversion factors have been accepted for use. The new factors were accepted for use after review and will be implemented retroactively to 1999.

In January 2024, Louisiana selected blue catfish (*I. furcatus*) and alligator gar (*A. spatula*) as its target species for update. Alligator gar samples have been difficult to obtain and a decision was made to terminate efforts due to a lack of time remaining. Work on creating the new conversion factor will begin when the current sampling period ends.

RECREATIONAL HARVEST

LDWF monitors recreational fisheries through the LA Creel Program and inland creel surveys.

LA CREEL PROGRAM

The LA Creel Program uses dockside interviews of recreational anglers to determine catch and a telephone/email survey to determine fishing effort.

LA Creel Background

Before LA Creel, LDWF participated in the federal creel Marine Recreational Information Program (MRIP). One of the glaring issues with MRIP is its inability to reliably estimate landings at a basin or sub-state level. Another significant problem is the frequency of reporting, which is every two months. LA Creel provides landings estimates by week within seven to ten days of the end of the sample week. In addition, estimates are generate at basin-level. Other concerns with MRIP include insufficient sample size (catch per unit effort, size frequency, age data, etc.), estimates of angler participation (effort) exceeding the number of recreational licenses, and imprecise landings estimates for many species, in particular offshore species. LDWF made several attempts to work with federal authorities to enhance MRIP to make it more useful for state fisheries managers, but no progress was made, which led to the development of its own creel program, LA Creel.

The LA Creel program has attracted the attention of other state fisheries managers who are interested in improving their own creel programs. Alabama and Mississippi managers began consulting with LDWF staff on developing effort surveys based on the LA Creel design. Recently, both states implemented LA Creel-based effort surveys. Additional states, including those along the east coast, have contacted LDWF to learn more about LA Creel to gauge their abilities to run similar programs.

TABLE 8. Dockside assignment distribution per sample week.

BASIN	WEEKLY ASSIGNMENT DISTRIBUTION		
	Weekdays	Weekends	Total
Lake Pontchartrain	2	4	6
Upper Barataria-Mississippi River	2	2	4
Lower Barataria-Mississippi River	2	4	6
Terrebonne-Timbalier	2	3	5
Vermillion-Teche-Mermentau	2	2	4
Sabine-Calcasieu	2	4	6
Total			31

LA Creel Performance

Through the LA Creel program, 10,457 recreational fishing trips (-0.5% vs. previous FY), comprised of 27,569 individual anglers (-1.1% vs. previous FY), were surveyed dockside during FY 2023-2024. Fifty-nine different interviewers completed 1,597 (99.1%) of the 1,612 assignments as drawn during the sample period. Thirteen assignments were canceled because of weather-related state office closures. One assignment was overlooked by staff. One assignment could not be worked as drawn, because the assigned site was inaccessible due to flooding, though staff attempted to make it to the site. Survey forms were lost for two worked assignments. Two more assignments were cut short for different reasons. Three assignments required site substitutions, typically due to temporary site closures or inaccessibility.

The number of assignments per basin per month was determined based on the diversity of fishing activities within each basin as well as the number of sites that experience fishing pressure. Since greater fishing activity occurs on the weekends, assignments for each basin are divided so that weekends are drawn more often than weekdays with the exception of the Vermilion basin which has limited recreational activity compared to other basins (Table 8).

Fish kept by anglers and allowed to be viewed by interviewers are called observation Type 1 fish. Fish in the angler's possession at the time of survey but not seen by the interviewer are classified as observation Type 2 fish. Although shellfish is counted whenever present, LA Creel is concerned with finfish. For that reason, observation figures pertain to finfish only. For FY 2023-2024, 82,089 Type 1 fish (+0.1% vs. previous FY), equaling 80.7% of all fish in possession of the angler at the time of survey, were identified and counted by staff, and 19,666 Type 2 observations were made (-8.3% vs. previous FY).

Ninety-six species were represented among Type 1 fish. Table 9 shows the top five most commonly encountered Type 1 fish.

Table 10 shows the top five species by CPUE (Catch Per Unit Effort) or catch per angler.

TABLE 9. Top five species as counted by LDWF LA Creel staff.

Species	Amount Counted by Staff
Spotted Seatrout	33,387
Red Drum	17,358
Red Snapper	7,771
Sand Seatrout	6,351
Sheepshead	4,034

Certain species returned to the water or caught and used for bait are also recorded. Those species are:

- Black Drum
- Gray Snapper
- Gray Triggerfish
- Greater Amberjack
- King Mackerel
- Largemouth Bass
- Red Drum
- Red Snapper
- Sheepshead
- Southern Flounder
- Spanish Mackerel
- Spotted Seatrout

Fish thrown back because they were under the legal minimum length are coded as Type 3. Fish caught and used as bait during the trip are coded as Type 4. Fish thrown back or given away before being surveyed for any reason not covered by codes 3 and 4, such as too big, not wanted, etc., are coded as Type 5. Discard data is collected as per LDWF's contract with GSMFC. During the same period as provided above, staff recorded 69,587 Type 3 fish, 0 Type 4 fish, and 15,309 Type 5 fish (Table 11). Spotted seatrout comprised 63.0% (43,836) of the Type 3 observations. That is likely contributable to an increase in minimum length and a bag limit decrease on spotted seatrout put in place during the reporting period.

LA Creel Effort Surveys and the ROLP

In addition to the dockside survey, angler effort must be determined to generate harvest estimates. LA Creel uses two separate surveys to determine angler effort. One survey targets charter captains in which 10% of approximately 860 charter license holders and 30% of the roughly 130 charter license holders with a

TABLE 10. Top five species by catch per angler as observed by LDWF LA Creel staff.

Species	Mean Catch/Angler
Spotted Seatrout	4.8
Red Snapper	2.6
Red Drum	2.2
Sheepshead	1.6
Black Drum	1.0
Southern Flounder	0.8

Recreational Offshore Landing Permit (ROLP) are drawn randomly each sample week. The ROLP is a no-fee permit required to possess tunas, billfish, swordfish, amberjacks, groupers, snappers, hinds, cobia, wahoo, dolphinfish, and gray triggerfish in Louisiana waters. The purpose of the ROLP is to increase the chances of drawing anglers who fish offshore for effort surveys. During the reporting period, there were approximately 18,500 active Private ROLP's and approximately 300 active Charter ROLP's. One-hundred percent of ROLP-holding charter captains are drawn during state and federal red snapper seasons. Department staff attempt to contact drawn captains to ask about the number of charter trips taken during the sample week, how many paying customers were on each trip, and what basin the trip occurred in. During FY 2023-2024, 922 unique captains were drawn 7,029 times. Of those 7,029 draws, 4,241 (60.3%) received responses.

The other effort survey pertains exclusively to private anglers. Each sample week, not including weeks within red snapper seasons, 1,600 Louisiana recreational saltwater fishing license holders are drawn randomly for participation in the effort survey. Twelve hundred of the 1,600 are derived by drawing 300 licensed anglers from each of LA Creel's four regions to generate landings estimates. A separate random selection of 400 is made from ROLP holders. During red snapper seasons, the number of private ROLP anglers drawn for the effort survey increases from 400 to 800. A service contracted by LDWF is tasked with contacting drawn license holders to ask questions, such as basin fished in, number of trips taken, and any saltwater fishing trips they may have taken during the sample week. During FY 2023-2024, 49,316 contacts were made with Louisiana recreational saltwater fishing license holders to collect private saltwater fishing effort. That means 50.3% of the 98,000 private effort draws were contacted. The number of trips taken during the reporting period is in Table 12.

Bowfishing Permit

A no-fee Bowfishing Permit is required for private anglers aged 18 years and older taking or attempting to take saltwater recreational fish with bowfishing gear or engaging in bowfishing activity south of the designated saltwater line. The permit is not required for spearfishing activities. Charter captains, including those fishing from vessels with a valid federal charter/headboat permit, are required to have a valid Charter Bowfishing Permit to take clients on bowfishing trips. A Charter Bowfishing Permit covers all paying anglers on a charter trip. A Charter Bowfishing Permit is also valid for the captain on any private, recreational bowfishing trips he may take. Like the ROLP, Bowfishing Permits are available online only. Charter clients are not required to possess a Bowfishing Permit. The Bowfishing Permit is used to gauge the prevalence of this method of taking fish.

Efforts were initiated to incorporate the ROLP and Bowfishing Permit into the LA Wallet app. The permits will be displayed under the LDWF license tab.

LA Creel Customer Service

A single phone number and email address were created for ROLP customer service during the reporting period. The arrangement replaced the three phone numbers and email addresses used previously.

TABLE 11. Discard observations as reported by anglers.

Species	3: Undersize	3: Other	Grand Total
Spotted Seatrout	43,836	1,428	45,264
Red Drum	16,773	10,266	27,039
Black Drum	3,889	1,599	5,488
Red Snapper	4,607	230	4,837
Sheepshead	284	982	1,266
Southern Flounder	29	525	554
Largemouth Bass	40	149	189
Grey Snapper	96	50	146
Greater Amberjack	20	41	61
Gray Triggerfish	13	32	45
Spanish Mackerel		7	7

LA Creel survey

LA Creel Annual Meeting

Once a year, LA Creel staff come together to discuss the previous year's data, upcoming changes, and issues. The meeting for this reporting period was held on December 14, 2023, at the LSU Center for River Studies in downtown Baton Rouge. The facility is home to one of the world's largest movable bed physical models- the Lower Mississippi River Physical Model. With a large portion of Marine staff stationed on either side of the Mississippi River, the model was an educational opportunity. Besides the LA Creel discussion, the agenda also included updates on spotted seatrout and red drum management and black drum conversation. Approximately fifty Marine staff attended the meeting.

The Inland creel procedures were developed in order to increase the number of completed freshwater angler interviews, facilitate consistent methodology across all Inland

TABLE 12. Number of saltwater fishing trips taken, after effort expansion.

Activity	Total
Charter - Inshore	140,011
Charter - Offshore	24,555
Private - Inshore	1,488,381
Private - Offshore	65,941
	1,718,888

TABLE 13. Louisiana Freshwater Creel Surveys of bass and crappie anglers for calendar year 2023.

2023 CALENDAR YEAR					
Angler Type	Interviews	Anglers	Average Trip Length (Hours)	Average Catch Per Trip	Average Harvest Per Trip
Largemouth Bass	1,158	2,000	4.70	3.11	0.92
Crappie	234	346	4.23	8.64	4.93
Total	***1,392***	***2,346***	***4.63***	***3.93***	***1.51***

waterbodies, and enable more accurate characterization of angler activities within a waterbody. If a survey is being conducted on a waterbody in a given year, a survey sample schedule is generated for each waterbody for all 12 months.

Creel surveys put the fisheries biologists in direct contact with the anglers. Information collected includes species sought and species caught, distance traveled, time fished, number caught and released, and length and weight measurements of all black bass and crappie harvested. Inland creel surveys are generally conducted over a calendar year. Three recreational creel surveys were conducted on inland waters in 2022. The waterbodies surveyed include Black and Clear Lakes, Indian Creek Reservoir (begun in May due to drought), and Spring Bayou (begun in September to monitor drawdown). Inland creel surveys are used to determine average angler preferences, catch rates, and harvest rates in inland waters, which influence regulations when combined with biological data. Combined statistics for calendar year 2022 are reported in Table 13.

ASSESSMENT

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 evaluating the benefits of regulations.

STOCK ASSESSMENT

Marine

LDWF began work in 2023 transitioning finfish stock assessments for Black Drum, Sheepshead, Southern Flounder, and Striped Mullet from the Age Structured Assessment Program into the age and length-structured Stock Synthesis 3 Model. Stock Synthesis is an integrated stock assessment analysis model that allows data to be input with minimal preprocessing and incorporates the critical stock processes (growth, mortality, selectivity, etc.) that operate together to produce observed fishery and survey catches along with the corresponding size/age compositions. Time-series of environmental data can also be included in the Stock Synthesis 3 Model. Time-series of fishery catches, fishery-independent relative abundance indices, and the corresponding size/age compositions are the primary model inputs for these assessments. The Stock Synthesis 3 Model assessments of black drum, sheepshead, southern flounder and striped mullet will be completed in the fall/winter of 2024.

LA Creel

The Stock Assessment Section continues to provide weekly marine recreational landings estimates from the LA Creel Survey to marine fishery managers.

Inland

Fishery-independent and fishery-dependent surveys are being conducted on Louisiana waterbodies with important largemouth bass and crappie fisheries to provide information to inland fishery managers to make science-based management decisions (*Table 14*). Fishery-independent surveys are conducted for three consecutive years on each waterbody to provide population-specific information. A creel survey is conducted one of these years to provide fishery-specific information.

Inland assessment analyses include estimation of important population and fishery metrics (growth, mortality, harvest and catch rates) and the use of population models to simulate each fishery's response to size regulations. Results provide information to inland fishery managers to better understand the effects of current harvest regulations on their fisheries, while also providing a baseline to compare future regulation changes against. Final project reports are available for waterbodies with completed sampling, describing the status of each waterbody's largemouth bass (or crappie) population and fishery, as well as a comparison of population and fishery characteristics among all waterbodies included in this project.

TABLE 14. Schedules of Louisiana Largemouth Bass and Crappie Stock Assessments - 34 waterbodies.

Waterbody	Largemouth Bass Assessment	Crappie Assessment
Atchafalaya Basin	2009 - 2011 2017 - 2019	
Black-Clear Lakes	2010 - 2012 2021 - 2023	2021-2023
Blind River Complex	2018 - 2020	
Bundick Lake	2015 - 2017	2012 - 2014
Caddo Lake	2011 - 2013	2010 - 2012
Calcasieu River	2012 - 2014	
Cane River	2015 - 2017	
Caney Creek Reservoir	2014 - 2016	2014 - 2016
Chicot Lake	2010 - 2012 2020 - 2022	
Cross Lake	2010 - 2012 2019 - 2021	2010 - 2012
D'Arbonne Lake	2010 - 2012	2010 - 2012 2019 - 2021
False River	2010 - 2012	
Grand Bayou Reservoir	2015 - 2017	2015 - 2017
Henderson Lake	2017 - 2019	2022 - 2024
Iatt Lake	2013 - 2015	
Indian Creek Lake	2020 - 2022	2020 - 2022
Lacassine Pool NWR	2017 - 2019	
Lake Bistineau	2016 - 2018	2016 - 2018
Lake Bruin	2013 - 2015	2013 - 2015
Lake Cataouatche	2010 - 2012	
Lake Claiborne	2024 - 2026	
Lake Concordia	2010 - 2012	
Lake Fausse Point		2013 - 2015
Lakes Grassy, Verret, Palourde	2015 - 2017	
Larto-Saline Lakes	2015 - 2017	2009 - 2012 2020 - 2022
Poverty Point Reservoir	2010 - 2012 2023 - 2025	2010 - 2012 2022 - 2024
Raccourci	2015 - 2017	2009 - 2013
Red River (Pool 5)		2013 - 2015
Red River (Pools 1-5)	2013 - 2015	
Sibley Lake		2015 - 2017
Spring Bayou	2018 - 2020	2016 - 2018
Toledo Bend Reservoir	2010 - 2012 2018 - 2020	2009 - 2011
Turkey Creek Lake	2016 - 2018	2016 - 2018
Vernon Lake	2010 - 2012 2024-2026	2009 - 2011

Publications
2023 Stock Assessment Report of the Public Oyster Seed Grounds and Reservations of Louisiana Oyster Data Report Series No. 29. Louisiana Department of Wildlife and Fisheries.

MANAGEMENT PLANS

INLAND WATERBODY MANAGEMENT PLANS

Inland Waterbody Management Plans provide a detailed compilation of lake description, history, authorities, synopsis of fisheries and vegetation sampling data, analyses, corrective measures needed, and recommended actions. During FY 2023-2024, the following 15 management plans were updated and approved. A total of 80 management plans are now available to the public on the LDWF website.

Waterbody management plan updates completed during FY 2023-2024 and available to the public on the LDWF website:

- Amite River
- Anacoco Lake
- Bayou Plaquemine
- Black and Clear Lake
- Bayou Bon Idee
- False River
- Henderson Lake
- Indian Creek Reservoir
- Lower Pontchartrain Subbasin
- New Orleans City Park
- Poverty Point Reservoir
- Saline Lake
- Spanish Lake
- Tangipahoa River
- Vernon Lake

INLAND VEGETATION MANAGEMENT PLANS

Inland Vegetation Management Plans provide a detailed compilation of lake description, vegetation history and current status, management limitations, implemented plant control measures, and recommended actions. During FY 2023-2024, 27 vegetation management plans were completed and/or updated, approved, and posted on our website.

MARINE FISHERY MANAGEMENT PLANS

LDWF has been developing new and updating existing fishery management plans to provide a mechanism to strategically implement science-based management recommendations for proactively responding to and 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 created a document to guide the development of future fishery management plans to ensure they are consistent with federal fisheries conservation and management practices and international best management practices, mainly applicable principles and standards of the United Nations Food and Agriculture Organization's Code of Conduct for Responsible Fisheries.
- Using the guidance document referenced before, LDWF previously completed new fishery management plans for black drum, spotted seatrout, and southern flounder. Staff review new research and monitoring information for these species every year, document progress toward fishery management goals, and will fully review and revise management plans every five years, or sooner if necessary. Currently, the shrimp fisheries management plan, the red drum fisheries management plan, and sheepshead fisheries management plans are being updated. The blue crab and fisheries management plans were updated and published in 2022 and the southern flounder fisheries management plan was updated and published in 2023. LDWF will prioritize development of additional new fishery management plans for other species based on commercial, recreational and ecological significance and management needs.
- These fishery management plans are also complemented by United Nations Food and Agriculture Organization-based self-assessments to document consistency with best management practices and identify any potential gaps in information or management to address in future plan updates.

MANAGEMENT RECOMMENDATIONS

Through utilization of the previously mentioned recreational and commercial sampling techniques, fisheries managers then analyze the resulting data to develop recommendations to manage 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

Greater flexibility in managing the shrimp resource is now provided through the use of a basin type management approach, as opposed to the historical zone approach. Louisiana's major estuarine basins include the Pontchartrain Basin, Mississippi River Basin, Barataria Basin, Terrebonne Basin, Atchafalaya River Basin, Vermilion-Teche River Basin, Mermentau River Basin, Calcasieu Basin and Sabine River Basin.

Based on analysis of historical 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 Louisiana Wildlife and Fisheries Commission. These measures were implemented during FY 2023-2024.

Lake Pontchartrain Basin and Portions of Mississippi River Basins

2023 - Fall Inshore Shrimp Season

Opened at 6:00 a.m. Aug. 7, 2023, from the MS/LA state line westward to the eastern shore of South Pass of the Mississippi River, except in the following area, which opened at 6:00 a.m. Aug. 16, 2023:

- The portion of the Lake Pontchartrain Basin known as the Biloxi Marsh.

Closed at official sunset Dec. 18, 2023, from the MS/LA state line westward to eastern shore of South Pass of the Mississippi River, except for the following waters:

- Lake Pontchartrain, Chef Menteur and Rigolets Passes, Lake Borgne, Mississippi Sound, MRGO, a section of the Gulf Intracoastal Waterway (GIWW) in Orleans parish from the GIWW East Closure Sector Gate westward to the GIWW intersection with the Inner Harbor Navigation Canal, and the open waters of Breton and Chandeleur Sounds as bounded by the double-rig line described in R.S. 56:495.1(A)2.

Closed at official sunset Feb. 2, 2024, in Lake Pontchartrain, Chef Menteur and Rigolets Passes, Lake Borgne, MRGO, and a section of the GIWW in Orleans parish from the GIWW East Closure Sector Gate westward to the GIWW intersection with the Inner Harbor Navigation Canal, except for the following waters:

- The open waters of the Louisiana portion of Mississippi Sound: beginning at a point on the Mississippi/Louisiana state line at 30 degrees 10 minutes 21.95 seconds north latitude, 89 degrees 26 minutes 12.99 seconds west longitude; thence southerly to a point at 30 degrees 08 minutes 03.07 seconds north latitude, 89 degrees 26 minutes 27.05 seconds west longitude; thence southwesterly to a point at 30 degrees 04 minutes 40.57 seconds north latitude, 89 degrees 28 minutes 46.59 seconds west longitude; thence southeasterly to a point on the western shore of Three-Mile Pass (30 degrees 03 minutes 00.00 seconds north latitude, 89 degrees 22 minutes 23.00 seconds west longitude); thence northeasterly to a point on Isle Au Pitre (30

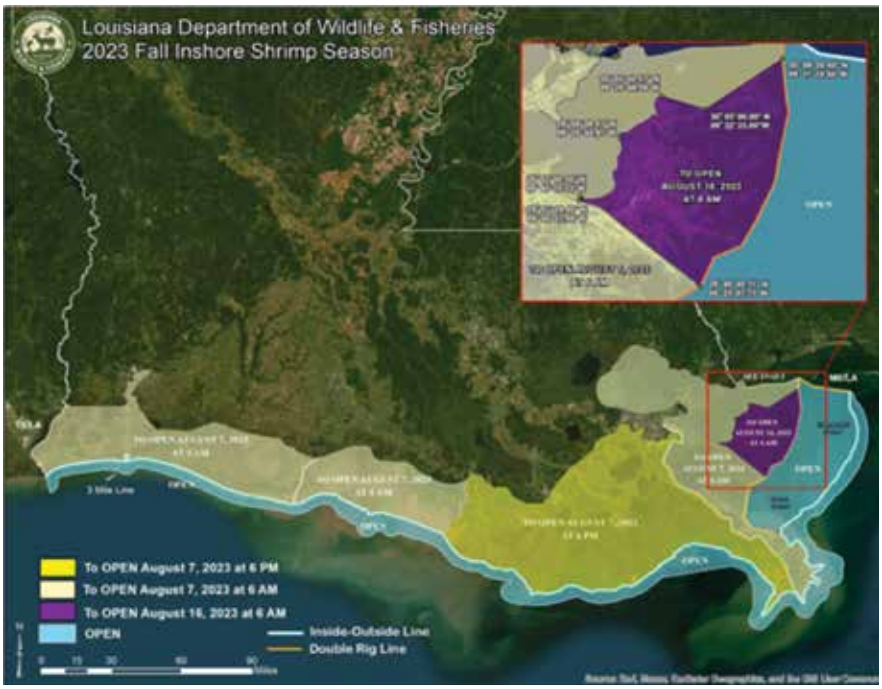


FIGURE 8. 2023 Fall Inshore Shrimp Season Opening Map.

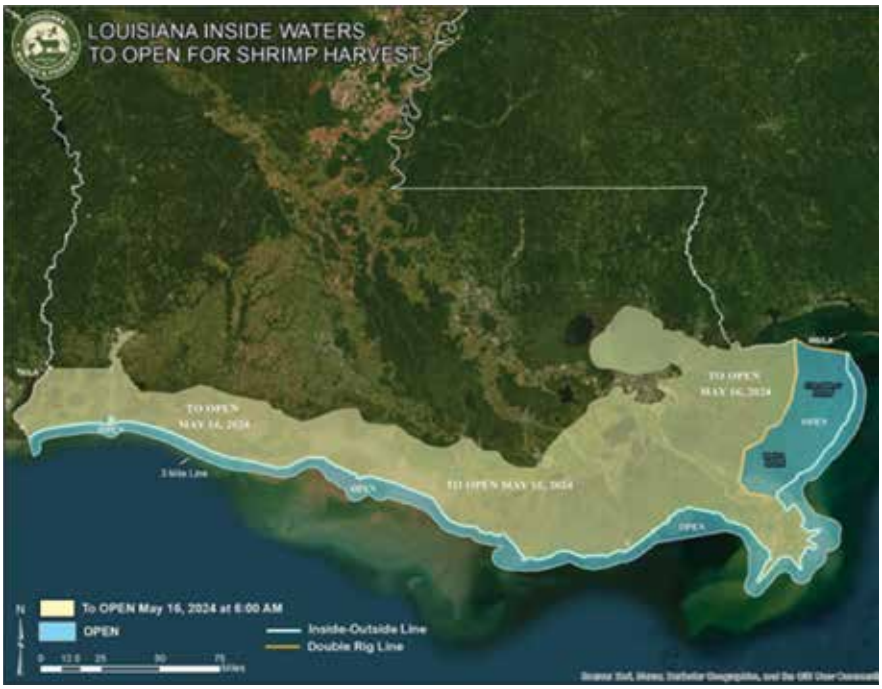


FIGURE 9. 2024 Spring Inshore Shrimp Season Opening Map.

degrees 09 minutes 20.50 seconds north latitude, 89 degrees 11 minutes 15.50 seconds west longitude), which is a point on the double–rig line as described in R.S. 56:495.1(A)2; thence northerly along the double-rig line to the Mississippi/Louisiana state line (30 degrees 12 minutes 37.90 seconds north latitude, 89 degrees 10 minutes 57.97 seconds west longitude); thence westerly along the Mississippi/Louisiana state line to the point of origin; and

- The open waters of Breton and Chandeleur Sounds as bounded by the double-rig line described in R.S. 56:495.1(A)2.

Closed at official sunset Feb. 25, 2024, in the open waters of the Louisiana portion of Mississippi Sound except for the following waters:

- The open waters of Breton and Chandeleur Sounds as bounded by the double-rig line described in R.S. 56:495.1(A)2.

2024 - Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 16, 2024, from the MS/LA state line westward to the eastern shore of South Pass of the Mississippi River.

Closed at 6:00 p.m. July 1, 2024, from the MS/LA state line westward to the eastern shore of South Pass of the Mississippi River, except for the following areas:

- The open waters of Breton and Chandeleur Sounds as bounded by the double-rig line described in R.S. 56:495.1(A)2.

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

2023 - Fall Inshore Shrimp Season

Opened at 6:00 p.m. Aug. 7, 2023, from the eastern shore of South Pass of the Mississippi River westward to the Atchafalaya River Ship Channel Buoy Line.

Opened at 6:00 a.m. Aug. 7, 2023, from the Atchafalaya River Ship Channel Buoy Line westward to the western shore of Freshwater Bayou Canal.

Closed at official sunset Dec. 18, 2023, from the eastern shore of South Pass of the Mississippi River westward to the western shore of Freshwater Bayou Canal.

2024 - Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 16, 2024, from the eastern shore of South Pass of the Mississippi River westward to the western shore of Freshwater Bayou Canal.

Closed at 6:00 p.m. July 1, 2024, from the eastern shore of South Pass of the Mississippi River westward to the western shore of Freshwater Bayou Canal.

Mermentau, Calcasieu and Sabine River Basins

2023 - Fall Inshore Shrimp Season

Opened at 6:00 a.m. Aug. 7, 2023, from the western shore of Freshwater Bayou Canal westward to the LA/TX state line.

Closed at official sunset Dec. 18, 2023, from the western shore of Freshwater Bayou Canal to the LA/TX state line.

2024 - Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 16, 2024, from the western shore of Freshwater Bayou Canal westward to the LA/TX state line.

Closed at 6:00 p.m. July 1, 2024, from the western shore of Freshwater Bayou Canal westward to the LA/TX state line.

Offshore Shrimp Seasons

Closed at official sunset Jan. 15, 2024, in the following waters:

- The portion of state outside waters between Caillou Boca and Freshwater Bayou Canal. The eastern boundary line originates on the northwest shore of Caillou Boca at 29 degrees 02 minutes 46.00 seconds north latitude, -90 degrees 50 minutes 27.00 seconds west longitude and ends at a point on the three-mile line as described in R.S. 56:495(A) at 28 degrees 59 minutes 30.00 seconds north latitude, -90 degrees 51 minutes 57.00 seconds west longitude. The western boundary line originates on the western shore of Freshwater Bayou Canal at 29 degrees 32 minutes 03 seconds north latitude, -92 degrees 18 minutes 33 seconds west longitude and ends at a point on the three-mile line as described in R.S. 56:495(A) at 29 degrees 29 minutes 02 seconds north latitude, -92 degrees 19 minutes 34 seconds west longitude.

Opened at 6:00 p.m. April 4, 2024, in the following waters:

- The portion of state outside waters between Caillou Boca and Mound Point on Marsh Island. The eastern boundary line originates on the northwest shore of Caillou Boca at 29 degrees 02 minutes 46.00 seconds north latitude, -90 degrees 50 minutes 27.00 seconds west longitude and ends at a point on the 3-mile line as described in R.S. 56:495(A) at 28 degrees 59 minutes 30.00 seconds north latitude, -90 degrees 51 minutes 57.00 seconds west longitude. The western boundary line originates on the inside/outside line at the southernmost point of Mound Point on Marsh Island at 29 degrees 28 minutes 28.30 seconds north latitude, -91 degrees 49 minutes 19.00 seconds west longitude and ends at a point on the 3-mile line as described in R.S. 56:495(A) at 29 degrees 22 minutes 01.67 seconds north latitude, -91 degrees 49 minutes 19.00 seconds west longitude.

Opened at 6:00 a.m. April 15, 2024, in the following waters:

- The portion of state outside waters between Mound Point on Marsh Island and Freshwater Bayou Canal. The eastern boundary line originates on the inside/outside line at the southernmost point of Mound Point on Marsh Island at 29 degrees 28 minutes 28.30 seconds north latitude, -91 degrees 49 minutes 19.00 seconds west longitude and ends at a point on the three-mile line as described in R.S. 56:495(A) at 29 degrees 22 minutes 01.67 seconds north latitude, -91 degrees 49 minutes 19.00 seconds west longitude. The western boundary line originates on the western shore of Freshwater Bayou Canal at 29 degrees 32 minutes 03.00 seconds north latitude, -92 degrees 18 minutes 33.00 seconds west longitude and ends at a point on the three-mile line as described in R.S. 56:495(A) at 29 degrees 29 minutes 02.00 seconds north latitude, -92 degrees 19 minutes 34.00 seconds west longitude.

BLUE CRAB MANAGEMENT

The Louisiana blue crab fishery is the largest blue crab fishery in the United States and accounts for more than three quarters of the total blue crab harvest in the Gulf of Mexico. Landings of blue crab in Louisiana averaged 44.6 million pounds annually (fiscal year) from 2000-2024. The dockside value of the harvest over that same time period averaged approximately $48.9 million annually (prices not adjusted for inflation).

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, minimum size limit, time, gear, and area restrictions.

Blue Crab Stock Assessment

The most recent stock assessment for blue crab was in early 2022. Model estimates in 2022 confirmed that the Louisiana blue crab stock is currently not overfished or experiencing overfishing.

Blue Crab Stock Legislation

No legislative actions impacting the blue crab fishery took place in FY 2023-2024.

Derelict Crab Trap Removal Program

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, potentially increasing the number of crabs available for harvest by preventing crab mortalities in abandoned, out-of-use traps.

In 2023, the Louisiana Wildlife and Fisheries Commission promulgated a rule defining six distinct derelict crab trap closure areas for 2024. The closure areas and dates were as follows:

1. Pontchartrain Basin (Biloxi Marsh): Feb. 1-14, 2024
2. Barataria Basin: Feb. 1-14, 2024.
3. Terrebonne Basin: Feb. 1-14, 2024
4. Vermilion-Teche Basin: Feb. 1-14, 2024
5. Mermentau Basin: Feb. 1-14, 2024
6. Pontchartrain Basin (Lake Maurepas): Feb. 26- March 6, 2024.

LDWF partnered with Coastal Mapping and Sciences LLC, to enhance the removal of derelict crab traps within the Terrebonne and Pontchartrain closure areas. With this partnership, a total of 2,142 derelict crab traps were removed from Louisiana's coastal waters in FY 2023-2024.

Since the inception of the program in 2004, LDWF and volunteers have removed over 57,000 derelict or abandoned crab traps from state waters (*Table 15*). The largest numbers of traps removed from state waters came during the program's first two years. From 2006-

***TABLE 15.** Number of crab trap closures and numbers of traps removed annually.*

YEAR	AREA(S)	TRAPS
2004	2	6,894
2005	4	4,623
2006	1	2,935
2007	2	1,495
2008	1	1,234
2009	1	788
2010	1	477
2011	1	1,100
2012	2	2,798
2013	2	969
2014	1	1,051
2015	1	422
2016	3	2,580
2017	6	5,674
2018	5	4,061
2019	5	4,041
2020	6	4,188
2021	4	5,163
2022	4	815
2023	4	3,974
2024	6	2,142
Total	***62***	***57,424***

***TABLE 16.** Average annual number of traps removed.*

YEAR	AREA(S)	AVG. TRAPS
2004-2005	6	5,758
2006-2016	16	1,441
2017-2024	40	3,757

2016 the number of closure areas was reduced to focus on one area at a time, which resulted in fewer traps being removed annually. Since 2017, the abandoned crab trap program has expanded with more closure areas annually and the amount of traps removed has greatly increased (*Table 16*). During the 11-year period (2006-2016), the annual derelict crab traps removed averaged over 1,400, while more recent years indicate an average of nearly 3,800.

OYSTER MANAGEMENT

Oysters provide both important economic and ecological benefits to Louisiana. They act as indicators 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 ecological 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 Mollusk Program is responsible for the oyster resource on nearly 1.7 million acres of Public Oyster Seed Reservations, Public Oyster Seed Grounds and Public Oyster Areas. Seed grounds are designated by the Louisiana Wildlife and Fisheries Commission and include a large continuous area east of the Mississippi River as well a portion 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).

State laws allow LDWF to open the oyster season on Louisiana public seed grounds on the first Wednesday following Labor Day of each year and close areas no later than April 30 of the following year. However, the Louisiana Wildlife and Fisheries Commission is authorized to extend the season beyond April 30, provided sufficient stocks are available for harvest. The Secretary of LDWF may close seasons or areas as needed, based on biological data or enforcement related issues. The Secretary of LDWF is also authorized to take emergency action to reopen areas previously closed if the threat to the resource has ended and areas have substantial oyster resources remaining; and can delay openings or close areas showing significant spawning events. Management practices often use rotational openings of the four Public Oyster Seed Reservations in alternating years. The Public Oyster Seed Grounds may be opened to the harvest of seed oysters for bedding purposes between the first Wednesday following Labor Day and the second Monday in October; after which the public grounds may be opened to harvest of market-size oysters.

***FIGURE 10.** 2023-2024 Oyster Season.*

Figure 10 shows the locations across the state that were opened during the 2023-2024 oyster season. The Calcasieu Lake Public Oyster Area was opened solely for sacking of market size oysters. The West Cove area opened one-half hour before sunrise on Sunday, Oct. 15, 2023, and East Cove was opened one-half hour before sunrise on Monday, Jan. 1, 2024. The Sister Lake Public Oyster Seed Reservations and Vermilion/East and West Cote Blanche Bay/Atchafalaya Bay Public Oyster Seed Grounds opened for bedding purposes only one half-hour before sunrise on Monday, Oct. 9, 2023, and closed one half-hour after sunset that same day. The Sister Lake Public Oyster Seed Reservations as described in R.S. 56:434, opened for sacking of market oysters for direct sale at one-half hour before sunrise on Tuesday, Oct. 10, 2023, and closed to the harvest of market oysters at one-half hour after sunset on Monday, Oct. 30, 2023. Bay Gardene Public Oyster Seed Reservation, Vermilion/East, West Cote Blanche Bay/Atchafalaya Bay Public Oyster Seed Grounds, including all areas east of Mississippi River, Louisiana Department of Health Shellfish Harvest Areas 1, 2, 3, 4, 5, 6, 7, opened for sacking of market-size oysters only one half-hour before sunrise on Monday, Nov. 13, 2023, and closed at one-half hour after sunset on Monday, April 1, 2024. Two reefs in Public Oyster Seed Grounds in the Mississippi Sound, Three Mile Pass cultch plant and Shell Point, closed on Dec. 3, 2023, due to harvest thresholds being reached. Also, the Sister Lake Public Oyster Seed Reservation was reopened twice in March 2024 for a total of 14 days, due to the growth of a large abundance of seed oysters into larger marketable sizes.

The goal for the 2023-2024 oyster season was to allow for sustainable market harvest, check the effectiveness of the new eReporting application used for the daily reporting requirement, determine if daily reporting provides accurate harvest estimates, and minimize over harvest and reef degradation. The 2023-2024 Oyster Season opened on Oct. 15, 2023, and closed on April 30, 2024 (*Table 17*).

The estimated commercial harvest totaled 95,738 sacks of oyster resource for all public oyster grounds. This was a 218% increase from the 2022-2023 oyster season, which only recorded 30,096 sacks harvested. Over the past 10 years, heavy localized harvest, high mortality events, strong tropical events, environmental changes, and lack of recruitment have contributed to an ongoing downturn in the oyster resource on the public seed grounds. The 2023 Oyster Stock Assessment showed a 118% increase in oyster resource availability from the previous year, which resulted in opened seasons in CSA 1 North, CSA 1 South, CSA 5, CSA 6, and CSA 7. These areas have seen few openings in past years due to low oyster populations and on-going restoration efforts.

TABLE 17. 2023-2024 Public oyster area season dates and estimated harvest based on biologists' surveys of oyster boats and dealer calls.

2023-2024 LDWF OYSTER SEASON SUMMARY								
CSA	Area	Season Opening	Season Closure	Season/Type	Days Open	Harvest (Sacks)	2023 OSA Available (sacks)	% Harvested
1	POSG East of Mississippi River and North of MRGO	Nov. 13	April 1	Market Harvest	140	10,385	42,570	24%
	POSG East of Mississippi River and South of MRGO	Nov. 13	April 1	Market Harvest	140	3,079	42,872	7%
3	Hackberry Bay	CLOSED						
	Little Lake, Barataria Bay							
5	Deep Lake, Lake Chien, Lake Felicity and Lake Tambour	CLOSED						
	Bay Junop, Lake Mechant							
	Sister Lake	Oct. 9	Oct. 9	Bedding Harvest	1	7,300	333,462	2.2%
		Oct. 10	Oct. 30	Market Harvest	20	69,288	350,968	19.7%
		Mar. 4	Mar. 10	Market Harvest	5			
		Mar. 22	Mar. 28	Market Harvest	5			
6	Vermilion Bay/East and West Cote Blanche Bay/ Atchafalaya Bay Public Oyster Seed Grounds	Oct. 9	Oct. 9	Bedding Harvest	1	0	14,398	0%
		Nov. 13	April 1	Market Harvest	140	0	9,060	0%
7	Calcasieu Lake	Jan. 1	April 30	East Side: Market Harvest	121	1,738	28,703	6%
		Oct. 15	April 30	West Cove: Market Harvest	204	3,948	578,683	0.7%

For the 2023-2024 oyster season, a daily reporting stipulation was again put in place by the Commission for oyster harvesters to provide their harvest data to LDWF if collecting from the state's public oyster areas. Vessels were required to provide the following information: Captain's name, oyster harvester number, boat number, total number of sacks harvested that day, and the public oyster area fished. An electronic reporting option was added for this season, in addition to the option to call 1-800-442-2511, to submit harvest reports. Electronic reporting was done through the e-Reporting application via smart phone. The eReporting app is supported by both iOS and Android. Fishermen had to download the app from these links at the Apple Store or Google Play Store then create an account using an email. The registration page required a name, commercial fishing license number, and type of license to register. Once the account was created, the fisherman added their vessels. This daily reporting did not substitute for trip ticket reporting. The daily reporting requirement was evaluated by the total amount of reported harvest compared to the boarding run harvest reports produced by the biologists in the Coastal Study Areas. For the 2023-2024 oyster season, harvest reporting compliance was 98%. Additionally, daily vessel reporting compliance was calculated by using the number of unique vessels observed by biologists during a boarding run versus the number of vessels reporting for that area each day. The vessel reporting compliance can only be determined on LDWF boarding run days and provides a good estimate of the percentage of vessels reporting each day during the season. For the 2023-2024 oyster season, the daily vessel reporting compliance average was 81%.

The Leveraging Opportunities and Strategic Partnerships to Advance Tolerant Oysters for Restoration (LO-SPAT) project is a collaboration among three public universities, the University of Louisiana at Lafayette, the U.S. Geological Survey (USGS)/LSU Agricultural Center, and the University of Maryland Horn Point Laboratory. LDWF is managing the LO-SPAT contract and the Oyster Program is monitoring the progress and goals for this endeavor. The LO-SPAT project goal is to contribute to the Louisiana Coastal Master Plan by facilitating the long-term restoration of oyster reefs with a population of oysters capable of surviving the low-salinity conditions along the LA coast. The collaboration is building upon past research that phenotypic evidence suggests variation in tolerance to lower salinities in Louisiana estuaries and that this low salinity tolerance is heritable. Tools for the effective genotyping of oysters to enable genomic selection have recently been developed, which will allow oyster production to advance with modern approaches to selective breeding. LO-SPAT expanded the Mozambique Point broodstock reef by 5.5 acres with 1,925 tons of limestone to prepare for spat-on-shell deployments. LO-SPAT deployed 119 cubic yards of spat-on-shell with a conservative estimate of 941,026 oysters. The spat-on-shell larvae were derived from offspring of the survivors of the first low-salinity challenge experiment, where approximately 100 out of 2,100 oysters survived 44 days at a salinity of 2 Practical Salinity Units at 28°C. The Mozambique Point site was monitored by contractor at six months post-deployment in February 2024. The sampling showed an average population density of 69 oysters/m^2 within the deployment acreage. LO-SPAT expanded the Karako Bay broodstock reef by 6.2 acres with 2,182 tons of limestone to prepare for spat-on-shell deployments. LO-SPAT deployed 56 cubic yards of spat-on-shell using 15 million larvae with an estimated 600,000 oysters selected for better tolerance of lower salinities. LO-SPAT continued to refine its genomic selection model by completing a second low salinity challenge in the summer of 2023, with 997 oysters that underwent 62 days at a salinity of two Practical Salinity Units at 28°C. Genomic-selected oyster broodstock have been spawned and LO-SPAT will be conducting laboratory and field trial testing of the oysters' low salinity tolerance and their survivability to other environmental factors over the next year.

Oyster Cultch Plant and Brood Reef Projects

All reef construction, water bottom assessment, and reef monitoring were funded through various sources, including 2019 Flood Disaster funding, localized oil spill mitigation funding, and Deepwater Horizon Natural Resource Damage Assessment (NRDA)

settlement dollars, to help restore for injuries that occurred as a result of various oyster population impacts. The Louisiana Trustee Implementation Group (LA TIG) approved 26 million dollars in oyster projects, including enhancing oyster recovery using brood reefs, cultch-plant oyster restoration, and hatchery-based oyster restoration.

In October 2023, LDWF completed construction of a 25-acre oyster reef in Calcasieu Lake (East Side) to increase oyster habitat and fisheries production. This project is part of the Damage Assessment and Restoration Plan and Environmental Assessment for the 2006 Calcasieu River Oil Spill. The primary goal of this project was to create a productive oyster reef on public oyster areas to compensate for injuries to water column organisms from this Incident. The 2023 Calcasieu Lake project placed approximately 17,500 tons of crushed limestone onto the Calcasieu Lake Public Oyster Areas to create a total of 25 acres of artificial oyster reef. Planting design included a 2-inch base layer of material and a grid pattern of 10-inch high elevated rows spaced approximately seventy-five feet apart in order to increase reef height, minimizing the chances of sedimentation and hypoxia-induced mortality.

In August 2023, NOAA approved $58 million in federal disaster assistance for Louisiana's 2019 Flood Disaster Spend Plan, stemming from the historic impacts of the Mississippi and Atchafalaya flooding in 2019. Over $14 million will be used on oyster related projects and restoration, including: cultch plants, Spat on Shell reef restoration, expansion of Alternative Oyster Culture, parish facilitated hydrological projects, and oyster research projects related to the 2020 Oyster Rehabilitation Strategic Plan. In June 2024, LDWF completed construction of a 288-acre oyster reef in Morgan Harbor (St. Bernard Parish). This project was constructed using 2019 Flood Disaster funding. The primary goal of this project was to create oyster reef on public oyster areas in St. Bernard Parish to aid recovery of productive oyster acreage that was stressed and/or diminished by the historic openings of Bonne Carré Spillway in 2018, 2019 and 2020. The 2024 Morgan Harbor project placed approximately 35,400 tons of crushed limestone onto the Morgan Harbor public oyster area to create a total of 288 acres of artificial oyster reef. Planting was done in a manner to create an approximately 4-inch to 12-inch layer of material throughout the project area.

LDWF has four NRDA brood reefs located at Petit Pass, Karako Bay, Lake Machias, and Mozambique Point (Plaquemines and St. Bernard Parishes), are still monitored by contractors to characterize reef performance. The objective of the broodstock reefs is to establish protected oyster reef complexes that can help populate nearby public oyster areas where harvest is not prohibited by rule. Construction costs were paid through federal NRDA funds, which are marked for supporting oyster restoration efforts to offset impacts from the 2010 *Deepwater Horizon* oil spill. These four reefs were projects included in LDWF's "Louisiana Oyster Management and Rehabilitation Strategic Plan." A full contractor assessment of the broodstock reefs is occurring in FY 2024-2025, and will be added to Louisiana's 2024 Oyster Stock Assessment report. Additionally, several more broodstock reefs are being planned around the coast to increase oyster reef productivity and connectivity.

The U.S. Department of Commerce allocated more than $42 million in fishery disaster funding on Jan. 29, 2024, to assist fisheries impacted by disasters. Louisiana was awarded $27.1 million of the total disaster funding for fishing losses caused by hurricanes Laura and Ida. The 2020 Atlantic hurricane season was recorded as the most active hurricane season on record. On Aug. 27, 2020, Hurricane Laura became one of the strongest named storms to make landfall in Louisiana as a Category 4 hurricane. The storm caused extensive damage in the southwest region of Louisiana. A year later, Louisiana suffered devastation from another Category 4 hurricane that made landfall on Aug. 29, 2021. Hurricane Ida ripped through southeast Louisiana with maximum sustained winds of 150 mph. LDWF is still finalizing this disaster-spending plan, which currently features enhanced seafood testing with enforcement considerations and direct payment of federal fishery disaster funds to eligible industry participants.

The LA TIG has funded a three-year oyster metapopulation modeling project that started in the spring of 2023. The project is titled Modeling to Inform Sustainable Oyster Populations in Louisiana Estuaries. The project will enable LDWF to evaluate locations for oyster cultch plants and broodstock reefs to identify particularly productive or else sensitive estuarine areas where restoration will have the highest impact. Generally, the model will enable managers to assess the impacts of enhanced or restored reef location on recruitment to other existing or proposed reefs; larval survival; growth of oysters on existing and proposed reefs; and reef connectivity. This model will enable management of oysters to move from individual reef level to assessment of a network, or meta-population, of reefs under current and future predicted conditions.

MARINE 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 Secretary of LDWF and the Louisiana Wildlife and Fisheries Commission and implemented during FY 2023-2024:

July 2023

- Commercial king mackerel season opened on July 1 at 12:01 a.m., concurrent with a federal opening of the 2023-2024 harvest season.
- Louisiana waters closed to the recreational and commercial harvest of gray triggerfish from June 1- July 31, 2023, concurrent with a closure in federal waters.
- Louisiana waters closed to the recreational harvest of greater amberjack from June 1- Aug. 31, 2023, concurrent with a closure in federal waters.
- At its regular July meeting, the Louisiana Wildlife and Fisheries Commission adopted a Notice of Intent to modify recreational bag (three fish) and size limits (18" to 24", no fish over 24") for red drum and eliminate a guide limit of red drum on charter trips. Public comment was taken through Oct. 5, 2023.
- At its regular July meeting, the Louisiana Wildlife and Fisheries Commission adopted a Notice of Intent to require a Recreational Bow Fishing Permit for any person or charter captain taking or attempting saltwater fish with bow and arrow gear or engaging in bowfishing activity below the saltwater line. Public comment was taken through Oct. 5, 2023.
- The recreational bag limit for red snapper increased to four fish on July 17, 2024.

August 2023

- At its regular August meeting, the Louisiana Wildlife and Fisheries Commission amended a Notice of Intent to modify recreational size and possession limits for spotted seatrout to be a minimum size of 13" and a maximum size of 20" with two fish allowed over 20". The Louisiana Wildlife and Fisheries Commission further amended the Notice of Intent to require the presentation of a new stock assessment by the April 2027 meeting and a Jan. 1, 2028, sunset of the modified limits. The bag limit of 15 fish per person and the elimination of guide limits remained unchanged. A public hear-

ing was held on Sept. 21, 2023, regarding the amended changes and the rule published as final on Nov. 20, 2023.
- Louisiana waters closed to the recreational harvest of greater amberjack on Aug. 25, 2023, concurrent with a closure in federal waters.

October 2023
- At its regular October meeting, the Louisiana Wildlife and Fisheries Commission adopted a Notice of Intent to modify coastal buffer zones for the commercial harvest of menhaden from 1/4 mile to 1/2 mile seaward of the boundary between inside and outside waters. Public comment was taken through Jan. 4, 2024.
- Louisiana waters closed to the commercial and recreational harvest of southern flounder from Oct. 15- Nov. 30, 2023.
- Louisiana waters closed to the recreational harvest of gag grouper on Oct. 19, 2023.
- Louisiana waters opened to the commercial harvest of striped mullet with a mullet strike net on Oct. 16, 2023.
- Louisiana waters closed to the harvest of pompano with strike nets on Oct. 31, 2023.

November 2023
- Louisiana waters closed to the commercial harvest of Gulf menhaden on Nov. 1, 2023
- Louisiana waters opened to the commercial harvest of bait menhaden on Nov. 2, 2023
- New spotted seatrout regulations of 15 fish per person, minimum size of 13", maximum size of 20", only two fish over 20" allowed, and no retention of charter captain or guide limits while on a for-hire trip, went into effect on Nov. 20, 2023.

December 2023
- Louisiana waters closed to the commercial harvest of bait menhaden on Dec. 1, 2023.
- Louisiana waters closed for the commercial harvest of large and small coastal sharks on Dec. 31, 2023, concurrent with a closure in federal waters.
- Louisiana waters closed for the commercial fishery for the harvest of spotted seatrout closed on Dec. 31, 2023.
- Louisiana waters and federal waters off Louisiana closed to the private recreational and state charter harvest of red snapper on Dec. 31, 2023.

January 2024
- Louisiana waters opened to the commercial harvest of small and large coastal sharks opened on Jan. 1, 2024, concurrent with an opening in federal waters.
- Louisiana waters opened to the commercial and recreational harvest of lane snapper on Jan. 1, 2024, concurrent with an opening in federal waters.
- Louisiana waters opened to the commercial harvest of spotted seatrout on Jan. 2, 2024.
- Louisiana waters closed to the commercial harvest of striped mullet with a mullet strike net on Jan. 15, 2024.

February 2024
- Louisiana waters closed to the recreational harvest of scamp and black, red, yellowfin and yellowmouth groupers from Feb. 1-March 31, 2024, in waters seaward of 120 feet, concurrent with a seasonal closure in federal waters.

March 2024
- Louisiana waters opened to the recreational harvest of gray triggerfish on March 1, 2024, concurrent with an opening in federal waters.
- Louisiana waters closed to the commercial harvest of greater amberjack on March 1, 2024, concurrent with a closure in federal waters.
- At its regular March meeting, the Louisiana Wildlife and Fisheries Commission approved an amended Notice of Intent on recreational red drum regulations following a Legislative Oversight hearing. The amended Notice of Intent modified bag limits to four fish per person and size limits to a minimum of 18" and a maximum of 27", with no retention of fish over 27" allowed. A public hearing on the amended changes was held April 29, 2024, and the rule published as final on June 20, 2024.

April 2024
- Louisiana waters opened to the commercial harvest of bait Gulf menhaden on April 1, 2024.
- Louisiana waters opened to the commercial harvest of Gulf menhaden for reduction on April 15, 2024.
- Louisiana waters and federal waters of Louisiana opened daily to recreational harvest of red snapper on April 15, 2024, with a four-fish bag limit until further notice.

May 2024
- Louisiana waters opened to the recreational harvest of greater amberjack from May 1-31, 2024, concurrent with an opening in federal waters.

June 2024
- Louisiana waters closed for the recreational and commercial harvest of gray triggerfish on June 1, 2024, concurrent with a seasonal closure in federal waters.
- New recreational regulations for red drum of a four-fish bag limit with a minimum size of 18" total length and a maximum size of 27", with no harvest of fish over 27" and elimination of guide limits on a guided trip, became effective June 20, 2024.
- Louisiana waters closed for the commercial harvest of greater amberjack on June 30, 2024, concurrent with a closure in federal waters.
- Louisiana waters closed for the commercial harvest of red grouper on June 30, 2024, concurrent with a closure in federal waters.

FISHERIES RESEARCH

GRAND ISLE LABORATORY

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 and monitoring is conducted throughout the state, the Fisheries Research Lab is the base for much of this work within 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 estuarine and offshore species. The Fisheries Research Lab provides fisheries biologists with the resources to develop and conduct additional research projects, collecting vital information for the management of Louisiana's marine resources. Along with being a home-base for fisheries research projects, the lab also serves as a place that public, state and federal partners can utilize, as well as other entities engaged in fisheries research, management, enforcement, coastal restoration and marine education.

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 Exclusive Economic Zone) off the southeastern United States, Caribbean and northern Gulf of Mexico. Since 1981, 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, icthyoplankton, reef fish, and bottom longline. The surveys are conducted by teams of three to nine fisheries biologists who collect, process and enter data. All surveys also collect a suite of environmental parameters including a water column profile.

SEAMAP Shrimp/Groundfish Survey

The SEAMAP Shrimp/Groundfish Survey collects information to characterize shrimp and groundfish assemblages west of the Mississippi River using a SEAMAP

standardized 42-foot trawl in nearshore waters along the Louisiana coast. Shrimp/Groundfish Surveys are conducted during the summer and fall, and stations are selected from the SEAMAP randomized sampling grid. At least seven trawl stations are sampled daily by LDWF for each survey and additional stations are added as feasible. Species are identified, counted, measured, weighed and recorded; these data are submitted to the SEAMAP data management system, and data are transmitted to National Marine Fisheries Service for publicly available near real-time reporting and monitoring of summer shrimp stocks. From July 2023 through June 2024, a total of 56 trawl surveys were conducted by LDWF personnel in depths ranging from 9.4-75.0 meters between longitudes-89.6-93.1.

SEAMAP Icthyoplankton Survey

The SEAMAP Icthyoplankton Survey is conducted annually to provide information on the occurrence, abundance and geographical distribution of the eggs and larvae of fall spawning fish, particularly king and Spanish mackerel. LDWF participates in the fall icthyoplankton survey and stations are selected from the National Marine Fisheries Service icthyoplankton grids. Sampling is conducted using 60-cm bongo nets and 1x2 m neuston nets. Samples are field processed, preserved and transferred to the National Marine Fisheries Service Pascagoula Laboratory for transshipment to the Polish Sorting and Identification Center. Due to fall weather patterns and unfavorable seas during the reporting period, no icthyoplankton samples were collected in 2023.

SEAMAP Reef Fish Survey

LDWF is implementing new survey methodologies off the Louisiana coast in order to collect information on the spatial and temporal distribution of commercial and recreational reef fish species. In particular, LDWF is utilizing a stereo-camera survey to monitor managed reef fish species on artificial reefs and standing petroleum platforms. The sampling universe encompasses sites from the South Pass of the Mississippi River to the TX/LA border (-89.00° -94.00°). Sampling is conducted by deploying a stereo-camera at each station and rotating through methodologies including constant speed vertical profiles and prolonged camera deployment at set depths to record video of reef fish. Species are identified, enumerated, and their lengths measured using specialized software. A total of 14 stations were completed during the sampling period. Stereo camera surveys have been previously demonstrated to provide useful data for inclusion in stock assessments and for management of Gulf of Mexico reef fish. Fisheries Research Lab biologists also participated in a joint cruise training

LDWF biologists empty a trawl net aboard the R/V Pelican during the summer SEAMAP Groundfish Survey.

New surveys have been developed to allow for the enumeration and length estimate of reef fish using a stereo-camera system

A great hammerhead (left) and tiger shark (right) are brought alongside an LDWF vessel during a SEAMAP Bottom Longline Survey

with Mississippi, Alabama, Florida, and National Marine Fisheries Services biologists to ensure consistency across all SEAMAP sampling partners as this new survey is implemented. Data collected during these surveys will be further analyzed and used to identify the best methods to expand ongoing reef fish video surveys to habitats off Louisiana's coastal waters and the western Gulf of Mexico.

SEAMAP Bottom Longline Survey

The SEAMAP Bottom Longline Survey collects information on the abundance and distribution of sharks and fishes of commercial/recreational importance to Louisiana using standard 1 nautical mile longline sets. Data are utilized in Gulf of Mexico stock assessments to establish harvest limits for commercial and recreational harvest of elasmobranchs. Stations are generated by Gulf States Marine Fisheries Commission, and are proportionally allocated by longitude and depth to 10 meters. 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 April through September. All species are recorded, counted and measured for length(s), weight, and sex (sharks). Sharks selected for tagging are retained and processed for age determination.

LDWF completed 55 longline sets in Louisiana's territorial waters between July 1, 2023 and June 30, 2024. Longline efforts resulted in 1123 captures, of which teleosts composed 60.2% of the catch and elasmobranchs composed the remaining 39.8% of the catch. The most frequently captured sharks included blacktip shark (76.1% of total shark catch) followed by bull shark (11.4%) and Atlantic sharpnose shark (9.6%). Otoliths from 72 red drum were collected to contribute to LDWF red drum life history research.

Fisheries Research Projects

Life History of Louisiana Sport Fish

Collecting life history and reproductive metrics (age, growth, fecundity) for Louisiana's state-managed sport fishes is critical for informing sound management decisions. To supplement data collected from fish harvested in Louisiana's commercial and recreational fisheries, LDWF biologists conduct fisheries-independent sampling using standardized gears targeting species of interest during spawning periods. Target species for life history studies rotate annually between red drum, black drum, sheepshead, and spotted sea trout, with efforts focused on spotted sea trout during the reporting period.

Samples collected for life history studies include otoliths from all individuals and ovaries from females. Ovaries are fixed in buffered formalin and processed for histological analysis at the Fisheries Research Lab. Spawning markers are identified under stereoscope, and spawning metrics including spawning frequency and fecundity are recorded. Metrics such as age, growth, spawning fraction, spawning frequency and fecundity can be used both as inputs for stock assessment and as proxies for the health of the spawning stock.

Spotted seatrout were collected using gill nets and rod and reel sampling. A total of 320 spotted seatrout were captured, all of which have been aged. Of these, 215 were identified as female. Histological analysis and fecundity assessment are currently pending.

Spawning black drum were targeted in passes using bottom long line sets. During the reporting period, 238 fish were sampled, of which 75 were female. Gonads were retained from these 75 individuals with fecundity counts pending for hydrated ovaries. Ages were estimated for all 238 fish.

Red drum were opportunistically sampled during the SEAMAP Bottom Longline Survey to supplement a growing sample size of larger, mature fish. No actively spawning females were collected during their spawning season. During the reporting period, 18 individuals were captured during bottom longline sampling with an additional 21 fish being sampled from modified fyke nets deployed for southern flounder. Age was estimated for 39 individuals (*Figure 11*).

Ovary samples and otoliths collected from southern flounder during the reporting period under the Southern Flounder Abundance Study (below) were processed using standard hematoxylin and eosin staining procedures for identification of spawning markers. 418 females and 163 males were processed for age. No individuals displayed hydrated oocytes, so no fecundity counts are pending.

Southern Flounder Abundance

Southern flounder stocks are declining from the Gulf of Mexico to the Atlantic coast. Because southern flounder do not recruit to standardized sampling gears such as gill nets and trammel nets, they are rarely encountered in Louisiana's fishery-independent surveys. Identifying effective gears and locations for sampling Southern flounder outside of typical harvest seasons and during the spawn can increase data availability to improve stock assessments and LDWF's ability to monitor the southern flounder population. To better monitor Louisiana's southern flounder stock, LDWF biologists have established an experimental study to assess the effectiveness of modified fyke nets as a standardized passive fishing gear for sampling southern flounder from Louisiana's coastal waters.

Seven sampling sites were located on the main passes of Barataria bay which were fished September through April, weather permitting. In addition to identifying a successful standardized fisheries-independent survey method, ovaries and otoliths were collected from southern flounder to supplement stock assessments. In the September 2023 to April 2024 sampling season, 156 net days yielded 591 southern flounder, with

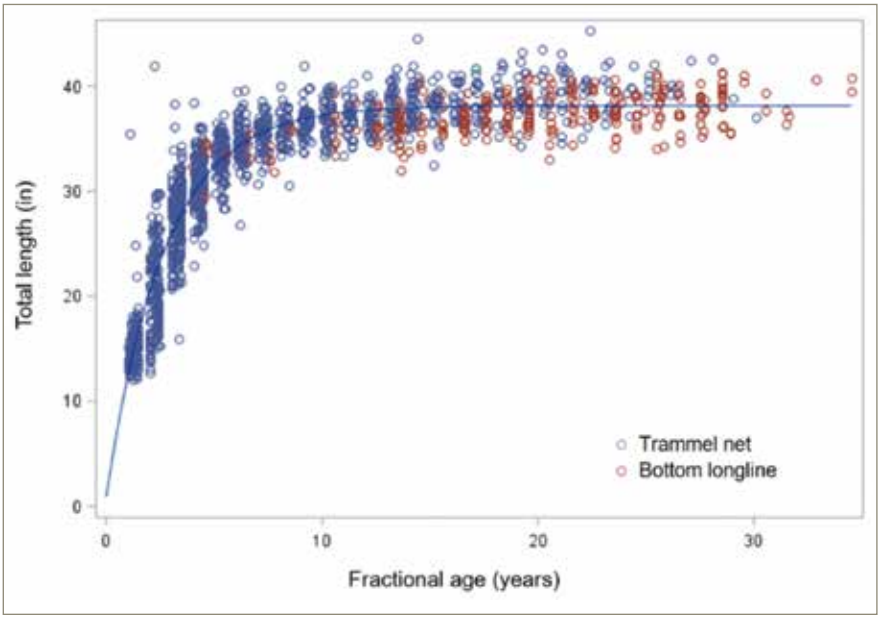


FIGURE 11. *Size at age curve demonstrating the contribution of red drum sampled from nearshore bottom longline surveys (red circles) to the upper end of the growth curve*

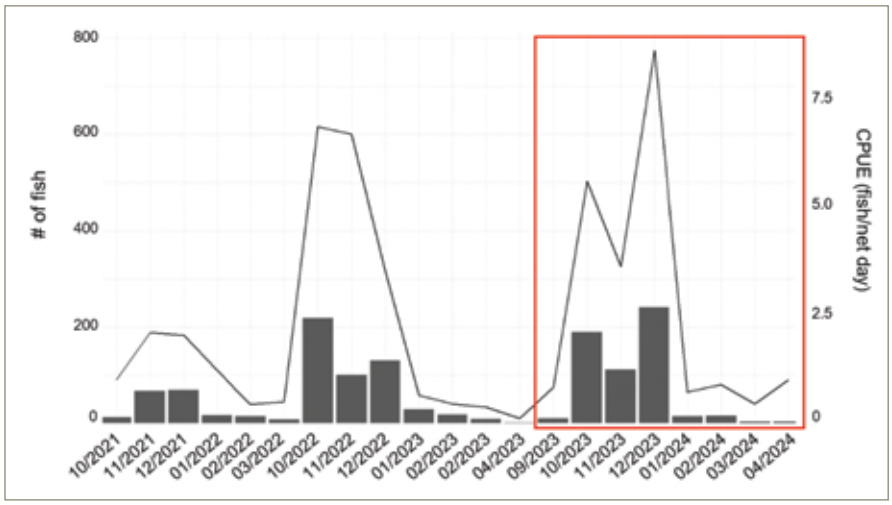


FIGURE 12. *Number of southern flounder encountered (bars) and catch per unit effort (line) for the duration of the study. The current reporting period is indicated by the red box. Only months when southern flounder were targeted are shown.*

LEFT: *Biological sampling - southern flounder* ***RIGHT:*** *Otoliths from southern flounder*

A red snapper experiencing barotrauma is fixed to an inverted hook style In addition, recreational reef fish descending device in preparation for release

their otoliths also collected. The nets obtained a 63% positive catch day with a collective catch per unit effort (fish/net day) of 3.8, demonstrating the effectiveness of the survey for encountering adult southern flounder (*Table 12*).

Minimizing Impacts of Barotrauma to Fish

Barotrauma is a common injury that occurs to fish that are captured at depth and are rapidly brought to the surface, resulting in gas expansion from the swim bladder causing a bloated appearance distended eyes and sometimes everted stomachs. This injury can cause the fish to become an easy prey item if released at the surface due to its impact on swimming and predator evasion. A way to reverse the effects of barotrauma is to release the fish at depth via a controlled descent. For this study, fish are captured via traditional rod and reel methods, biological data are collected and fish are returned to capture depth using one of several types of fish descender device. Cameras are affixed to the line to observe the condition of the fish upon release and any interactions the fish may have with a predator (e.g., sharks) when returning to depth.

To date, a total of 314 fish were sampled (172 red snapper, 50 amberjack and 92 grey triggerfish) using three types of fish descending devices: Seaqualizer lip grip, See Ya Later inverted hook, and a weighted net known as a fish elevator. Together, these descending devices have demonstrated their ability to minimize mortality of fish released at depth, with only 4.1% of all observations made resulting in depredation.

Publications

Baetz, A., Z.C. Zuckerman, and E.T. Lang. Under pressure: assessing post-release depredation of barotrauma affected red snapper, gray triggerfish, and greater amberjack. LDWF Research, Management and Education Symposium. Poster presentation. Baton Rouge, LA. July 25, 2024.

Baetz, A., Z.C. Zuckerman, and E.T. Lang. Under pressure: assessing post-release depredation of barotrauma affected red snapper, gray triggerfish, and greater amberjack. 44th Annual Meeting of the Louisiana Chapter of the American Fisheries Society. Poster presentation. Thibodaux, LA. May 23-24, 2024.

Lang, E.T., Z.C. Zuckerman, A.J. Fischer, C.A. Levron, and K. Ellis. Reproductive data that contributes to stock assessment. LDWF Research, Management and Education Symposium. Oral presentation. Baton Rouge, LA. July 25, 2024.

Zuckerman, Z.C. Biological effectiveness of fish descending devices. GSMFC Return 'em Right Program Meeting. Oral presentation. Virtual meeting. Dec 07, 2023.

AGE & GROWTH LABORATORY

The collection of age, growth and reproductive information used to develop age-structured stock assessments is coordinated through the LDWF Age and Growth Laboratory in Baton Rouge. The Age and Growth Lab monitors 16 species of fish. Monitoring is done through the collection of otoliths and spines (gray triggerfish) for aging purposes. Coastal study area biologists record length, weight, gender and location when fish are collected in the field. The 16 fish species consist of 13 saltwater and three freshwater species. The freshwater species are black crappie, white crappie and largemouth bass. The saltwater species are black drum, cobia, gray snapper, greater amberjack, gray triggerfish (spines), king

mackerel, red drum, red snapper, sheepshead, southern flounder, spotted seatrout, striped mullet and vermilion snapper. Yellowfin tuna and wahoo are sampled by Fisheries Research biologists and considered fishery research species. Since 2015, LDWF Fisheries Research staff have been Gulf of Mexico-wide leaders in yellowfin tuna processing protocol and aging. Opportunistic samples of wahoo have led to age and growth model estimations and a maturity ogive. As of January 2019, saltwater otoliths/spines are obtained by fisheries independent sampling in addition to fisheries dependent sampling. Dependent sampling requires field marine biologists to collect the otolith or spine when they interview a recreational angler, and also includes interviewing commercial fishermen at commercial fishing docks. Independent sampling, requires field biologists to target a particular species. Freshwater otoliths are obtained through independent sampling. The lab receives otoliths (and spines) throughout each month of the year.

During FY 2023-2024, the Age and Growth Lab in Baton Rouge received 12,536 otoliths, of which 12,334 have been aged. Within that total, 1,947 otoliths were saltwater fisheries independent, of which 1,928 were aged. Nine-hundred-six freshwater otoliths were aged. Spotted seatrout was the most collected species out of any marine or inland species because quotas for spotted seatrout are the highest and it is very popular among anglers. The totals for each species are listed in *Table 18*.

The season for striped mullet and black and white crappie collection is typically during the fall. Largemouth bass sampling is mostly done during the spring and early summer months.

***TABLE 18.** Saltwater and freshwater fish otoliths collected and aged*

SPECIES	COLLECTED	AGED
Black Crappie	192	190
Black Drum	1,733	1,726
Cobia	30	28
Gray Snapper	141	132
Gray Triggerfish	15	11
Greater Amberjack	40	39
King Mackerel	0	0
Largemouth Bass	TBD	440
Red Drum	2,518	2,493
Red Snapper	1,275	1,230
Sheepshead	1,099	1,061
Southern Flounder	469	460
Spotted Seatrout	4,121	4,079
Striped Mullet	147	144
Vermilion Snapper	24	23
White Crappie	270	264

The 2023 otolith sampling quotas were maintained through FY 2023-2024. The number of marine otoliths decreased slightly when compared to last year's numbers, primarily due to reduced harvest of southern flounder, red drum and sheepshead. All otoliths received during this time period have been processed, meaning they were cataloged, sectioned, first and second read and data was entered into DMS.

During FY 2023-2024, the Age and Growth Lab received the reference sets for gray snapper, sheepshead, red drum, striped mullet, spotted seatrout, red snapper, vermilion snapper and southern flounder. The reference sets are used to help sharpen Age and Growth biologists' otolith aging skills and control bias over time. The sets are also used to ensure all labs base their ages on the correct criteria.

AQUATIC INVASIVE SPECIES MONITORING

The "State Management Plan for Aquatic Invasive species in Louisiana" was written in 2005 and includes five objectives to help in the coordination and management of aquatic nuisance and invasive species within Louisiana. Briefly, the five objectives are to:

- Coordinate all aquatic invasive species management activities and programs within Louisiana and collaborate with other aquatic invasive species programs.
- Prevent and control non-indigenous invasive species through education.
- Eliminate locally established invasive species.
- Control the spread of established invasive species.
- Prevent the introduction of non-native species, or the spread of existing ones, through legislation and regulation.

The LDWF Aquatic Invasive Species Coordinator and LDWF biologists conducted the following activities during FY 2023-2024:

- Received approximately 500 calls and emails related to invasive species inquiries.
- Invasive Carp- LDWF biologists continued to assist with telemetry projects that would help to understand how carp are moving between river basins in Louisiana. LDWF Aquatic Invasive Species Coordinator helped administer ongoing contracted studies including the distribution of carp larval stages ; and an impact study on native fish and zooplankton
- Mississippi Interstate Cooperative Resource Association: Mississippi River Basin Panel - One meeting and six Executive Officers meetings, The ANS coordinator is serving as the ANS chairman for the Mississippi Interstate Cooperative Resource Association. Gulf and South Atlantic Regional Panel on Aquatic Invasive Species- Spring and Fall meetings.
- The LDWF Aquatic Invasive Species coordinator along with Inland Fisheries staff participated In the Lower Mississippi River Invasive Carp Cooperative calls and webinars. This participation allowed LDWF to receive funds to support future invasive carp research in Louisiana.

The LDWF Aquatic Invasive Species Coordinator compiled records and locations of aquatic invasive species within Louisiana waters and added those new occurrences to the USGS Non-indigenous Aquatic Species Program center database. Below is a list of aquatic invasive species monitored and logged occurrences for FY 2023-2024:

- **Apple Snail:** Existing locations of Apple snails made up the majority of the reports.
- **Invasive Carp (bighead, black, grass, silver):** Over 75 reports with most of those locations being reported during the telemetry project

INLAND RESEARCH

Many issues that Inland Fisheries biologists face require laboratory and field research to validate current techniques, investigate new methods of resource management and prioritize management actions across Louisiana's freshwater ecosystem.

Florida Largemouth Bass Genetics

LDWF Inland Fisheries has worked closely with LSU Agricultural Center to determine the genetic composition of selected largemouth bass populations in the state. The data is used to manage hatchery stocks, assess the relative mortality of native, Florida and hybrid largemouth bass, and assess the introgression of Florida largemouth bass genes into Louisiana bass populations resulting from continuing stocking efforts by LDWF. From July 2023 through June 2024, 673 largemouth bass were tested for sub-species identification, with >90% northern or Florida genetics being classified as pure, and all others classified as hybrid. These fish were from Black Bayou Reservoir, Black and Clear Lake, Booker Fowler Hatchery, Chicot Lake, City Park of New Orleans, Cypress Lake, Poverty Point Reservoir, Red River, and Toledo Bend Reservoir (*Table 19*). Genetic methods were performed utilizing microsatellite analysis.

Native Vegetation Establishment in Toledo Bend Reservoir

Toledo Bend Reservoir historically contained large quantities of submersed aquatic vegetation that contributed to healthy bass and crappie populations. Following the record flooding experienced in March 2016 and

TABLE 19. Largemouth bass tested for sub-species identification in FY 2023-2024.

WATERBODY	NUMBER OF SAMPLES	% FLORIDA INFLUENCE IN POPULATION	% PURE NORTHERN	% HYBRID	% PURE FLORIDA	YEAR SAMPLED	DISTRICT
Black Bayou Reservoir	120	23.9	41.67	55.83	2.5	2023	1
Black and Clear Lake	60	7.2	85	13.33	1.67	2023	10
Booker Fowler Hatchery	100	99.75	0	0	100	2023	3
Chicot Lake	60	27.9	28.33	70	1.67	2022	16
City Park of New Orleans	60	80.2	0	55	45	2023	8
Cypress Lake	60	41	16.67	80	3.33	2024	1
Poverty Point Reservoir	60	71	3.33	55	41.67	2023	2
Red River	93	9.26	68.82	31.18	0	2023	6
Toledo Bend Reservoir	60	40.1	16.67	73.33	10	2023	10
TOTAL	***673***						

September 2017, aquatic vegetation coverage in the lake has been minimal. Decreasing amounts of fishery habitat throughout the reservoir from 2016 through 2020 prompted a habitat research study by LDWF. The goals were to determine if herbivory is a factor in preventing regrowth of emergent and submersed vegetation, to see if there is a viable aquatic vegetation seed source, to evaluate aquatic vegetation plantings from localized stock, and to collect data on turbidity and physical effects on growth and assess planting efficacy before implementing large-scale founder colonies. Areas of the study included Pirates Cove, Blue Lake, and Cow Bayou. Each site included exclosures with native plantings, unplanted exclosures for control and planted areas without protective exclosures. Native plant stock included eelgrass, coontail, American pondweed and spatterdock. Initial results point to herbivory, turbidity, surface energy, and substrate composition as factors contributing to planting success. In May 2023, several exclosures from Blue Lake and Cow Bayou were moved to Pirates Cove to try to accelerate growth in that location, since habitat coverage began to slowly increase in the other two areas. Efforts to transplant coontail and other native vegetation to Pirates Cove continued each month through 2023 to increase habitat in the area. Watershed inflows and discharges exceeding 1.2 million acre feet and twice the annual average were recorded by the Sabine River Authority by July 2024 and contributed to prolonged turbidity. Much of the submerged aquatic vegetation growth that was noted in 2023 had once again been disrupted, shaded out and lost its footprint. Areas of submerged aquatic vegetation consisting of coontail and American pondweed could still be found in shallow less volatile pockets of the reservoir. Efforts are still underway to find and stock well-protected areas in Toledo Bend Reservoir to stock aquatic vegetation.

Louisiana Aquatic Connectivity Team (La-ACT)

The Louisiana Aquatic Connectivity Team (La-ACT) was established in 2023, and aims to restore connectivity, habitat, and ecological functions to flowing waters in the state by identifying and removing barriers to aquatic species movement (e.g. fish passage). Staff invited aquatic habitat experts and water resource managers from across the state for an inaugural meeting at LDWF Headquarters in Baton Rouge on Aug. 16, 2023. Following the kick-off meeting, the team was able to host a culvert assessment training event and work plan development workshop in December 2023. Assessment training using standardized methods ensures that fish passage barriers such as culverts and low-head weirs are assessed in a scientific and equitable way, and that the information gathered is of high quality and is used to direct effort and funding to impactful fish passage projects in Louisiana. Work plans were developed and strategic goals were identified pertaining to increasing the impact of the La-ACT in the future.

Advisory Group Membership

- Alligator Gar Committee of the Southern Division of the American Fisheries Society
- American Eel Subcommittee of the Warm Water Streams Committee of the Southern Division of the American Fisheries Society
- Atchafalaya Basin Master Plan Working Group
- Bayou Vermillion Preservation Association
- Catfish Management Technical Committee of the Southern Division of the American Fisheries Society
- False River Watershed Council (chair)
- Gulf and South Atlantic Regional Panel of the Aquatic Nuisance Species Task Force
- Gulf Sturgeon Recovery Team
- ICES Working Group on American Eel
- Instream Flow Council
- Louisiana Aquatic Connectivity Team (co-chair and members)
- Lake Providence Watershed Council (chair)
- Louisiana Fish Contaminants Advisory Group
- Louisiana Vegetation Managers Association
- Louisiana Watershed Initiative- regional steering committees
- Lower Basin Pallid Sturgeon Workgroup
- Lower Mississippi River Conservation Committee- Secretary/Treasurer
- Mid-South Aquatic Plant Management Society (Board Member)
- Mississippi Interstate Cooperative Resource Association- Paddlefish and Sturgeon Committee
- Mississippi Interstate Cooperative Resource Association- State Delegate
- Mississippi River Basin Panel on Aquatic Nuisance Species
- Pallid Sturgeon Recovery Team
- Pollution Committee of the Southern Division of the American Fisheries Society
- Reservoir Committee of the Southern Division of the American Fisheries Society
- Southeast Aquatic Resources Partnership
- Southeast Association of Fish & Wildlife Agencies- state representative
- Toledo Bend Power Project Relicensing Project (Federal Energy Regulatory Commission/ Sabine River Authority)- Aquatic Resources Working Group
- Warm Water Streams Committee of the Southern Division of the American Fisheries Society

Presentations and Posters

Butler, Kristi. Louisiana's Freshwater Hatcheries: Purpose and Results. LDWF Conservation Roundtable, Baton Rouge, LA. Oral Presentation. October 12, 2023.

Duplessis, Matt, K. Butler, R. Maxwell, S. Richard, and R. Williams. LDWF Inland Fisheries Sampling. LDWF Conservation Roundtable, Baton Rouge, LA October 12, 2023.

Daniel, Ryan. If you renovate it, they will come. A Look at Trophy Bass Management and Research throughout the Southeast Symposia at the Southern Division of the American Fisheries Society Annual Conference, Chattanooga, TN. Oral Presentation February 2, 2024.

Daniel, Ryan, M. Head, and B. McPherson. Renovation of Bussey Brake Reservoir: If You Build It, They Will Come. LDWF Conservation Roundtable, Baton Rouge, LA. Poster. October 12, 2023.

Johnson NA, Beaver CE, Kiser AH, Duplessis MA. 2023. Molecular data validate historical and contemporary distributions of Pleurobema riddellii (Bivalvia: Unionidae) and help guide conservation and recovery efforts. Endang Species Res 52:1-15. *https://doi.org/10.3354/esr01266*

Maxwell, Robby. Culvert Assessments: Laying a foundation with a proposal. Louisiana Aquatic Connectivity Team Kickoff Meeting, Baton Rouge, LA. Oral Presentation August 16, 2023.

Maxwell, Robby and Raynie Harlan. Hydrologic alterations on batture lands: Fisheries habitat reconnection and improvements in the Mississippi River batture of Louisiana. LMRCC annual meeting, Vickburg, MS. Oral Presentation September 27, 2023.

Maxwell, Robby. Largemouth Bass Genetics. LDWF Conservation Roundtable, Baton Rouge, LA. Oral Presentation October 12, 2023.

Maxwell, Robby and Raynie Harlan. Hydrologic alterations on batture lands: Fisheries habitat reconnection and improvements in the Mississippi River batture of Louisiana. SARP annual meeting, Lafayette, LA. Oral Presentation January 17, 2024.

Maxwell, Robby. Starting an ACT in Louisiana. Aquatic Connectivity Workshop at the Southern Division of the American Fisheries Society Annual Conference, Chattanooga, TN. Oral Presentation February 2, 2024.

Maxwell, Robby. Managing projects while climbing the ladder. Invited speaker series at Nicholls State Univeristy, Thibodaux, LA. Oral Presentation March 27, 2024.

Sibley, Jeffrey, K. Butler, K. Houston, and H. Poole, LDWF Inland Fisheries Lake Drawdowns: Extending Lake Life, Stimulating Sportfish Production/Growth, and Improving Access. LDWF Conservation Roundtable, Baton Rouge, LA. Poster. October 12, 2023.

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 our state's natural resources.

ACCESS

In a cooperative effort, LDWF provides financial assistance to local government entities through a competitive process to construct, improve and repair boating and fishing access facilities. Improvements and repairs are also made to boating and fishing access facilities owned by LDWF. This program is funded through the Sport Fish Restoration Program and includes both freshwater and saltwater projects. Projects may include the construction of boat ramps, parking areas, docks, bulk heading and fishing piers. The Clean Vessel Act Program provides funding for pump out systems for recreational boaters to dispose of sewage in an effort to keep Louisiana's waters clean.

BOATING ACCESS FACILITIES PLANNED OR UNDER CONSTRUCTION

- **Bucktown Harbor Marina and Dock Renovation:** Project includes the construction of mooring docks and related amenities for transient boaters in Bucktown Harbor Marina in Jefferson Parish.
- **Larose Boat Launch Renovations:** Project includes the renovation of the existing boat ramp, mooring docks, bulkhead and parking lot to accommodate recreational boaters in Lafourche Parish.

FISHING ACCESS FACILITIES PLANNED OR UNDER CONSTRUCTION

- **West Monroe Riverfront Park Fishing Pier:** This project includes the installation of a walk-way and fishing pier on the Ouachita River in downtown West Monroe.

CLEAN VESSEL ACT PROGRAM PROJECTS PLANNED OR UNDER CONSTRUCTION

- **Bucktown Harbor Marina Pumpout Facility:** Project includes the installation of a pumpout system at the marina facility in Jefferson Parish.

NUISANCE AQUATIC VEGETATION

Control of nuisance aquatic plant species is necessary to provide access to many public waterways. Aquatic vegetation management efforts are designed to ensure that the natural environment and human interests are mutually protected.

Our natural resources are constantly under attack from invasive species posing a threat to healthy habitats and access opportunities for the public. The flagship of these initiatives is our Aquatic Plant Control Program, which strives to provide the public with safe and usable fishing and boating access. Left unchecked, invasive plants have the potential to completely inundate the state's abundant freshwater lakes, making them inaccessible and threatening the natural habitat of our valuable aquatic resources. Treatment of affected waters continued in FY 2023-2024 in an ongoing effort to restore and improve the aquatic habitat and the natural balance of plants and fish.

The Aquatic Vegetation Management Plan format was created for lakes that do not have an approved LDWF Waterbody Management Plan to provide a lake description, basic information, a listing of lake authorities, historical vegetation control information, current aquatic plant status, and recommendations for control. These documents are used as a guide for aquatic plant control and as a source of recommendations and information to provide to the lake authorities and the public. In FY 2023-2024, the Aquatic Plant Control Program completed 27 Vegetation Management Plans for Louisiana public waterbodies.

In FY 2023-2024, herbicides were applied to 29,445 acres of nuisance aquatic vegetation. Contract spraying accounted for 20,367 acres and LDWF technician spray crews treated 9,078 acres. Our most problematic nuisance aquatic plant was giant salvinia which required 13,910 acres to be treated.

Another method used for control of aquatic vegetation includes water level fluctuations. Natural water systems benefit from high springtime water levels and lower water levels in the fall. Benefits include aquatic vegetation control and a healthier fish population. For impounded waters, partial dewatering (typically called drawdowns) are often conducted to induce similar benefits. These drawdowns also provide the opportunity for improvements to shoreline properties. Drawdowns were successfully conducted on 15 inland reservoirs in FY 2023-2024 (*Table 20*).

In recent years, aquatic plant control biologists have shifted efforts towards identifying and utilizing all effective plant control methods available. Integrated pest management involves combining the effects of chemical, mechanical and biological control methods to manage nuisance species more effectively and efficiently. The long-term benefits and cost efficiency provided by the integrated pest management strategy allows LDWF to more effectively manage the aquatic vegetation infestations throughout Louisiana's public waterbodies.

Evaluation of Giant Salvinia Control Methods

Since 2006, giant salvinia has spread to waters throughout much of Louisiana. As a result, identifying and implementing all efficient and effective control methods for this invasive aquatic weed has been a priority for the Aquatic Plant Control Program. Introduction and establishment of giant salvinia weevils, a species-specific biological control, has been one focus of the program since that time. Most recently, salvinia weevil research has centered on finding or selecting for a cold tolerant weevil ecotype in order to ensure overwintering in the northern part of the state. Herbicide applications remain as the most utilized part of the salvinia control efforts, the Aquatic Plant Control Program continues to search for more effective and cost efficient chemicals available for use in aquatic systems. Since 2012, LDWF has worked closely with USACE and LSU Agricultural Center weed scientists to explore the effectiveness of new herbicides, and to test the potential of mixtures of herbicides and the effects of different surfactants. This research includes controlled, replicated experiments, as well as field evaluations of mixtures that show potential for more cost-efficient control. It has been proven that either of the herbicides Clipper (flumioxazin) or Stingray (carfentrazone) can be used as an alternative to diquat dibromide to act as an indicator and to initiate plant damage when combined with glyphosate for salvinia control. Experiments continued throughout FY 2023-2024, focusing on the effectiveness of alternative herbicides both alone and in combination with other herbicides.

***TABLE 20.** Drawdowns conducted in FY 2023-2024.*

LAKE NAME	DRAWDOWN DATES	PURPOSE OF DRAWDOWN
Bistineau Lake	July 29, 2023 - Nov. 30 2023	Giant salvinia control and bottom oxidation
Claiborne	Sept. 18, 2023 - Jan 31, 2024	Shoreline maintenance
Ivan	July 17, 2023 - Oct. 16 2023	Vegetation control, bottom oxidation, fisheries production
Cheniere Lake	2016 - January 2024	Repairs to spillway
Hardwater Lake	July 5, 2023 - Oct. 30, 2023	Aquatic vegetation control/Gate Repair
Nantachie Lake	Sep. 4, 2023 - Jan. 8, 2024	Vegetation control; bottom oxidation
Lake Louis	Sep. 2023 - Feb. 2024	Bottom oxidation
Bundick Lake	Oct. 2022 – 2024	Replace Drawdown Gate
Lake Cocodrie	Jan. 2023 - Sep. 2023	Vegetation control, bottom oxidation
Chicot Lake	Sept. 5, 2023 - Dec. 31, 2023	Vegetation control, bottom oxidation
Henderson Lake	Sep. 1, 2023 - Nov. 1 2023	Vegetation control, bottom oxidation
Saline Lake	June 17, 2024 - Oct. 1, 2024	Vegetation control, bottom oxidation
Clear-Smithport	Aug. 2023 - Feb. 2024	Vegetation control, bottom oxidation
Black-Clear Lake	Aug. 2023 - Feb. 2024	Vegetation control, bottom oxidation
Grand Bayou	Oct. 2023 - Feb. 2024	Vegetation control, bottom oxidation and fisheries production

Presentations

Maddox, Wesley. Aquatic Weed Problems and Their Solutions LDWF Update. Presented at 2023 Louisiana Association of Vegetation Management, Pineville, LA. September 28, 2023.

Finkbeiner, William. Aquatic Weed Problems in Louisiana and Their Solutions. LDWF Conservation Roundtable, Baton Rouge, LA. October 12, 2023.

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.

COMMUNITY FISHING PROGRAM

The "Get Out & Fish!" community fishing program was initiated in November 2014. The goal of the program is to work with local community organizations and governments to provide easily accessible, high-quality fishing opportunities to everyone in Louisiana. The program intends to recruit new anglers to the sport of fishing and promote outdoor activities for future generations. In order to accomplish this mission, public water bodies that met the required specifications were chosen by LDWF biologists to begin stocking fish on a regular basis.

Get Out and Fish! Sites

There are currently 17 community fishing sites throughout the state of Louisiana. Sites were stocked with both channel catfish (in the spring and fall) and rainbow trout (in the winter) to total 41,950 pounds of channel catfish and 6,100 pounds of rainbow trout.

Get Out & Fish! - Joe Brown Park

Due to extreme heat and low rainfall the summer of 2023, some smaller sites were not stocked during the fall to ensure the success of the stocking.

ARTIFICIAL REEFS

The Louisiana Artificial Reef Program 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 Dean of LSU's School of the Coast and the Environment, and the Executive Director of Louisiana Sea Grant, or their designees. The council is charged with providing guidance on policy, procedural matters, site selection and allocation of funds to the program. The Office of Fisheries administers and manages the program 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. 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, nearshore reefs and inshore reefs. The program works closely with stakeholders, public and private conservation groups, and appropriate regulatory agencies when developing, maintaining and monitoring Louisiana's artificial reefs.

In FY 2023-2024, the program enhanced eight offshore reefs with seven oil and gas platforms and received $4.4 million in donations from oil company participation. It also completed one new Planning Area reef, South Marsh Island 147. The program also created one new nearshore reef- the East Cameron 82 reef- and enhanced the existing South Marsh Island 233 reefs. The program completed one new inshore reef in Barataria Bay- the Hotel Sid reef.

In FY 2021-2022, through funds provided by the Louisiana Restoration Area Trustee Implementation Group, LDWF continued the monitoring of all completed inshore and nearshore artificial reef enhancement sites. This is part of a five-year plan to assess the success of artificial reefs enhanced in an effort to mitigate for recreational use opportunities lost during the 2010 *Deepwater Horizon* oil spill. Monitoring efforts include the study of the aquatic organisms utilizing the reef enhancement sites via the use of gillnetting, rod and reel sampling, and benthic tray observations, as well as observations of recreational users. Together, those efforts are intended to provide insight into the overall biological health of the reef enhancement sites as well as insight into whether those sites are providing enhanced recreational opportunities to the public.

The locations of all of Louisiana's artificial reefs can be found on the LDWF website, including an Interactive GIS-based map: *ldwf.maps.arcgis.com/apps/MapSeries/index.html?appid=4c4a4d9526c248c080c3eaa4808b9bea*

Important Figures for FY 2023-2024

- 84 total established offshore artificial reef sites
  - 49 planning area reefs
  - 19 special artificial reef sites
  - 16 deepwater reefs
- Offshore structures converted to permanent habitat
  - 461 platform jackets
  - 8 drill rig legs
  - 7 oil and gas structures deployed
- 24 established nearshore reefs
- 35 inshore reefs sites

FRESHWATER ARTIFICIAL REEF PROGRAM

Freshwater artificial reefs are used to accomplish multiple Inland Fisheries objectives, but the primary objective for this program is to increase angler success. For many anglers, finding fish in a waterbody, especially one that is new to them, is a major obstacle to a successful fishing trip. Artificial reefs concentrate fish, and identifying the structures on maps and with buoys makes them available to all anglers. A secondary objective is increased fisheries habitat. As lakes age, flooded timber decomposes and water bottoms may accumulate silt and organic debris. This progression can lead to a reduction in fisheries productivity. If sufficient artificial cover or substrate is added, fisheries productivity can be maintained.

LDWF facilitates this program by partnering with sponsor groups to construct artificial reef projects and/or to deploy natural reef structures. LDWF's role in this program is that of an administrator and/or consultant. As such, the department makes final decisions relative to project design, material selection, and placement for all approved projects. The U.S. Coast Guard is consulted if artificial structures are proposed to be placed in navigable waterways. LDWF's Inland Fisheries biologist managers serve as points of contact for proposed projects and must grant prior approval for proposed projects to ensure compliance with project guidelines.

Important Figures for FY 2023-2024

- 80 new artificial reef structures/clusters in 10 waterbodies over the past year.
- 266 freshwater artificial reef structures/clusters total across 29 waterbodies under LDWF Inland Fisheries management.
- Reef locations can be accessed by the public through the LDWF Outdoor Explorer map on the internet *https://ldwf.maps.arcgis.com/apps/MapSeries/index.html?appid=4c4a4d9526c248c080c3eaa4808b9bea*.

TABLE 21. *2023-2024 Get Out & Fish! Stocking Schedule: Number of Fish in Pounds*

SITE NAME	CATFISH					TROUT
	September	October	November	April/May	June	January
Joe Brown Park	0	1000	800	500	1,000	900
Zemurray Park	0	400	0	400	400	400
BREC	0	300	300	300	300	300
Sidney Hutchinson	0	0	0	200	400	400
Bogue Chitto State Park	0	800	800	400	800	800
Bayou Country Sports Complex	0	1,000	800	500	1,000	900
Girard Park	0	100	100	200	100	100
Southside Regional Park	0	400	400	200	400	400
Purple Heart Memorial Park	400	600	500	300	600	600
I-10 Park	600	1,000	800	500	1,000	900
William T. Polk	0	400	400	200	400	400
Forts Randolph/Buhlow	600	1,000	800	500	1,000	900
Grambling	0	1,000	1,000	500	1,000	900
Turner's Pond	0	1,000	800	500	1,000	900
Elmore D. Mayfield Park	0	400	0	200	400	400
Parc Natchitoches	0	600	500	300	600	600
Kiroli	0	600	0	400	600	600
Total Pounds Per Month	1,600	10,600	8,000	6,100	11,000	10,400

FRESHWATER FISH HATCHERY PROGRAM

The Freshwater Hatchery Program partners with local, state and federal agencies to produce or purchase freshwater fish to enhance statewide sport fisheries, and in some instances to hasten the recovery of fisheries affected by natural or man-made disasters. Fish are requested annually by Inland Fisheries staff based on the department's 'Resource Enhancement through Stocking' guidelines. The program also provides support services for LDWF's outreach, education and aquatic plant control programs.

FISH STOCKING

In FY 2023-2024, LDWF biologists released approximately 5.1 million fish into public Louisiana waterbodies. The released fish were comprised of eight species and included various surplus hatchery fish as well as fish purchased by other state/local organizations through cooperative agreements. Ranging in size from fry to adults, the fish were planted into 73 public waterbodies for the purposes of rough fish control, sportfish enhancement, aquatic plant control, or improved fishing opportunities. *Table 22* details fish stockings by the LDWF Freshwater hatchery program and partners over the 2023-2024 reporting year.

HAZARD ANALYSIS CRITICAL CONTROL POINT PLANNING

Nuisance aquatic species are harmful and expensive to control. The best way to avoid or reduce problems involving these species is prevention. In FY 2023-2024, hatchery biologists continued their work to implement Hazard Analysis Critical Control Point plans. Hazard Analysis Critical Control Point plans identify, assess, and minimize risks of spreading nuisance aquatic species from Booker Fowler Fish Hatchery to stocking sites across the state and vice versa. The plans mitigate the risks of spreading nuisance aquatic species in Louisiana waters.

Nuisance invasive aquatic species occurrence maps and at-risk basins were updated based on actual nuisance aquatic species sightings by state Fisheries biologists in 2023-2024. Hatchery staff reference these maps prior to using hatchery equipment at any particular stocking site to understand the potential risks at each site, and to understand what particular disinfection efforts are required for each site.

HATCHERY AND FISHERIES OUTREACH/EDUCATION

Inland Fisheries Hatchery staff led an educational American Paddlefish spawning event in support of LDWF's Fisheries Outreach Native Fish in the Classroom Program. Students and teachers participating in the Native Fish in the Classroom Program attended the 2024 event to learn about spawning techniques used to produce Paddlefish, calculate the age and growth rate of fish, and all procedures used for Largemouth Bass production. Students and teachers from across the state have an opportunity, annually, to participate in the spawning event and spend the day at Booker Fowler. Students are challenged to take the fertilized Paddlefish eggs back to their classrooms to hatch, grow and release back into the waters of the state.

FRESHWATER FISH DISEASE DIAGNOSTICS LABORATORY

Biologists at the Booker Fowler Fish Hatchery continue to collect, incubate and identify diseases in-house by utilizing the diagnostic laboratory. Currently, LDWF Inland Fisheries biologists are capable of performing bacterial cultures, blood histology, and the identification of parasites as well as fungal infections using microscopy at our Booker Fowler facility, which allows the hatchery to diagnose and treat sportfish much faster than in the past.

INVESTIGATIONAL NEW ANIMAL DRUG PROGRAM PARTICIPATION

LDWF hatcheries continued to participate in the USFWS National Investigational New Animal Drug Program. This program provides a safe and legal way for fish culturists to procure and use experimental drugs and allows LDWF to contribute safety and efficacy data to the USFWS for helping with the approval process. This year, the hatchery participated by using LHRHa, a synthetic hormone that causes spermiation and ovulation, for spawning Paddlefish.

ADVISORY GROUP MEMBERSHIP

- Southern Division of the American Fisheries Society Aquaculture Technical Committee

PROFESSIONAL ORGANIZATION MEMBERSHIPS

- Louisiana Chapter of the American Fisheries Society
- Southern Division of the American Fisheries Society
- American Fisheries Society
- Fish Culture Section of the American Fisheries Society

TABLE 22. **FISH STOCKING BY WATERBODY (7/1/2023 - 6/30/2024)**

BODY OF WATER	SPECIES	SIZE	NUMBER STOCKED
Anacoco Lake	Channel Catfish	Fingerlings	11,800
Bayou Bartholomew	Florida Bass	Fingerlings	20,000
Bayou Cane	Channel Catfish	Fingerlings	100
Bayou d'Arbonne Lake	Florida Bass	Fingerlings	271,700
	F1 Hybrid Largemouth Bass (Fl x Largemouth)	Fingerlings	40,000
Black Bayou Lake	Florida Bass	Fingerlings	15,000
Black Bayou & Black Bayou Reservoir	Florida Bass	Fingerlings	50,200
Bogue Chitto	Bluegill	Fingerlings	4,800
Bussey Brake	Black Crappie	Fingerlings	13,100
	Florida Bass	Fingerlings	49,100
	Golden Shiner	Fingerlings	14,200
	White Crappie	Fingerlings	2,332

TABLE 22 (cont). FISH STOCKING BY WATERBODY (7/1/2023 - 6/30/2024)

BODY OF WATER	SPECIES	SIZE	NUMBER STOCKED
Caddo Lake & James Bayou	Florida Bass	Fingerlings	151,000
Calcasieu River	Hybrid Striped Bass	Fingerlings	29,500
Caney Lake	Florida Bass	Fingerlings	4,200
Chatham Lake	Florida Bass	Fingerlings	3,100
Cheniere Brake Lake	Florida Bass	Fry	405,000
	Florida Bass	Fingerlings	277,400
Chicot Lake	Florida Bass	Fingerlings	32,000
Clear Lake & Smithport Lake	Bluegill	Fingerlings	59,900
Corney Lake	Florida Bass	Fingerlings	14,000
Cotile Lake	Florida Bass	Fingerlings	24,800
Crooked Creek Lake	Bluegill	Fingerlings	1,000
	Florida Bass	Fingerlings	8,000
Cross Lake	Florida Bass	Fingerlings	106,100
Dubuisson Lake	Florida Bass	Fingerlings	4,000
False River	Florida Bass	Fingerlings	6,000
Fort Polk Ponds	Bluegill	Fingerlings	1,500
	Redear Sunfish	Fingerlings	650
Fullerton Lake	Florida Bass	Fingerlings	500
Grand Bayou	Florida Bass	Fingerlings	30,000
Gretna City Pond	Florida Bass	Fingerlings	200
Hardwater Lake	Florida Bass	Fingerlings	10,000
Holbrook Park Pond	Bluegill	Fingerlings	3,500
	Redear Sunfish	Fingerlings	2,500
Iatt Lake	Florida Bass	Fingerlings	71,000
Ivan Lake	Florida Bass	Fingerlings	6,000
Kepler Creek Lake	Florida Bass	Fingerlings	25,300
	Threadfin Shad	Adult	6,000
Kincaid Lake	Channel Catfish	Fingerlings	20,000
	Florida Bass	Fingerlings	38,000
LDWF Woodworth Outdoor Education Center	Bluegill	Fingerlings	40
	Florida Bass	Adult	40
Lake Bistineau	Florida Bass	Fingerlings	139,900
Lake Bruin	Florida Bass	Fingerlings	20,200
	Hybrid Striped Bass	Fingerlings	6,700
Lake Buhlow	Florida Bass	Fry	206,400
Lake Claiborne	Florida Bass	Fingerlings	80,000
	F1 Hybrid Largemouth Bass (Fl x Largemouth)	Fingerlings	80,000
	Hybrid Striped Bass	Fingerlings	16,100
Lake Concordia	Hybrid Striped Bass	Fingerlings	2,700
Lake Fausse Point & Dauterive Lake	Florida Bass	Fingerlings	100,000
Lake Providence	Florida Bass	Fry	515,400
	Florida Bass	Fingerlings	39,700
	Florida Bass	Adults	107
Lake St. John	Hybrid Striped Bass	Fingerlings	5,000
Lake Verret & Grassy Lake	Largemouth Bass	Fingerlings	82,000
Larto Lake	Florida Bass	Fingerlings	80,200
Marion Bonner Rec Area	Triploid Grass Carp	Adults	11
Martin Lake	Florida Bass	Adults	107
Mermentau River	Paddlefish	Fry	290,200
		Fingerlings	1,039
Mill Creek Lake	Florida Bass	Fingerlings	7,900
Nantachie Lake	Florida Bass	Fingerlings	31,000
Oil and Gas Park	Bluegill	Fingerlings	3,500
	Redear Sunfish	Fingerlings	2,500
Parc Des Familles	Bluegill	Fingerlings	8,800
	Florida Bass	Phase II Fingerlings	400
Parc Natchitoches	Florida Bass	Phase II Fingerlings	44
Pearl River	Bluegill	Fingerlings	21,200
Navigation Canal	Florida Bass	Phase II Fingerlings	2,300
	Redear Sunfish	Fingerlings	1,000
Pelican Park	Bluegill	Fingerlings	1,000
Perez Park Pond	Florida Bass	Fingerlings	200
Pinecrest Hospital	Bluegill	Fingerlings	60
Poverty Point Reservoir	Florida Bass	Fingerlings	20,000
	Hybrid Striped Bass	Fingerlings	7,100
Purple Heart Memorial Park Pond	Bluegill	Fingerlings	1,800
	Redear Sunfish	Fingerlings	1,500
Red River (Dam 2 to Dam 1)	F1 Hybrid Largemouth Bass (Florida x Largemouth)	Phase II Fingerlings	1,800
	Florida Bass	Phase II Fingerlings	7,200
Red River (Dam 3 to Dam 2)	F1 Hybrid Largemouth Bass (Florida x Largemouth)	Phase II Fingerlings	7,200
	Florida Bass	Phase II Fingerlings	1,800
Red River (Dam 4 to Dam 3)	F1 Hybrid Largemouth Bass (Florida x Largemouth)	Phase II Fingerlings	3,600
	Florida Bass	Phase II Fingerlings	14,400
Red River (Dam 5 to Dam 4)	F1 Hybrid Largemouth Bass (Florida x Largemouth)	Phase II Fingerlings	4,500
	Florida Bass	Phase II Fingerlings	18,000
Red River (Shreveport to Dam 5)	F1 Hybrid Largemouth Bass (Florida x Largemouth)	Phase II Fingerlings	6,300
	Florida Bass	Phase II Fingerlings	25,200
Rockefeller Refuge	Florida Bass	Fingerlings	150,100
Ruston Sports Complex	Bluegill	Fingerlings	1,000
Sankofa	Bluegill	Fingerlings	1,800
Sibley Lake	Florida Bass	Fingerlings	22,000
Spanish Lake	Bluegill	Fingerlings	60,100
	Channel Catfish	Fingerlings	11,000
Spring Bayou	Florida Bass	Fry	197,400
		Fingerlings	217,600
St. Tammany	Bluegill	Fingerlings	1,000
Coroner's Office Pond	Channel Catfish	Fingerlings	100
Thistlewaite WMA Pond	Bluegill	Fingerlings	400
Toledo Bend Reservoir	Florida Bass	Fingerlings	50,000
	Florida Bass	Fingerlings	661,900
Valentine Lake	Florida Bass	Fingerlings	1,000
Vernon Lake	Florida Bass	Fingerlings	84,000
Woolen Lake	Florida Bass	Fingerlings	5,000
TOTAL			***5,164,080***

FISHERIES OUTREACH AND EDUCATION PROJECTS

OUTREACH

The Aquatic Outreach and Education Program is designed to inform the public about programs and projects currently underway in the Office of Fisheries. Through outreach efforts including boat shows, school programs, community events and outdoor-related festivals, staff reached approximately 21,000 Louisiana citizens in FY 2023-2024.

During the year, LDWF staff and volunteer instructors made approximately 200 public appearances at community events, clinics, and other outdoor-related events. At each of these events, LDWF staff were able to inform Louisiana citizens of the importance of the Sport Fish Restoration Program and LDWF's role in the program's associated projects.

This year, LDWF staff hosted twelve Volunteer Instructor Program workshops throughout the state and trained approximately 103 volunteers. Those volunteers completed a training course, where they learned how to train others on fishing techniques, fish identification, fish biology, age and growth, and other fishing related topics. The course certified them as an official LDWF Aquatic Education volunteer. These volunteers are given a training manual with access to brochures, informational sheets, lesson plans on each fishing activity, and have access to borrow materials they need through LDWF's loaner kit program. They can volunteer to teach these activities at events that LDWF host or participates in across the state.

Eight Extended Education Opportunities were offered this year including Bank Fishing & Pond Ecology, LSU Museum of Natural Science tour, Aquatic Germplasm and Genetic Resources Center tour, and Aquatic VIP Grand Isle Beginner Fishing Clinic. In the last year, LDWF's 170 active volunteer instructors spent over 3,4,322 hours assisting with events throughout the state of Louisiana.

Our fisheries biologists also worked 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.

During FY 2023-2024, staff utilized several educational resources including a casting inflatable, mobile touch tank and LDWF's mascot Robbie the Redfish.

AQUATIC EDUCATION

LDWF's Education Program introduces people to the sport of fishing and promotes awareness of Louisiana's aquatic resources. This is accomplished through fishing clinics, camps, teacher workshops and distribution of publications. Education Program staff and volunteers deliver aquatic education programs.

FISHING COURSE SERIES

The "Fishing Course Series," consists of a variety of courses throughout the state designed to meet the needs of anglers of all skill levels. Courses are limited to 10 participants and begin with instruction of core fishing skills including simple, but versatile rigging, bait, and gear selection, followed by an hour of fishing with LDWF biologists.

Courses this fiscal year included eight Intro to Fishing, nine Beginner Rainbow Trout Fishing, 11 Beginner Catfishing, nine Beginner Bass Fishing, six Intermediate Catfishing, and three Intermediate Bass Fishing - Spring. Intro to Saltwater and Fishing Secrets Explained will be added next fiscal year.

This year, LDWF joined the Take Me Fishing First Catch Center program sponsored by the Recreational Boating & Fishing Foundation. The Louisiana Wildlife & Fisheries Foundation received $25,000 from the program and was able to purchase a new wrapped trailer with gear and supplies to integrate into our existing Fishing Course Series program. A new First Catch Center trailer, specific to Fishing Course Series, was purchased for the Baton Rouge office. The old trailer was moved to the New Orleans office for Fishing Course Series and other events in the southeast. The funding received was enough to purchase enough new gear and supplies to stock the Fishing Course Series and New Orleans trailers with items specific for the course needs.

A total of 500 anglers participated in Fishing Course Series this fiscal year. Participants included both adults and children with approximately 70% adults. Of the new participants, 20% of the adults purchased a fishing license within 30 days of attending the course.

FISHING CLINICS

Classroom aquatic education plays a big role during the spring months of the school year reaching over 3,000 students each year. Teachers and Librarians around the state have access to three aquatic education guidebooks: Finnie the Fingerling; Let's Go Fishing; Fishing for Fun. The guidebooks are used in the classroom or library and typically followed with a field or hands-on component. Aquatic Clinics held this year in Sabine, Grant, and Terrebonne Parishes brought over 1,000 5th graders through stations educating them about a variety of fisheries related topics and aquatic education.

TEACHER WORKSHOPS

Teacher workshops were conducted to provide training in aquatic education that can be brought back to the classroom. The following workshops were conducted:

Native Fish in the Classroom

Native Fish in the Classroom is a multidisciplinary, classroom-based aquaculture stewardship project for middle to high school students. The goal of the Native Fish in the Classroom project is to develop a positive attitude of natural resource stewardship and to create a constructive, active learning situation in which students can explore strategies for sustaining aquatic ecosystems. Students obtain hands-on, science-based knowledge of the state's aquatic resources. Teachers attended several workshops and meetings to ensure successful preparation for receiving paddlefish eggs. In the spring semester, students attend the paddlefish spawn and are engaged in a meaningful field trip experience by actively assisting biologists with the egg fertilization process as well as learning about fisheries management through several other educational stations during the day. Students rear the paddlefish from eggs to fingerlings then release them to a LDWF pre-selected, pre-approved riverine habitat.

Wetland Education Teacher Workshop (WETSHOP)

WETSHOP is a coastal awareness, teacher stewardship project held at the Grand Isle Fisheries Research Laboratory. The goals of WETSHOP are: 1) to provide teachers with a comprehensive look at wetland issues related to history, fisheries management, wetland habitats, wetland ecosystems, coastal land loss and restoration, water quality and oil and gas exploration; and 2) to educate a large population of Louisiana's citizenry about the serious issues that Louisiana is facing due to coastal land loss. Throughout the week, participants are provided with a combination of field and in-class lessons to bring back to their classroom.

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.

In addition, the Office of Fisheries is pursuing several initiatives for Louisiana's commercial fishing industry including a seafood certification program and a professionalization program that 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 certification; industry professionalization; electronic traceability; and seafood marketing.

The goal of the Louisiana Wild Seafood Certification Program is to increase demand for wild-caught Louisiana seafood. By creating an origin-based brand, LDWF, in cooperation with the Louisiana Department of Health and the Louisiana Department of Agriculture and Forestry, 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.

Several changes and developments to the program were implemented during FY 2013-2014 including the transition to an online application process as well as supply chain verification through invoice validation. Also introduced was a product registration requirement - retail packages possessing the program's logo must register with LDWF. In FY 2014-2015, the online renewal process was simplified, allowing participants to easily renew their permit instead of reapplying. Before applying, applicants must also complete a 45-minute training video 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.

The program's first three years focused on building program interest among seafood dealers and processors within Louisiana. During FY 2014-2015, implementation was focused on the retailer and consumer aspects of the program, with an emphasis on creating demand for products bearing the Louisiana Wild Seafood Certification Program logo. The program has launched additional marketing campaigns including the use of social media. Within FYs 2015-2017 the focus was to build the interest of the program amongst the public to demand Louisiana seafood. With the refocused program vision, LDWF incorporated additional supply chain verification and product registration program components aimed at increasing consumer confidence and strengthening seafood traceability. The required applicant training video was amended to included guidance for brand owners to meet invoice submission requirements.

As of FY 2023-2024 there are a total of 16 permitted seafood businesses participating in the program and several "certified" labeled seafood retail packages are being sold in grocery markets across the state.

SUSTAINABLE FISHERIES AND SEAFOOD

The goal of the 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. Many seafood purveyors worldwide are under pressure to demonstrate the seafood they are sourcing is from sustainable and responsibly managed fisheries. LDWF is meeting these challenges with multiple approaches.

LDWF has explored mainstream sustainability certifications for major fisheries, such as those offered by the Marine Stewardship Council. In March 2012, Louisiana's blue crab fishery became the first blue crab fishery in the world to receive Marine Stewardship Council sustainability certification. This certification was scheduled to expire in March 2017, but it was extended to March 2018 as LDWF participated in a new pilot re-certification process. Re-certification to the Marine Stewardship Council standard was awarded in July 2018. The Marine Stewardship Council announced the fourth surveillance audit for the Louisiana commercial crab trap fishery in November 2022. Information for the fourth surveillance audit of the Louisiana blue crab commercial trap fishery against the Marine Stewardship Council fisheries standards was gathered by Global Trust during the Dec. 5, 2022, on-site visit. The Marine Stewardship Council final audit report recommended continued certification with no new conditions being issued. The Marine Stewardship Council announced the reassessment of the Louisiana commercial crab trap fishery in Spring 2023. Information for the reassessment of the Louisiana blue crab commercial trap fishery against the Marine Stewardship Council fisheries standards was gathered by Global Trust during the July 11, 2023, on-site visit. The Marine Stewardship Council final report, published in March 2024, recommended continued certification with two new conditions being issued. Both new conditions were related to Diamondback terrapin status and management. An Action Plan was drafted and submitted in October 2023, detailing annual milestones in the attempt to provide evidence that the Louisiana crab trap fishery was not hindering Diamondback terrapin status.

In addition to Marine Stewardship Council certification, the Office of Fisheries has developed a Gulf-centric sustainability certification system in partnership with the Audubon Nature Institute. The Audubon Gulf United for Lasting Fisheries (GULF) Program is leading the development of this Responsible Fisheries Management certification program based on the United Nations Food and Agriculture Organization and International Standards Organization protocols. LDWF participates on the Audubon GULF Technical Advisory Committees, including a Fisheries Technical Advisory Committee, which previously functioned as the more general Technical Advisory Committee; and a new Chain-of-Custody Technical Advisory Committee that was established in May 2017. Recognition of the Audubon GULF - Responsible Fisheries Management certification program was awarded by the Global Sustainable Seafood Initiative in October 2018. The Audubon GULF - Responsible Fisheries Management Program itself was assessed by the Global Sustainable Seafood Initiative against Food and Agriculture Organization of the United Nations best international practices regarding certification systems. Most recently, the Audubon GULF - Responsible Fisheries Management certification program passed its Global Sustainable Seafood Initiative Monitoring of Continued Alignment review in August 2020. The Global Sustainable Seafood Initiative should finalize their Global Benchmark Tool v2.0 in late

2021 and the Audubon GULF - Responsible Fisheries Management will need to apply for re-benchmarking to v2.0 by early 2022. The Louisiana blue crab fishery attained certification to the Responsible Fisheries Management Program in 2016. The fishery passed the fourth surveillance audit and reassessment in May 2021. In early 2023, the Audubon Nature Institute's Gulf United for Lasting Fisheries Responsible Fisheries Management (Gulf-RFM) announced the transition to the Certified Seafood Collaborative Responsible Fisheries Management Certification program. The Louisiana blue crab commercial trap fishery sustainability certification, managed through the Louisiana Crab Task Force, did not seek continued certification through the transition to Certified Seafood Collaborative. The Gulf-RFM certification lapsed in 2023.

In 2010, a comprehensive Fishery Improvement Project for the Louisiana shrimp fishery was announced. Years of work went into achieving the environmental objectives recognized in the Fishery Improvement Project and the Louisiana Shrimp Fishery Improvement Project was fully completed in January 2023. The American Shrimp Processors Association decided in Fall 2022 that it would fund and enter into a sustainability assessment from the Certified Seafood Collaborative Responsible Fisheries Management Certification for the entire Gulf of Mexico shrimp fishery. The Certified Seafood Collaborative announced on July 15, 2024, that the GOM shrimp fishery achieved certification, becoming the first shrimp fishery certified to the Responsible Fisheries Management Standard.

COMMERCIAL SEAFOOD INDUSTRY PROFESSIONALIZATION

The primary goal of Louisiana Fisheries Forward, the voluntary industry professionalization program, is to create a better-informed and more efficient commercial fishing industry that helps ensure the economic sustainability of the state's commercial fishing industry. The program provides ongoing educational opportunities for fishermen and industry participants while also allowing them to receive the most relevant and up-to-date information pertaining to their industry.

Louisiana Fisheries Forward - Advancing Our Seafood Industry is an LDWF Office of Fisheries collaborative effort with Louisiana Sea Grant and the LSU AgCenter. Louisiana Fisheries Forward is a professionalism program for all sectors of the state's commercial fishing industry, including fishermen, dock owners, processors and distributors. This program is providing the education and training essential for the continued success of the industry and is focusing on a number of important topics through videos with corresponding fact sheets, the Louisiana Fisheries Forward Summit, hands-on workshops, and the Louisiana Fisheries Forward website.

From July 2023 to June 2024, LDWF and Louisiana Sea Grant continued to execute the production of educational materials (referred to as fast fact sheets) and maintain the Louisiana Fisheries Forward website (*lafisheriesforward.org*). In 2023, Louisiana Sea Grant launched the Fisheries and Seafood Leadership Program to help enhance leadership in the Louisiana Commercial Fishing and Seafood Industry. The program includes seminars with experts, on-site tours, personal skills improvement, and meetings with business and government leaders in Louisiana.

Examples of Fast Fact Sheet (available on *lafisheriesforward.org*):

- Alternative Oyster Culture: First Steps
- Basics of Soft Shell Crab Shedding
- Remote Setting Oysters: Constructing Your System
- The Impact of Shrimp Imports

In addition to producing educational material during FY 2023-2024, legislatively mandated industry professionalism programs remained active for Commercial Crab Trap Gear Requirements (*www.wlf.la.gov/page/mandatory-crab-trap-license-training*) and the Oyster Harvester Training Requirements (*www.wlf.la.gov/page/mandatory-oyster-harvester-training*).

Legislation was passed during the 2014 regular session that required the Louisiana Wildlife and Fisheries Commission to establish a program to increase and elevate professionalism in the commercial crab industry. Throughout the fall of 2014, LDWF developed the Louisiana Fisheries Forward Commercial Crab Gear Requirement. The Commercial Crab Gear Requirement consists of basic training and field training requirements that focus on education such as proper fishing techniques necessary for the health and sustainability of crabs; proper techniques for the best capture and presentation of the crabs for marketability; and proper placement, tending and maintenance of crab traps to reduce potential conflicts with other user groups. Beginning Nov. 15, 2014, any person who wishes to obtain a commercial crab trap gear license must first complete this program unless the following exception applies (possessed a valid crab trap gear license any two of the license years, 2011, 2012, 2013 or 2014). During FY 2023-2024 there were 106 participants who completed program requirements, applied for the program, or were activity participating in the program (*Table 23*).

LDWF's intention is to give our seafood industry access and training to the latest trends, requirements, and technology in their profession. The seafood industry should have as much opportunity for training as any other industry in our state - we believe it will yield higher quality products and give our seafood community a competitive advantage in the marketplace. Since the launch of Louisiana Fisheries Forward - Advancing Our Seafood Industry, this one-of-a-kind professionalism program for Louisiana's commercial fishing industry has received inquiry, acknowledgement and recognition throughout many facets of local, regional, and national fishing industries.

TABLE 23. *Louisiana Fisheries Forward Commercial Crab Gear Requirement.*

PROGRAM STATUS	APPRENTICESHIP	SPONSORSHIP	GRAND TOTAL
Ineligible	4	8	**12**
Approved	6	32	**38**
Program Completed	16	40	**56**
Grand Total	***26***	***80***	***106***

TASK FORCES

The Office of Fisheries has four active task forces: Shrimp, Oyster, Crab and Finfish. The task forces memberships are currently housed under LDWF, and 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 FY 2023-2024, the Shrimp Task Force met on July 5, 203, Aug. 2, 2023, Aug. 30, 2023, March 6, 2024, and May 1, 2024.

Agenda items discussed include:

- USDA COVID-19 Grants for Docks and Processors
- Selection of New Lobbyist Firm for Task Force
- Special Bait Dealer Permit changes
- Setting Date for 2023 Fall Inshore Shrimp Season
- LDWF Enforcement of TEDs in Skimmers
- SPMB Seafood Industry Commercial
- Shrimp Testing Program funding
- Shrimp Industry Data

- Update for Fisheries Disaster Funding
- Update for SCPDC Restore Program
- Imported Seafood Safety
- Legal Actions for TED requirements
- Updated Shrimp Effort Data Collection
- Sea Turtle Restoration Efforts
- Funding for Shrimp Repaid Genetic Testing
- Setting Date for 2024 Spring Inshore Shrimp Season
- NOAA Restoration Project for Narrow Spacing TEDs
- LA Sea Grant Bycatch Reduction Project
- Funding for Documentary of the 2010 *Deepwater Horizon* Oil Spill and Aftermath

CRAB TASK FORCE

During FY 2023-2024, the Crab Task Force met on Sept. 26, 2023, Feb. 20, 2024, and April 16, 2024.

Agenda items discussed include:

- Derelict Crab Trap Removal
- Update for Fisheries Disaster Funding
- Update for SCPDC Restore Program
- Marine Stewardship Council Crab Reassessment
- Oyster Shell Recycling Program
- Legal Changes for Crab Violations
- Funding for prosecuting crab violations
- Required Training for Fresh Product License
- Recertification Assistance Funding with Marine Stewardship Council
- Funding for Documentary of the 2010 *Deepwater Horizon* Oil Spill and Aftermath

FINFISH TASK FORCE

During FY 2023-2024, the Finfish Task Force met on April 17, 2024.

Agenda items discussed included:

- Updated Menhaden Regulations
- Updates to the Pompano Fishery
- Time and Seasons for Harvest of Striped Mullet
- Federal Study for Spawning Redfish
- Support for Documentary of the 2010 *Deepwater Horizon* Oil Spill and Aftermath
- Update for Fisheries Disaster Funding
- Update for SCPDC Restore Program

OYSTER TASK FORCE

During FY 2023-2024, the Oyster Task Force met on Aug. 29, 2023, Sept. 20, 2023, Oct. 24, 2023, Dec. 12, 2023, Feb. 6, 2024, March 19, 2024, and June 12, 2024.

Agenda items discussed include:

- Oyster Stock Assessment Results and the 2023/24 Oyster Season Recommendations
- Update for Fisheries Disaster Funding
- Update for SCPDC Restore Program
- Update on Public Seed Grounds E-Reporting Applications
- Update on Oyster Leave Damage Evaluation
- Funding for Oyster Industry YouTube Snippets
- Funding for LA Alive Event
- Funding for Additional Social and Email Marketing
- Update on Proposed Changes to Bohemia Salinity Control Structure Plan
- Consideration for Lowering West Cove Sack Limit
- Consideration for Oyster Task Force Legal Consultant
- Funding for BMF Marking Contract
- Funding for Oyster Day on the Bay
- Evaluation of Oyster Leases Incapable of Productions
- Consideration for Lowering Calcasieu Lake Sack Limit
- LDWF Oyster Season Update
- Marketing Proposal and Funding for Task Force TV Segment
- Oyster Seed Ground Vessel Permit Regulations
- Secretarial Permit for West Cove and Calcasieu Lake
- Legislation to Prohibit Alternative Oyster Culture Cages in Unapproved Areas
- Update for Lo-Spat Oyster Project
- Virus/Bacterial RT – PCR Laboratory Testing
- Oyster Log Book Issues
- Oyster Industry Video
- NOI for Designation of Certain State Water Bottoms as Public Oyster Seed Grounds
- Profitability of Caged Oyster Culture Industry
- Funding for Marketing Opportunity with FOX 8
- OTF Representation for Governor's Advisory Commission on Coastal Protection
- Final Report for Sea Grant Alternative Oyster Culture Grant Program

The Oyster Task Force also continued their marketing efforts including the Task Force's annual trip to Washington, D.C., where they sponsor the "Louisiana Alive"- D.C. Mardi Gras event, which draws members of the congressional delegation, staff and media, and provides an excellent platform to educate others on the importance of the Louisiana oyster industry. Additional Oyster Task Force Subcommittees met to discuss specific oyster topics.

Photo by Zehnder

ONGOING 2010 *DEEPWATER HORIZON* OIL SPILL ACTIVITIES

DEEPWATER HORIZON NATURAL RESOURCE DAMAGE ASSESSMENT RESTORATION ACTIVITIES

RECREATIONAL USE

The Consent Decree was finalized on April 4, 2016, which resolved $14.9 billion in claims against the 2010 *Deepwater Horizon* oil spill responsible parties and set the stage for the next phase of restoration activities. Louisiana is set to receive a total of $5 billion for Natural Resource Damage Assessment Restoration funding out of the $8.8 billion to be distributed Gulf-wide. Of Louisiana's portion, $60 million has been earmarked to provide and enhance recreational opportunities. In July 2018, two recreational use plans were finalized:

1. Recreational Use Restoration Plan/Environmental Assessment (RP/EA) #2: Provide and Enhance Recreational Opportunities, which reallocated the original $22 million in early restoration funds towards other proposed alternative projects that would restore for lost recreational use in Louisiana, with specific focus on enhancing recreational fishing opportunities.
   - Elmer's Island Access Project
     - All recreational enhancements, including road improvements, kayak launch installation, culvert installation, and bird observation tower installation were completed in FY 2021-2022.
     - The shuttle service contract and trash contract are ongoing.
     - Post-construction monitoring underway, public use information now documented by WMA Access Permits.
   - Statewide Artificial Reefs
     - Construction phase of the Statewide Artificial Reef Project completed.
     - Biological monitoring on 10 coastal reef sites enhanced is ongoing.
   - Louisiana Nature & Science Center at Port Wonder (Lake Charles, LA)
     - Construction underway; opening slated for spring 2025.
2. RP/EA #4: Nutrient Reduction (Nonpoint Source) and Recreational Use, which approved projects by Louisiana Trustee Implementation Group to improve water quality by reducing nutrients from nonpoint sources and to compensate for recreational use services lost as a result from the 2010 Deepwater Horizon oil spill. LDWF Office of Fisheries was not the implementing agency on any RP/EA #4 projects but provided assistance and oversight during planning and implementation processes.

LIVING COASTAL AND MARINE RESOURCES - OYSTERS

Louisiana Trustee Implementation Group selected three projects to restore for injuries to oysters in its Final RP/EA #5, Living Coastal and Marine Resources: Marine Mammals and Oysters. One project will fund 10 years of operations, and monitoring of products, for Michael C. Voisin Oyster hatchery (see Michael C. Voisin Oyster Hatchery Operation Overview within OYSTER SAMPLING section above, for production numbers) along with programmatic projects for creation/enhancement of brood reefs and cultch plants, representing Louisiana's full $26 million allocation of oyster restoration dollars.

1. Enhancing Oyster Recovery Using Brood Reefs Project
   - This programmatic project has a total budget of $9,701,447, will be used for the construction of multiple reefs and to conduct programmatic activities (e.g., modeling, data collection, conducting bottom surveys, etc.) which can help inform crucial locations for siting additional brood reefs to maximize benefits.
   - Four specific locations approved in RP/EA#5 have undergone construction, monitoring initiated:
     - Lake Machias - Nov. 19, 2021
     - Mozambique Point- Nov. 21, 2021
     - Karako Bay - Dec. 3, 2021
     - Petit Pass - Dec. 3, 2021
2. Cultch Plant Oyster Restoration Project
   - This programmatic project has a total budget of $10,070,000, and will be used to construct multiple reefs in support of LDWF Oyster Strategic Plan.
   - Two specific locations have undergone construction and are actively being monitored (see results in Oyster Cultch Plant and Brood Reef Projects within OYSTER MANAGEMENT section, above):
     - Sister (Caillou) Lake- September 2021 (Terrebonne Basin)
     - Drum Bay- June 2022 (North Pontchartrain Basin)

Information on all DWH NRDA restoration activities/projects being undertaken in Louisiana can be found on Gulf Spill Restoration site here: *www.gulfspillrestoration.noaa.gov/restoration-areas/louisiana*.

GULF STATES MARINE FISHERIES COMMISSION

Gulf States Marine Fisheries Commission, a compact among the five Gulf states, is charged with promoting better utilization of the marine fisheries including finfish, shellfish and anadromous species through the development of programs for the promotion and protection of these fisheries while preventing any waste of these resources.

Fisheries biologists and economists participate in a number of Gulf States Marine Fisheries Commission programs and initiatives including Aquatic Invasive Species, Interjurisdictional Fisheries, Fisheries Information Network, and economics programs, as well as providing their expertise in the development of management recommendations. In addition, Fisheries biologists serve on a number of Gulf States Marine Fisheries Commission Technical Coordinating Sub-Committees including Data, SEAMAP, Habitat, Artificial Reef, Outreach, and species-specific committees and working groups. Fisheries' biologists were present at meetings and discussions pertaining to the various SEAMAP programs. LDWF biologists participated in the creation of various fishery management plans for Gulf species.

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

The Gulf of Mexico Fishery Management Council is responsible for the management of commercial, recreational and for hire fishing activities in the Exclusive Economic Zone (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 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 Patrick Banks. His designee for Council issues is Chris Schieble, who is delegated to act on 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. LDWF biologists are also part of the SEDAR pool, a panel assigned to producing the Council's stock assessments.

A list of the Council's Fisheries Management Plans includes: 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 methodologies.

The Council took final action on a framework action to modify the gray triggerfish commercial trip limit, increasing the trip limit to 25 fish. The Council took final action on Reef Fish Amendment 56: Modification to Catch Limits, Sector Allocation, and Recreational Fishing Seasons for Gulf of Mexico Gag Grouper, which revised the sector allocation to 65% recreational and 35% commercial and revised the recreational fishing season to open on Sept. 1 and close when the recreational ACT is projected to be met. The Council took final action on a framework action to update red snapper private recreational data for Florida, Alabama, and Mississippi The Council reviewed existing goals and objectives of the red snapper and grouper-tilefish individual fishing quota programs, and developed a prioritized list of suggested goals and objectives to revise the individual fishing quota programs including: improving opportunities for participants to enter the program, reducing discards, maintaining economic stability within the individual fishing quota program, increasing market transparency, and reduce the cost per unit harvested. NOAA's Office of Science and Technology informed the Council that estimates generated from the FES effort survey could be overestimating private recreational fishing effort by as much as 30-40%, and that a pilot study has been initiated to further understand this disparity. The Council took final action on a framework action that modifies the recreational season and the commercial trip limit for Greater Amberjack. The Council chose to modify the recreational season so it opens on Sept. 1 and remains open through Oct. 31, unless the annual catch target is projected to be met earlier. The Council also chose to reduce the commercial trip limit to seven-fish. The Council initiated work on a recreational fisheries management initiative for reef fish which aims to evaluate the efficacy of current recreational reef fish management and develop management approaches and guidance to prevent overfishing, address discards, account for uncertainty in data, and provide innovative new management approaches to regulating federally managed recreational fisheries. Louisiana continued with the ability to manage the private recreational red snapper fishery in both state and federal waters during the 2022 private recreational red snapper season. This once again allowed Louisiana anglers more quality access to the fishery.

Further information can be located at *gulfcouncil.org*.

REPORT ACRONYMS

CITES - Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPRA - Coastal Protection and Restoration Authority
DMAP - Deer Management Assistance Program
FY - Fiscal Year
LDENR - Louisiana Department of Energy and Natural Resources
LDWF - Louisiana Department of Wildlife and Fisheries
LSU - Louisiana State University
MRGO - Mississippi River Gulf Outlet
NASBLA - National Association of State Boating Law Administrators
NOAA - National Oceanic and Atmospheric Administration
NRDA - Natural Resource Damage Assessment
RWR - Rockefeller Wildlife Refuge
SCS - State Civil Service
SEAMAP - Southeast Area Monitoring and Assessment Program
SGCN - Species of Greatest Conservation Need
USACE - U.S. Army Corps of Engineers
USDA - U.S. Department of Agriculture
NRCS - USDA Natural Resources Conservation Service
USFS - U.S. Forest Service
USFWS - U.S. Fish and Wildlife Service
USGS - U.S. Geological Survey
WDP - Wildlife Diversity Program
WLWCA - White Lake Wetlands Conservation Area
WMA - Wildlife Management Area

NOTES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