

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



2010-2011 Annual Report



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(Administration for fiscal year 2011-2012)

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.

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Cover photo was taken on Hanson Canal in Terrebonne Parish by LDWF Enforcement Agent Norman Deroche.

FROM THE SECRETARY

The fiscal year ending June 30, 2011 provided Louisiana Department of Wildlife and Fisheries (LDWF) employees a number of events to look back on with both satisfaction and a sense of relief.

Thankfully, the state did not sustain any major tropical storm impacts, and the ongoing recovery work in the aftermath of the Deepwater Horizon oil rig explosion was able to continue.

The spring floods affecting the Mississippi Alluvial Valley did place citizens and our staff on alert for several weeks along the major river corridors and near the spillway structures in south Louisiana, but overall, property and wildlife came through those several weeks from May to June without severe losses.

Recreational fishermen enjoyed a return to reopened fishing areas along the coast, and professional bass anglers experienced great success at the 2011 BASS Master Classic in water ways south of New Orleans.

This fiscal year included the re-introduction of the whooping crane to Louisiana as part of a multi-year project to restore the species in the state. Coastal and Nongame Resources Division biologists are overseeing the project that is part of one of the most important North American wildlife conservation initiatives in progress today.

The licensing section facilitated over 1.7 million transactions in fiscal year 2010-11 for 800,000 customers. This included purchases of hunting, fishing and trapping licenses and permits required for recreational and commercial harvest of fish and game species. An additional 180,000 boat registration and title requests were processed.

The Enforcement Division made 737,000 public contacts that included routine stops for licenses, boating safety gear requirements and requests for assistance, plus writing citations for violators, arrests when necessary, and search and rescue missions when called upon.

LDWF's interaction with the public is a daily function for many LDWF employees, both in and out of uniform, and this agency continues to work to improve our customer service efforts and habitat management practices that will grow the numbers of game and non-game species within that habitat.



A handwritten signature in black ink that reads "Robert J. Barham". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Robert J. Barham, *LDWF Secretary*

This public document was published at a total cost of \$?????. 150 copies of this public document were published in the first printing at a cost of \$. This document was published by the Louisiana Department of Wildlife and Fisheries, 2000 Quail Drive, Baton Rouge, LA to provide an account of the department's activities during the 2010-2011 fiscal year. This material was printed in accordance with the standards for printing by state agencies established pursuant to R.S. 43:31. Printing of this material was purchased in accordance with the provisions of Title 43 of the Louisiana Revised Statutes.



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 and LDWF's Legal Section.

ENFORCEMENT DIVISION

The Law Enforcement Division is responsible for enforcing laws enacted by the Louisiana Legislature and federal laws relative to fish and wildlife resources, boating safety and waterways enforcement activities and 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.

OFFICE OF SECRETARY ABBREVIATIONS

BOAT - Boat Operations and Training

GOHSEP - Governor's Office of Homeland Security and Emergency Preparedness

LDWF - Louisiana Department of Wildlife and Fisheries

LED - Law Enforcement Division

NOAA - National Oceanic and Atmospheric Administration

WMA - Wildlife Management Area

ENFORCEMENT

The Louisiana Department of Wildlife and Fisheries Law Enforcement Division (LDWF/LED) 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/LED also conducts search and rescue missions, enforces boating safety laws, investigates boating and hunting accidents, and provides boater education classes for thousands of citizens each year.

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

- Constitution of the State of Louisiana;
- Louisiana Revised Statutes;
- U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration (NOAA)/LDWF Law Enforcement - 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 Law Enforcement - 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 Law Enforcement - 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 and Hospitals/ LDWF Law Enforcement
 - Memorandum of Understanding - Louisiana Shellfish Sanitation Program
 - National Shellfish Sanitation Program.

LDWF LAW ENFORCEMENT DIVISION ORGANIZATION CHART

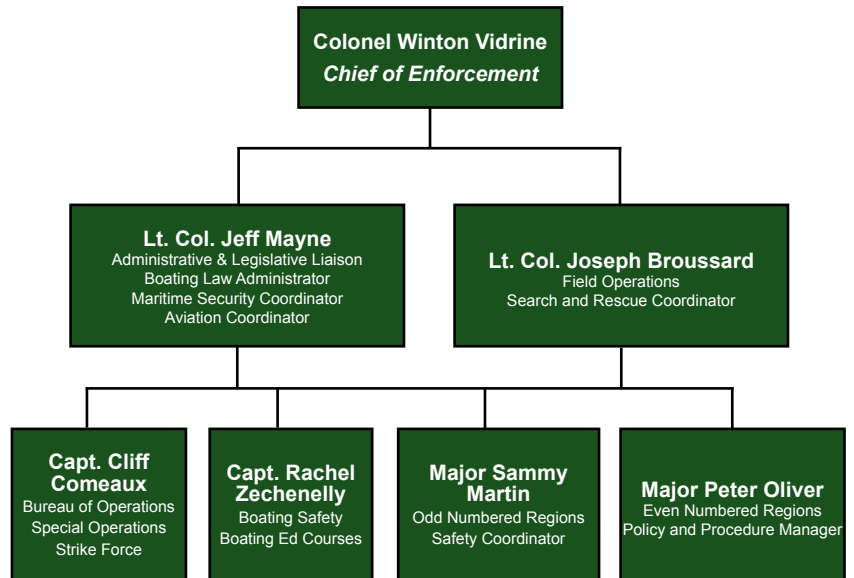


FIGURE 1.

ENFORCEMENT DIVISION REGIONS

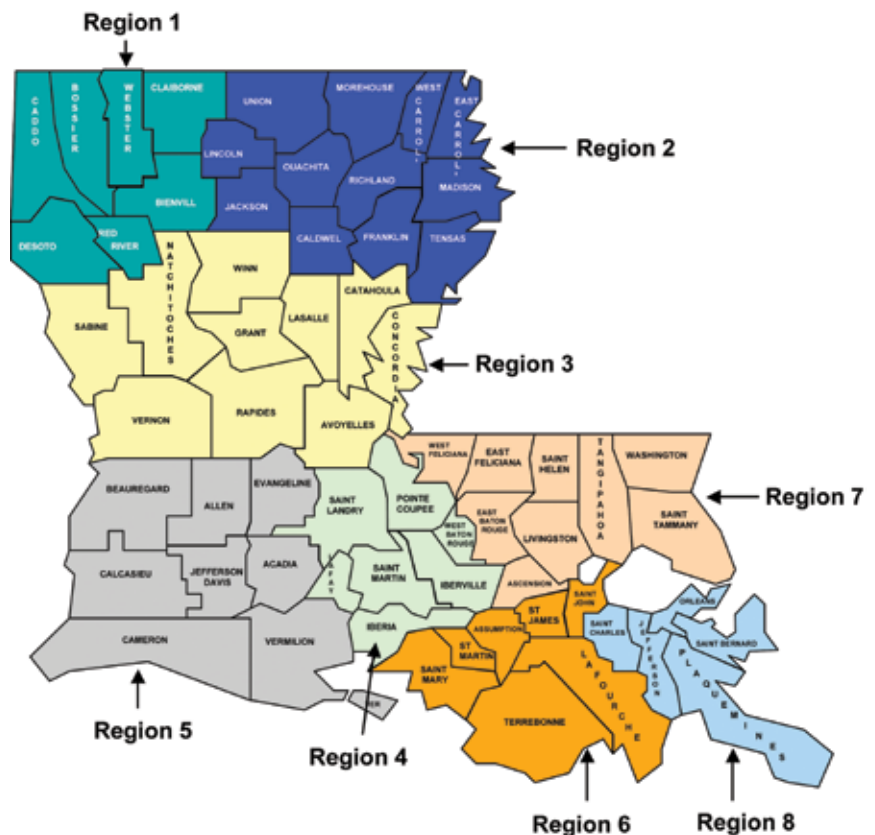


FIGURE 2. LDWF Law Enforcement Division Regions.

LDWF/LED conducted 387,850 patrol hours in fiscal year 2010-2011: 241,066 on land and 146,784 on water. Agents made 736,950 contacts with the public, the majority of whom were in compliance with state and federal wildlife and fisheries regulations. LDWF/LED agents issued 11,322 criminal citations and 5,163 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 (WMAs), and failure to comply with deer tagging or harvest record regulations.

ORGANIZATIONAL STRUCTURE & PERSONNEL

LDWF/LED 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 (*Figure 1*). LDWF/LED is commanded by one colonel, the Chief of Enforcement, who reports directly to LDWF's Secretary. Reporting to the colonel are two lieutenant colonels: one supervising search and rescue and field operations; and one overseeing administration of the division and the operations of the Aviation Section, and serving as LDWF's legislative liaison. There are two majors, one over the even-numbered enforcement regions of the state and one over the odd-numbered regions, and a captain over the Bureau of Operations, which includes boater safety education programs, Special Operations Section, Special Investigations Unit, and Statewide Strike Force.

The Enforcement Division is divided into eight enforcement regions (*Figure 2*), each composed of two or three multi-parish districts, with headquarters in Baton Rouge. 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. The actual number of filled positions (as of January 2012) is 257, including 235 enforcement agents and 24 administrative staff, including six communications officers and two pilots.

REGIONAL ENFORCEMENT PROGRAMS

Most of the law enforcement activity performed by LDWF/LED 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. LDWF/LED also deploys go-devils, airboats, surface river mudboats, bass boats and flatboats.

SPECIALIZED UNITS

LDWF/LED contains five specialized units with selected missions or purposes: the Special Operations Section; the Special Investigations Unit; the Oyster Strike Force; the Statewide Strike Force; 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.

The Special Operations Section houses covert operations in which undercover agents work to stem the illegal sale of fish and wildlife, develop information about ongoing criminal enterprises, and address major violations of state and federal law.

The Special Investigations Unit devotes attention to commercial fisheries operations and license fraud. Violations include smuggling, interstate commerce violations and false reporting, and under-reporting of commercial fish harvests.

The Statewide Strike Force is assigned to work problem areas statewide. These agents provide regions with additional manpower on WMAs and places of high seasonal utilization, such as Grand Isle and other locations throughout the state. Strike Force agents also assist regional agents with oyster harvest enforcement, which primarily addresses harvesting oysters in closed waters, stealing from oyster leases and state grounds, and oyster size regulations.

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, CBRNE prevention, and response and tactical support for LDWF's federal, state and local partners.

The Aviation Section contains two pilots and three airplanes. 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.

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 320,000 registered boats, Louisiana contains many geographic, demographic and economic features that pose special challenges for boating safety enforcement. LDWF/LED agents made 255,312 public contacts during the course of 100,751 patrol hours dedicated to boating enforcement, education and accident investigation in fiscal year 2010-2011. Of those hours, 78,943 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 fiscal year 2010-2011, LDWF/LED agents issued 136 citations for careless and reckless operation of a vessel and 109 citations for operating a vessel while intoxicated.

The statewide LDWF/LED boater education course teaches safe, legal and responsible boat operation and is approved by the National Association of State Boating Law Administrators. 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 fiscal year 2010-2011, 9,499 citizens were certified in classroom and online classes. LDWF/LED continues to recruit and train additional volunteer instructors to complement and enhance the efforts of its own agents.

In fiscal year 2010-2011, agents provided 38,497 patrol hours of search and rescue services, both on land and water. These operations have saved lives, reduced the suffering of accident victims, stranded hunters, boaters and anyone else needing assistance, and minimized the anxiety for family members eager to learn the fate of their loved ones. Agents regularly train to hone their search and rescue skills and constantly work to develop close working relationships with other agencies to coordinate response efforts.

AGENT TRAINING PROGRAM

The Wildlife and Fisheries Law Enforcement Academy graduated 15 agents in fiscal year 2010-2011. The academy trains and certifies cadets in a wide variety of areas, including the Peace Officers Standards and Training Council certification required of all law enforcement officers. Cadets live at the academy during the week and experience a boot camp-style program, with daily physical training in addition to classroom activities. There are many hands-on courses, such as waterfowl enforcement practices, boat operation and firearms training. Each



cadet is equipped with a laptop computer with the capability for networking through the Internet for access to web-based courses and research sites.

Cadets receive training in numerous courses of study and are certified in 10 courses of training conducted by FBI-certified trainers from LDWF/LED and expert trainers from a number of other agencies. LDWF/LED personnel conduct training in standardized field sobriety testing, basic marine theft, basic defensive tactics, collapsible baton techniques, wildlife agents' aquatic survival, and chemical weapon indoctrination. The Louisiana State Police provides training in chemical testing for insobriety. The Louisiana State Police Highway Safety Division leads classes in DWI detection, and the Department of Public Safety conducts a Louisiana Safe Driver's Course.

JOINT ENFORCEMENT AGREEMENT

LDWF/LED again entered into a Joint Enforcement Agreement with NOAA's Office for Enforcement. LDWF/LED received approximately \$1,475,000 in fiscal year 2010-2011 to patrol for compliance with federal

commercial and recreational fisheries regulations, primarily in the Gulf of Mexico. Several patrol vessels and other necessary equipment has been acquired under this program. Agents have been very successful identifying illegal and unregulated fishing activity and obtaining a number of large cases involving commercial and recreational violations.

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 accessing LDWF's website (www.wlf.louisiana.gov) or by calling a 24-hour toll-free telephone number (1-800-442-2511) maintained in the LDWF Communications Center. Reports are immediately referred to agents for action. The callers may remain anonymous.

Rewards totaling \$18,100 were paid on 46 cases. In those 46 cases, 74 suspects were apprehended and issued a total of 295 citations. The total amount of rewards paid by Operation Game Thief since its inception 26 years ago is \$280,900.

TIP411

LDWF began work on offering a new way to anonymously report outdoor related violations to Enforcement Division agents through smartphones. LDWF's tip411 program is a part of their Operation Game Thief program, which may offer a cash reward for information leading to arrests or convictions.

The tip411 program allows citizens to text "LADWF" and their tip to 847411. Citizens with iPhones can also download the "LADWF Tips" iPhone app from the Apple iTunes store free of charge. CitizenObserver, the tip411 provider, uses technology that removes all identifying information before LDWF receives the text so that LDWF cannot identify the sender.

Texting or downloading the app enables the public to send anonymous tips to LDWF, and lets LDWF respond back, creating a two-way anonymous "chat." Users of the app or texters can also send in photos to help support their claim and be used as evidence.

LDWF monitors the tip411 program and Operation Game Thief hotline for incoming tips 24 hours a day.

BOAT OPERATIONS AND TRAINING PROGRAM

LDWF began work to become the first agency in the United States to earn national accreditation in the Boat Operations and Training (BOAT) program administered by the National Association of Safe Boating Law Administrators.

According to *NASBLA.org*, the BOAT program establishes a national standard for the training and qualification of maritime law enforcement and rescue personnel.

Adoption and implementation of the BOAT program provides a true national standard for the purpose of maritime interoperability at the federal, state and local levels. Standardization ensures maritime agencies can interact together and will bolster their ability to act as force multipliers nationwide.

LDWF became the first agency to implement the BOAT standard in all aspects of operations and training including cadet training at the academy level and training of partners throughout the state across all jurisdictions. The BOAT program enhances LDWF's training plans in the areas of basic crewmember, boat operator for search and rescue, and tactical operations.

To date, LDWF has 25 agents certified in the BOAT program with plans to have every agent become certified in the next year. They also have four BOAT program training administrators to teach BOAT program classes to LDWF agents and other law enforcement agencies.

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 com-



plemented Louisiana's ability to respond to emergencies on the water.

HOMELAND SECURITY

LDWF/LED 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 (GOHSEP), LDWF/LED 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, the Area Maritime Security Executive Steering Committee, and all major port security committees within the state, LDWF/LED agents frequently respond to requests to deploy LDWF marine resources for security concerns. LDWF/LED'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.

LDWF/LED has developed a five-year maritime security strategic plan in order to provide direction and guidance for the expansion of its mission to include maritime security. This role further advances coordination efforts between the United States Coast Guard, Louisiana State Police, federal, state, ports and local government, and private partnerships to increase the efficiency and effectiveness of maritime safety and security and all hazards response for Louisiana and our nation. This expansion is necessary in order to meet the needs and threats that we face within Louisiana's maritime domain.

LDWF/LED recently created the Louisiana Maritime Security Working Group in order to provide better communication and coordination between the multiple regional layers of security on the state's waterways, so that we can safely and effectively support these layers at the state level. LDWF/LED is also a member of the First Responder Committee through GOHSEP which was legislatively created. LDWF/LED'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.

MISSISSIPPI RIVER FLOOD

LDWF agents worked the Mississippi River flooding event from May until June in 2011. The Morganza Spillway located in Pointe Coupee Parish was opened for the first time since 1973 to help ease flooding risks of the Mississippi River. The first gate was opened on May 4, and by May 18, 17 gates were opened, which diverted water from the Mississippi River into the Atchafalaya Floodway. The Bonnet Carre Spillway north of New Orleans also opened 330 bays to divert water from the Mississippi River to Lake Pontchartrain.



Agents worked levee patrol alongside the Atchafalaya Floodway levees and other parts of the state that were experiencing rising waters. While on levee patrol, agents monitored and reported any levee deteriorations, provided security for any public behavior deemed suspicious, reported wildlife sightings and endangered wildlife, reported water levels, and provided assistance as needed. In Vidalia, agents helped keep water out of the Bryant O. Hammet Conference and Convention Center by transporting workers and sandbags to the location by boat.

Agents worked a total of 33,349 hours during levee patrol in fiscal year 2010-2011 for the Mississippi River Flood event.

INFORMATIONAL HOTLINE

LDWF restructured their two toll free hotlines during fiscal year 2010-2011. Instead of offering information on season dates and regulations inside their existing Operation Game Thief Hotline, LDWF now offers a separate line for information. The public can call 1-800-256-2749 toll free 24 hours a day. As seasons and regulations are set, LDWF will update the hotline with the most current information.

Hunting and fishing dates are available through the hotline for the following seasons: shrimp, deer, squirrel, rabbit, migratory game birds, turkey, quail, recreational finfish, and commercial finfish. The hotline also features boating safety, WMA and hunter safety information as well as the contact information for regional offices located around the state.



OFFICE OF MANAGEMENT & FINANCE

The Office of Management and Finance is directed by the Undersecretary. This unit is responsible for the following functions: accounting, budget forecasting and control, procurement and contract management, administrative services, information technology, strategic and operational planning, property control and fleet management, boat registration, motor and boat titling, human resources management, federal grant reporting, license and permit administration and issuing, fees, taxes, and penalties collections, public information, Louisiana Conservationist online magazine and web site.

COMPUTER CENTER

The Computer Center oversees LDWF's information processing resources.

HUMAN RESOURCES

The Human Resources section handles all employee personnel actions and employee benefits, develops policies and procedures, conducts training and new employee orientation, and administers the performance planning and review program and LDWF's safety program.

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.

FISCAL

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

PROPERTY CONTROL

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

ADMINISTRATIVE SERVICES

The Administrative Services Section provides mail and duplicating/binding services for the Baton Rouge office, oversees the statewide purchasing activities, and manages the fleet fuel program and the state procurement card program.

PUBLIC INFORMATION

The Public Information is responsible for publications, audio-video productions, website, news and media relations, *Louisiana Conservationist* online magazine, and special events.

OMF ABBREVIATIONS

LDWF - Louisiana Department of Wildlife and Fisheries

PIO - Public Information Office

COMPUTER CENTER

The Computer Center is responsible for maintaining the Louisiana Department of Wildlife and Fisheries' (LDWF) information processing resources. The center operates three mainframes and 34 Intel based Windows servers. The Computer Center supports 699 computer users and 368 laptops in 16 locations throughout the state and supports and maintains the network infrastructure that ties them all together. We offer training, help desk support, custom programming, database services, email services, Internet access, user data backup for headquarter users, statistical analysis tools for biologists, and imaging services for Human Resources, Licensing and Fisheries.

In addition, the Computer Center has developed applications necessary to sell and maintain commercial licenses, hunting/boating safety, Alligator System, Lottery System, and the Enforcement application that allows us to track citations, as well as the Motorboat registrations and titling systems that allows us to issue registrations and titles for every boat in Louisiana.

TECHNICAL SUPPORT SECTION

The Technical Section, which consists of four employees and one student, supports 800 users throughout the state. In the last 15 years, the number of personal computers that LDWF utilizes has grown from under 25 to over 900. Keeping these machines maintained and secure is one of the Technical Section's biggest challenges. Each of these machines must have regular updates applied and have certain software installed and updated (anti-virus, spyware).

Providing general help desk support for these computers occupies a large portion of a tech's time. For fiscal year 2010-2011, the technical section fielded 12,069 non-trivial telephone support calls, configured, built or relocated 636 computers/printers, and answered 13,384 emails on hardware and software support issues. Technical calls can be as simple as helping with an expired password, to helping with software problems/re-installations, or as complicated as helping repair and diagnose failed hardware. The technical staff must travel regularly to most of LDWF's remote facilities to perform this maintenance on machines.

The Technical Section maintains three mainframes and 29 Windows-based servers. Each of the mainframes/servers must be given daily maintenance. This includes not only keeping the operating systems and utility software up to date, but also providing regular backups for all critical data to prevent loss. Loss of data can come from simply losing a disk drive, losing entire computers or being hacked. Catastrophic loss of data can come from fire, flood, terrorism or other causes that would impact the entire organization. In addition, data can be lost through human error such as inadvertently deleting records that shouldn't be deleted. All these risks must be mitigated. Primarily this is done through daily backups of all perti-

nent data. Everyday all critical data on our servers are backed up and stored off-site. We also attempt to back up the majority of our user's important data that is stored on their hard drives.

Maintenance also includes keeping all the critical software that runs on the servers up to date and functional. The services we provide include things such as email, databases, anti-virus protection, Web-services, and network operating system services/security. All these software packages are regularly updated. Training to keep up with these updates could easily become a constant activity.

Accomplishments during fiscal year 2010-2011 include:

- Replaced the web filtering software that protects the department
- Installed secure wireless access points for all HQ and Annex conference rooms for use by visitors to the department.
- Replaced the file server that all HQ personnel use to store their local documents.
- Initiated a pilot project to deploy mobile tablet computers for use by the Enforcement Division and offices of Wildlife and Fisheries. This pilot evolved into a full scale deployment for all of our enforcement agents for their use.
- Installed a mobile device management suite to secure the enforcement mobile devices.
- Brought the new Lafayette regional office online.
- Installed new data circuits for the Rockefeller Refuge, replacing older and slower circuits.
- Successfully recovered the mainframes from crashes due to hardware failures on three separate occasions.
- Installed new Storage Area Network equipment to increase the amount of consolidated disk storage that is available to our servers and users.

Finally, the Technical Section is responsible for maintaining the underlying network infrastructure that allows all the computers to communicate with one another. This involves monitoring the network for problems and diagnosing and repairing network routers, switches, hubs, VPN concentrators, and telephone data circuits (for local and all remote facilities). Included with this is guarding the network from internal and external threats (hackers/viruses) and maintaining Internet connectivity for all internal users.

APPLICATION DEVELOPMENT SECTION

The Application Development Team consists of six employees and is responsible for maintaining all custom written applications and new application development. Our applications run on a combination of mainframe and Windows server environments. Current applications that the staff has developed and supports include:

- Web based Enforcement system for issuing and tracking violations.
- Enforcement complaint system.
- Enforcement time sheet system.
- Enforcement revocations system.
- Enforcement seafood inspection system.
- Motorboat application for issuing motorboat registrations and titles.
- Commercial License application for issuing commercial fishing licenses for LDWF.
- Zip code lookup application.
- Alligator system for tracking all alligators processed commercially in Louisiana.
- DPS system for looking up DMV records for residency validation.
- Lottery application to chose participants in the randomly drawn hunts.
- Hunter and Boating Education system for keeping track of participants in the mandatory hunter education program. It provides the public with the ability to request a duplicate hunting safety or boating safety card online and receive online fulfillment.
- Revocation system for keeping track of individuals that may not purchase licenses.
- Sports License (lifetime license printing).
- Web-based displaced boat lookup (to help public locate lost boats).
- Web-based DMAP, system for keeping track of deer management applications.
- Web-based Oyster Tag sales system.
- Trip Ticket employee performance system.
- Legal application for tracking legal rulings and information.
- Track commercial fishing shipments from/to the state for the Enforcement Division.
- Employee Portal application used by employees to launch other LDWF developed web-based applications.
- JEA Patrol System to keep track of Enforcement officer's contact information with vessel operators and dealers.

- Commercial Fisherman surveys.
- Seafood Dealer surveys.
- Lifetime Licenses (new and backlog).
- Electronic signature logs.
- BP Oil Spill time sheets (for Fiscal)
- Computer Center forms

The Imaging Section takes requests from Louisiana seafood dealers in person, on the phone, by mail and by fax. These orders can be very time consuming as they often need to explain the variety of forms and their usage. The Imaging Section not only scans a vast number of documents for the agency, but verifies and corrects the data as well. This is very tedious work due to the wide ranges of handwriting and poor conditions of the forms when they arrive.

In addition to scanning duties, the Imaging Section runs nightly reports for LDWF's applications systems and helps compile and print reports for the Public Information, Enforcement, Commercial License, Hunter Safety, Motorboat, and Recreational License sections. The Imaging Section is working diligently with the Fisheries Division on the Cooperative Research Survey project of 2009, concerning hurricane recovery and demographic information. This is an 89-page survey that is mailed in from commercial fishermen and dealers and compiles significant data from that time period.

The system that the Imaging Section staff maintains is used by the Motorboat section to image and archive all motorboat applications/renewals. Human Resources also images every employee document into the system. The imaging system cuts back drastically on the amount of paper documents that must be maintained, making it possible for instantaneous search/retrieval of these documents and allows multiple Human Resources analysts to access the same records concurrently and securely.

IMAGING SECTION

The Imaging Section consists of three employees and two students, and is tasked with scanning and indexing LDWF documents which include:

- Federally mandated Trip Ticket data (from commercial dealers, used in tracking commercial harvest information).
- Boating Safety applications.
- Hunter Safety applications.
- Bow hunter student applications.
- Enforcement complaint forms.
- Enforcement time sheets.
- Enforcement seafood inspection forms.
- Motorboat registrations & renewals (new and backlog).
- Motorboat revenue checks.
- Other revenue checks.
- Shrimp Excise Tax forms (this helps our accounting division keep track of excise tax monies).
- Monthly submission forms.
- Crab Shedder forms.

HUMAN RESOURCES

At LDWF, our most valuable resource is our human resources, the people who direct all of our other resources and get the work done on behalf of Louisiana taxpayers and users and consumers of Louisiana's natural resources and products.

The authorized number of funded positions for LDWF for fiscal year 2010-2011 was 775. LDWF also employed students throughout the state.

Along with our active employees, we also provide service and guidance to retirees, former employees and their dependents.

One of the responsibilities of Human Resources is the comprehensive administration of our employees' personnel actions.

Human Resources is responsible for several program areas:

- Human Resource Administration (policies and procedures, civil service rules)
- EEO Compliance (ADA)
- Performance Appraisal
- Training and Staff Development (CPTP, MST, agency sponsored training)
- Employee Relations (employee counseling, Employee Assistance Program, grievances)
- Drug Testing

- Employee Recognition Program
- Classification (position descriptions, job studies, audits)
- Wage and Salary Administration
- Recruitment Program
- Selection and Placement (LA Careers system)
- Benefit Program (health, life and miscellaneous insurance, retirement, deferred compensation, risk management compensation, leave management, unemployment, and FMLA)
- Monitoring Employee Statistics (dates of eligibility for merits, CPG levels, DROP, permanent status, contract end dates)
- Records Retention Schedule on all Employee Files
- Employment Eligibility (non-resident alien employees' taxes, work permit documents)
- Operations (employee files, personnel actions, enrollment and exiting of employees)
- Payroll Administration (ISIS system)
- Safety
- Workforce Development
- Affirmative Action

In an effort to enhance safety and productivity in the LDWF workforce, we continue to work with employees and management to develop safe and productive work conditions through several of our programs such as Safety, Planning and Performance Review, and Training and Staff Development.

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; manages the statewide electronic licensing system providing recreational license availability at more than 800 locations statewide; and oversees recreational license and boat registration renewals via internet and telephone. 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:

- Issue in excess of 1.76 million recreational hunting, fishing, trapping and non-consumptive use licenses sold to 800,000+ customers, generating in excess of \$18.1 million in revenue. Maintain license records for in excess of 63,000 lifetime licensees.
- 74,815 commercial licenses sold, representing 14,231 commercial fishermen, 2,823 business entities, 770 charter businesses, and various permits that generate in excess of \$3 million in revenue.
- 179,864 boat registration/title transactions that generate in excess of \$4.1 million in revenue. Maintain boat data in excess of 1 million records - 320,819 of which are actively registered.
- Make available various types of game harvest tags to deer and turkey hunters, and oyster tags as required by federal and state law - approximately 800,000, to oyster fishermen and processors.

FISCAL

The Fiscal Section staff consists of 17 employees who are responsible for all financial operations of LDWF. The main goal of the Fiscal Section is to achieve compliance with all applicable laws, rules, policies and regulations governing the functions managed. This section develops and implements fiscal controls, provides advice, assistance and training, and standardizes procedures.

The functions include:

- budget and expenditure control and monitoring.
- federal grant tracking and reporting.
- preparation of all required financial reports.
- reviewing and processing professional and consulting contracts.
- payment of all vendors.
- receipt and classification of various sources of revenue.
- fund management.
- assessment of civil fines.
- processing of employee travel reimbursements.
- liability insurance reporting.
- administration of the state's travel card.
- strategic and operational planning.
- management of FEMA projects.

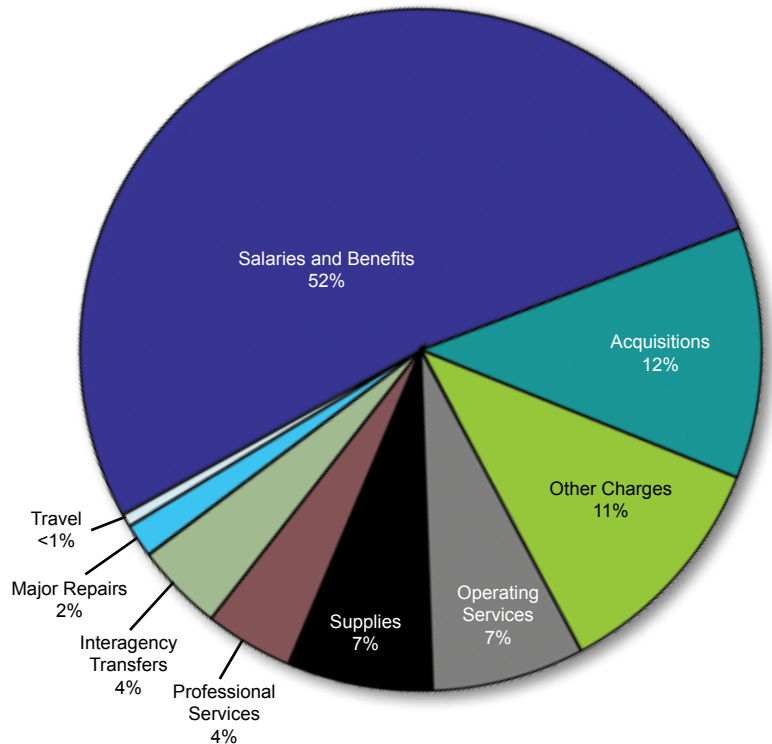
During fiscal year 2010-2011, the Fiscal Section staff:

- prepared four agency budgets consisting of six programs totaling \$164.7 million.
- reviewed 148 new contracts with a total amount payable of \$31 million.
- worked on four request for proposals totaling \$651,000.
- processed 497 payments on contracts for \$12 million.
- responded to 183 requests for telecommunications services and repairs.
- processed four telecommunications projects plus one new statewide phone system.
- processed 9,206 vendor payments.
- audited and processed 5,549 purchasing card statements.
- audited and processed 3,478 travel reimbursements.
- processed 1,787 checks through QuickBooks.
- warranted funds and prepared periodic reports for 144 federal grants.
- deposited \$64.1 million in receipts from various sources on 452 pay in vouchers.

Fiscal Year 2010-2011 LDWF Expenditures by Category (type)

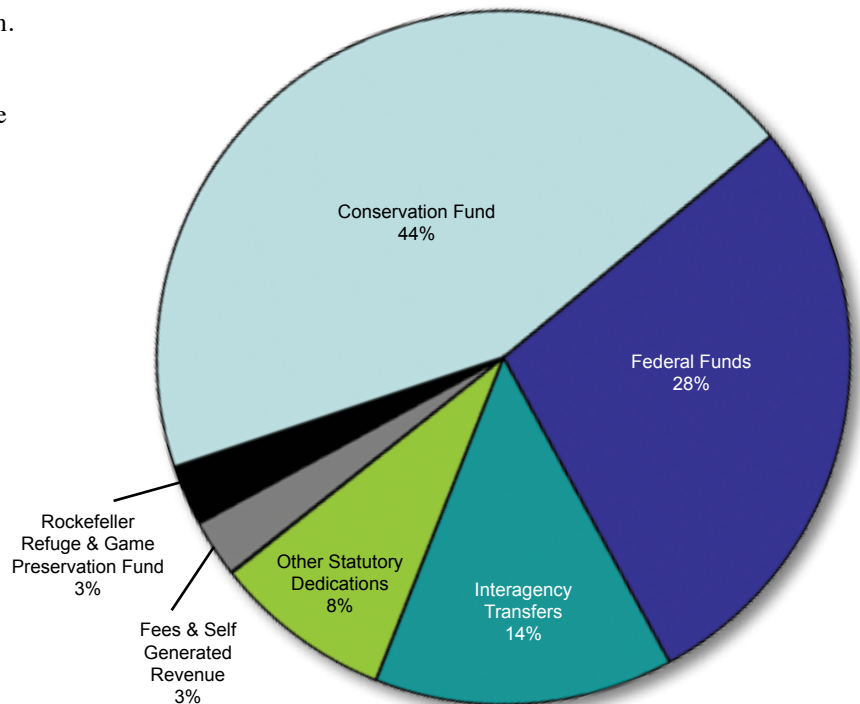
Total Expenditures = \$133,658,702

Total Positions = 775



How Fiscal Year 2010-2011 Expenditures Were Funded (Means of Financing)

Total Means of Financing = \$133,658,702



EXPENDITURES BY CATEGORY

Salaries and Benefits	69,873,555
Acquisitions	16,047,008
Other Charges	14,828,755
Operating Services	9,448,084
Supplies	9,372,463
Professional Services	5,658,989
Interagency Transfers	5,277,275
Major Repairs	2,559,721
Travel	592,852
TOTAL	\$133,658,702

HOW EXPENDITURES WERE FUNDED

Conservation Fund	59,122,964
Federal Funds	37,273,184
Interagency Transfers	18,695,415
Other Statutory Dedications	11,211,753
Fees & Self-Generated Revenue	3,731,429
Rockefeller Refuge & Game Preservation Fund	3,623,957
State General Fund	0
TOTAL	\$133,658,702

SOURCES OF REVENUE TO THE CONSERVATION FUND

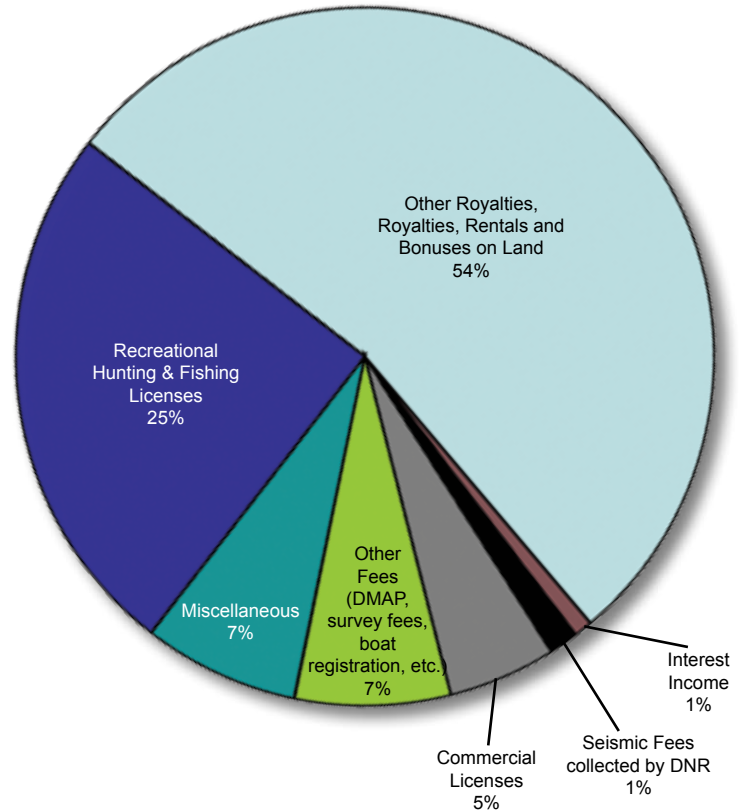
Other Royalties, Royalties, Rentals and Bonuses on Land	35,138,420
Recreational Hunting & Fishing Licenses	16,421,962
Miscellaneous	4,792,254
Other Fees (boat registrations, survey fees, DMAP, etc.)	4,722,473
Commercial Licenses	3,260,386
Seismic Fees collected by DNR	848,377
Interest Income	584,410
TOTAL	\$65,768,282

EXPENDITURES BY PROGRAM

Fisheries	48,353,955
Wildlife	37,947,082
Enforcement	35,633,986
Management & Finance and Administrative	10,706,334
Seafood Promotion & Marketing	1,017,345
TOTAL	\$133,658,702

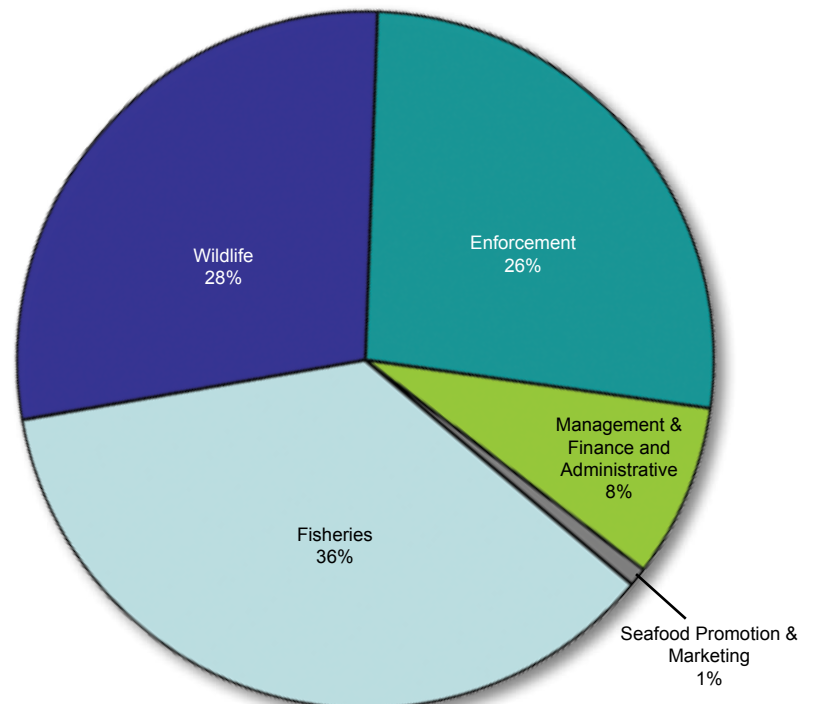
Fiscal Year 2010-2011 Sources of Revenue to the Conservation Fund

Total Revenue = \$65,768,282



Fiscal Year 2010-2011 LDWF Expenditures by Appropriated Program

Total Expenditures = \$133,658,702



PROPERTY CONTROL

The Property Control Section is responsible for managing LDWF's Property, Risk Management Insurance Claims, and Fleet Management programs. The section is staffed with four full-time employees.

PROPERTY CONTROL PROGRAM

During fiscal year 2010-2011, this program certified a moveable property inventory which consisted of 9,479 items for a total acquisition cost of \$60,845,879.

Annually, the program is responsible for ensuring that a physical inventory of moveable property is conducted at the various 88 locations throughout the state.

The Property Control Section processed \$16,327,724 in acquisitions and \$5,632,955 in dispositions of inventoried movable property during fiscal year 2010-2011.

FLEET MANAGEMENT PROGRAM

In accordance with state fleet management regulations this section records, approves and processes requests for personal assignment or home storage, daily vehicle

usage, vehicle maintenance, and title, registrations and vehicle licenses for LDWF's 569 fleet and 786 other licensed vehicles.

The Property Control Section also managed the vehicles assigned to the Baton Rouge Headquarters Motor Pool.

RISK MANAGEMENT PROGRAM

The Property Control Section is responsible for filing 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.

Driver's authorization and annual certification for LDWF's approximate 800 employees is also a responsibility of the Property Control section. This process is accomplished in accordance with Office of Risk Management's loss prevention guidelines.

ADMINISTRATIVE SERVICES

The Administrative Services section consists of the Purchasing Section and General Services, whose mission is to provide support services for the Louisiana Department of Wildlife and Fisheries so that the overall mission of conservation of renewable natural resources is accomplished.

The administrative staff works closely with and supports other divisions. The Purchasing Section insures compliance with all state and department laws and regulations concerning procurement. The Purchasing Section also trains and serves as the help desk for all divisions in ISIS, the statewide-computerized system. They assist and initiate agency contracts and purchase orders, and purchasing specific to LDWF, seafood promotions, alligator harvest, timber sales and farm leases.

PURCHASING

The Purchasing Section consists of five purchasing professionals.

In fiscal year 2010-2011 this section:

- maintained, initiated or updated 77 leases of equipment and buildings.

- maintained 775 state purchasing card accounts.
- maintained 750 state fuel card accounts.
- issued 451 delegated purchase orders.
- issued 162 requisitions for bids.
- reviewed for compliance all other agency purchase orders.

In addition to the above, the Purchasing Section handles rental and payment for state wide trash pickup and pest and termite control.

GENERAL SERVICES

General Services, consisting of one permanent employee and one student, supports all divisions of LDWF by operating the mail system, receiving all deliveries, and shipping all packages for the Baton Rouge office. Over 349,000 pieces of mail were processed this fiscal year. This section is also responsible for duplicating and binding large numbers of documents as required by the divisions. Approximately 2 million copies were produced on the duplicating machine. General Services maintains a supply of paper and envelopes to be distributed to the Baton Rouge office, district offices and remote facilities.

PUBLIC INFORMATION

The Public Information Office (PIO) handles the primary communication programs for LDWF. These programs cover a variety of communication avenues including publications, audio-video productions, website, news and media relations, *Louisiana Conservationist* online magazine, and special events. In addition to these responsibilities, this office operates the LDWF headquarters' reception area, which serves as the department's first point of contact and security check point. PIO consist of seven full-time staff members.

PUBLICATIONS

The publications unit is responsible for the production of specialized publications, all department regulation pamphlets and the annual report. All pre-press functions, editing and printing approvals are handled through this unit.

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.

SPECIALIZED PUBLICATIONS

Brochures

- *Bear Safety in Mind* (General public version)
- *Bear Safety in Mind* (Hunter version)
- *Louisiana Wildlife and Fisheries Foundation*
- *Marina Sewage Disposal* (Pumpout)
- Landowners for Wildlife series:
 - *Benefits of Prescribed Burning*
 - *Common Plants of the Louisiana Gulf Coastal Plain*
 - *Forest Management in the Louisiana Gulf Coastal Plain*



PIO staff documenting oil spill at Grand Isle, La.

- *Common Plants of the Mississippi Alluvial Valley*
- *Coping with Feral Hogs*
- *Dove Fields*
- *Forest Management in Bottomland Hardwoods*
- *Invasive Plants*
- *Living with Coyotes*
- *Moist-soil Management*
- *Native Grassland*
- *Wildlife Habitat Corridors*
- *Wood Duck Nest Boxes*

Newsletters

- *Forest Stewardship Newsletter*: Winter 2011, Summer 2011
- *Wildlife Insider* newsletter: Spring/Summer 2010

Flyers/Posters

- *Wildlife Forestry in Bottomland Hardwoods*
- National Hunting & Fishing Day
- Employee Appreciation Day

Books

- *2010 Louisiana Wild Turkey Report*
- *Louisiana Conservationist* magazine (online book versions): Fall 2010, Winter 2011, Spring 2011

Miscellaneous

- Louisiana Wildlife Agents Association advertisement
- Black Bass Survey cover
- Payroll Week banner
- Oil spill display

ANNUAL PUBLICATIONS

- 2009-2010 Annual Report
- Regulation pamphlets
 - 2011 Commercial Fishing
 - 2011 Recreational Fishing
 - 2010-2011 Hunting & Wildlife Management Areas
 - 2010-2011 Waterfowl
 - 2010-2011 Trapping
 - 2011 Turkey

AUDIO-VIDEO PRODUCTIONS

PIO is responsible for the production of specialized audio and video (A/V) projects, video news releases, media footage requests, and audio recordings of various meetings. The A/V library consists of more than 1,900 tapes of raw footage available for media and education purposes.



PIO staff assisted and documented the return of whooping cranes to Louisiana.



A new and larger File Transfer Protocol (FTP) site was created to upload large video files. This proved extremely valuable in getting footage and photographs to media outlets in a quick and timely manner. Once the footage was uploaded, a print or broadcast outlet could download the piece immediately, meeting their tight production deadlines.

Several of the department's video productions are located on YouTube. Links for some of those videos are listed next to the title.

DEPARTMENT VIDEOS

- 2011 Cadet Training
- Freshwater Fisheries Management
- Booker Fowler
- National Hunting & Fishing Day (<http://youtu.be/l24HKTIGozw>)
- National Duck Stamp Competition
- Saltwater Fishing Championship
- 2011 Flood: Enforcement Levee Patrols
- 2011 Flood: Stranded Wildlife
- 2011 Flood: Levee Protection - Vidalia, La.

VIDEO NEWS RELEASES

- Bay Jimmy Oil Event
- Air-Rifle Range Dedication
- Whooping Crane Arrival (http://youtu.be/J8mn_m5leDE)
- Whooping Crane First Flight
- Brown Pelican Release (<http://youtu.be/Y2F3Kpne0Ww>)
- Pick It Up or Pay it Out Anti-litter Campaign Kick-off

WEBSITE

The LDWF website, wlf.louisiana.gov, had a very active year. It received 1,438,850 visits with just over half from new visitors. Unique visitors (new visitors) made up 51.23 percent of the viewers and 48.77 percent were returning visitors. Site visitors executed more than 6.8 million page views, at approximately 4.79 page views per visitor, and spent an average of 04:04 minutes on the site.

The website continued to interact with supporters through Facebook and Twitter. By the end of fiscal year 2010-2011, the site had 11,110 "likes" on Facebook and posted 647 tweets and with 1,129 followers. Access by mobile devices also increased with access through many of the popular phones and hand-held computers. The majority of the site's demographics came, not surprisingly, from Louisiana and the United States.

WEBSITE VISITOR DEMOGRAPHICS BY U.S. CITY (Top 10)	
City	Visits
Baton Rouge	160,128
New Orleans	128,195
Lafayette	100,880
Houston	69,503
Atlanta	66,069
Bossier City	55,425
Lake Charles	32,266
Shreveport	30,487
New York	25,533
Washington	25,522

WEBSITE VISITOR DEMOGRAPHICS BY COUNTRY/TERRITORY (Top 10)	
Country/Territory	Visits
United States	1,418,631
Canada	6,226
United Kingdom	2,014
Not Set (forwarded to LDWF homepage from another site)	1,041
Germany	808
India	737
Brazil	604
Australia	597
France	591
Philippines	564

WEBSITE TOTAL VISITORS	
New Visitors	737,192
Returning Visitors	701,658
Total	1,438,850

WEBSITE ACCESS THROUGH MOBILE DEVICES	
iPhone	114,147
Android	37,453
iPad	13,294
Blackberry	6,763
iPod	3,861
Samsung	1,386
Windows	308
SymbianOS	235
LG	93
Nokia	88
Total	177,628

TOP 10 VISITED WEBSITE PAGES	
Page	Page Views
Homepage	993,616
Hunting	545,143
Licenses	304,333
Fishing	202,271
Boating/Boat Title & Registration	180,987
Hunting/Deer	163,479
Public Areas	153,105
Boating	151,899
Hunting/Deer - Seasons	145,324
Wildlife/Alligator Hunting	107,388

NEWS AND MEDIA RELATIONS

PIO continued as the official depository of department news releases. During this fiscal year, we distributed 350 news releases through the agency website. There were 21 significant events that drew media attention, with the majority of them involving the final oil spill announcements, the 2011 flood and the introduction of whooping cranes to southwest Louisiana. The events were a cooperative effort between PIO, Office of Wildlife, Office of Fisheries and Enforcement Division.

During a disaster event, PIO leads the LDWF media team, which consisted of five PIO staff and a media representative from each of the offices of Fisheries, Wildlife and Secretary. In the early part of the fiscal year, the PIO was still working with media on oil spill updates and fishery openings. By the time the oil well was sealed in late August, the team had responded to a total of 525 media requests within four months.

In May 2011, Louisiana experienced historic flooding from the Mississippi River, impacting wildlife, habitat and LDWF facilities. PIO lead the media team again with coordinating the information flow, daily GOHSEP reports, video and photography coverage, and media contacts.

The introduction of whooping cranes to Louisiana was another historic event. These birds had not been seen in our state since the mid-1950s. PIO staff worked with the Office of Wildlife assisting with news coverage and documentary footage, covering the introduction of the birds through to the release into Louisiana's southwestern marshes.

LDWF EVENTS AND ACTIVITIES COVERED BY THE MEDIA

- Louisiana's Historic Conservation Magazine Goes Live
- LDWF and State Officials Finalize \$2.56 Million Agreement with BP for Fishing License Revenue Losses
- LDWF Reopens Commercial Crab Fishing in Mississippi River Delta
- National Oceanic and Atmospheric Administration (NOAA), LDWF, and Audubon Nature Institute Return Sea Turtles to Gulf Waters
- LDWF Announces Fishing to Resume in Portions of State Waters in the Barataria Basin
- NOAA Reopens More Than 5,000 Square Miles of Federal Waters Just in Time for Red Snapper Season
- Whooping Crane Arrival
- Whooping Crane First Flight
- Air Rifle Range Dedication
- "Pick It Up or Pay It Out" Anti-litter Campaign Kick-off
- Bay Jimmy Oil Event
- LDWF and Louisiana Wildlife and Fisheries Commission Announce Large-scale Opening of Recreational Fishing
- Louisiana Wildlife and Fisheries Commission Overturns Decision to Allow Recreational Catch and Release Fishing in Closed Areas
- Louisiana Wildlife and Fisheries Foundation Donates GPS Camera to LDWF Enforcement Division
- Sixteen Birds Saved From Deepwater Horizon Oil Impacts Released at Rockefeller State Wildlife Refuge
- Louisiana Wildlife and Fisheries Commission Calls Special Meeting
- Rehabilitated Brown Pelicans Released at Rabbit Island in Cameron Parish
- LDWF Announces Return to Normal Fishing Activities East of the Mississippi
- National Hunting and Fishing Day
- National Duck Stamp Competition
- Saltwater Fishing Championship

LOUISIANA CONSERVATIONIST ONLINE MAGAZINE

The *Louisiana Conservationist* moved exclusively to an electronic format producing three issues: Fall 2010, Winter 2011 and Spring 2011. The magazine is free, requiring no user names or passwords. New issues are announced through emails to subscribers and license holders. The magazine went on hiatus for a while so PIO staff could resume and meet deadlines from other projects that were on hold during the oil spill and 2011 flood events. The magazine can be viewed at www.LouisianaConservationist.org.



www.LouisianaConservationist.org

SPECIAL EVENTS

PIO is responsible for organizing and executing special public and promotional events for the department, coordinating with the different LDWF offices. The events range from trade show exhibits to organizing national conferences.

NATIONAL HUNTING & FISHING DAY

National Hunting and Fishing Day takes place each year in four locations around the state. PIO organizes the Baton Rouge event, which is open to public attendance for hands-on experience with outdoor activities. The 2010 event included canoeing, fishing, sports shooting, children's fishing contest, education exhibits, a catfish pool for very young anglers, and samples of fish and wild game dishes. Local chefs donated their time and skill to prepare the fish and game. Admission and events are free, as well as the hot dogs, soft drinks and tasting booths. Approximately 2,000 visitors from Baton Rouge and surrounding parishes attended the event at the Waddill Outdoor Education Center.



PIO staff delivering supplies during National Hunting and Fishing Day and giving transportation aid to the elderly.

RECEPTION AND SECURITY AREA

The PIO is responsible for the reception and security desk at the headquarters office, serving as the first point of contact for all visitors. During fiscal year 2010-2011 the desk logged 50,416 phone calls and 43,313 walk-in visitors.



OFFICE OF WILDLIFE

The Office of Wildlife consists of two divisions, Wildlife Division and Coastal & Non-game Resources Division.

WILDLIFE DIVISION

The Wildlife Division is responsible for the state's wildlife conservation program and gathering biological data to properly manage wildlife resources.

COASTAL & NONGAME RESOURCES DIVISION

Conservation of coastal wildlife species and their marsh habitats, along with Statewide responsibility for Nongame and Threatened & Endangered Species are the primary Division responsibilities. This responsibility is addressed through major programs: Rockefeller Refuge; White Lake Wetland Conservation Area; White Lake Advisory Council; Furbearer Management; Fur Advisory Council; Active Marsh Management; Minerals Management; Habitat Program, including Environmental Permitting, Scenic Streams & Rivers, Natural Heritage and Nongame; Oil Spill Response; Alligator Program; Alligator Advisory Council; and Coastal Areas Stewardship Operations.

OFFICE OF WILDLIFE

ABBREVIATIONS

BP - British Petroleum

BP-DH (MC252) oil spill - BP Deepwater Horizon Oil Spill

CNCP - Coastwide Nutria Control Program

CWD - Chronic Wasting Disease

CWPPRA - Coastal Wetlands Planning, Protection and Restoration Act

DMAP - Deer Management Assistance Program

DU - Ducks Unlimited

EGCP - East Gulf Coast Plain

FAC - Fur Advisory Council

FEMA - Federal Emergency Management Agency

FERC - Federal Energy Regulatory Commission

GIS - Geographic Information Systems

LCPRA - Louisiana Coastal Protection and Restoration Authority

LDEQ - Louisiana Department of Environmental Quality

LDNR - Louisiana Department of Natural Resources

LDWF - Louisiana Department of Wildlife and Fisheries

LNHP - Louisiana Natural Heritage Program

LOSCO - Louisiana Oil Spill Coordinator's Office

LSU - Louisiana State University

MAVN - Mississippi Alluvial Valley - North

MAVS - Mississippi Alluvial Valley - South

NAWMP - North American Waterfowl Management Plan

NRCS - Natural Resources Conservation Service

NRDA - Natural Resource Damage Assessment

NWR - National Wildlife Refuge

NWTF - National Wild Turkey Federation

RCW - Red-cockaded Woodpecker

RTE - Rare, Threatened and Endangered

RWR - Rockefeller Wildlife Refuge

SHP - Safe Harbor Program

SWG - State Wildlife Grants

USACE - United States Army Corps of Engineers

USCG - United States Coast Guard

USDA - United States Department of Agriculture

USFS - United States Forest Service

USFWS - United States Fish and Wildlife Service

USGS - United States Geological Survey

WGCP - West Gulf Coast Plain

WLWCA - White Lake Wetlands Conservation Area

WMA - Wildlife Management Area

WNV - West Nile Virus

WILDLIFE

WILDLIFE RESEARCH

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

WHITE-TAILED DEER

During the 2010-2011 deer season, 160,700 deer hunters harvested 153,500 white-tailed deer. On wildlife management areas (WMAs) during managed deer hunts, there were 3,019 deer harvested. The total hunter effort (a hunter having used a WMA for a hunt) for the managed deer hunts was 24,925. The combined Deer Management Assistance Program (DMAP) and Landowner Antlerless Deer Tag harvest was 17,740 deer. There were over 800 clubs/cooperators with 1.6 million acres participating in the programs.

Deer harvest information from across the state was analyzed and evaluated. These data were used to establish deer regulations for the 2010-2011 season. Harvest data for WMAs and DMAP cooperators are summarized in Federal Aid W-55-25 Report.

Qualifying deer, those scoring high enough for the Louisiana big game records recognition program, harvested during 2010-2011 were documented in the annual deer report. Trophy deer that qualify for the State Record List are added to this list annually.

In order to better manage the state's white-tailed deer population, several research projects have been initiated. Efforts by the Coastal and Nongame Resources Division to capture and mark deer at Pass-a-Loutre WMA continue. Fifty-one deer have been ear tagged. Four bucks and one doe have been harvested to date. Remaining deer are being monitored by remote cameras. The north Louisiana telemetry project, performed in cooperation with the Louisiana State University (LSU) School of Renewable Natural Resources, was completed. A total of 61 deer were captured and marked, followed by telemetry locations being taken two to three times weekly. The Union Parish project was initiated to provide base line information on survival, mortality and home ranges of deer in

pine habitat. A thesis is on file at LSU. A new statewide browse and habitat study was initiated with 570, 1-meter exclosures placed across all deer physiographic regions. One year of sampling has been completed with a list of all deer browse plant species identified and recorded. Herd health collections, and disease and parasite investigations continued on both private and public lands.

WEBLESS MIGRATORY BIRDS

Dove

Dove populations have been monitored nationwide since 1953 by a call-count survey. This survey is used by the U.S. Fish and Wildlife Service (USFWS) to monitor mourning dove population trends. Biologists record the number of doves heard calling for a prescribed time during the nesting season along certain roadsides. Louisiana's dove population is monitored during May and June along 19 routes randomly located throughout the state. The 2011 Louisiana breeding population index, based on doves heard along the routes, was 12.8. This represents a 0.8 percent increase in doves heard from 2010. The 10-year and 46-year trends for doves heard along routes illustrated 2 and 1.7 percent increases annually, respectively. The 10-year and 46-year trends for doves seen along routes represented 1.9 and 2.2 percent increases annually, respectively.

Dove hunting regulations for Louisiana in 2010-2011 were set at 70 days with a bag limit of 15 birds. A survey of resident license holders indicates that approximately 36,300 Louisiana hunters harvested approximately 666,500 doves during the 2010-2011 hunting season. An estimated 19,100 Eurasian collared-doves were also taken.

In addition to dove fields on 11 WMAs, LDWF leases property from private landowners for public hunting. This land is leased for public hunting on opening day only. In 2010, one field totaling 800 acres was leased. During the opening day hunt, 320 hunters participated, bagging 1,984 doves.

In the spring of 2003, 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 1,415 doves during July-August 2010 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 held in Missouri. During a three-day period, state and federal biologists from across the country aged more than 50,000 wings.

Data are summarized in the Federal Aid W-55-25 Annual Report.

Woodcock

A woodcock banding program was initiated in 1990 to determine sex and age ratios, site fidelity, movement patterns and harvest rates of woodcock wintering in Louisiana. During January 2011, 43 woodcock were banded. Of these, 20 were banded on Red River WMA and 23 were banded on Three Rivers WMA. One indirect (one or more years after banding) band recovery was reported in Mississippi. Data are summarized in the Federal Aid W-55-25 Annual Report.

LDWF participated in the USFWS Annual Woodcock Wing Bee in 2011. Data derived from aging and sexing about 12,000 woodcock 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 percent 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 4,900 Louisiana hunters harvested 26,300 woodcock during the 2010-2011 season.

WILD TURKEY AND RESIDENT SMALL GAME

Wild Turkey

A poult production survey was initiated in 1994 to assess annual brood rearing success and monitor long-term production trends. The 2010 survey indicated a poor hatch throughout all five habitat regions within the state. However, the North Mississippi Delta and northwest loblolly/shortleaf/hardwood regions did see increased production from the previous year. Both the South Atchafalaya/Lower Mississippi Delta and southeast loblolly pine regions experienced a decline from 2009. The production index remained the same for the western longleaf pine region.

The most recent hunter harvest survey estimated 14,500 turkey hunters harvested 7,000 wild turkeys during the spring of 2010. The wild turkey population in Louisiana is estimated at about 60,000 birds.

LDWF is involved in several wild turkey research projects. LDWF supports wild turkey research projects on Sherburne WMA in conjunction with the LSU School of Renewable Natural Resources and the University of Georgia, with additional support from the National Wild Turkey Federation (NWTf). One project investigated influences of landscape characteristics on the nesting ecology of female wild turkeys and behavior of raccoons. Other small-scale projects monitored the effects of the Morganza Spillway's flooding on wild turkey survival and monitored habitat selection by wild turkey hens on Ben's Creek WMA. LDWF is also engaged in banding gobblers on the Kisatchie National Forest and Peason Ridge WMA. Banding gobblers, and subsequent reporting by hunters of banded gobblers they harvest, provides information needed to estimate wild turkey harvest rates.

Quail

Statewide fall whistling counts were conducted on 32 randomly located routes and an additional five routes on LDWF WMAs and the Kisatchie National Forest. Fall whistle counts did not differ among the five habitat types for 2010. They did, however, differ between 2009 and 2010, with more whistling counts detected in 2009 than in 2010 for both the northwest mixed loblolly/shortleaf/hardwood and Florida Parishes loblolly pine habitats. However, all regions exhibited long-term (1983-2010) declines. A spring bobwhite survey was also conducted on the Sandy Hollow WMA. Inferences about population status and habitat conditions were developed based on the combined results of these survey techniques and general observations by LDWF personnel during the breeding season. Data are summarized in the Federal Aid W-55-25 Annual Report.

A survey of resident license holders indicates that approximately 1,100 Louisiana hunters harvested 4,100 wild quail during the 2010-2011 season. Hunters were also asked about their harvest of pen-raised quail. About 1,800 hunters harvested over 23,900 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 Grant Program have been developed and were operational in 2010-2011.

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 in north central and northeast Louisiana, are conducted each winter.

The mid-winter inventory conducted in early January 2011 indicated 3.90 million ducks and 667,000 geese wintered in coastal marsh and inland areas of the Mississippi Delta.

Based on federal harvest estimates from the 2010-2011 waterfowl hunting season, 89,000 active duck hunters harvested 2.74 million ducks. This represents an 11.5 percent increase in the number of duck hunters and a 48 percent increase in duck harvest compared to the previous year. Furthermore, it is the fifth consecutive year of increases in both hunter numbers and ducks harvested since the 2005 season following hurricanes Katrina and Rita. Species composition in the 2010-2011 harvest included 23 percent green-winged teal, 18 percent gadwall, 16 percent blue-winged teal, 10 percent wood duck, 8 percent mallards, and 8 percent shovelers. Mottled duck, pintail, wigeon, scaup, ring-necked duck, canvasback and redhead comprised the remainder.

Louisiana goose hunters harvested 65,000 geese during the 2010-2011 waterfowl hunting season, a 12 percent decrease from the previous year. Unlike the duck harvest, this represents the third consecutive year of declining goose harvest. Despite better breeding conditions on arctic breeding grounds, production was slightly below average.

Still, better goose hunting was expected in Louisiana after such a big decline in harvest last year. The biggest reduction was in the light goose harvest, which dropped from 41,000 in 2009-2010 to only 15,000 in 2010-2011 which masked a nice increase in white-fronted goose harvest from 33,000 to 45,000. White-fronted geese comprised 69 percent of the harvest, light geese (snow and Ross') comprised only 22 percent, and Canada geese comprised 9 percent of the total statewide goose harvest.

North American Waterfowl Management Plan (NAWMP)

Louisiana continues to play an important role in the NAWMP. Louisiana's successful role in NAWMP is largely due to the strength of our partnerships with the Gulf Coast and Lower Mississippi Valley Joint Ventures. LDWF strives to maintain ongoing projects and other activities associated with NAWMP. In fiscal year 2010-2011, a North American Wetland Conservation Act grant approved for construction of the Sherburne WMA project were postponed to summer 2012 due to flooding caused by the opening of the Morganza Spillway. This project includes installation of a well, pipeline and two water control structures on 349 acres of moist soil habitat. The addition of the well will provide a dependable source of water for the three units and allow managers to flood the units in late summer for early migrating waterfowl and shorebirds. Additional North American Wetland Conservation Act grant funds were approved to improve waterfowl habitats on Bayou Pierre and Buckhorn WMAs. Enhancement work on Bayou Pierre includes replacing three dilapidated water control structures, repairing levees, and building a platform and pump to deliver dependable water to 319 acres of wetlands. Enhancement work on Buckhorn includes construction of a well, pipeline and water control structure to provide dependable water to 198 acres of shallow wetlands. Bayou Pierre and Buckhorn projects should begin during summer 2012. Lastly, North American Wetland Conservation Act grant funds were sought to impound 3,007 acres of bottomland hardwoods for greentree reservoir management on Dewey Wills WMA. If awarded, construction on Dewey Wills could begin during summer 2013.

Efforts to chemically and mechanically treat invasive vegetation on Catahoula Lake in 2010 were successful due to favorable lake levels and weather. The U.S. Army Corps of Engineers (USACE) recently awarded LDWF with a permit to research the efficacy of bulldozing to control invasive woody vegetation that is too large to spray or mow. LDWF also initiated a cooperative research effort with LSU to study the hydrology and vegetative response on Catahoula Lake. Sixty permanent vegetation monitoring plots were established, and initial data collected.

The Louisiana Waterfowl Project offers private landowners compensation to voluntarily engage in wetland development projects. This is a cooperative statewide program involving LDWF, Ducks Unlimited (DU), USDA Natural Resources Conservation Service (NRCS), USFWS, and interested private landowners. During 2010-2011, 2,095 acres were restored or enhanced, and technical assistance was provided on 76,009 acres. To date, the Louisiana

Waterfowl Project has restored or enhanced over 102,213 acres and provided technical assistance on 808,694 acres. Future Louisiana Waterfowl Project activities will increase emphasis on marsh management needs, creation of natural wetlands habitat in south Louisiana, and development of conservation easements for important bottomland hardwood forest tracts in north Louisiana.

Wood Ducks

During 2010-2011, LDWF banded 1,167 wood ducks, a substantial increase from the 875 banded the previous year, but still below the number banded in years past. Banding efforts are still hampered by forest damage remaining from the 2008 hurricanes and were compromised this year by increasing drought conditions drying operational banding sites as baiting was in progress. Approximately 291 wood ducks were captured in nesting boxes and 876 were captured using rocket nets.

The wood duck nest-box program completed its 22nd year in 2011. LDWF personnel are maintaining 2,177 boxes currently in use. That is substantially fewer than the peak of 2,800 statewide a few years ago but is up slightly from 2,160 the previous year, as we continue to replace and relocate LDWF-maintained boxes, as well as expand participation in the Private Lands Program.

Indeed, LDWF's focus is to replace old boxes that are productive, move boxes that are not successful into more productive habitat, and continue to expand the number of boxes in the Private Lands Program. Utilization is monitored currently at 1,930 boxes. Utilization has ranged from 45-100 percent in past years with an average utilization of about 80 percent.

LARGE CARNIVORE PROGRAM

Bear Research

The Louisiana black bear is designated as a threatened species under the Endangered Species Act. LDWF's bear research efforts are targeted at gathering information that will enable the department to remove the Louisiana black bear from the threatened list and to effectively manage for sustainable black bear populations.

Texas River Basin

Primary activities at the Texas study area included construction and monitoring of hair-trapping stations, live trapping to deploy GPS collars, and monitoring radio-collared females to determine survival and reproductive status on Texas River National Wildlife Refuge (NWR), Big Lake WMA, Buckhorn WMA and adjoining private lands. Hair-trapping is a technique that involves using barbed wire to snag hair from bears visiting bait sites. DNA analysis of the hair samples is used to identify individual bears and develop population estimates. Hair sample collection for 2011 began on June 6 and concluded July 29. A total of 5,838 hair samples were collected at 209 sampling sites.

The average number of hair samples collected per week was 729.75. A subset of those samples was sent to Wildlife Genetics International for DNA extraction and genotyping.

Upper Atchafalaya River Basin

Primary activities on the Upper Atchafalaya study area involved construction and monitoring of hair-trapping stations and live trapping to deploy GPS collars. Hair sample collection for 2011 began in June and concluded in July. Flooding conditions on the Mississippi River resulted in the opening of the Morganza Floodway which caused extensive flooding through much (about 55 percent) of the study area. Consequently, only non-flooded sites were sampled. A total of 2,166 hair samples were collected at 51 sampling sites (typically 115 sites) during the 2011 field season. A subset of those samples was sent to Wildlife Genetics International for DNA extraction and genotyping.

Lower Atchafalaya River Basin

During April, permission was obtained from 37 landowners to access private properties within the study area, locations of hair-trapping stations were determined, and supplies were purchased. Hair sample collection for 2011 began in May and concluded in July. We collected 1,416 hair samples at 118 sampling sites during the 2011 field season. A subset of those samples was sent to Wildlife Genetics International for DNA extraction and genotyping. Historic flood levels on the Mississippi and Atchafalaya reached only two sites but may have influenced bear movement in and outside the study area. Flooding peaked in Atchafalaya Basin north of the study area on May 27-29 at 16 feet. We observed many more bears and noticed more bear sign this year than last year. There was an increase in the number of sites visited (100 vs. 91) and the number of samples/visit (3.02 vs. 2.22) compared to 2010.

Bear Management

Bear Safety In Mind

The Bear Safety In Mind Program is a cooperative program with St. Mary Parish government. The goal of the program is to inform and work with parish residents to minimize or avoid conflicts with bears.

Accomplishments this year included:

- We worked closely with SWDI-IESI (waste disposal) to implement an order for 900 new bear proof garbage cans for the main conflict area of Patterson.
- New bear proof cans have been distributed in identified areas of Patterson and St. Mary Parish.
- Daily monitoring of bear proof cans occurred to assist the homeowners with questions, damages and procedures to further bear-proof their property.
- We provided many one-on-one technical support meetings with residents receiving the new bear proof cans.
- We identified and worked on the cause and remedy for bent latches and lids on new bear proof cans.
- Technical information and flyers were provided during the Harvest Moon Festival in Franklin (October 2010).
- Corporate customers in the identified area were provided with information regarding bear proofing their facilities.
- SWDI provided these corporate customers with tall side/bear-proof dumpsters.

- We worked with Waste Management to provide tall side/bear-proof dumpsters for corporate customers in other identified areas.
- We developed flyers/handouts and remedies for residents with non bear-proof garbage cans to assist their needs to reduce bear/human conflicts.
- We identified and discovered the cause and continued working on a remedy for bent latches and lids on new bear proof cans – continued problems with damages have led to meetings and inspections of damaged cans by upper management with the solid waste removal provider, SWDI-IESI.
- Technical information and flyers were provided during the Black Bear and Birding Festival held in Franklin (April 2011).
- We developed flyers/handouts and remedies for RV/campers in the target area of Patterson.
- Technical support provided to local RV park resulted in no reports of bear problems in the park since December 2010.
- We worked with the 4-H Youth Development, Girl Scouts and Boys Scouts in the affected areas to encourage a Bear Safety Program.

Mortality

A total of 20 bear mortalities were documented in fiscal year 2010-2011.

Conflict

A total of 22 management captures of bears was undertaken to address nuisance behavior reported to LDWF.

WILDLIFE DISEASE

The statewide Wildlife Disease Program was administered by the State Wildlife Veterinarian.

Chronic Wasting Disease (CWD) surveillance continued as 480 samples were submitted from all regions of the state to the Southeastern Cooperative Wildlife Disease Study laboratory. Samples were collected from hunter-killed deer which are considered low probability samples, as well as from road-killed, pen-killed, and taxidermy specimens which are considered high probability samples. All samples tested negative for CWD.

Surveillance for Avian Influenza also continued. During the sampling process, 800 migratory ducks were tested for the disease through a cooperative agreement with USDA. Additionally, 200 ducks were sampled through a cooperative agreement with USFWS. The majority of the birds were hunter-killed birds. USDA samples were tested at the Louisiana Animal Disease Diagnostic Laboratory in Baton Rouge, La. USFWS samples were tested at the National Wildlife Health Center. No birds tested positive for Highly Pathogenic Avian Influenza.

Surveillance of Catahoula Lake for sick birds as part of the Avian Influenza surveillance program turned up 13 neurologically affected ducks. Two were diagnosed with *Reimerella anatipestifer*, three with *Aeromonas/Pseudomonas* Encephalitis, and eight with lead poisoning, leading to further studies in the upcoming year.

Several large scale mortality events in blackbirds, starlings and brown-headed cowbirds were investigated. The cause of death in all cases was trauma. The largest incident in Labarre, La. involved approximately 500 birds and was the result of impacts with power lines.

In addition to numerous individual disease cases, the State Wildlife Veterinarian and LDWF biologists investigated a snow goose mortality event in Avoyelles Parish which was attributed to aflatoxicosis.

Surveillance of feral swine for Brucellosis and Pseudorabies was continued this year, with 132 animals tested. To date, sampling has revealed a 2 percent incidence of both diseases. Surveillance efforts will continue. Additionally, LDWF cooperated with LSU and University of Louisiana at Monroe graduate students to investigate seasonal and regional variations in the stomach contents of feral swine as well as reproduction in feral swine.

A multi-year study of deer liver copper levels was initiated this year. Copper is a micronutrient necessary for reproduction, health maintenance and phenotypic characteristics such as hair and antler growth. The results of these tests will be used along with regional harvest data to determine if micronutrient deficiencies play a part in regional reproductivity, size and antler mass variation in Louisiana's white-tailed deer herd.

LAND DEVELOPMENT & MANAGEMENT

Land development and management includes activities and programs that impact wildlife habitat on private lands, as well as the management of LDWF's 52 WMAs. Prior to fiscal year 2009-2010, the state was divided into seven regions for Wildlife Division administrative purposes. In fiscal year 2009-2010, the Wildlife Division was reorganized, and staff were assigned to ecoregions (Gulf Coastal Plain or Mississippi Alluvial Valley). Within each ecoregion, personnel were assigned to either the WMA or Private Lands Program. This new structure enables staff to focus efforts on management of WMAs and enhances delivery of services to private landowners and managers.

LAND ACQUISITION

Land acquired for the express purpose of establishing WMAs and refuges is the most effective means to protect, conserve, replenish and manage the natural resources and diverse wildlife habitat of the state. In 2011, LDWF acquired over 31,000 acres for the purpose of providing recreational opportunities and to conserve the state's diverse wildlife resources indigenous to the respected areas.

Three parcels comprising a 587-acre tract, collectively known as White Kitchen, were added to the Pearl River WMA in St. Tammany Parish through a donation from The Nature Conservancy. The Steele Tract, an area of 582 acres, was added to the Bayou Pierre WMA in Red River Parish.

The Karlog Tract, 149 acres in Terrebonne Parish, was added to Pointe-aux-Chenes WMA through a transfer from Terrebonne Levee and Conservation District. Also

in Terrebonne Parish, the Bayou Dularge property, a one-acre tract, was acquired for boat launching and storage. Lastly, LDWF acquired ownership of the MC Davis Tract, comprising 29,632 acres, which was added to the Maurepas Swamp WMA. This acquisition includes portions of St. John, St. James, Livingston and Ascension parishes.

WILDLIFE MANAGEMENT AREAS

The Wildlife Division was re-organized in fiscal year 2009-2010 in an effort to efficiently deliver statewide programs including the WMA program. This reorganization included the assignment of four biologist managers in four ecoregions to administer the WMA program within that ecoregion. Personnel changes during fiscal year 2010-2011 resulted in the further reduction to three biologist managers. The ecoregions consist of Gulf Coastal Plain (east and west) and Mississippi Alluvial Valley (north and south).

West Gulf Coast Plain (WGCP) WMAs

(385,148 acres):

- Alexander State Forest
- Bayou Pierre
- Bodcau
- Camp Beauregard
- Clear Creek
- Elbow Slough
- Fort Polk
- Jackson-Bienville
- Loggy Bayou
- Marsh Bayou
- Peason Ridge
- Sabine
- Sabine Island
- Soda Lake
- Walnut Hill
- West Bay
- Union

Habitat ranges from extensive coastal marshes, to prairies and vast agricultural areas, to hardwood bottoms, to rolling hills of pine plantations, and mixed pine-hardwoods.

The WMAs are managed to provide diverse wildlife habitat that supports numerous game and non-game wildlife and provides quality outdoor recreational opportunities for the public. A total of 115,726 user days were estimated for WGCP WMAs. Managed deer hunts were conducted on several of the WMAs to collect accurate information on herd health and hunter success rates. Collectively managed hunts results on WGCP WMAs were 7,372 hunter efforts and 1,126 deer harvested.

Special guided youth-only lottery turkey hunts were conducted on Ft. Polk, Jackson-Bienville, Loggy Bayou and Union WMAs. In addition to the regular physically challenged hunts scheduled on several WMAs, a lottery physically challenged hunt was conducted on Sabine WMA. The Sabine physically challenged hunt is done in conjunction with the local organization known as HELP (Hunters Enriching the Lives of People). Persons participating in the hunt are provided food and transportation to blinds and assisted with recovering/cleaning deer and any

special needs. The hunt is intended to get people into the field that may not otherwise have an opportunity to hunt.

The WMAs are managed for a variety of fish and wildlife and to provide outdoor recreational opportunities. These areas are readily accessible and are very popular with the public. Along with public hunting and fishing opportunities, these areas provide many types of non-consumptive activities. Four wheelchair-bound hunting blinds were built in the "Limited Use Area" of Clear Creek WMA, and two were built on Alexander State Forest WMA which provided deer and turkey hunting opportunities for qualified hunters.

The WMAs are leased free of charge to LDWF for public use from private landowners (Forest Capital Partners LLC, Roy O. Martin, U.S. Army, U.S. Forest Service, Forest Investments, Calcasieu School Board, Molpus, Weyerhaeuser and the State of Louisiana). To continue these lease areas, region personnel are required to meet and negotiate annual agreements with the landowners. The leases help the landowners to properly manage and maintain their properties for wildlife and public recreation.

WGCP personnel administered a variety of Wildlife Division activities. These include environmental assessments, technical assistance, research, planning, development, management, and alligator and nuisance animal programs. Technical advice is provided to the public, NWRs, and state, federal and local agencies. WGCP personnel handled a large number of resident alligator hunting applications, issuing public lake and private land licenses, as well as processed nuisance complaints. A total of 309 wood duck nesting boxes were maintained and monitored by WGCP WMA personnel.

Personnel also reviewed and monitored oil and gas exploration activities and interstate pipeline installations on several WGCP WMAs. Haynesville Shale gas production/exploration on Loggy Bayou and Bayou Pierre WMAs created a heavy demand on the time of the WGCP WMA Biologist Supervisor located in the Minden office. A minimum of 50 percent of his workload was related to mineral production activities.

Special projects conducted on various WGCP WMAs included the following. A gobbler mortality study on Peason Ridge WMA was started. Sixteen gobblers were captured, banded and released as part of this study. Renovations were made on the Ft. Polk WMA bunkhouse. Through cooperation with mineral lease holders, significant improvements were made to the road and trail system on Loggy Bayou WMA. A new bridge was completed as well as major improvements to the primary access road. In addition, approximately two miles of ATV trails were rebuilt and significantly upgraded. Other improvements were made to a boat launch, camping area and various parking areas. Soda Lake WMA had a new access road and parking area constructed on the northern end of the area.

East Gulf Coast Plain (EGCP) WMAs (164,837 acres):

- Ben's Creek
- Hutchinson Creek

- Joyce
- Lake Ramsey Savannah
- Manchac
- Maurepas Swamp
- Pearl River
- Sandy Hollow
- Tangipahoa Parish School Board
- Tunica Hills

Habitat types range from marshes and swamps, to rugged loess bluff uplands.

The WMAs are open for public use such as hunting, fishing, bird watching, sightseeing, boating, hiking, horseback riding, photography and berry picking, as well as many other outdoor recreational activities. Over 129,111 user days were recorded on the WMAs during fiscal year 2010-2011. An alligator season was open on four WMAs with a harvest of 858 alligators by 14 commercial alligator trappers. To facilitate recreational alligator harvest, 59 additional people were selected by lottery to harvest up to three alligators each on the Pearl River and Joyce WMAs. The recreational hunters harvested 148 alligators. EGCP personnel maintained existing WMA boundaries, buildings, equipment, roads and trails. Managed public hunts were also conducted on several WMAs. Combined results for managed deer hunts were 1,147 hunter efforts with a total of 65 deer harvested.

On Sandy Hollow WMA, the NRCS Wildlife Habitat Incentive Program (prescribed burning) and cogongrass control projects were completed. Three miles of bird dog field trial courses were maintained, as well as six dove fields and 10 acres of upland bird food plots. Alligator egg collections were monitored by EGCP personnel on Manchac, Pearl River and Maurepas Swamp WMAs. A total of 3,876 eggs were collected.

EGCP personnel maintained 207 wood duck boxes, 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 white-tailed deer brain and lymph node samples across the region for CWD testing. EGCP personnel continued to work with the deer program manager to collect deer reproductive data to better pinpoint peak deer breeding periods within the ecoregion.

Feral hogs that can threaten native wildlife populations continue to expand in many parts of the ecoregion. Aggressive control methods have been used on certain WMAs, such as Pearl River, to reduce their numbers. Each year, feral hog blood samples are tested for a variety of diseases.

Mississippi Alluvial Valley - North (MAVN) WMAs (125,355 acres):

- Bayou Macon
- Big Colewa Bayou
- Big Lake
- Boeuf

- Buckhorn
- Floy Ward McElroy
- Ouachita
- Russell Sage
- Sicily Island

The primary habitat type found on MAVN WMAs is the Mississippi River Alluvial Valley bottomland forest, with the exception of Sicily Island Hills 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 forest hardwood species. Moist soil management units and greentree reservoirs are managed to provide habitat for waterfowl and other wetland birds.

MAVN biologists conducted a wide range of activities including research and surveys involving mourning doves, Canada geese, wood ducks, wild turkey, bald eagles, bobwhite quail, shorebirds, white-tailed deer and other species. Additional effort was expended conducting public meetings, interacting with various universities as well as parish, state and federal agencies in reference to projects of mutual concern, conducting the alligator management program at the ecoregion level, and numerous additional projects.

MAVN WMAs were managed to provide habitat for deer, turkeys, squirrels, waterfowl, rabbits, doves, shorebirds and other non-game birds and furbearers, as well as other species. Recreational opportunities were provided to thousands of hunters, fishers, campers, sightseers and other public users. Recreational user days recorded for MAVN WMAs exceeded 85,000. Deer hunting was extremely popular with 16,766 hunters harvesting 1,063 deer during the either-sex gun, primitive weapon and archery hunts. Youth deer and dove hunters on Big Lake, Boeuf, Buckhorn, Ouachita, Russell Sage and Floy McElroy WMAs had a successful season. Deer and waterfowl hunting opportunities were provided for wheelchair confined hunters on Big Colewa Bayou, Buckhorn and Ouachita WMAs. Turkey hunting was provided on Bayou Macon, Big Lake, Boeuf and Sicily Island Hills WMAs. Bayou Macon, Big Lake, Boeuf, Buckhorn, Ouachita and Russell Sage WMAs provided quality waterfowl hunting for 5,352 hunters, including some who traveled from out of state. The largest greentree impoundment on Russell Sage WMA was undergoing renovation and not available to duck hunters, thus reducing the potential number of hunting efforts. A total of 7,289 small game hunters enjoyed squirrel and rabbit hunting.

MAVN WMA technicians performed a variety of development and maintenance functions such as boundary marking, road maintenance, water control structure operation, moist soil management, timber marking, shorebird management, beaver and other nuisance animal control, farm contract supervision, equipment maintenance, public user data collection, vegetation control, food plot planting, and reforestation. They also assisted biological staff in conducting managed hunts and research projects. One new ATV trail was completed on Boeuf WMA.

The "Wish I Could ATV Trail Ride," an annual one-day ATV trail riding event, was held on Boeuf WMA on June 4, 2011. The event attracted 2,800 ATV riders who entered the WMA to ride the 17-mile long trail. This ATV trail ride is sponsored by a charitable organization and is legislatively mandated. Even though this event is extremely popular, it has caused extensive ecological damage to hundreds of acres of bottomland hardwood habitat, virtually destroying the original ATV trail.

Mississippi Alluvial Valley - South (MAVS) WMAs
(256,812 acres):

- Acadiana Conservation Corridor
- Attakapas
- Dewey W. Wills
- Elm Hall
- Grassy Lake
- Little River
- Pomme de Terre
- Red River
- Sherburne
- Spring Bayou
- Thistlethwaite
- Three Rivers

Catahoula Lake is an additional area of responsibility, encompassing upwards of 30,000 acres.

One USFWS Refuge (Atchafalaya NWR) and two US-ACE properties (Bayou des Ourses and Shatters Bayou) are also managed within the MAVS.

Habitat types range from mixed pine-hardwoods to backwater bottomland hardwoods interspersed with agricultural lands, and cypress-tupelo swamps to open-water areas.

MAVS 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 other state agencies, USFWS, USACE, Louisiana Department of Natural Resources, Louisiana Department of Environmental Quality, USDA, and local parish entities. MAVS personnel helped administer 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, road maintenance, water control structure operation, moist soil management, beaver and other nuisance animal control, farm contract supervision, equipment maintenance, public user data collection, vegetation control, food plot planting, reforestation, and conducting managed hunts.

Recreational user days recorded on MAVS WMAs totaled 153,394* by hunters, fishers, campers, sightseers, bird-watchers and other public users.

** No use recorded on Grassy Lake, Attakapas and Sherburne WMAs during the month of June due to Mississippi River Flooding event.*

White-tailed deer is the most popular game species hunted in the MAVS. Either-sex deer hunts were held on WMAs, with over 10,300 user-days recorded, with approximately 900 deer harvested on these hunts. Bucks-only, youth/handicapped, archery and muzzleloader hunts also took place, where an additional 1,000 deer were harvested. Turkey hunts were held on seven WMAs, where 117 turkeys were harvested by an estimated 1,568 users. This includes 31 youth hunters who participated in the Sherburne, Spring Bayou, Grassy Lake, Pomme de Terre and Thistlethwaite WMAs youth lottery hunts. A member of NWTf or MAVS staff member served as a guide for each youth hunter to ensure a quality hunt and teach youth the techniques and safety of turkey hunting. Squirrel and rabbit hunting is also very popular on the ecoregion's bottomland hardwood WMAs, accounting for over 18,587 user days. Waterfowl hunting is very popular as well on MAVS WMAs in moist soil impoundments, greentree reservoirs, swamps and flooded bottoms. Waterfowl user days totaled over 9,642 for this period. Dove fields are maintained, along with many acres of food plots. Hogs have populated many of our WMAs and have become another hunting opportunity. Permits were issued to take hogs with the aid of dogs and live transport hogs off of the WMAs during a special late season. Over 650 permits were issued to individuals for this purpose.

Biologists and technicians maintain and monitor over 600 wood duck boxes, conduct pre-season wood duck banding, and collect samples for CWD, Avian Influenza and other disease testing. They also assisted with numerous nuisance animal complaints, illegal captive deer and sick deer complaints. Biologists assisted LSU researchers with ongoing research projects.

Youth lottery deer and duck hunts were also held in MAVS, with great success on these hunts. Seventeen youth waterfowl lottery hunters harvested 83 ducks, for an average of 4.9 ducks per youth hunter. Seventy-eight youth deer lottery hunters harvested 14 deer, but many deer were observed and some harvest opportunities were missed. These hunts are held in refuge areas set aside for youth hunts, where these youth hunters have a quality hunt and learn about hunting in a safe environment. Wheelchair-bound waterfowl and deer hunts were held in MAVS with much participation and success from this group of hunters.

Alligator applications were reviewed, and licenses and tags were issued to about 60 WMA hunters. There were six WMA alligator hunters who bid on tags on the WMAs, all WMAs hunters participate in the season. These hunters were issued 190 tags, with all tags being filled. The average length of the alligators harvested was over 7 feet, with an average price of \$15 per foot received for the alligators; the larger alligators brought about \$25 per foot. In addition to these hunters, 54 lottery hunters were issued 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 MAVS areas included road grading, culvert replacement, spot road repairs, drainage improvements, beaver control, boundary work, sign replacement, self-clearing station maintenance, vegetation control, equipment maintenance, and facility upkeep. In addition, WMA personnel conducted user interviews and operated weigh stations. Wildlife food plots were also planted on several MAVS WMAs.

Efforts to improve the road system on Dewey Wills WMA continue. Spot repairs on all WMA roads were made as funding allowed.

MAVS WMA personnel participated in the Mississippi River flooding event, with several of the MAVS WMAs affected by the high water. Sherburne and Attakapas WMAs were affected by the opening of the Morganza Floodway and MAVS personnel assisted in evacuation of equipment from these areas. Personnel from MAVS also assisted in the monitoring of wildlife and structural damages to the area and with repairs after water had receded.

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 forest/wildlife research activities.

Harvest preparations, including sale layout, inventory, regeneration counts, marking, Geographic Information Systems (GIS) map development, proposal preparations, and sale amendments, were completed on Big Lake, Dewey Wills, Red River, Russell Sage and Three Rivers WMAs. Economic struggles in the forest industry contributed to low interest and prices for timber sales. Harvests to improve wildlife habitat were attempted and/or conducted on Boeuf, Dewey Wills, Grassy Lake, Red River, Russell Sage, Spring Bayou and Three Rivers WMAs.

Chemical treatments of invasive/non-native species, primarily Chinese tallowtree and cogongrass, continued on Lake Ramsey, Pearl River, Sandy Hollow and Sherburne WMAs. No beetle outbreaks were reported on Sicily Island or Little River WMAs this year. Beaver control activities continued with beavers removed from Big Lake, Boeuf, Buckhorn and Dewey Wills WMAs. No forest loss was reported this year from beaver activity. Drought conditions brought forth difficult trapping conditions this year, resulting in the low trapping numbers.

Monitoring the impacts of Hurricane Katrina on the forest resources of Pearl River WMA continued. This monitoring included research on woody/herbaceous response, arthropod response and bird response. Search efforts for the ivory-billed woodpecker continued on the area with aerial and ground searches initiated and completed. Monitoring efforts also continued on Sherburne WMA to document the impacts of hurricanes Ike and Gustav.

Reforestation work continued on LDWF properties with concentration on Boeuf and Red River WMAs. Site development and preparation, seedling and seed planting, survival plot establishment, and survival checks were completed. Approximately 131 acres were reforested/afforested during the 2010-2011 planting season.

Acorn and other tree seed collections, along with purchase of quality seed, were conducted to ensure a seed and seedling source for future reforestation efforts. The annual WMA mast survey aids this effort by concentrating collection efforts where the most needed species are available. The mast survey also provides an indication of the future abundance of forest wildlife species such as squirrels.

GPS work on WMA trails, roads, lakes, compartments and area boundaries was accomplished to aid the WMA management program. GIS program development continued with emphasis on updating timber sale data, boundaries, roads and streams to complement WMA forest management and development activities.

Growth Monitoring Plots were read on Loggy Bayou and Hutchinson Creek WMAs. These permanent plots aid in monitoring habitat conditions and long-term effects of the forest management program on the habitat components represented on the WMAs.

An avian productivity and survival monitoring project continued on Sherburne WMA with seven stations and on Pearl River WMA with two stations. Forestry Section personnel provided support for this project, expected to continue for 10 years (this completed year eight). Results from this study will aid in understanding of avian use of various silvicultural treatments applied across WMAs.

Forestry Section personnel continued to implement the Louisiana Statewide Red-cockaded Woodpecker (RCW) Safe Harbor Program (SHP) to benefit the federally and state endangered RCW. LDWF has entered into a total of 14 Safe Harbor Management Agreements, enrolling 431,620 acres in the RCW SHP with 100 baseline RCW family groups and two above-baseline RCW family groups. LDWF personnel conducted annual site visits to 12 SHP properties to confirm compliance with the voluntary RCW management activities that each landowner agreed to implement on their property and to provide technical assistance regarding RCW management. Forestry Section personnel continue to promote SHP via press releases, presentations at public forums, and the LDWF website.

Forestry Section personnel also continued to implement the Louisiana Landowner Incentive Program which provides cost-share dollars for RCW management on SHP enrolled lands. Management activities eligible for funding include RCW artificial cavity installation and maintenance, prescribed burning, herbicide treatments to remove hardwood midstory in pine stands, mechanical removal of hardwood midstory in pine stands, and RCW demographic monitoring. Participating landowners provided a 25 percent match to the federal Landowner Incentive Program funds LDWF

received from USFWS. All of the federal dollars have been distributed to private landowners (\$155,000 total) via professional service contracts. A final report for this project will be generated by February 28, 2012.

Forestry Section personnel performed RCW demographic monitoring and management for 13 RCW family groups at Alexander State Forest WMA located in Woodworth. These activities include but are not limited to:

- annual activity status checks of over 200 RCW cavity trees.
- adult RCW capturing and color banding.
- RCW nest checks and nestling color banding.
- RCW fledgling checks to determine survivorship.
- RCW artificial cavity installation and maintenance.
- midstory control in 14 RCW cluster sites.
- providing technical assistance to Louisiana Department of Agriculture and Forestry staff regarding timber management to benefit the RCW.

In addition, Forestry Section personnel performed RCW demographic monitoring for one RCW family group at Southeast Louisiana Hospital located in Mandeville and provided training and technical assistance to USFWS staff performing RCW demographic monitoring for 17 RCW family groups at Big Branch Marsh NWR in Lacombe. LDWF staff assisted USFWS personnel in the translocation of four subadult RCW pairs to Big Branch Marsh NWR from Kisatchie National Forest and Fort Polk.

Other survey and research projects on the WMAs that were supported by Forestry Section staff involved wildlife use of forested habitats and their response to various silvicultural treatments. Continued research efforts, especially long-term, will be sought and cooperatively engaged in to learn more about the forest systems managed across the state. Continuing education for the Forestry Section staff occurred through participation at various workshops, seminars, research meetings and conferences throughout the year.

PRIVATE LANDS PROGRAM

The private lands program offers technical assistance to 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 turkeys, but includes all wildlife and their habitats - from hummingbirds to long-leaf pine savannahs.

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 USDA NRCS programs such as the Wetland Reserve Program, Conservation Reserve Program or Wildlife Habitat Incentives Program. LDWF 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 fiscal year 2010-2011, private lands program biologists made 219 site visits with landowners, wrote 30 management plans for 341,825 acres, conducted 50 deer browse surveys covering 227,423 acres, and responded to 13,953 requests for information. Under an agreement with USDA NRCS, private lands program biologists conducted 419 inspections of Wetland Reserve Program properties to assess conditions and make recommendations for management.

Private Lands Program biologists are actively engaged with other agencies and organizations to deliver conservation services. Program biologists chair the LA Prescribed Fire Council and Louisiana Conservation Delivery Committee. They are also active partners on the TX/LA Longleaf Pine Task Force, West-Central Louisiana Ecosystem Partnership, Louisiana Coastal Chenier Restoration Committee, and other groups focused on natural resource management of private land in Louisiana.

Private lands program biologists are also responsible for carrying out activities such as duck and dove banding, wildlife surveys, collection of biological data for research, habitat evaluations, issuing of alligator tags, delivery of DMAP, and public outreach. Private lands biologists also responded to the BP Deepwater Horizon (BP-DH) (MC252) oil spill and the 2011 Mississippi River flood.

EDUCATION

Conservation education is a vital part of the LDWF mission. The Education Section within the Wildlife Division focused on three main areas: Hunter Education, Aquatic Education and General Wildlife Education .

Staffing for the Education Program consists of 13 educators who work in the field, three supervisors who have field responsibility in addition to their supervisory duties, one administrative specialist, one education manager, and one education program manager. Three wildlife technicians staff LDWF-operated shooting ranges, and one maintenance repairer is responsible for maintenance of an education facility, including a shotgun and air rifle range. In spring of 2011 one supervisor position was added to the education section to balance the load of supervisor to subordinates. This position was gained by converting a field educator position to a field supervisor position. Additionally, a field educator position was lost as this position was vacated by the incumbent employee and not refilled as an education position.

HUNTER EDUCATION

LDWF's Hunter Education Program provided training and certification in hunter education, bowhunter education and muzzleloader education, as well as assisting with other related educational programs.

Administration

Certification cards for hunter and bowhunter education students and instructor courses were provided to persons who successfully completed the necessary requirements. Hard copies were filed, as well as stored electronically, for all courses administered.

In August 2009, an on-line registration program was implemented, whereby users can register for a hunter education course on-line. Known as "Event Manager," this program contains a calendar which displays a schedule of hunter and bowhunter education courses being taught and allows the user to choose a course and then register for the class they choose. This program has proved to be very user friendly for the public. Currently work is being done to allow students registered through this system to be electronically submitted into the Hunter Education data base after successful completion of the course.

Due to travel restrictions, no LDWF staff attended the International Hunter Education Association Convention in 2011, but did attend the Region 4 Hunter Education Administrators Meeting in Little Rock, AR.

Student Certification

Student certifications for hunter education were down overall from last fiscal year but up in the category for alternative study (on-line course). Requests for bowhunter education continues to decline as this requirement is no longer mandatory on federal refuges in Louisiana. Certification details are as follows:

HUNTER EDUCATION			
Course Type	# Courses	# Students	Percentile
Classroom Course	407	13,099	82%
Alternative Study	118	2,915	18%
Total	525	16,014	100%
BOWHUNTER EDUCATION			
A total of 150 people for 14 courses were certified in bowhunter education in Louisiana.			

Instructor Training

A total of 96 new volunteer hunter education instructors were trained and provided with credentials to teach hunter education in the State of Louisiana through eight instructor courses. Additionally, one bowhunter education instructor course resulted in 16 persons being certified to teach bowhunter education. One statewide workshop was planned and carried out at Camp Grant Walker in Pollock, La. with 90 instructors in attendance. Awards were presented to volunteer instructors for outstanding service to the program. Also, service awards were presented to all instructors statewide based on years of service. These awards are given in five-year increments of service as a volunteer instructor.

Volunteers contributed 15,602 hours of in-kind service time for fiscal year 2010-2011.

HUNTING INCIDENTS

A total of 14 hunting incidents were documented for fiscal year 2010-2011. All were Class A incidents with four being fatal. Results were compiled by type and category and entered into the National Hunter Education Incident Database. Information on these incidents was presented to instructors at the 2011 Volunteer Instructors Workshop. A spreadsheet detailing this information was given to each instructor to use in hunter education courses. A review of hunting incidents that occurred during the 2010-2011 hunting season revealed that most took place due to the fact that the user was unaware that the firearm's safety was in the off position, even though no game was being shot at when the incident occurred. As a result, the Hunter Education Program launched a "Safety ON" program whereby attendees in hunter education courses were given safety bands to place on their hunting firearms as a reminder to keep the safety on until time to fire. Major factors for these incidents were as follows:

HUNTING INCIDENTS (Fiscal Year 2009-2010)	
Type	# Victims
Victim Out of Sight of Shooter	2
Victim Moved into Line of Fire	1
Failure to Identify Target	1
Trigger Caught on Object	1
Loading Firearm	1
Careless Handling of Firearm	1
Shooter Stumbled and Fell	4
Discharged Firearm In/Out Vehicle	1
Firearm Fell from Insecure Rest	1
Fall While Climbing In/Out of Position	1
Total Incidents	14

SHOOTING RANGE/TRAINING FACILITIES

Two education centers and four public shooting ranges are available to the public through LDWF's Education program.

Bodcau Shooting Range

Located in Bossier Parish on Bodcau WMA this shooting facility consists of 12 shooting points for rifle and 10 for handgun. A shotgun shooting station with one clay target thrower and a 10-target archery range allows shooters to participate in recreational target shooting as well as sharpen their skills for the hunting season. The range is open to the public three days a week and is staffed by one technician. Upgrades to this facility completed this past fiscal year included the addition of a pre-cast concrete bathroom for public use, increased size of parking lot, and aggregate placed on parking lot and access road to the range. The walkway to the range from the parking lot was improved and boarders placed along each side. The maintenance shed was increased in size to accommodate more storage space as equipment inventory continues to grow.

Woodworth Education Center

The Woodworth Education Center, located in Rapides Parish, contains both classroom and sleeping facilities and a public shooting range. In the spring of 2010, a complaint of an errant round fired from a rifle at the Woodworth range was reported to the manager at Woodworth. It was found that a bullet had struck a building at a State Forestry Headquarters located behind the range. An investigation followed, and as a result the range was shut down due to safety concerns. Since then the range (shotgun & rifle) has been dismantled and rebuilt with the direction of its firing line being oriented away from the Forestry complex. A handgun range was added to increase the safety factor of handgun use. Handguns are generally fired at shorter distances than long guns such as rifles and require a range with a berm that accommodates that distance. This prevents ricochets that can occur when handguns are used on a range built for rifle use. The range has reopened for public access and now provides shotgun, rifle and pistol shooting opportunities, with archery and aquatic education opportunities being developed. The range is staffed by one Wildlife Technician with assistance being provided by the on site manager and student worker. Volunteer help to operate the range is provided by the Bayou State Muzzleloaders Association as well as other volunteers from the local community.

Sherburne Shooting Range

Located in Pointe Coupee Parish, the Sherburne range consist of two shotgun ranges, one archery range, one handgun range, and one rifle range. It is operated by one technician and is available to the public seven days per week. On May 14, 2011 the Morganza Spillway was opened to relieve floodwaters from the Mississippi River which lead to flooding on Sherburne WMA. Consequentially, the Sherburne Shooting Range was completely inundated and experienced considerable damage. The range was reopened to the public for use on Aug. 1. The classroom building used to teach hunter education was flooded and will have to be gutted and remodeled if it is to be used again.

Waddill Outdoor Refuge

The Waddill Outdoor Refuge in East Baton Rouge Parish provides an outdoor education environment in an urban setting. A classroom, solar power shotgun range, and outdoor setting provide an ideal opportunity to teach hunter education. The refuge is staffed by one biologist educator and one technician. In the spring of 2011, an air rifle range was constructed at Waddill. The range consists of 12 shooting points that accommodate both youth and adult. This project was funded through a donation from NWTFF and the use of federal aid dollars

Honey Island Shooting Range

The Honey Island Shooting range, located on Pearl River WMA in St. Tammany Parish, is managed under an agreement with Southeast Louisiana Firearms Safety, Inc. This group of volunteers is a non-profit organization that completely handles all aspects of operating the range for public use. Shotgun, rifle and handgun shooting opportunities are available to the public. Solar power is in the

process of being installed at the range to provide electrical service. All expenses are being covered by range fees collected by Southeast Louisiana Firearms Safety, Inc. The range is open to the public three days per week. Some of the members also serve as hunter education instructors and offer field day courses at the range.

Volunteer hours accrued from the Woodworth and Pearl River ranges totaled 9,096, providing a substantial contribution to our Education Program.

AQUATIC EDUCATION

The Education Section of LDWF introduces people to the sport of fishing and promotes awareness of the aquatic resources in the state through both public programs and teacher training.

Administration

Volunteer hours from field activities were documented and stored electronically, as well as hard copies filed. Standard equipment such as fishing tackle to be used for fishing programs was purchased as needed. In addition, aquatic staff participated in the following conferences: American Fisheries Society Conference, Louisiana Science Teachers Association, and the Environmental Education Symposium.

Curriculum & Training

Clinics

Aquatic education clinics were held statewide that resulted in 6,553 volunteer hours generated. Subjects covered in aquatic education clinics include outdoor ethics, fish identification, tackle selection and fishing techniques. Participants also are involved in actual fishing activities.

Publications

Three publications were distributed to teachers in the school system for classroom use:

- "Fishing For Fun" - 9,627 distributed
- "Let's Go Fishing" - 8,473 distributed
- "Finnie the Fingerling" - 5,059 distributed

These publications promote an appreciation of aquatic resources and their habitat.

Workshops

Teacher workshops were conducted to provide training in aquatic education that can be brought back to the classroom. The following workshops were conducted:

Wetland Education for Teachers (WETSHOP)

Due to budget reasons WETSHOP was moved from June to July on a yearly basis. The June schedule placed this program in the last month of each fiscal year. This often made hosting this program difficult from a fiscal standpoint. WETSHOP was hosted in July 2011 at the LDWF's new marine laboratory facility in Grand Isle, La. It will be reported on in the 2011-2012 Annual Report.

Coastal Wetland Workshops

Given that WETSHOP was not held in fiscal year 2010-2011, no coastal wetland workshops were conducted.

Hatchery Education

Educational programs were held at the Booker Fowler Fish Hatchery to demonstrate the techniques used to raise fish in an artificial environment. Tours of the hatchery were conducted for school students and the general public. Educational materials and special presentations were made available through the visitor center. There were approximately 550 students educated through the hatchery aquatic education program during fiscal year 2010-2011.

Native Fish in the Classroom (NFC)

NFC is a multidisciplinary, classroom-based aquaculture stewardship project for intermediate to high school students. The goal of the NFC program is to assist students in developing an attitude of stewardship toward natural resources and to create a constructive, active learning situation in which they can explore strategies for sustaining aquatic ecosystems. Students obtain hands-on, science-based knowledge of the state's native aquatic resources.

During the 2010-2011 school year, 19 Louisiana teachers participated in the NFC project which impacted approximately 550 students. Teachers attend several workshops and meetings to ensure successful preparation for receiving paddlefish eggs in the spring. Teachers and some students participated in the spring paddlefish spawn where they received paddlefish eggs. Louisiana paddlefish were raised from eggs to fingerlings by students and teachers in their classrooms. Students then made a field trip to the hatchery to return the fingerlings. The hatchery then released the student-raised paddlefish into suitable aquatic habitats.

"Finnie the Fingerling"

This workbook was developed to provide information on the inner workings of how the day to day operations of a fish hatchery are conducted. Readers are taken on a guided tour by "Finnie the Fingerling" of the Booker Fowler Fish Hatchery. Information is provided on how fish are spawned and released into the wild.

GENERAL WILDLIFE EDUCATION

National Hunting & Fishing Day

The general public is shown appreciation of its support by being invited to join LDWF in an open house atmosphere that involves hands-on activities and a closer look at department-sponsored programs. The Education Section provided training to the public in the safe use of shooting and fishing equipment. Four LDWF-sponsored events were held at the following locations: Bodcau WMA, Monroe Field Office, Woodworth Education Center, and Waddill Refuge.

A total of 7,004 participants attended.

Becoming an Outdoors Woman (BOW)

BOW continues to be a popular program with women interested in learning about outdoor recreation. Education staff and volunteers conducted activities which taught outdoor skills including shooting, fishing, canoeing and wildlife appreciation. One statewide event was conducted with 128 participants in attendance.

Families Understanding Nature (FUN) Camp

FUN Camp provides both fun and education to a parent and youth through a weekend of staff-lead outdoor activities. Family members are introduced to the safe use of firearms and other outdoor activities. The education staff participated in two FUN Camps for fiscal year 2010-2011.

National Archery in the Schools Program (NASP)

The Louisiana state NASP tournament was held March 19, 2011 at C.E. Byrd High School in Shreveport with 300 shooters in attendance. Currently 105 schools have been trained in NASP which has resulted in over 20,000 students trained in the NASP curriculum since it has started. In September 2010 a new NASP state coordinator for Louisiana was hired. He is stationed at the Woodworth Outdoor Education Center and also serves as site manager for that facility.

Non-governmental Organization Activities

The education staff supports and participates in activities sponsored by non-governmental organizations such as DU, NWTF and the Quality Deer Management Association which provide opportunities to educate the public about wildlife conservation and hunting safety.

COASTAL & NONGAME RESOURCES

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 area to Louisiana, with the original intention of providing a sanctuary and preserve for waterfowl. The refuge also serves as a research site for marsh management strategies (i.e., limiting saline encroachment, reversing marsh deterioration, and providing productive wildlife habitat), while also serving as a research site for fisheries and wildlife research by RWR staff and other governmental/academic agencies. RWR staff provides professional expertise for the implementation of international, federal and state legislation/regulations governing wise use of alligators, coastal wetlands and other important wildlife and fisheries resources. Further, management expertise and guidance is provided by RWR staff to local landowners of marshland. Lastly, RWR serves as a recreational outlet for the local populace, as well as a destination for regional tourists.

Active multiple use marsh management is the primary goal at RWR: to provide quality wintering habitat for waterfowl species while secondarily providing habitat for shorebirds, wading birds and estuarine organisms (i.e., fish, shrimp, and crabs). The goal of research activity on RWR is to disseminate findings to local, state, national and international audiences; since 1955, RWR staff has contributed over 500 professional publications, reports and professional conference abstracts to a wide array of audiences. The goal of public outreach with local landowners and/or state, federal and international groups on legislation/regulation is to encourage best conservation/management practices for fish and wildlife, as well as their habitats. RWR strives to provide a popular destination for recreational/tourist activity, primarily through the abundance of the fisheries resource (i.e., fishing, shrimping, crabbing) and the diversity of watchable wildlife (i.e., birdwatchers); it should be noted that recreational/tourist activity should not supersede any of the other previously mentioned RWR goals.

POST HURRICANE CONSTRUCTION/REPAIRS

RWR maintenance personnel continued post-hurricane repairs during 2010-2011. Reconstruction was completed



on the boathouse, lumber shed, boat shed and tractor shed that were destroyed by Hurricane Rita and significantly damaged again by Hurricane Ike in 2008. Total costs for these repairs totaled \$991,686.

The Capital Outlay Project planning process continued for reconstruction of the East Boat Launch in 2010-2011. Lonnie Harper and Associates continued work on the bid package for the \$2.88 million project. Construction is scheduled to begin in fall 2011.

Three Federal Emergency Management Agency (FEMA) mobile homes were purchased by the Louisiana Department of Wildlife and Fisheries (LDWF) and set up next to the West End Dormitory. The structures were elevated to meet flood zone elevation requirements. This action was necessary since the residences damaged by Hurricane Rita became uninhabitable. Three staff biologists moved into the mobile homes. Work continues on a bid package to demolish and rebuild the four biologist residences. Construction should begin in 2012.

LDWF personnel are continuing negotiations with FEMA and the Governor's Office of Homeland Security and Emergency Preparedness to reconstruct the laboratory and build a new alligator research grow out facility. RWR staff is working to have the lab and grow out facility moved to the storm platform area for storm surge protection and efficiency. Work will continue on the project in 2012.

A RWR Programmatic Review was conducted by the U.S. Fish and Wildlife Service (USFWS) during October 2009. This is in compliance with the 1919 RWR Foundation Deed of Donation as modified in the 1944 and 1988 Memorandum of Agreement between the service and LDWF. They reported LDWF was doing an exemplary job of managing the land base, and they were favorably impressed with the habitat. They were concerned that more post-hurricane repairs had not been made stating, "regardless of potential FEMA funding, the department should consider using trust money and reimburse the trust when FEMA monies are received." The USFWS is still voicing concern that significant post-hurricane construction did not begin in 2010-2011.

OIL SPILL RESPONSE

As the 2010 British Petroleum Deepwater Horizon (BP-DH [MC252]) oil spill continued throughout the summer, RWR staff continued to conduct weekly shoreline surveys looking for washed up tar balls, as well as injured or oiled wildlife. Aerial surveys, attending BP expos, responding to oiled wildlife calls from the Houma office, and weekly meetings (with U.S. Coast Guard [USCG], BP, USFWS, the Office of Homeland Security, and state and parish officials) were among the many responsibilities that refuge staff assumed throughout the duration of the spill.

RWR served as a staging area during the spill for USCG and environmental contractors working for BP. The lumber shed was used to house tens of thousands of feet of boom-line, anchors, floats and other oil response supplies. The refuge also stored many boats and ATV vehicles for groups involved with the oil spill response. Many individuals with state and federal agencies or uni-

versities have since visited the refuge to investigate and study the impacts of the spill on southwest Louisiana, or to use the refuge as a control site to other impacted areas to the east. Staff also participated in the releases of many cleaned and rehabilitated birds at the back of Price Lake Road near the RWR shoreline due to the minimal impacts sustained. A wide range of species were released including gulls, terns, egrets and frigatebirds. Staff finished up monitoring in late fall of 2010, finding little to no impact to the refuge shoreline and/or southwestern Louisiana waters from the BP-DH (MC252) oil spill; effort was thereafter shifted to recovery and translocation of brown pelicans (see "Nongame Wildlife Program" section).

MARSH MANAGEMENT, RESTORATION, HABITAT ENHANCEMENT AND MINERAL MANAGEMENT

Marsh Management

RWR staff maintains over 200 miles of levees and 40 water control structures for the conservation of approximately 76,000 refuge wetland acres and 100,000 private sector acres within the Mermentau River Basin. Objectives of maintenance and manipulation of the refuge'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 production of waterfowl food plants, and incorporate multi-species management when possible. In a way to document these schemes, biological staff completed and received approval for the RWR management plan, which will act as a tool to guide research/management on the property.

Emergency actions to reduce flooding, stop salt water intrusion, and restore hydrology continued as a result of damage sustained from Hurricane Rita in 2005 and Hurricane Ike in 2008. Maintenance personnel continued cleaning ditches and repairing levees and water control structures in Units 4, 5, 6, 15, West Goose Pasture, and Price Lake, which encompass 32,640 wetland acres. Additionally, the maintenance crew repaired the 9-pipe structure along Rollover Canal that provides water level and salinity control to 10,000 wetland acres on Vermilion Corporation property east of the refuge.



Maintenance staff developed and completed a bird viewing trail at the Nunez Woods, west of the refuge. LDWF has a lease agreement with the landowners to allow public access to the area. This is one of the most popular sites to observe neo-tropical migrants as these woods serve as a resting and refueling habitat; the trail permitted better access to the property and we expect it to be a popular coastal birding trail.

Maintenance staff spent considerable time at White Lake Wetlands Conservation Area (WLWCA) completing two bridges, constructing an observation tower, and completing levee repairs at the new public birding trail. RWR staff also performed dredging from the Florence Canal to the hunting lodge.

RWR biological and maintenance staff assisted in securing a \$600,000 North American Wetlands Conservation Act grant to install a new lo-lift pump and refurbish levees and ditches in the 700-acre management unit at WLWCA. Work began on the project in 2010-2011. This unit will serve in the future as a whooping crane release site and waterfowl management area.

Marsh fires during the right time of the year have been shown to decrease fuel loads of marsh vegetation, prevent unwanted lightning fires during the spring/summer, and also provide new stem growth for migratory waterfowl species, especially geese. Generally, one-third of the refuge is burned on a yearly basis. During fiscal year 2010-2011, approximately 7,600 acres were burned in Units 3, 5, 8, 14, and Price Lake. Several staff members also attended a marshland prescribed burning workshop and certification course, with all receiving approval as Certified Prescribed Burn Managers for Marshlands.

Restoration and Habitat Enhancement

LDWF entered into an agreement with U.S. Army Corps of Engineers (USACE) and other regulatory agencies to construct the Rockefeller Mitigation Bank to offset wetland losses caused by adverse impacts which occur following activities in Louisiana's Coastal Zone. The major objective of LDWF in establishing the Mitigation Bank is to compensate for impacts occurring on RWR. However, it still may be considered as compensation for impacts outside the refuge provided there are no available approved mitigation projects.

LDWF originally permitted three areas on RWR as potential wetland mitigation sites in 2000 (totaling 177.7 acres). Actual work began on the first site (4.7 acres) in 2007. Dredging was completed January 2008, and four months later it was surveyed. The final as-built-survey of the site was completed February 24, 2010, in compliance with requirements with our memorandum of understanding. On May 27, 2010, 1,350 *Spartina patens* plugs and 2,030 *Spartina alterniflora* plugs were planted. In June 2009, a contract was negotiated with HDR Engineering for the second salt marsh site (66 acres). The contract agreed to make surveys, develop specifications/drawings, bid/monitor the project, conduct regular meetings, and determine payment to the dredging contractor. They had 180 days to prepare the construction documents. Geotechnical work was completed in August 2009, and the scope of work prepared, ready for bid in March 2010. The bid process was completed and construction began during fiscal year 2010-2011.

RWR was fortunate to be selected for a Coastal Impact Assistance Program project to evaluate different test scenarios for shoreline stabilization. Presently the refuge is losing over 100 acres annually to beach erosion; this rate is six times greater than other areas of shoreline extending from Vermilion Bay to the Texas state line. Sponsored by Louisiana Department of Natural Resources (LDNR), the \$9.3 million project began in June 2009 with construction of a low profile reef breakwater section. This was followed by placement of a section of beach fill constructed of crushed stone, and the last test was a rock reef breakwater placed on a lightweight aggregate core. Project construction was completed in 2010-2011, and the light aggregate core was found to be the best alternative to reduce Gulf of Mexico shoreline erosion at RWR.

ORA Technologies, LLC also initiated a project on RWR in June 2007 to evaluate stabilization of canal banks with specially designed structures that promote the creation of artificial oyster reefs. In 2009 a graduate student began evaluating slightly different designs and measuring growth and material deposition. A version of this technology is planned to be tested for Gulf of Mexico shoreline stabilization.

The Bio-Engineered Oyster Reef Demonstration Project LA08 is sponsored by LDNR. Plans have been developed, permits obtained and funding requested for this project. The objective is to evaluate an oyster break system's capacity to reduce and/or prevent shoreline retreat and wetland loss. The system is patented technology with Oystercrete units composed of nutrients/texture that oyster larvae require and will be constructed 2.5 miles west of Joseph Harbor Bayou. Planning continued in 2010-2011.



Biologists continued cooperating with USFWS on their South Grand Chenier Hydrologic Restoration Project, Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) (ME-20). This included field trips, meetings, and review of dredge pipeline placement plans.

Mineral Management

During this fiscal year, the March 11, 2011 mineral lease sale for RWR resulted in 10 tracts totaling \$4,952,142 in bonus and rental, with a 25 percent royalty. The June 2011 mineral lease sale had one tract totaling \$31,329 in bonus and rental, with a 25 percent royalty. During fiscal year 2010-2011, \$797,726 in royalty was collected from the production of oil and gas on the refuge.

WATERFOWL PROGRAM

RWR and New Iberia staff conducted the visibility correction portion of the 4th Annual Mottled Duck Breeding Bird Survey. This survey is a cooperative effort of the Gulf Coast Joint Venture, USFWS, Texas Parks and Wildlife Department, LDWF, and Louisiana State University (LSU). It involves flying fixed-wing aircraft over 27 coastal transects and then "beating out" selected segments with a zig-zagging helicopter and traversing similarly selected segments with an airboat; this is done to develop a visibility correction factor to adjust estimates from the fixed-wing. The survey is conducted over four days with a one-day offset between fixed-wing and helicopter/airboat. RWR staff also conducted the airboat portion of the survey.

In 1994, RWR began a long-term mottled duck banding program to monitor annual survival rates and analyze distribution along the Gulf Coast between Texas and Louisiana. The banding effort is now a cooperative endeavor with Texas and Louisiana and involves many state and federal biologists, technicians and student workers. Some of the early analysis of data has shown high variability in survival rates with little mortality being attributed to hunting. Coastal and Nongame Resources Division biologists completed the 17th year of this program by banding 319 mottled ducks statewide in 2009, with much lower levels due to time commitments extended toward oil spill operations. Since the project inception in 1994, 35,803 mottled ducks have been banded.



ALLIGATOR REMOVAL AND FUR TRAPPING

An experimental nuisance alligator harvest was conducted on RWR from September 1-4, 2010. Nine RWR alligator hunters completed the harvest of 360 alligators during the four days. The actual harvest was done by alliga-

tor hunters with a prior trapping history on RWR and approved by LDWF (after successful completion of an enforcement background check). Hunting areas were distributed throughout RWR with the intent of taking alligators from areas with high public use, reducing the chance of negative interaction between alligators and humans. The average length of 2010 alligators caught was 7.43 feet with a \$12.36 average price per foot.

Fur trapping did not occur on RWR during fiscal year 2010-2011 due to the low numbers of furbearers present on the refuge after Hurricane Rita in 2005 and Hurricane Ike in 2008.

NONGAME WILDLIFE PROGRAM

Brown Pelicans

Brown pelicans (*Pelecanus occidentalis*) were common residents of coastal Louisiana, but nesting ceased in 1961 and they disappeared from the state in 1963 due to the use of pesticides. From 1968 to 1980, 1,276 young pelicans were reintroduced to Louisiana from Florida at three release sites. Since 1971, over 375,000 brown pelicans have been produced in Louisiana. This tremendous recovery spurred the brown pelican to be removed from the endangered species list on December 17, 2009.

Soon after brown pelicans were delisted, the BP-DH (MC252) oil spill occurred off the southeastern Louisiana coast and impacted many of the former barrier islands that harbored the highest brown pelican nesting densities. In the months after the oil spill, RWR biological and technical staff assisted with the translocation of 182 rehabilitated brown pelicans to Rabbit Island in Calcasieu Lake. Following the first translocation event, the pelicans were fed and monitored for 10 weeks; biologists documented mortality, movements and integration into local pelican flocks. Initially, the translocation appears successful due to the lack of mortality, quick integration with local pelican flocks, and persistence of translocated pelicans near Rabbit Island. RWR staff is working on submitting a manuscript which documents the release, techniques and outcomes of this study.



Whooping Cranes

In 2009, the Whooping Crane Recovery Team approved the reintroduction plan put forward by LDWF and RWR, which involved releasing captive-reared whooping cranes (*Grus americana*) into the marshes of southwestern Louisiana. In response, RWR maintenance staff built a permanent pen within the refuge impoundment at WLWCA (below), equipped with feeding platforms, an elevated island, an interior top-netted pen, and grated walkways for personnel movement to and from the pen site.

In February 2011, RWR staff reintroduced the first group of whooping cranes at WLWCA, marking the first time the species was back in Louisiana in over 60 years. A total of 10 juvenile whooping cranes were shipped from Patuxent Wildlife Research Center and placed in a top-netted pen at WLWCA, where the cranes could acclimate to the surrounding marsh.

Approximately one month later, these cranes were released into the wild, and as of June 31, 2011, seven



cranes were surviving on the landscape, primarily in agricultural areas of the historical Cajun Prairie. One crane was presumed to have been killed by predators, one disappeared and is presumed to be dead, and another had to be euthanized from a lung disease and other complications. In conjunction with management activities, Sammy King and Tandi Perkins (LSU) are using GPS data, along with field site visits, to research whooping crane habitat use and habitat characteristics.

Diamondback Terrapins

Following the BP-DH (MC252) oil spill, it became evident that critical information was lacking to adequately determine the status of diamondback terrapins (*Malaclemys terrapin*) in Louisiana. Therefore, RWR biological staff and technicians developed a pilot study with multiple objectives:

- to develop and test methods to reliably capture terrapins in Louisiana;
- determine if terrapins occur on RWR;
- determine the distribution/abundance of terrapins on RWR.

Studies determined that two methods, fyke nets with leads and airboat manual capture, were viable methods to capture terrapins. Approximately 150 terrapins were captured on RWR, with the highest densities occurring in the unmanaged eastern marsh of RWR. The techniques developed during this pilot study will be used in future years to document terrapin distribution/abundance across southwestern Louisiana, while a manuscript is in preparation to describe these methods.

RECREATIONAL USE

Marsh management units continue to be very popular with sports fisherman, resulting in overcrowding in many places on the refuge. Damages to levees and alterations of automatic features of structures that regulate water salinities and levels due to Hurricane Ike continue to be a problem. Continued heavy public usage on the East End/ Joseph Harbor boat launch continue to degrade both the launch and parking facilities, with improvements scheduled for late 2011/early 2012. According to data collected





in 2010-2011, it was estimated that RWR experienced approximately 26,015 man-days of public use, with 25,485 considered for consumptive use and about 530 for non-consumptive activities. These numbers are much lower than normal due to multiple equipment malfunctions, physical damage to, and theft of one of the car counting devices. This number represents around one-third to one-quarter of normal yearly visitation.

ESTUARINE FISHERIES PROGRAM

RWR staff's ability to manage estuarine organisms continues to be severely limited due to the destruction to levees/water control structures caused by hurricanes Rita and Ike; this will continue until repairs are completed and units are functioning as planned. Though the primary goal is habitat management/restoration, personnel are able to strategically allow ingress and egress of organisms into the Superior Canal complex and several other management units when habitat integrity will not be compromised. RWR continued its fisheries monitoring program in conjunction with various habitat management/restoration strategies. This sampling is in connection with the long-term program to identify and document effects of structural marsh management on marine organisms. Staff also continued efforts in stocking Florida-strain largemouth bass (*Micropterus salmoides v. floridanus*) to supplement populations on the refuge lost due to extreme drought conditions, as well as improve recreational fishing in the area where freshwater habitat is available. During the spring of 2010, approximately 91,360 fingerlings were released into the Superior Canal system, with two ponds being used to keep some of that year's fish class through the rest of the year to grow out to reach Phase II stage (4-6 inches in length). In March and April of 2011, these ponds were seined again and drained, producing approximately 1,780 Phase II fingerlings, along with an estimated 50,000 juvenile bass from an early spawn from the grow-outs.

Several of these less-than-1-year-old-fish showed very impressive growth, with one measuring 13.5 inches. These fish were also stocked in the Superior Canal system, as well as the freshwater canal system around the refuge headquarters to create a fishing/educational opportunity for youth groups that visit the refuge each year.

TECHNICAL ASSISTANCE, OUTREACH AND EDUCATION

Refuge personnel continued outreach programs, hosting several events to educate elementary, high school and college students in wildlife, marsh ecology and coastal erosion. Students were housed from various institutions including Mississippi State University waterfowl, Hiram College ornithology, University of Louisiana-Monroe field biology, University of Louisiana-Lafayette coastal sciences classes, and LSU AgCenter. RWR staff also participated in guided tours of the refuge with Ducks Unlimited (DU), Grand View Lodge, Oak Grove Hunting Club, The Ulster Group, and various other organizations/groups.

One of the largest groups the refuge hosts each summer is the 4-H Marsh Maneuvers Camp. In 2010, 42 high school students from 14 different Louisiana parishes participated in the month-long camp which is designed to educate high school students in the importance of coastal marsh erosion, restoration conservation and ecology.

Other technical assistance provided by RWR staff include:

- assisted the Louisiana Natural Heritage Program (LNHP) during annual winter plover surveys.
- guided U.S. Geological Survey (USGS) coastal scientists to RWR beaches and further discussion of shoreline erosion issues.
- guided USCG on survey of RWR beaches during the BP-DH (MC252) oil spill.
- participated in guided tours to the whooping crane pen site.
- provided technical assistance to The Coastal Club in order for them to better manage their marsh for waterfowl species.
- gave whooping crane presentations to multiple grade school, college and professional groups.
- coordinated with The Audubon Society to schedule volunteer efforts to help feed and monitor oil-impacted brown pelicans.
- assisted the Coalition to Restore Coastal LA in a *Spartina* grass planting/marsh restoration effort on Price Lake Rd. in August 2010.
- hosted a prescribed marsh burning class at the refuge taught by LSU AgCenter.
- traveled to Patuxent Wildlife Research Center in Laurel, Md. to receive training on the proper handling of whooping cranes
- guided Natural Resource Damage Assessment (NRDA) biologists for secretive marsh bird surveys.
- served as 2011-2012 secretary/treasurer of LA Chapter of the American Fisheries Society.
- planned, organized and held a Beach Sweep, collecting trash from RWR shoreline with 4-H kids.

RESEARCH AND PUBLICATIONS

A unique attribute of RWR is the emphasis on wildlife, fisheries and marsh management research. A list of publications by RWR staff and other division personnel conducted entirely or partially on the refuge is up-to-date and is available by request. Approximately 350 of the 550 research papers from this list have been scanned to elec-

tronic copies, and some are available on the LDWF website. Further, research was presented at regional and international meetings, with future collaborations developed from meeting attendance.

Current staff research includes:

- Documenting the distribution, abundance and life history of Louisiana diamondback terrapins (*Malaclemys terrapin*).
- Assessing the impacts of oil/gas exploration on grassland bird diversity and abundance.

During fiscal year 2010-2011, collaborative research projects include:

- Life history and ecology of alligator gar (*Atractosteus spatula*). B. Salyers with M. Felterman, J. Duke, and A. Ferrara, Nichols State University.
- Surveys of the aquatic turtle fauna in southwestern Louisiana, with emphasis on three Louisiana species of conservation concern. W. Selman with E. Lyons (McNeese State University), P. Lindeman (Edinboro University), and S. Shively (U.S. Forest Service [USFS]). Awarded \$156,211 from State Wildlife Grants and U.S. Fish & Wildlife Division of Scientific Authority.
- Hybridization and paternity in mottled ducks (*Anas fulvigula*). W. Selman with S. Taylor, Louisiana State University, Baton Rouge, LA.
- Louisiana diamondback terrapin (*Malaclemys terrapin*) conservation genetics. W. Selman with D. Gaillard and B. Kreiser, The University of Southern Mississippi, Hattiesburg, MS.
- Collection of Gulf killifish (*Fundulus grandis*) brood stock for LSU AgCenter reproduction/life history studies, and grow-out trials for information to aid the 'cocahoe' bait industry. B. Salyers with C. Green and C. Gothreaux.
- Continued trials on bio-engineered Oystercrete rings. S. Hall, J. Risinger.
- Monitoring mortality rates of adult rails with sub-lethal levels of visible oiling using radio telemetry. John Schmerfeld, USFWS and Marie Perkins, Biodiversity Research Institute.
- Oil impact study and population ecology of larval blue crabs. Erin Grey, Tulane.
- Evaluation of storm deposits in Chenier Plain lakes specifically looking for deltaic overwash fans collected in sediment cores. Alexander Kolker, LUMCON.

Publications by RWR Staff Biologists

- Selman, W. and T. Bocek. 2010. *Deirochelys reticularia reticularia* (Eastern Chicken Turtle). Geographic distribution note. Herpetological Review 41: 509.

- Selman, W. and A. Holbrook. 2010. *Graptemys gibbonsi* (Pascagoula Map Turtle). Geographic distribution note. Herpetological Review 41: 509.
- Selman, W. and M. Willig. 2010. *Macrochelys temmenckii* (Alligator Snapping Turtle). Basking behavior. Herpetological Review 41: 486.
- Selman, W., T.J. Hess, Jr., J. Linscombe, and L. Reynolds. 2011. An Extralimital Record of a Louisiana-banded Mottled Duck Recovered in South Dakota. Southeastern Naturalist 10:570-574.

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 the LDWF) is located in Vermilion Parish. The contiguous unit is 70,965 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 White Lake is 17.5 miles north of the Gulf of Mexico. The property averages 12 miles from east to west and nine 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 November 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 January 1, 2005, Act 613 of the 2004 Regular Legislative Session became effective. This act established:

1. Transfer of property management from White Lake Preservation Inc. to LDWF.
2. 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.
3. A special account within the Conservation Fund for the White Lake Property. On December 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.

SURFACE LEASES

Agricultural

There is currently 18,425 acres of property leased to five agricultural tenants for the purpose of farming rice, raising cattle and crawfish farming. There is a rice base totaling 4,670.3 acres on this agricultural property. There were approximately 1,500 acres of rice and 400 acres of soybeans planted in 2011. In the spring and early summer of 2011 we experienced drought conditions, which caused saltwater levels to rise once again in the Mermentau Basin. The primary source of water for our farmers to flood their crops comes from this basin, most notably the Gulf Intracoastal Waterway. Because of the concerns over having and maintaining adequate fresh water, there was no crawfish production on the property for the 2010-2011 crawfish season.

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 fresh-water marsh that was impounded in the late 1940s when agricultural activities first began on the property.

Hunting

There were a total of 12 waterfowl hunting leases on the agricultural properties. The lease acreage totals 15,185 acres. There is also one waterfowl-hunting lease on the marsh area located east of the Florence Canal. This lease contains 17,150 acres.

Trapping

There were a total of 479 Alligator Tags issued for the 2010 Alligator Trapping Season. The average size of the alligators trapped was 6.25 feet, with an average live length value of \$8.78 per foot.

There was a contract negotiated for the collection of alligator eggs from the WLWCA property in 2010. WLWCA received a payment of \$5.55 per egg. A total of 2,715 eggs were collected.

Fur trapping did not occur on WLWCA during this year due to the continued low numbers of fur-bearers on the property. There has been no fur trapping on this property for over 30 years because of the low numbers of fur-bearers.

Other Surface Leases

There were two campsite leases, three oil and gas valve site leases, and single oil and gas surface use agreement on the property in fiscal year 2010-2011.

LOTTERY ACTIVITIES

Waterfowl Lottery

Waterfowl Hunting		
	Total Hunts	Participants
Teal Lottery Hunts	9	103
Marsh Lottery Hunts	8	92
Youth Hunts	2	16
Rice Field Lottery Hunts	23	185
Group Hunts	14	130

Waterfowl Hunting Results (2010-2011 season)		
	Marsh	Rice Field
Total Ducks Harvested	2,596	434
Average Kill/Hunter (ducks)	4.19	2.35
Total Geese Harvested	328	42
Average Kill/Hunter (geese)	0.53	0.22

Fishing Lottery

2010

One-hundred fishing permits were issued at a cost of \$40 per permit. Permittees and their guest 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, 2010 to August 15, 2010.

2011

One-hundred fishing permits were issued at a cost of \$40 per permit. Permittees and their guest 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, 2011 to August 15, 2011.

NON-CONSUMPTIVE ACTIVITIES

LDWF established dates for the use of WLWCA facilities, located within the wetlands conservation area in Vermilion Parish, for non-consumptive group activities including nature photography, bird watching, educational field trips and business retreats. There were a total of nine day-trips and eight overnight trips made available for public booking during fiscal year 2010-2011. During this period there were two day-trips scheduled and hosted by WLWCA. A total of 23 nature photographers/bird watchers visited the property in conjunction with our non-consumptive trip activities.

Birding Trail

In the spring of 2009 work began on the White Lake Birding Trail that is scheduled to be completed in the spring of 2012. The trail is on approximately 30 acres of property located on the northern boundary of the property where LA-91 ends. This site was selected because it will be easily accessible to the public and because of its close proximity to the WLWCA Headquarters complex. Birding paths, parking area, access bridges, birding tower and picnic pavilion have been completed. Construction of a kiosk will be completed in the spring of 2012 prior to the trail being officially opened.

EDUCATION, OUTREACH & RESEARCH

Marsh Maneuvers

During December 2010 WLWCA was host to a group of 16 high school 4-H students for three days. The three-day camp was designed to educate the students on the importance of coastal erosion, restoration, conservation and ecology. They were also able to go on a simulated waterfowl hunt and were taught waterfowl identification techniques. They participated in a sporting clay shoot where they were instructed on gun safety and the proper use of a shotgun.

Coastal Prairie

The 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 LNHP has been doing research on the different plant species located on this prairie. Several trips are made annually to examine and collect plant species. Most of these plants will be deposited at the LSU Herbarium. To date, approximately 95 different species have been identified. Larry Allain of the Wetlands Center will be the lead author on a publication that will report on the flora and vegetation.

Whooping Crane Re-Introduction Project

WLWCA assisted the Whooping Crane Reintroduction Project by providing office space, staff and vessel support. In addition, WLWCA staff assisted with improving and maintaining the 700-acre impoundment located approximately 3.5 miles north of the existing pen location. The improvements included refurbishing the existing levee system and the installation of a 36-inch lo-lift pump system, which will facilitate and enhance water management capabilities for this unit.

MARSH MANAGEMENT, RESTORATION, HABITAT ENHANCEMENT AND MINERAL MANAGEMENT

Marsh Management

The WLWCA property consists of approximately 52,000 acres of fresh water marsh and 19,000 acres of agricultural land. There are four separate management units that comprise the marsh. Within these marsh areas there are over 100 miles of trenasses, five water control structures, three pumping stations, and over 30 miles of levees, all of which are operated, managed and maintained by WLWCA personnel. Objectives of maintenance and manipulation of the refuge'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 food plants, and incorporate multi-species management when possible.

As part of the overall management of the WLWCA properties, in the fall of 2008 a comprehensive set of Rules and Regulations was drafted and presented to the Wildlife and Fisheries Commission for approval. The White Lake Rules and Regulations were approved by the Commission and became effective in the spring of 2009.

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. The South Kaplan Field (approx. 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 is now the sole oil and gas operator on the WLWCA property. 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.

BP retained the mineral rights to the remaining WLWCA acreage that is not covered under the mineral properties sold to the above-mentioned operator. BP granted a mineral lease in 2010 to Houston Energy, L.P. on a portion of this acreage. LDWF/WLWCA negotiated a surface lease with Houston Energy, L.P. to facilitate the drilling of an exploratory well, which was located on the WLWCA property in Section 6, Township 14 South, Range 1 West, Vermilion Parish, La.

MAINTENANCE OF FACILITIES AND EQUIPMENT

There are approximately 20 acres of property associated with the White Lake Lodge Facility, Sporting Clay Course, Skeet Range, Birding Trail and Florence Canal Landing area. This acreage is maintained and landscaped throughout the year by WLWCA personnel.

Routine maintenance on the WLWCA buildings and equipment was conducted throughout the year.

The 24x70-foot barge that we use to transport heavy equipment was scrapped, and a new 24x60-foot barge was purchased.

Plans were drafted and permits were applied for to repair and expand the main boat house located at the Florence Landing. This project is scheduled to be completed in fiscal year 2011-2012.

Routine maintenance was performed on our fleet of more than 25 boats. Our four mud boats were dry-docked and repainted, and other routine annual maintenance was done.

FINANCIAL REPORT 2010-2011

Totals	
Beginning Fund Balance	\$2,312,015
Total Revenue	\$824,918
Total Expenditures	-\$1,142,533
Ending Fund Balance 2010-2011	\$1,994,400

Revenue	
Group Hunt Fees	\$398,495
Agricultural Leases	\$195,434
Hunting Leases	\$102,500
Alligator Egg Collection	\$88,150
Lottery Hunt Fees	\$47,745
Alligator Trapping Income	\$10,519
Interest Income	\$8,217
Mineral Bonuses	\$123,351
Surface Leases	\$72,317
Surplus Property	\$20,800
FEMA Reimbursements	\$0
Fishing Lottery	\$4,546
Total	\$824,918

Expenditures	
Salaries	\$311,414
Wages	\$81,621
Related Benefits	\$137,557
Travel	\$8,960
Operating Services	\$125,147
Supplies	\$129,121
Professional Services	\$ 104,104
Other Charges	\$0
Acquisitions	\$177,125
Major Repairs	\$24,218
Interagency Transfers (insurance)	\$43,267
Total	\$1,142,533

FURBEARER MANAGEMENT

MONITORING FUR HARVEST

The 2010-2011 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. 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 insure that Louisiana otter and bobcat are tagged with federal export tags (a federal requirement for out-of-country shipment).

Records indicate a total of 1,957 trapping licenses were sold during the 2010-2011 trapping season. Of these, 1,866 were adult residential licenses, 25 were adult non-residential trapping licenses, and 66 were youth residential licenses. These figures show an increase in trapping licenses sold when compared to the previous season (1,623).

A total of 350,723 animals were harvested (all species), which was a decrease of 103,079 from the previous season's total of 453,802. The total value of the 2010-2011 fur harvest to the state's trappers was estimated at \$1,853,545.35. This total value was a decrease of \$425,851.24 from the previous season.

The nutria harvest (338,512) decreased by 107,451 from the previous season's total of 445,963. The average nutria pelt price paid to trappers during this past season was \$1.80. An additional \$5 was paid for all nutria taken during the Coastwide Nutria Control Program (CNCP) by registered participants.

COASTWIDE NUTRIA CONTROL PROGRAM (CNCP)

CNCP is funded by the CWPPRA. The objective is to decrease the damage to coastal vegetation that is caused by nutria by increasing the incentive for harvest. During the 2010-2011 season, a total of 338,512 nutria tails, worth \$1,692,560 in incentive payments, were collected from 287 participants. Ninety-two participants (32 percent) turned in less than 200 tails, 65 participants (22.6 percent) turned in 200-499 tails, 30 participants (10.5 percent) turned in 500-799 tails, and 100 participants (34.8 percent) turned in 800 or more tails.

Total Number of Nutria Harvested by Method of Take in 2010-2011

There were 19 parishes represented in the program with harvests ranging from 286 to 80,241 nutria per parish. Plaquemines Parish reported the highest number of tails with 80,241 followed by Terrebonne and St. Mary parishes with 65,190 and 43,533, respectively.

March was the most active month for harvesting nutria (91,966 tails) while November was the least active month (12,959 tails). (See CNCP 2011 Report, CWPPRA Project LA-03b.)

Vegetative Damage Caused By Nutria

As a monitoring requirement of CNCP, a coast-wide aerial survey was conducted in the spring of 2011 covering the coastal parishes of Louisiana. The total number of sites visited in 2011 was 11, all of which were classified as nutria damage in 2010. During the 2011 survey, ten of the 11 sites were classified as nutria damage, and one was considered recovered.

The 2011 survey identified 10 sites (nutria) with a total of 1,679 acres impacted by nutria feeding activity along transects (6,296 extrapolated). This is approximately a 26 percent decrease from the 2,260 damaged acres reported in 2010. CNCP continues to be a successful means of controlling the nutria population with over 300,000 ani-

mals harvested annually. Consequently, the number of nutria-impacted acres in Louisiana's coastal marsh has also decreased significantly.

FUR ADVISORY COUNCIL

The Fur Advisory Council continued to work towards its two major goals. The first goal of educating the public concerning the role of wildlife utilization in conservation is directly associated with the second goal of market enhancement for fur products.

The Fur Advisory Council has continued their education program in order to counter misleading animal rights propaganda and to enhance market potential. The educational module paired with the educational CDs continued to be a great success. Requests for sample skins and programs have been tremendous. Staff and volunteers presented at numerous schools and libraries during fiscal year 2010-2011. The Fur Advisory Council continued with a presence at large public events such as the Science Teachers Association and the Environmental Education Symposium. The website carried the educational story to a much broader audience of teachers and students. The success of our education program will likely determine the future of markets.

The international fur market continues to be very dynamic, and many internal and external factors affecting buying trends and markets are still present. Mainland China still holds the brightest future for new and expanded markets, and Chinese fur buyers purchased from Louisiana this year. A group of Chinese fur buyers visited Louisiana fur dealers and LDWF staff this year as well. China is catching up with its knowledge base, and dealers are eager to learn about Louisiana furs. The Chinese economy is growing quickly. The Fur Advisory Council attended fur shows in mainland China and Hong Kong during fiscal year 2010-2011. The Beijing Fur Show is bigger every year, and buyers are very interested in Louisiana products. The Fur Advisory Council has followed a marketing plan of working in several countries that are gateways to China.

MARSH MANAGEMENT

Fur and Marsh Management Section staff continued to work with sponsoring agencies on several CWPPRA and restoration projects (i.e., annual monitoring and inspections) within Coastal Refuges and wildlife management areas (WMAs). These efforts have been greatly assisted through the utilization of 18 YSI continuous data recorder stations which monitor critical water quality parameters (i.e., water depth, temperature, specific conductance and salinity) across south central and southwest coastal management and refuge areas. The recorders or "sondes" (Model: YSI 600LS) are currently located at:

- **State Wildlife Refuge (2)** - Lake Tom and the Hell Hole.
- **Marsh Island Refuge (7)** - Little Charles Bayou, Belly Dam Canal, Lucien Bayou, Lake Long and East Oyster Branch. In addition, two sondes are located within the Northeast and Southeast management units.
- **Atchafalaya Delta WMA (1)** - Log Island Pass.

- **Wax Lake (Atchafalaya Delta WMA) (1)** - Wax Lake near East Pass.
- **Pointe-aux-Chenes WMA (4)** - Three sondes are evenly distributed throughout the 5,000-acre impounded unit. One sonde was located inside the Montegut impoundment but has been removed. One sonde is located in Wonder Lake just outside the Hydrological Monitoring Unit for use as a reference of external environmental influences. *NOTE: Please see overview of Pointe-aux-Chenes Hydrological Restoration Monitoring.*
- **Lake Salvador WMA (3)** - North End (Davis Pond), South West (adjacent to WMA camp) and Gulf Canal (adjacent to Lake Cataouatche).

POINTE-AUX-CHENES HYDROLOGICAL MONITORING

(Initial Construction Completed: 2007)

LDWF was awarded a grant from the North American Wetlands Conservation Act to construct a Water Management Unit on Pointe-aux-Chenes WMA. The 5,000-acre unit is located in the center of the Pointe-aux-Chenes WMA and has been managed to enhance a deteriorated salt/brackish marsh that is now 75 percent open water (*NOTE: In 1956 this same area consisted of 99 percent vegetated fresh marsh*). LDWF's management priorities for this project include:

- Re-establish emergent vegetation in shallow areas.
- Increase plant and animal species diversity.
- Reduce turbidity.
- Increase submerged aquatics.

These priorities have been previously accomplished utilizing late winter/early spring draw-downs to expose shallow water bottom and edge to stimulate vegetative growth. During maintenance years, water levels would be maintained at marsh level (+0.5 feet NAVD88) and salinities would be limited to at or below 8 ppt.

LDWF is responsible for pre/post biological and hydrological monitoring/reporting of the Pointe-aux-Chenes impoundment. These monitoring and reporting activities include:

- Checking water levels and salinities at monitoring stations (Continuous recorders and discrete samples).
- Recording water control structure activities.
- Collecting fisheries samples (April-September).
- Conducting annual ocular vegetation composition.
- Conducting annual aerial waterfowl surveys.
- Conducting hunter participation/harvest surveys.

NOTE: A monitoring report which details key environmental parameters and habitat utilization is annually submitted to LDWF personnel and project collaborators.

Summary

LDWF efforts to reduce the influence of saltwater intrusion within Pointe-aux-Chenes WMA have been very limited. The unit's three water control structures (i.e., S1 [Island Road], S2 and S3 [Fisheries Structure]) are essentially non-functional due to extensive damage associated with various named hurricanes resulting in the staff's

inability to regulate water flow/levels within the impoundment. To date LDWF staff awaits resource allocation to add/repair/replace water control structures, levees and terraces designed to achieve the project's stated objectives.

MINERALS MANAGEMENT

The Mineral Program is responsible for ensuring that mineral activities on all LDWF properties are compatible with the environment, and that WMA/refuge goals and objectives are met. Mineral Program staff reviewed and evaluated 72 well locations, pipeline projects and other mineral exploration related permits on LDWF properties. The program also issued two rights-of-way and three surface leases, and 25 mineral leases were allowed on LDWF properties during fiscal year 2010-2011. All of these projects are reviewed and coordinated with field personnel to ensure that they are compatible with LDWF management area programs.

The Mineral Program generated fees in excess of \$36 million, which included mineral royalties, rights-of-way, surface leases and seismic fees. In addition, the Mineral Program staff issued 81 airboat/marsh buggy permits for various activities on LDWF properties. The Mineral Program also coordinated with the Office of Conservation for the removal of numerous abandoned oil and gas facilities on WMAs and refuges. The Mineral Program continues to work closely with other programs within LDWF and the Coastal Management Division within LDNR in the implementation of the efforts of the streamlining of Coastal Use Permits. In addition to the above mentioned duties, the Mineral Program has also undertaken the duties associated with LDWF's Dredge Fill Program. Approximately 75 to 100 dredge licenses are issued annually generating approximately \$1 million in annual revenue.

The Mineral Program also applied for and received five USACE permits for projects on LDWF properties, one permit for a project on WLWCA, and one permit for a project on RWR.

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, non-governmental entities 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. In fiscal year 2010-2011 the Habitat Section was divided into the five following programs: Louisiana Natural Heritage Program; Louisiana's Wildlife Action Plan and State Wildlife Grants; Statewide Environmental Investigations; Louisiana Natural and Scenic Rivers Program; and Permits Coordination.

The Habitat Section is comprised of 17 full-time technical staff members. Every member of the Habitat Section participated in LDWF's response to the BP-DH (MC252)

oil spill, including reconnaissance/recovery of oiled wildlife, leading media tours, monitoring sensitive habitats, recommending placement of boom and other protective measures, conducting pelagic surveys, assisting in Incident Command Center and field office operations, and coordinating wetland regulatory activities. A total of 196 man-days were dedicated to the response in fiscal year 2010-2011.

LOUISIANA NATURAL HERITAGE PROGRAM (LNHP)

LNHP is responsible for the conservation of Louisiana's rare, threatened and endangered (RTE) species and habitats. LNHP staff conducts research on species and habitats of conservation concern. We work with landowners that have rare species and habitats to promote their future survival. Data concerning rare elements is collected and stored in our Biotics database system. This data is then used to determine if there are any potential adverse impacts to the environment.

In fiscal year 2010-2011, LNHP staff conducted 1,290 project reviews and produced 27 digital data agreements for various public and private projects, assessing possible impacts on (RTE) species and natural communities. A total of 530 new or modified Element Occurrence Records were entered into the Biotics database. An Element Occurrence Record includes precise locations, species population status, and habitat conditions and characteristics for a species or community of conservation concern. LDWF staff, federal and state agencies, and private consultants apply LNHP data to land use decisions, environmental impact assessments, resource management, conservation planning, endangered species reviews, research, and education. Staff also reviewed and commented on 13 seismic and/or micro-seismic projects and the impact of these projects on tracked species and communities. LNHP reviewed nine multi-jurisdictional projects which included two Department of Defense requests. New data concerning the Louisiana pine snake, plovers, waterbird nesting colonies, and numerous freshwater fish species were added to the database.

LNHP administered federal aid grants for species of special concern through the Endangered Species Act Section 6 Program, Multi-state State Wildlife Grants (SWG), and participated in Louisiana's SWG Program. Section 6 projects included the following species: Louisiana black bear, Louisiana pine snake, Louisiana pearlshell mussel, ringed map turtle, and the ivory-billed woodpecker. Funds were also acquired through Section 6 to create an online website for environmental reviews for RTE species, as well as a grant to coordinate the state's endangered species projects. A grant was acquired to write a white-nosed syndrome plan for Louisiana bat species. The Section 6 Cooperative Agreement between LDWF and USFWS was renewed.

Section 6 funds allowed staff to work on a multitude of RTE species issues including:

- Staff worked with USFWS, USFS and Grant Parish officials to resolve a potential Endangered Species

Act violation concerning a Louisiana pearlshell mussel creek. A sandbar was removed from a pearlshell creek that was caused by road construction.

- Staff assisted USFWS in visiting the last known gopher frog breeding sites in Louisiana. Staff contacted landowners in potential gopher tortoise habitat and visited these sites. Gopher tortoise burrow sites were mapped and assessed in Washington and St. Tammany parishes.
- Ringed map turtle trapping was conducted on the Pearl River to determine the status of the population.
- A Louisiana pine snake reintroduction was begun in Grant Parish. Staff along with partners from USFWS, USFS and the Memphis Zoo released juvenile snakes and installed automated PIT tag readers to monitor their success. Several miles of utility rights-of-way were assessed to determine the dangers to the pine snake from erosion control cloths.

LNHP participated in the civil restitution updates for Title 76. LNHP provided an updated list of RTE species and worked on the restitution values for RTE species. LNHP continued to partner with USFWS and Natural Resources Conservation Service (NRCA) on Endangered Species Act coordination.

LNHP coordinated with forestry section for timber prescriptions on two WMAs.



Louisiana pine snake reintroduction.



Ringed map turtle trapping in the Pearl River.

Ongoing State Wildlife Grants (SWG) Projects

Avian projects funded through SWG included:

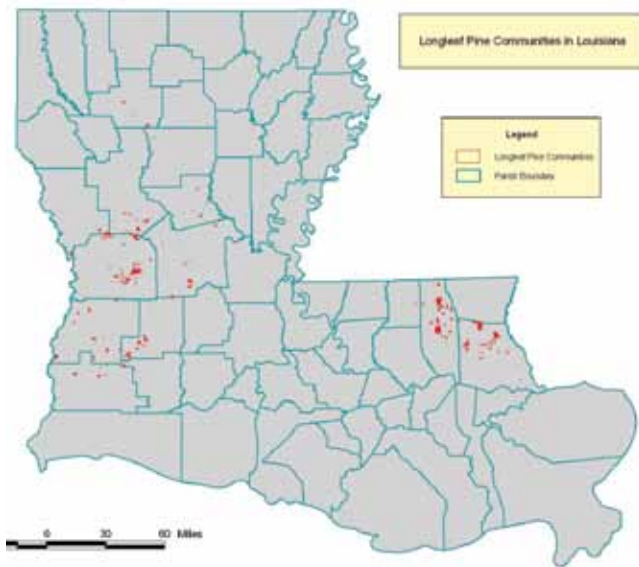
- Monitoring Avian Productivity and Survivorship Program
- Christmas Bird Counts
- Rusty Blackbird Surveys
- Breeding Bird Surveys

Habitat related projects included:

- Longleaf Savannah Surveys
- Natural Areas Registry
- S1,S2 Habitat Assessments
- Coastal Prairie Restoration

Upland Longleaf and Longleaf Sandhill Habitats

A multi-state SWG grant was obtained to restore upland longleaf and longleaf sandhill habitats in Washington, St. Tammany and Tangipahoa parishes. This project is also being conducted in Alabama, Florida, Georgia and Mississippi. The goal is to have a 20 percent improvement in the vegetative characteristics of these sites. The goal of the longleaf savannah project was to assess how many acres of longleaf are left in Louisiana and to work with landowners to conserve these areas. The results of this project indicate that there are 70,853 acres of longleaf in Louisiana.



Longleaf Pine Communities in Louisiana.

The majority of longleaf sites were located in Beauregard and Allen parishes. The biggest threats to longleaf were conversion to loblolly plantations and fire suppression. LNHP staff initiated a coastal prairie restoration project at Midland Prairie in Acadia Parish in conjunction with the Acadiana RC&D Council. The prairie remnant was cleared of all woody vegetation and bush hogged. Future plans include prescribed burning and seed collection for other restoration sites.

Natural Areas Registry Program

The LNHP Natural Areas Registry Program, partially supported by SWG funds, has over 36,000 acres enrolled across the state. Six new registry sites were registered in fiscal year 2010-2011, totaling over 900 acres. Management guidelines for upland longleaf, lakes and saline prairies were written for commercial timber companies this year. Due to the efforts of LNHP, these companies recognized the importance of these unique communities found on their properties. The Natural Areas



Reed's Bluff natural area on the Tangipahoa River.

biologist worked with NRCS to write management plans for Natural Areas landowners and to provide them with cost-share opportunities.

Alligator Snapping Turtle

LNHP also partnered with Inland Fisheries division to start an alligator snapping turtle headstart program. The goal of this project is to determine the population status of the alligator snapping turtle in Louisiana, and introduce headstarted turtles into depleted areas. A telemetry project will determine if headstarted turtles have a better survival rate than turtles hatched in the wild. A memorandum of understanding was developed between LDWF and USFWS to research this species, and the hatchling turtles are being housed at the Natchitoches Fish Hatchery for winter of 2011-2012.



Alligator snapping turtles at fish hatchery.

Abbeville Red Iris

A legislative appropriation was given to LDWF for fiscal year 2010-2011 to determine the status of *Iris nelsonii* (Abbeville red iris), and provide a public access site. This species is the only plant endemic to Louisiana and is found entirely on private property in Vermilion Parish. Staff contacted landowners in the species range and con-



Midland prairie remnant.



Abbeville red iris (*Iris nelsonii*) on private property in Vermilion Parish.

ducted site assessments to determine what the iris's habitat needs were. Staff also promoted research on this species's genetics and pollinators through the University of Texas at San Marcos. A public access site was established at Palmetto Island State Park. A memorandum of understanding between the Office of State Parks and LDWF was completed for this project, as well as for developing future cooperative displays on this site. A display and iris planting were developed, as well as an interpretive program. An annual iris and neo-tropical bird festival will occur each spring starting in April 2013. Satellite educational materials are on display in Erath and at two sites in Abbeville. Several newspaper articles were published as a result of this project, and local support for the conservation of this rare species has been positive.

Oil Spill Response

LNHP assisted significantly in the BP-DH (MC252) oil spill response and subsequent NRDA projects. Staff responded to emergency permit applications, conducted pelagic surveys for oils sea turtles and birds, conducted island colony sweeps, and captured oiled birds along the coastline. Aerial surveys of coastal waterbird colonies were conducted from Marsh Island to Biloxi Marsh to prioritize oil spill carcass response. Secretive marsh call-back surveys were conducted coast wide. Comments for NRDA protocols were provided for aerial bird surveys, beach bird surveys, breeding shorebird surveys, colonial waterbird surveys, secretive marshbird and fiddler crab surveys, piping plover surveys, and raptor surveys.

Staff conducted media tours for various outlets during the BP-DH (MC252) oil spill. We also assisted the USCG and St. Tammany Parish with the Fort Pike oil protection strategy. NRDA plans were reviewed for small mammals, manatees, sea turtles, marine mammals, otters and terrapins. Staff participated in technical committees for sea turtles, marine mammals, birds and terrestrial and aquatic wildlife, as well as participating in daily NRDA conference calls.

Staff participated in many committees during fiscal year 2010-2011, including:

- Louisiana Forestry Association Endangered Species Committee.
- East Gulf Coastal Plain Joint Venture Board.
- Wildlife Diversity Program Managers Group.
- Louisiana Wildlife Federation.
- Louisiana Association of Professional Biologists.
- TX-LA Longleaf Understory Working Group.
- EGCP JV Open Pine DFC Committee.
- Nonbreeding Piping Plover Meeting.
- Gopher Tortoise Council.
- SE Partners in Amphibian and Reptile Conservation.



Wine Island



Bird banding at the Grand Isle Migratory Bird Festival.

- SEAFWA Endangered Species Committee.
- LDWF Website Committee.
- Title 76 Civil Restitution Committee.
- Louisiana Native Plant Society.
- Gopher Tortoise Bank Review Team.
- Louisiana Pine Snake Group.
- Chinese Tallow Working Group.
- Natural Areas Association.

Public events that staff participated in included:

- Grand Isle Migratory Bird Festival.
- Audubon Nature Day.
- numerous media tours and interviews concerning the BP-DH (MC252) oil spill.
- National Hunting and Fishing Day.
- presentations to hunting clubs on the Louisiana pine snake.
- various high school and elementary talks.

Professional development courses and workshops attended included:

- Louisiana Department of Agriculture and Forestry Prescribed Fire Class.
- Tara Avian Point Count Training.
- Wetland Plant ID Course.
- Invasive Plant Control Workshop.
- USFWS PR Funds Workshop.
- Biotics Support Clinic on Proposed Spatial Methodology.
- Remote Sensing Workshop.
- Longleaf Restoration Workshop.
- Landowners and Longleaf Seminar.
- BLH DFC Workshop.

LOUISIANA'S WILDLIFE ACTION PLAN AND STATE WILDLIFE GRANTS (SWG)

In November 2001, Congress created the SWG program. According to the Federal legislation that established the program, SWG was established "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 is a crucial aspect of the SWG program, as many of these species previously had no existing source of funding. In fact, the SWG program has now become the primary funding source for non-game conservation nationwide, with the stated goal of preventing species from being federally listed as threatened or endangered.

Congress stipulated that each state fish and wildlife agency that wished to participate in the SWG program develop a Comprehensive Wildlife Conservation Strategy by October 2005. In response, LDWF developed a comprehensive planning document to establish conservation needs and guide the use of SWG grant funds for the next 10 years. The document, known as the state's Wildlife Action Plan, was submitted for approval to the National Advisory Acceptance Team and was subsequently approved in December 2005. The Wildlife Action Plan is the roadmap for non-game conservation in Louisiana, and must be reviewed and revised every 10 years to insure that it remains an effective tool for conservation planning and implementation.

The SWG program is funded by annual Congressional appropriations. The 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 SWG program, the state of Louisiana has received \$9,969,850 in federal SWG funding, with an apportionment of \$680,000 in fiscal year 2010-2011. Louisiana has funded 94 projects through the SWG program to date. Funded SWG projects have included biological inventories, research projects, habitat management, and the development and maintenance of databases. A wide range of species have benefited from SWG funding in Louisiana, including the Louisiana black bear, whooping crane, swallow-tailed kite, alligator snapping turtle, freshwater mussels, and neo-tropical migrant songbirds.

SWG proposals are accepted by LDWF on an annual basis, and include projects developed by department personnel, non-governmental organizations and universities. SWG proposals are reviewed by LDWF's SWG Committee, consisting of 17 biologists representing the Coastal and Nongame Resources Division, Inland Fisheries, Marine Fisheries, and Wildlife Division.

During fiscal year 2010-2011, 13 new project proposals were received for funding consideration. Twelve proposals received approval by the SWG Committee by the end of fiscal year 2010-2011 (*Table 1*), and had been submitted to USFWS for approval, along with all required documentation. After grant closings on June 30, 2011, there remained 34 ongoing SWG-funded projects, including the 12 new projects.

During fiscal year 2010-2011, six SWG grants were closed (*Table 2*). Copies of final reports for all closed SWG grants are available to interested parties upon request. Twenty grant amendments were submitted to USFWS during fiscal year 2010-2011.

TABLE 1

New Louisiana State Wildlife Grants Opened During Fiscal Year 2010-2011	
T-12-4	Database for Tracking S1-S2-S3 Species
T-16-3	Natural Areas Registry Program for S1-S2-S3 Vertebrates
T-30-3	Productivity and Survivorship of Landbirds and Their Response to Habitat Alteration
T-72-3	Bear Conflict Management Program
T-83-2	Promotion of Prescribed Burning in the East Gulf Coastal Plain
T-94	Surveys of the Aquatic Turtle Fauna in Southwestern Louisiana
T-95	Coastal Bird Monitoring: Colonial Nesters and Secretive Marsh Birds
T-96	Salt Dome Hardwood Forest Breeding Bird Point Counts
T-97	Species diversity and relative abundance of a butterfly community visiting <i>Iris nelsonii</i>
T-98	Migration, Home Range, and Habitat Use of LA Bald Eagles
T-99	Telemetric Study of Feral Hogs in Mixed Hardwood-Loblolly Pine Forests
T-100	Spoil Island Management at the Atchafalaya Delta for Mottled Ducks and Seabirds

TABLE 2

Louisiana State Wildlife Grants Closed During Fiscal Year 2010-2011	
T-48	Restoration of Coastal Prairie and Longleaf Pinelands for Bird Species of Concern
T-58	Insect Assemblages on Rare Saline Prairies
T-59	An Inventory of Spiders in Northwestern Louisiana
T-65	Barrier Islands as Nesting Habitat for Louisiana Birds of Special Concern
T-70	Survey of Fishes and Mussels of 4 Southwestern Louisiana river systems
T-79	Population Demographics of Louisiana Black Bears

In June 2011 the Association of Fish and Wildlife Agencies reached out to all states for examples of successful conservation projects that were funded by the SWG program. Louisiana was able to provide two examples of SWG success stories (Louisiana black bear and whooping crane) for inclusion in the publication "State and Tribal Wildlife Grants Program: 10 Years of Success," published by the Association of Fish and Wildlife Agencies (online at: http://www.fishwildlife.org/files/StateWildlifeGrants_10YearSuccess-Report.pdf). The publication was distributed to Congress to highlight successful work in each state made possible by the SWG program.

STATEWIDE ENVIRONMENTAL INVESTIGATIONS

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 LDNR and USACE. Staff members received and reviewed 1,925 state and federal permit applications during fiscal year 2010-2011 (a record total). It was determined that compensatory mitigation was required on approximately 418 of the 1,925 projects reviewed. 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. *Figure 1* shows the dramatic increase in the number of permits being applied for and is a good indication of the increased demand on staff in the last two years.

Staff saw a significant increase in the number of USACE Vicksburg District 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 in the Haynesville Shale of northwest Louisiana. 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. As a direct result of this surface water need, LDWF worked with the LDNR and the Louisiana Department of Environmental Quality (LDEQ) to provide USACE regulators with a single comprehensive and technically sound guidance document for each Section 10 permit application.

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 fiscal year 2010-2011, staff conducted 85 on-site field inspections and participated in 104 meetings with applicants, agents and regulatory agency personnel.

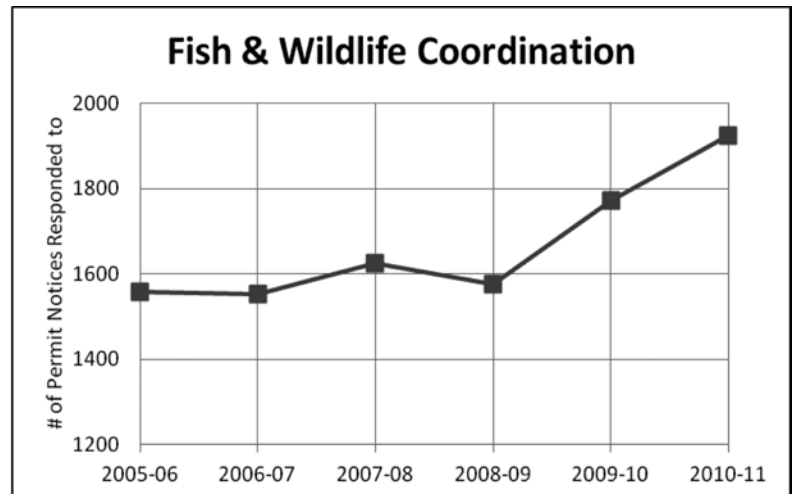


FIGURE 1.

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 fiscal year 2010-2011, staff evaluated, inspected and provided technical comments and recommendations on approximately 40 proposed wetlands mitigation banks. A total of nine wetland mitigation banks were approved and authorized in Louisiana during fiscal year 2010-2011, totaling over 4,900 acres statewide. Staff also attended all Interagency Review Team meetings and as many of the site investigations as was possible.

Staff continued to serve on the Louisiana Ground Water Resources Commission which met bimonthly. The purpose of the commission is to develop a statewide water management plan not only for ground water use and conservation, but also for surface water. The commission is working to complete the comprehensive plan in early 2012.

Staff continued to provide technical assistance to USACE related to post-hurricane (i.e., Katrina, Rita, Gustav and Ike) levee refurbishment, planning of improved hurricane protection systems, and identification of suitable compensatory mitigation to offset implementation of such systems.

Staff were involved in the planning and evaluation of eight proposed Federal Energy Regulatory Commission (FERC) projects. FERC regulates the interstate transmission of natural gas, oil and electricity. These projects included the installation of natural gas pipelines which affected several Louisiana parishes and hydroelectric power projects. Such projects often posed significant adverse impacts to wetlands, stream crossings, riparian corridors, species and communities of conservation concern, and other fish and wildlife resources. Staff worked with the applicants, agents and FERC in the planning and evaluation phase to avoid, minimize and/or mitigate these adverse impacts.

LDWF worked with numerous governmental agencies in conducting environmental investigations including: USFWS; National Marine Fisheries Service; EPA; USACE; U.S. Forest Service; USDA NRCS; Federal Highway Administration; Federal Aviation Administration; Farmers Home Administration; USCG; Department of Energy; FERC; Department of Defense; Housing and Urban Development; Louisiana Department of Transportation and Development; LDNR; LDEQ; and the Louisiana Department of Culture, Recreation and Tourism.

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 location unneces-

sarily impacts an oyster reef. There were 81 water bottom assessments reviewed and approved by agency staff during fiscal year 2010-2011.

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 insuring compliance with the act. The Scenic Rivers 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 3,000 linear miles of Louisiana's streams, rivers and bayous.

Several enforcement actions were initiated in fiscal year 2010-2011. These included cases of illegal mining activities, littering, illegal point source discharges, operating on scenic rivers without permits, illegal bridge construction, and illegal commercial cutting of trees. One case of illegal mining in East Baton Rouge Parish, made in 2009, remains in litigation. The coordinator and staff, through routine surveillance, project inspections and response to complaints, ensured compliance with permit conditions, utilization of adequate sediment control measures, and appropriate cleanup and restoration of permitted project sites.

Staff has continued to work with the Webster Parish Police Jury and the State Lands Office to remove a number of out-of-service bridges and other man-made obstructions on Bayou Dorcheat, thus restoring navigability and natural flow to the stream. In addition, working with the Webster Parish officials, the State Lands Office, local businesses and the Ozark Society, wood duck boxes with engraved mile markers that were constructed have begun being placed along Bayou Dorcheat to aid boaters in navigation and enhance wildlife habitat along the bayou. The Scenic Rivers Coordinator helped to hang the first of these mile markers.

In addition, a new boat ramp was completed and opened to the public at the LA 157 bridge crossing of Bayou Dorcheat (the result of a condition of the Scenic River Permit issued to the Louisiana Department of Transportation and Development for the construction of the new bridge). A well attended dedication was held at the new boat launch honoring the late Representative Everett Doerge and Representative Jean Doerge for their continued support and efforts to see this project to fruition and to name the new launch "Doerge Landing."

The coordinator and staff maintained regular contact with both state and federal agencies to insure that designated scenic rivers were considered in all levels of planning and permitting. They also worked closely with city planners, police juries, mayors and local interest groups and organi-

zations throughout the state. The coordinator gave two presentations on the Scenic Rivers Program to local civic organizations and continued to participate on a parish government board formed to restore and promote Bayou Dorcheat in Webster Parish. The coordinator also began work with a similar, newly formed group in Morehouse Parish with an interest in increasing recreational usability and access of Bayou Bartholomew.

Changes to the existing Scenic Rivers Rules and Regulations were drafted and submitted for approval with the hope of getting them into the rule making process in the upcoming year. The proposed changes, if approved, will address litter, use of ATVs and other wheeled or tracked vehicles in and on the banks of scenic rivers and houseboats and floating camps moored on Scenic Rivers; open the door for the implementation of electronic permit application submission; bring the rules and regulations up to date with the statute regarding how persons can appeal final decisions of the Administrator; and clarify some common misconceptions relative to the "100 foot rule" and what constitutes a pollutant.

One Scenic River Permit was denied for the placement of pilings in the lower Tchefuncte River for the purpose of permanently mooring a houseboat/barge. The piling clusters had been constructed at the time the application was received resulting from an LDWF citation being written for the Scenic River violation. The denial letter required that the piling clusters be removed.

A total of 26 Scenic River Permits were issued during fiscal year 2010-2011. The coordinator and staff conducted 50 site visits and field investigations statewide, surveyed approximately 76 stream miles and attended five meetings specific to Scenic Rivers issues.

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 LDNR 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 department representation at all LDNR 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. During fiscal year 2010-2011 several enhancements were made to improve the tracking ability, accuracy and usefulness of the permits database.

During fiscal year 2010-2011, the Permits Coordinator received, processed, tracked and disseminated responses to 1,926 permit notices.

BP DEEPWATER HORIZON (MC252) OIL SPILL RESPONSE

BP DEEPWATER HORIZON (MC252) OIL SPILL RESPONSE

Marty Floyd – Program Manager

Matthew M. Weigel – Biologist Manager

Overview

During the last year, the LDWF NRDA Program has remained heavily involved in the ongoing Mississippi Canyon Block 252 (MC252) Emergency Response effort. Throughout the area of response, we continued to advocate for LDWF's trust resources, protecting wildlife and valuable habitat while guiding necessary response activity. On our impacted WMAs, refuges and other managed properties, we worked closely with Operations and Office of Fisheries, striving to maintain LDWF goals and management objectives while ensuring that BP-DH (MC252) oil was removed or contained, or that related threats were sufficiently attenuated. We coordinated our efforts with the Gulf Coast Incident Management Team which includes key State agencies (LDEQ, Louisiana Oil Spill Coordinators Office [LOSCO], Louisiana Coastal Protection and Restoration Authority [LCPRA], and LDNR), Federal trustees (USCG, USFWS and National Oceanic and Atmospheric Administration) as well as BP. Our activities have regularly included the following:

Plan Development

Staff actively participated in workgroups as well as provided comments and recommendations on various plans (including the Transition Plan, several Shoreline Plans, Orphaned Anchor tactics, and others), net environmental benefit analysis, and numerous Shoreline Treatment Recommendations.

Review of Shoreline Inspection Reports and Post Hurricane Season Surveys

LDWF reviewed all Shoreline Inspection Reports and made recommendations on motions to remove specific segments from emergency response. We also recommended areas in need of additional Post-Hurricane Season Survey and reviewed and commented on the subsequent reports.

Hazing

In order to attenuate ongoing wildlife impacts, LDWF developed an active hazing program and oversaw its implementation within northern Barataria marshes and Pass-a-Loutre WMA.



LDWF Biologist Ben Stultz' gloved hand illustrating transferable oil coating *Juncus sp.* in northern Barataria. This photo was taken following Tropical Storm Lee, which remobilized liquefied oil in northern Barataria and other areas.



Photo of oil remaining at Middle Ground (Pass-a-Loutre) following treatment. The heavy oiling was photographed in August 2011 by LDWF staff.

Shoreline Treatment Recommendation Monitoring

In sensitive habitat and on WMAs, refuges and other LDWF-managed property, our staff regularly monitored the activities of Operations and others involved in implementing site specific Shoreline Treatment Recommendations. We advised Operations on treatment methods, no further treatment guidelines, and the need for follow-up treatment. Our monitors also advised Operations on avoiding impacts to wildlife and wildlife habitat, relying on our knowledge of the resources.

Shoreline Cleanup and Assessment Technique Participation

When shoreline cleanup and assessment technique teams surveyed LDWF-managed properties or valuable habitat such as rookeries, our staff accompanied the survey teams and ensured that surveys were thorough, accurate, and that best management practices were followed.

Monitoring of Avian Nesting

During nesting season, LDWF biologists regularly surveyed known rookeries and nesting colonies and beaches. With the information garnered from these surveys, LDWF, along with USFWS and natural resource advi-



The image above is of tilling occurring within the intertidal zone of Bird Island (Pass-a-Loutre WMA) during the fall of 2011. Tilling was used in isolated areas in an attempt to remediate sediments contaminated with MC252 oil.



The image above is of mechanical treatment occurring on Elmer's Island during November 2011. The long reach excavator was used to remove oil mats found in the surf zone.



Photo depicting heavily oiled marsh in Northern Barataria Bay. In the background, a "scare cannon" and Mylar flagging is visible. These measures as well as others were utilized by LDWF in an attempt to deter birds from the heavily contaminated sites and reduce wildlife impacts.

sors, worked to develop/update a Geographic Information Systems (GIS) program which allowed the entire Gulf Coast Incident Management Team to maintain awareness of nesting habitat and appropriate no-activity buffers. When the threat of oiling warranted action within established buffers, our staff provided consultation and often accompanied Operations and others to attenuate disturbances to wildlife.

Oiled Wildlife Response

Although the need for oiled wildlife response decreased significantly in 2011, we maintained the ability to respond quickly to calls of oiled wildlife or carcasses throughout much of the year. Thirty-three oiled carcasses were recovered and four oiled birds were collected during the year.

Wildlife Branch Activities

For the better part of 2011, along with USFWS, U.S. Department of Interior and BP, LDWF participated fully in the Gulf Coast Incident Management Team Wildlife Branch. This participation involved regular meetings, trainings, rehab activities, and releases. Our involvement allowed LDWF to identify wildlife issues as they arose and allowed us to maintain a voice within the Gulf Coast Incident Management Team.

Public Information/VIP tours

During the year, we participated in public speaking engagements and coordinated media trips, and other field trips to impacted areas throughout the AOR. This activity helped maintain awareness of the need for continued emergency response activity in the coastal zone of Louisiana.

NATURAL RESOURCE DAMAGE ASSESSMENT (NRDA)

Marty Floyd – Program Manager
Jon J. Wiebe – Biologist Manager

Overview

Since its inception in January 2011, LDWF-NRDA program remains LDWF's principal representative for the development/implementation of both cooperative and non-cooperative NRDA work plans in association with the BP-DH (MC252) oil spill. These efforts have been accomplished through the development of strong collaborative relationships among the principal state agencies (i.e., LDWF - Office of Wildlife [Coastal Operations, Natural Heritage, Waterfowl, Fur and Marsh Management, Veterinary Services, and Rockefeller Refuge], LDWF - Office of Fisheries, LOSCO, LCPRA, LDEQ, and LDNR); federal agencies (i.e., USFWS, National Oceanic and Atmospheric Administration and USGS); and responsible party members (i.e., BP, CardnoENTRIX).

The principal injury endpoints to Louisiana's wildlife resources in relation to the BP-DH (MC252) oil spill include:

1. Acute toxicological response.
2. Identification of exposure routes.
3. Evaluate physiological endpoints indicative of PAH exposure (i.e., biomarkers).

4. Evaluate survival metrics.
5. Develop paired field/laboratory work plans to assist in injury quantification.

To date, LDWF-NRDA program has developed/implemented over thirty collaborative (i.e., federal and state trustees, as well as responsible party) work plans evaluating the potential impacts of BP-DH (MC252) oiling including:

Collaborative NRDA Work Plans

- Avian Guilds (colonial, pelagic, secretive marsh birds, shorebird, raptors, wading birds and waterfowl)
 - Population Surveys
 - Beached Bird Surveys
 - Searcher Efficiency Surveys
 - Carcass Persistence/Drift Surveys
 - Prey Surveys
 - Survival
 - Health Assessments
 - Analytical Assessments
 - Telemetry
- Marine Mammals
 - Reproductive Productivity
 - Health Assessments
 - Analytical Assessments
 - Telemetry
- Sea Turtles and Diamondback Terrapins
 - Reproductive Productivity
 - Post-mortem Analysis
 - Prey Analysis
 - Analytical Assessments
 - Telemetry
- Submerged Oil and Coastal Habitat Assessment
 - Submerged Oil
 - Marsh Edge/Sandy Shore
 - Submerged Aquatic Vegetation

Non-Cooperative NRDA Work Plans/Reconnaissance Efforts

In addition to collaborative NRDA work plans, LDWF-NRDA Program personnel along with state and federal collaborators have developed/implemented either targeted non-cooperative NRDA work plans or NRDA reconnaissance efforts to evaluate the potential impacts of the BP-DH (MC252) oil spill on specific Louisiana trust resources.

Avian

State Brown Pelican Reproductive Productivity and Demography Work Plan

Evaluate brown pelican (*Pelecanus occidentalis*) reproductive productivity and short-term fledgling survival in relation to the BP-DH (MC252) oiling, response activities and subsequent clean-up efforts. In addition, all manner of habitat modification/service loss was documented. These efforts were in collaboration with LOSCO and University of Louisiana at Lafayette.

State Work Plan for Estimating Secretive Marsh Bird Density in Louisiana Wetlands, BP-DH (MC252) Oil Spill 2011

Evaluate secretive marsh bird population density (using Conway Protocol) in relation to the BP-DH (MC252) oiling, response activities and subsequent clean-up efforts. These efforts were in collaboration with LOSCO, LDEQ and LDWF-LNHP.

State Migratory Marshbird Oil Rate Survey Work Plan

Evaluate extent of external BP-DH (MC252) oiling on select migratory avian species within the area of potential impact. These efforts were in collaboration with LOSCO.

Natural Resource Damage Assessment Work Plan for the Evaluation of a Ultraviolet Screening Method Used to Detect Petroleum from the BP-DH (MC252) Oil Spill on Bird Plumage Work Plan

Evaluate utility of UV fluorescence field methodology to detect BP-DH (MC252) oiling on avian species. These efforts are in collaboration with LOSCO and USFWS.

Marsh Edge Carcass Detection/Persistence Work Plan

Refine existing response data to generate a multiplier that will address avian mortality within marsh habitats impacted by BP-DH (MC252) oiling. NOTE: LDWF-NRDA personnel have developed both Wildlife Response and Situation Report queryable databases which were integral for developing this work plan as well as assessing Avian Response Injury. These efforts are in collaboration with LOSCO and USFWS.

Potential BP-DH (MC252) Exposure in Invertebrate Prey Species in the Northern Gulf of Mexico Work Plan

Evaluate external/internal PAH concentrations from BP-DH (MC252) oiling in several benthic invertebrate species known to be critical avian prey species. These efforts will be in collaboration with LOSCO, USGS and LDWF Office of Fisheries.

State Fiddler Crab Work Plan

Evaluate internal/external BP-DH (MC252) oiling constituents (i.e., PAH) in fiddler crabs (*Uca sp.*) as well as document continued presence of BP-DH (MC252) oiling within select Louisiana habitats. These efforts are in collaboration with LOSCO, LDEQ, LDNR and LCPRA.

Turtle

State Diamondback Terrapin Nest Sampling Work Plan

Evaluate PAH exposure (i.e., maternal transfer and/or environmental exposure) from the BP-DH (MC252) oil spill to developing diamondback terrapin (*Malaclemys terrapin*) eggs. These efforts were in collaboration with LOSCO, USGS, Barataria-Terrebonne National Estuary Program as well as Florida Gulf Coast and Tulane universities.

Submerged Oil and Coastal Habitat Assessment

State Submerged Oil Work Plan

Evaluate utility of several analytical methods to identify (i.e., semi-quantitate) and delineate the extent of BP-DH

(MC252) submerged oil within targeted locations in Bay Jimmy, La. These efforts were in collaboration with LOSCO, LDEQ, LDNR, LCPRA and LDWF Office of Fisheries

State Sandy Beach Work Plan

Evaluate utility of several analytical methods to identify (i.e., semi-quantitate) and delineate the extent of BP-DH (MC252) submerged oil within targeted barrier sandy beach locations. These efforts are in collaboration with LOSCO, LDEQ, LDNR, and LCPRA.

State Non-Cooperative Reconnaissance Efforts

Potential BP-DH (MC252) Impacts on Submerged Aquatic Vegetation Communities within Barataria Bay, La.

Evaluate potential impacts to Barataria Bay submerged aquatic vegetation beds and associated macrofauna in relation to BP-DH (MC252) oiling, response activities and subsequent clean-up activities. These efforts were in collaboration with LOSCO and LCPRA.



Ariel White (Biologist Supervisor, LDWF-NRDA Program), David Garland (Biologist, Coastal Operations, Oil Spill Section) and Michael Seymour (State Ornithologist, Natural Heritage Program) collaboratively working on coastal population density assessment of secretive marsh birds in relation to potential impacts of BP-DH (MC252) oiling.



Ariel White (Biologist Supervisor, LDWF-NRDA Program) collecting diamondback terrapin eggs to assess potential impacts of BP-DH (MC252) oiling (i.e., maternal and environmental transfer of PAH).



Megan Smith (Biologist, LDWF-NRDA Program) collecting benthic invertebrates (critical avian prey species) to assess potential impacts of MC252 oiling.



Oiled brown pelican (*Pelecanus occidentalis*).



Marty Floyd (Program Manager, LDWF-NRDA Program), Megan Smith (Biologist, LDWF-NRDA Program) and David Garland (Biologist, Coastal Operations, Oil Spill Section) evaluating the potential impacts of MC252 oiling, response activities and subsequent clean-up activities on submerged aquatic vegetation and associated macrofauna within Barataria Bay, La.



Megan Smith (Biologist, LDWF-NRDA Program) collecting biological samples from brown pelicans to assess potential impacts of MC252 oiling on reproductive productivity. This work was done in collaboration with University of Louisiana at Lafayette personnel (Dr. Paul Leberg and Dr. Scott Walter).



Maggie Luent (Biologist Supervisor, LDWF-NRDA Program) and Megan Smith (Biologist, LDWF-NRDA Program) developed geo-reference databases using Wildlife Response and Situation Report data which have been utilized in both NRDA work plan development and will be utilized in part to assess injury to Louisiana's natural resources in relation to MC252 oiling.

Shorebird Oiling and Survival

Evaluate shorebird (eastern willet [*Tringa s. semipalmatus*]) survival in relation to external BP-DH (MC252) oiling within the area of potential impact. These efforts were in collaboration with LOSCO and USGS.

Program personnel are currently focused on addressing both short-term (i.e., NRDA assessment plan implementation, data analysis/interpretations) and well as long-term activities (i.e., monitoring and restoration activities) which highlight potential BP-DH (MC252) related injury and support restoration of Louisiana's natural resources.

COASTAL STEWARDSHIP OPERATIONS

The Coastal Operations Program is made up of two sections. The first is the Coastal Operation Section which has the responsibility of stewardship of all WMAs and refuges within LDWF's Coastal and Nongame Resources Division, with the exception of RWR and WLWCA. These areas include Atchafalaya Delta, Biloxi, Lake Boeuf, Pass-a-Loutre, Pointe-aux-Chenes, Salvador, and Timken WMAs, and Isles Dernieres Barrier Islands, Marsh Island, State Wildlife, and St. Tammany Refuges. The second is the Oil Spill Section which responds to all significant spills within the state and assesses damage to wildlife for potential restoration.

During fiscal year 2010-2011, Coastal Operations continued to assist with the BP-DH (MC252) oil spill in the Gulf of Mexico. Coastal Operations staff dedicated a majority of their time to oil spill response to protect coastal habitats and lead the wildlife recovery and rehabilitation efforts. Staff continued an active presence at field command centers in Hopedale, Pass-a-Loutre WMA, Grand Isle, Myrtle Grove, Cocodrie, Burn's Point, Intracoastal City, Atchafalaya Delta WMA, and Marsh Island Refuges. These command centers were bases of operations for our staff conducting wildlife recovery. They also continued to meet daily with federal, state and local governmental agencies as well as private contractors to report findings in their areas and plan response strategies for the upcoming days and weeks. Towards the second half of the fiscal year staff focused on response clean up efforts in order to clean sensitive habitats prior to nesting season for a wide variety of birds and reptiles.

Coastal Operations staff also assisted with NRDA for the BP-DH (MC252) oil spill. Staff assisted with developing assessment plans, interagency field data collection, daily conference calls, contributed to technical work groups, and other activities associated with determining short term and long term impacts from the spill. At the beginning of the 2011 calendar year LDWF made a commitment to start a new program for the continued multi-year BP-DH (MC252) oil spill clean up and NRDA effort. The



Coastal Operation staff manning the Incident Command Center in Houma.



Mike Carloss being interviewed on BP-DH (MC252) impacts to wildlife and habitats.



Rehabilitated LA birds being flown to Texas for release.



Release of gulls and pelicans on Rabbit Island in southwest Louisiana.



Office of Wildlife staff capturing oiled wildlife in St. Bernard Marshes and collecting necessary data.

second half of the fiscal year, Coastal Operation staff transitioned out of the BP-DH (MC252) oil spill response and NRDA efforts and trained the new "NRDA Program" staff on past efforts and future responsibilities. Coastal Operation staff remained heavily involved with response efforts that continue on LDWF-managed lands such as Isle Dernieres Refuge, Marsh Island Refuge, and Pass-a-Loutre WMA.

OIL SPILL SECTION

Laura Carver, D.J. Garland

In addition to the BP-DH (MC252) oil spill, LDWF's oil spill section was very busy this year. The program grew from one staff (Laura Carver) to two with the addition of D.J. Garland. These biologists are responsible for

responding to all significant spills throughout Louisiana and assessing wildlife impacts that result from the releases. This year staff received 4,530 National Response Center calls for various oil spills and 219 oil spill drill calls. Of the 4,530 National Response Center reports, 1,586 required follow up and 66 releases required significant response activities that we were actively involved in. This level of response is significantly higher than the previous four-year average of 4.7 responses per year. This is due in large part to the reorganization of the section into the Office of Wildlife.

Oil Spill Response

Some of the larger spills that were responded to include the following.

Mud Lake/Cedyco Oil Spill (NRC#948974)

On July 27, 2010 a tug that was pushing a dredge hit a natural gas well releasing an unknown amount of orange/brown condensate 100 feet in the air and into adjacent marshes.



Bayou Des Allemands/Texas Petroleum Investment Company Oil Spill (NRC#953397)

On September 8, 2010 a 4-inch flow line collapsed releasing 10 barrels of crude oil and 100 barrels of produced water.



Lake Salvador/AMEC Oil Spill (NRC#962642) Oil Spill

On December 20, 2010 S. Granier responded to a 20-barrel oil spill that was reported on Salvador WMA.



Dennis Pass/Dune Energy Oil Spill (NRC#963265 & 964808)

On December 29, 2010, 20 barrels of crude oil was released from a 4-inch bulk transfer line due to unknown causes. On January 3, 2011 Pass-a-Loutre WMA staff captured one oiled pied-billed grebe and one oiled American coot and transported both birds to a rehabilitation center. The pied-billed grebe was released on Jan. 16 in Amarada Pass and the American coot died in rehabilitation on January 15, 2011. On January 15, 2011 a second spill involved the release of three barrels of crude oil from an underground source. Pass-a-Loutre WMA staff monitored clean-up operations, surveyed the impacted areas for oiled wildlife and made recommendations for wildlife hazing operations. Clean-up operations for both spills continued until February 9, 2011.



Grand Bay/Bay Coquille 10-foot Pipeline/Chevron Oil Spill (NRC#965775 & 965860)

On January 27, 2011 approximately 79 barrels of crude oil was released from a 10-foot pipeline. Oil impacted areas of Baptiste Collette, Coquille Bay, Grand Bay and East Island. Staff responded to the spill on January 28, 2010 and surveyed the impacted area looking for oiled wildlife. Personnel observed two mallards, two northern shovelers, and one white pelican swimming in sheen. Personnel attempted to capture one heavily oiled pied-billed grebe. LDWF made recommendations for wildlife hazing operations including the amount and placement of scare cannons around the impacted areas. A follow-up site visit was conducted on February 11, 2011 .



Bayou Sorrel/WLE Inc. Oil Spill (NRC#974176)

On April 27, there was a release of 84 barrels of crude oil from a pipeline due to equipment failure into the Atchafalaya Basin. Oil impacts were documented in Bayou Sorrel, Frog Lake and two other unnamed canals. On April 29, LDWF staff along with Buddy Goatcher (USFWS) responded to the release and looked for oil impacts, impacted wildlife and made recommendations for wildlife hazing operations. Dark brown to dark black oil slicks and pools were observed along the canals. Several birds were observed flying over the impacted areas and were heard calling in impacted areas.



Bayou Blanc/Southwest Rice Mill Oil Spill (NRC#977725)

On May 29, approximately 250 barrels of crude oil was released from a ruptured underground pipeline in Crowley. On May 30, LDWF received reports of dead turtles that were collected by OSRO crews on site, and stored on site in an ice chest.



NRDA Cases

This section also worked on several outstanding NRDA cases as well. Some of the significant cases worked include the following:

- **Mosquito Bay/Transco NRDA Case:** Settlement Agreement and Damage Assessment and Restoration Plan, finalized by the State Trustees
- **Lake Palourde/Unocal and Duck Lake/Hilcorp NRDA Cases:** Trustees reviewed and approved plans for restoration corrective action measures.
- **Westchester/Marine Oil Trader 3 Ltd NRDA Case:** Staff participated in five-year monitoring of the restoration project on Pass-a-Loutre WMA.
- **Calcasieu River/CITGO NRDA Case:** Staff met with federal and state agencies to review wildlife injury in order to move the case to restoration.
- **Breton Island/Hess Co. NRDA Case:** Working with USFWS and other trustees to determine injury and proper restoration actions.
- **Little Lake/British Petroleum NRDA Case:** Staff assembled all cost documentation, and submitted documentation to LOSCO for reimbursement. Staff also worked with State Trustee to finalize the Settlement Agreement and Draft Damage Assessment and Restoration Plan and Notice of Availability, so documents could be released to the public for the 30 day comment period. Documents were released to the public on June 20, 2011 and no comments were received by the end of the review period which ended on July 23, 2011.
- **LWMIWCB/Exxon Mobil NRDA Case:** LDWF met with LOSCO to discuss potential restoration options to compensate for the injury that occurred as a result of the Lake Washington, Mendicant Island and West Champagne Bay.

COASTAL OPERATIONS SECTION

As the BP-DH (MC252) oil spill response effort decreased, Coastal Operations staff re-initiated efforts to complete FEMA Project Worksheets to recover from the 2005 and 2008 hurricane seasons. Coastal staff worked closely with FEMA, the Governor's Office of Homeland Security and Emergency Preparedness, and Facility Planning and Control to implement repairs and further develop plans for rebuilding coastal WMAs and refuges. Coastal Operations also closely coordinated with intra-agency staff in charge of LDWF managed FEMA Project Worksheets. Staff continued with purchases to close out content claims and minor repair project worksheets and participated in meetings regarding hiring engineers to initiate design work for bulkhead and levee project worksheets. Staff assisted with logistics for multiple field trips to WMAs and refuges to view damage, develop plans for repair, and gather information needed to create contracts for engineering services.

The great Mississippi River flood of 2011 had a significant impact on the Coastal and Nongame Resources properties. Many areas such as Salvador, Pointe-aux-Chenes and Biloxi WMAs and Marsh Island and State Wildlife refuges benefited from the increased abundance of fresh-water which never reached flood stage in these areas. However the most significant impacts were to

Atchafalaya Delta and Pass-a-Loutre WMAs. The extraordinarily high river brought with it a heavy sediment load that nourished the area mudflats which created substrate for new emergent vegetation and increased the acreage of many tidal flats. Unfortunately it also created many new sandbars in previously navigable waterways which led to several strandings of even experienced outdoorsmen. The overall impact of the flood to Coastal and Nongame Resources coastal WMAs and refuges was a very positive one that enhanced wildlife habitat on most all properties.

2010-2011 waterfowl hunting success on coastal WMAs increased from the 2009-2010 hunting season. The overall average hunter success was 2.3 birds per hunter across coastal WMAs as compared to approximately 1.9 in 2009-2010. The average of 2.3 birds per hunter was the same as the 2008-2009 season, slightly lower than the 2007-2008 season, and the same as the 2006-2007 season. The 2010-2011 results were based on 19 bag check dates during teal season, youth weekend, and regular waterfowl season.

Coastal Operations implemented a significant regulation change for coastal WMAs during the 2010-2011 hunting season. Limited access areas were created on Atchafalaya Delta, Pointe-aux-Chenes, Salvador and Pass-a-Loutre WMAs. Limited access areas are portions of the WMAs (less than 10 percent) that are restricted to internal combustion engines from September through January. The purpose of the limited access areas is to give hunters the option to use traditional or more primitive techniques (pirogues, walk-in, etc.) in areas that are void of mud boats and surface drive boats. Preliminary data showed that the average kill per effort by limited access area hunters was higher than non-limited access areas of the WMAs.

Deer hunters on Coastal Operations management areas expended 3,422 efforts harvesting 168 deer for a success of one deer per 20.4 efforts. Ninety-six percent of the efforts were on Atchafalaya Delta WMA which also harvested 92 percent of the total deer for the year.

Trapping agreements were revised for alligator and nutria seasons for both commercial hunters and recreational lottery hunters. The results for this season's harvest for all WMAs (except Biloxi WMA) were the collection of 1,059 alligators by commercial hunters of their allotted 1,278 tags. Recreational hunters harvested 71 alligators of their 81 tags. Although hide prices increased, the overall poor market prices and activities associated with the BP-DH (MC252) oil spill hampered trapping efforts. Several hunters chose not to fill many tags once the price was known. Permitted commercial trappers also harvested 9,643 nutria off coastal WMA properties in accordance with CNCP rules and regulations.

Due to the BP-DH (MC252) response effort, Coastal Operations staff failed to dedicate effort to continue the various duck banding projects fiscal year 2010-2011 as part of LDWF's ongoing survival and movement studies. Hectic schedules allowed for only one banding effort at Pointe-aux-Chenes WMA. The effort resulted in the banding of 26 mottled ducks.

Although tropical storm and hurricane impacts were minor this year, Coastal Operations staff took necessary precautions to prepare for one storm, Tropical Storm Bonnie, which impacted the Gulf of Mexico. Staff prepared facilities and moved equipment to high ground in anticipation of flood impacts.

Coastal Operations staff assisted the LDWF Habitat Section with their legislative funded red iris (*Iris nelsonii*) conservation project in Abbeville, La. Coastal staff assisted by coordinating with landowners in the Turkey Island area, providing logistical assistance for red iris surveys, and coordinating with the Office of State Parks staff regarding future plantings at Palmetto Island State Park.

Coastal Operations staff also assisted the Wildlife Division with a "backyard wildlife" workshop at the Iberia Parish Library. The workshop is part of a summer program for youths in grades K-12. Two workshops were held by LDWF staff.

Atchafalaya Delta WMA

Area biologist – Cassidy Lejeune

Technician Supervisor – David Leblanc

Atchafalaya Delta WMA, the largest WMA in the state at 137,000 acres, is located in southern St. Mary Parish. The WMA is owned by the state and has been managed by LDWF since 1977 under a lease agreement with the Louisiana State Lands Office. The habitat is dominated by fresh tidal marshes and extensive shallow water flats. This WMA enjoys a diverse range of ecotypes from broad upland ridge habitat to mangrove brackish habitat.

WMA staff successfully completed several facility renovation projects at the WMA this year. Area staff increased the size of the tractor shed at Big Island, added a kitchen in the guest camp to accommodate an increased use of the facility, replaced the HQ facility wastewater treatment system, performed electrical repairs to multiple buildings at the facility, and replaced the fuel line from the fuel dock to the generator shed. Additionally, staff repaired the Wax Delta Campground by leveling dredged material to expand the size of the campground in anticipation of the 2010 waterfowl season.

The 2011 high water event resulted in the deposition of river sediment across a majority of Atchafalaya Delta WMA. Multiple sub-aerial bars and silted-in channels were observed after the event at both the Main and Wax deltas. The flood event also resulted in increased elevations of most all bayou banks and an increased "foot-print" of splays or islands, especially on the edges of the bay. Overall, the flood resulted in an increase in shallow water habitat which is beneficial for wildlife and fishery resources that inhabit the WMA.

Staff continued to work closely with USACE concerning navigation projects on the WMA. Coastal Operation continued to assist with project planning during this fiscal year, but no beneficial use projects to create wetlands were initiated this year due to timing of contracts.



Improvements this year to the Big Island tractor shed (top) and Wax Lake campground (bottom) - Atchafalaya Delta WMA.

USACE did, however, initiate dredging in the bar channel of the Atchafalaya Bay. All of the material was pumped into an ocean dredge material disposal site and was not used to nourish or create wetlands.

Hunter surveys during the 2010 teal season revealed that hunters harvested an average of 1.2 ducks per hunter (based on five bag check days). This average was 20 percent higher than 2009, but 20 percent lower than the average over the past nine seasons. Additionally, results from the 2010-2011 regular waterfowl season indicated that hunters harvested an average slightly above three birds per hunter, which was the highest success over the past 10 years. The 10-year average for the WMA is 2.3 birds per hunter. In addition, hunters harvested 1,050 coots, 15 mergansers, 15 snow geese, and 20 speckled-belly geese during the 19 waterfowl bag checks.

According to self-clearing permits, 3,274 archery efforts were expended during the 2010-2011 hunting season which resulted in the harvest of 154 deer. This equates to a success rate of one deer per 21.3 efforts. This success rate is comparable to past seasons at the WMA. This is the highest recorded hunter participation among Coastal and Nongame Resources WMAs this year

Twenty-nine youth hunters (58 efforts) participated in the two lottery hunts at Big Island of the Main Delta. The four days of hunting yielded the harvest of three deer, including two bucks and one doe, for a success of one deer per 19.3 efforts.



Satisfied waterfowl hunters on Wax Lake Delta (Atchafalaya Delta WMA).



Youth hunters heading out to the stand (Atchafalaya Delta WMA).



Hunter with a nice buck harvested off the Atchafalaya Delta WMA.



Youth hunters heading out to the stand (Atchafalaya Delta WMA).

Sixty-seven houseboat permits were issued to the public allowing use of the WMA during the 2010-2011 hunting season. The houseboat permits were issued via the use of a computerized lottery drawing system.

The 2010 alligator season resulted in the harvest of 237 alligators from the WMA. The commercial hunters harvested their full quota of 210 alligators, and the 10 recreational hunters harvested 27 of their allowed 30. LDWF generated approximately \$8,900 of revenue as a result of the harvest. Permitted trappers also harvested 7,371 nutria.

A variety of research and/or long-term monitoring projects were conducted on the WMA this fiscal year. Examples of research projects on the WMA include:

- Coastwide Reference Monitoring System data collection (Coastal Estuary Service).

- Submerged aquatic vegetation and fishery abundance research (LSU).
- Gnat/midge research associated with BP-DH (MC252) impacts (LSU).
- Mottled duck and seabird nesting habitat research (LSU).
- Delta geomorphology research (UT Austin).
- Sedimentation and plant community research (LSU).
- BP-DH (MC252) carcass detection studies (LSU).
- BP-DH (MC252) submerged aquatic vegetation data collection (LDWF).
- Participation in coastwide wintering plover surveys (LDWF).

The WMA served as a location for multiple releases of rehabilitated birds from the BP-DH (MC252) oil spill. Coastal Operations staff coordinated and provided logistical support for the releases. Species included laughing gulls, roseate spoonbills, black skimmers, clapper rails, and a variety of species of terns and herons were released. Although no impacts were sustained from the spill, area staff spent a considerable effort working with cleanup operations regarding boom deployment/removal and patrolling the WMA and surrounding marshes to survey for impacts and oiled wildlife.

Oil and gas exploration and facility maintenance continued during fiscal year 2010-2011. Multiple wells were drilled in the Wax Delta area, and one gate valve facility was blasted and painted at the Main Delta. Coastal



Release of rehabilitated birds from BP-DH (MC252) oil spill on Atchafalaya Delta WMA.

Operations staff coordinated with oil companies, LDWF Minerals Management personnel, and consultants regarding oil and gas activities at the WMA. Staff also conducted field surveys to assess environmental impacts of activities on the WMA.

Boundaries of the WMA were maintained during fiscal year 2010-2011. Staff also posted the perimeter of the WMA's limited access areas in anticipation of hunting season.

Area staff initiated an effort to inventory abandoned oil and gas infrastructure at the WMA. Staff collected GPS locations, photographs and information on the types of structure present on the WMA. The information was obtained to be submitted to the LDNR Office of Conservation for proper plugging and abandonment.

Due to the BP-DH (MC252) oil spill response effort, recreational use and rainfall data were not obtained during fiscal year 2010-2011.

Biloxi WMA

Area Biologist – Shane Granier
 Technician Supervisor – Clint Dauphinet

Biloxi WMA is owned by the Biloxi Marsh Land Co. and has been managed by LDWF since 1957. This 39,600-acre WMA is located in St. Bernard Parish and is dominated by brackish oyster grass and *juncus*. Along its southern boundary is Bayou Loutre which was the historic path of the Mississippi River. This WMA has very diverse habitat from low saline marshes in the Northeast, to freshwater ridges in the south. The Mississippi River Gulf Outlet was recently plugged by the USACE just south of the WMA, which has significantly decreased salinity across the southern portion of the WMA.

Coastal Operations staff continues to work with the land owner to renew the WMA lease agreement for another 25 years. The majority of activities on the WMA this year

were related to the BP-DH (MC252) oil spill. Staff traveled through the WMA many times this year on various projects associated with the oil spill including retrieving oiled wildlife and monitoring nearby waterbird colonies.

Isles Dernieres Refuge

Area Biologist – Cassidy Lejeune
 Technician Supervisor – David Leblanc

This refuge is a series of barrier islands in Terrebonne Parish made up by Raccoon Island, Whiskey Island, Trinity Island, East Island and Wine Island. This refuge has been managed by LDWF since 1992, and ownership of the islands was transferred to LDWF in 2000. The refuge is saline marsh/dune habitat and home to the largest colonial waterbird nesting colony in Louisiana (Raccoon Island).

The BP-DH (MC252) oil spill significantly impacted this refuge on East, Trinity, Whiskey, Wine and Raccoon islands. Staff continued a full time presence assisting with wildlife recovery and monitoring cleanup for most of fiscal year 2010-2011. Wildlife recovery declined around October 2010, but cleanup (manual oil removal) continued off and on through (and past) June 2011. The area also served as a location for the release of rehabilitated birds towards the end of the fiscal year when the threat of oil



Oil mats on Trinity Island (Isle Dernieres Refuge) as a result of the BP-DH (MC252) oil spill.

impacts were minimal. Release trips were coordinated by Coastal Operations staff to release brown pelicans at Raccoon Island.

Coastal Operations staff provided logistical support for a field reconnaissance to the refuge to develop a plan for a Coalition to Restore Coastal Louisiana/Nicholls University black mangrove planting project. All parties involved agreed upon a few planting sites, and the project will be implemented during fiscal year 2011-2012.

A variety of research and/or long-term monitoring projects were conducted on the refuge this fiscal year.

Examples of research projects on the refuge include:

- BP-DH (MC252) NRDA data collection for wildlife and wetland resources (multiple organizations).
- Fish habitat research on species of concern (LSU).
- Colonial and solitary nesting bird monitoring (Barataria-Terrebonne National Estuary Program).
- Wintering and colonial nesting waterbird research (Nicholls).
- Participation in coastwide wintering plover surveys (LDWF).
- Monitoring survivorship and growth rates of terns and determining short-term impacts of oil spill on black skimmers (Nicholls).
- National Science Foundation/Northern Gulf Institute long-term barrier island research/monitoring (Florida State University).
- Determination of impacts of oil contamination on wintering shorebirds (Tulane).
- Marine organism research/aerial monitoring (Nicholls).

Lake Boeuf WMA

Area Biologist – Shane Granier

Technician Supervisor – Mark Castille

Lake Boeuf WMA is an 802-acre WMA located in Lafourche Parish just south of Lake Boeuf. This WMA is dominated by cypress tupelo swamp and has an extensive freshwater marsh dominated by bull tongue and maiden cane.

Eleven attempts were made by deer hunters with no reported harvest. No attempts were made to harvest alligators or nutria this year.

Marsh Island Refuge

Area Biologist - Cassidy Lejeune

Technician Supervisor – David Leblanc

Marsh Island Refuge is a 76,664-acre refuge located in southern Iberia Parish. The refuge was donated to the state in 1920, making it one of the oldest and largest refuges in the state. The refuge was donated to LDWF by the Russell Sage Foundation which was established by Margaret Olivia Sage in honor of her late husband. The donation came with a strict set of management stipulations which include involvement of the Russell Sage Foundation.

Area staff initiated a few improvements to the Marsh Island headquarters facility. Improvements included adding limestone to the yard at the headquarters, constructing a small platform for storage of tractor implements, dock repairs, and improving the boat shed to provide safer conditions for mooring boats.

The East Marsh Island Marsh Creation CWPPRA Project was completed in November 2010. Approximately 3.8 million cubic yards of sediment were pumped from East Cote Blanche Bay to create and/or nourish approximately 1,159 acres. The project cost was approximately \$20.1 million.

Two NRCS/Soil and Water Conservation District smooth cordgrass planting projects were conducted fiscal year 2010-2011. One was the planting of approximately 6,000 plugs along Bird Island Bayou, and the second was the planting of approximately 9,000 plugs within the boundary of the East Marsh Island Marsh Creation Project.

Coastal Operations provided technical and logistical support to the NRCS planting portion of the East Marsh Island Marsh Creation Project which was also initiated this year. Staff provided logistics for pre-construction site visits, contributed information for contract documents, and coordinated with NRCS and the planting contractor regarding bird nesting issues. Surveys of the fill area were conducted on multiple occasions due to the presence of nesting black-necked stilts and a variety of terns. The project was not completed due to contract issues.

Coastal Operations staff assisted with planning/design for additional restoration efforts on the refuge. Staff assisted with planning for a Coastal Impact Assistance Program terrace field construction project within Lake Tom and Lake Sand, created and presented a North America Wetlands Conservation Act grant proposal for hydrologic restoration project near Lake Blanc and Dynamite Cut, assisted with the development of a CWPPRA proposal for an additional marsh creation project on the southeastern portion of the refuge, and provided technical/logistical support for an LSU AgCenter experimental PolyC15 aerial smooth cordgrass seeding project at the refuge. Staff provided support for multiple field trips associated with these projects.

Staff also assisted with logistics for a field trip to select sites for future plantings as part of the LA-39 Coastwide Plantings CWPPRA Project. If funding is secured, future plantings will be conducted along the bayshore of the refuge to provide shoreline protection from Joe Aucoin Bayou to Bayou Michel. The project is slated for next fiscal year.

Approximately 3,500 acres were burned during high water conditions as part of the refuge's prescribed burn program. This burn was in the vicinity of Bayou Platte, Bayou Lucien and the Big Impoundment. Burns are performed to provide ideal foraging habitat for wintering geese and to help reduce the frequency of wild fires by decreasing fuel loads.



Dredge Disposal as part of the East Marsh Island Marsh Creation Project.



New marsh platform created after dredge disposal is completed (Marsh Island Refuge).



Smooth cordgrass plantings on the Marsh Island Refuge.

Area staff initiated repairs to the bird nesting islands in Bayou Platte. Staff added an additional layer of limestone on the north bird island and used heavy equipment to help access the south island for vegetation removal. Unfortunately, however, LDWF's old Koehring dragline slid off a sinking barge and sunk to the bottom of Bird Island Bayou during the maintenance project. The dragline will be removed during fiscal year 2011-2012.

Staff continued to maintain the Big Impoundment levee in order to facilitate access to the structures of the unit. To aid this effort, staff constructed a tractor shed at the Big Impoundment East Structure. The shed was built to store equipment needed to maintain the impoundment. Additionally, staff manipulated multiple water control structures across the refuge to provide improved habitat condition for wintering waterfowl and other wildlife.

A variety of research and/or long-term monitoring projects were conducted on the refuge this fiscal year.

Examples of research projects on the refuge include:

- Coastwide Reference Monitoring System data collection (Coastal Estuary Service).
- Vegetation sampling in post-reproductive habitats of mottled ducks (Texas A&M).
- Participation in coastwide wintering plover surveys (LDWF).
- Secretive marsh bird call back surveys (LDWF).
- Long-term monitoring of wire grass "marsh organs" (LSU).



Staff completing marsh management objectives including prescribed burns (top) and water level manipulation (bottom) - Marsh Island Refuge.

Monitoring of impacts from the BP-DH (MC252) oil spill continued during this fiscal year. Staff continued to survey shorelines for oil impacts, search for impacted wildlife, and coordinate with BP-DH (MC252) operations regarding boom installation/removal. As impacts decreased, staff coordinated multiple releases of rehabilitated birds at the refuge. Birds released included brown pelicans, white pelicans and clapper rails.

The boundary of the refuge was reposted and maintained multiple times this year. Area staff also replaced several regulation signs across the refuge and installed permanent pilings for rock signs at the Bird Island jetties and Lake Tom revetment.

An Iberia Parish alligator hunter removed nine nuisance alligators from Marsh Island Refuge that were frequenting weirs commonly used by the public. The removal was part of an annual nuisance harvest to provide safe conditions for shrimping, crabbing and fishing at weirs.

Due to the BP-DH (MC252) oil spill response effort, recreational use and rainfall data were not obtained during fiscal year 2010-2011.

Pass-a-Loutre WMA

Area Biologist – Shane Granier

Technician Supervisor – Clint Dauphinet

Pass-a-Loutre WMA is 115,000 acres, and was established in 1921 by an act of state legislature. It was designated as a "state shooting ground" which was the precursor for today's WMAs. It is Louisiana's oldest WMA and is still the first and most successful state sponsored hunting club in the country. Pass-a-Loutre WMA was Governor John Parker's response to public outcry that the best hunting areas were all being leased by wealthy hunters, and that the common man did not have quality hunting opportunities.

The 2011 Mississippi River flood significantly impacted the WMA. As water levels receded new sand bars began to expose themselves, particularly in South Pass and Pass-a-Loutre. Many well experienced boaters found the passes very difficult to navigate and several supply vessels and crewboats experienced damage as a result of the frequent impacts. The channel dimensions in South Pass were so deteriorated that the USCG removed all navigation aids in South Pass and declared it "unnavigable." Dennis Pass, Loomis Pass, Johnson Pass and Pass-a-Loutre also experienced significant shoaling, making navigation very difficult. The river did have a positive influence on the area. Several delta splays experienced significant growth this year. Of particular significance were the crevasses that empty into East Bay and ones off of Loomis Pass.

Dr. Andy Nyman (LSU) and several students planted black mangroves at the mouth of South Pass to research survivability of the plants on the Mississippi River Delta. Approximately 450 plants were used in the project. In addition, the Restore the Earth Foundation began a new project on the WMA of planting smooth cordgrass and



Coastal Operations staff banding black-belly whistling ducks (Pass-a-Loutre WMA).

black mangroves on the WMA. This project is an experiment using a new technique of specifically blended soil mixture inside of a burlap bag in which the plants are planted. Early observations show that the technique is promising and is demonstrating high survivability.

Coastal Operations staff banded 26 black-belly whistling ducks via rocket net in the front yard of the headquarters.

During the 2010-2011 duck season, hunter success was 3.9 ducks per hunter. The top three species harvested on the WMA in descending order were blue-wing teal, gadwall and green-wing teal. In addition, 50 coots and five snow geese were harvested during the 19 waterfowl bag check dates.

Deer hunters expended 10 efforts to hunt deer resulting in the harvest of two bucks for a success of one deer per five attempts.

During the 2010 alligator season, 167 alligators with an average length of 7.8 feet were harvested by commercial trappers. During the recreational lottery alligator hunt only three of the 10 applicants participated and harvested their quota of nine alligators.

Registered trappers harvested 715 nutria off the WMA this year.

Two houseboat permits were issued this year.



Resighting of tagged deer (Pass-a-Loutre WMA).

Area staff assisted with the collection of river shrimp (*Macrobrachium ohione*) samples for Dr. Ray Bauer's (UL Lafayette biology professor) research to assess the seasonal variation in the population structure and migration of this species of shrimp, which inhabit the Mississippi River.

The Deer Tagging Project continued in fiscal year 2010-2011. The goals of the project are to better understand deer habits in a freshwater marsh and to compare tooth wear and replacement patterns on age-known wild deer to the Servinghouse method. Thirteen deer were tagged using helicopters, airboats and net-guns. Area staff are monitoring the tagged deer via motion cameras throughout the WMA, harvest accounts and staff observations. Additionally, Red-Rock Films filmed the deer tagging effort this year for a wildlife documentary on Mississippi River wildlife. The film is set to air on the National Geographic Wild Channel in early 2012.



WMA staff conducted the annual winter plover surveys in January and noted that no plovers were observed this year. This is the first year that a total absence has been noted. Potential explanations could be severely impacted habitat from the BP-DH (MC252) oil spill or the increased response activity as a result of the spill.

An osprey survey was conducted this year on the WMA. In January, on a 26.5-mile cursorial transect, observers noted 16 osprey and four active nests for an average of one osprey per 1.7 miles.



Oil and sheens release when water bottoms disturbed (Pass-a-Loutre WMA).



BP-DH (MC252) impacts at Middle Ground (Pass-a-Loutre WMA).



Submerged oil mats exposed on low tides at SE Pass (Pass-a-Loutre WMA).

Response activities related to the BP-DH (MC252) oil spill dominated the activities of area staff this fiscal year. Pass-a-Loutre WMA was ground zero during the spill, being the closest point of land to the spill location. The WMA was impacted by oil on nearly 90 percent of the gulf-facing coast line of the WMA. Significant oiling was experienced at several locations on the WMA. The Governor visited the WMA several times over the course of the year, along with many state and national leaders and dozens of media events also occurred on the WMA. Thousands of clean-up workers, hundreds of vessels, and many state and federal agencies spent countless hours attempting to respond to this incident which continues to this day. Area staff worked in every capacity of the response from performing wildlife and habitat assessments, conducting impacted wildlife recovery, and consulting directly with incident command on response recommendations. Some of the most heavily impacted areas were Middle Ground, Buttermilk Pond, Southeast Pass, East Bird Islands, South Pass Spit and Cowhorn Islands in East Bay.

Area staff conducted several rescues of stranded boaters this year. Most incidents involved pulling stranded boaters off sand bars on the WMA. Most were on bars in Pass-a-Loutre.

According to user surveys, approximately 15,000 recreational users visited the WMA during fiscal year 2010-2011. The area was completely closed for many months for recreational fishing due to the BP-DH (MC252) oil spill.

Pointe-aux-Chenes WMA

Area Biologist – Shane Granier
 Technician Supervisor Mark Castille

Pointe-aux-Chenes WMA is a 33,354-acre WMA located in southern Terrebonne and Lafourche parishes. It was purchased from the Exxon Company in 1968 at a cost of \$21 per acre and was part of the first purchase of marsh land by the Wildlife and Fisheries Commission. The revenue to purchase the properties was provided by the Commission's Conservation Fund, which at that time was primarily made up of monies derived from hunting and fishing licenses and mineral income from Pass-a-Loutre WMA.

LDWF staff continues to work with DU to complete the Grand Bayou #1 Enhancement project. We are working together to finalize construction plans and bid out the project to be completed next fiscal year. Once constructed, the project will give LDWF an enhanced capability to manage water elevation and salinity levels in the 3,255-acre management unit which will enhance fisheries utilization, mottled duck nesting, and wintering waterbird usage including waterfowl. The project should be constructed next fiscal year.

Vandals struck the Pointe-aux-Chenes/DU Water Management Unit again this year. In April a breach was dug through the levee just south of the S2 structure just prior to a strong frontal passage. In a matter of five days



Pictures of the breach in the Pointe-aux-Chenes/DU Management Unit prior to and during repair.

the small 3-foot breach opened to approximately 30 feet in width and 20 feet in depth. LDWF spent approximately \$300,000 to repair the breach in cooperation with Terrebonne Levee and Conservation District. The Terrebonne Levee and Conservation District assisted by donating track trucks to haul dirt to the site and a marsh buggy excavator to help close the breach.

Elementary school students from across southeast Louisiana participating in the LSU AgCenter Coastal Roots program planted well over 1,000 bottomland hardwood trees this year on the Point Farm.

During the 2010-2011 duck season, hunter success was 1.5 ducks per hunter. The top three species harvested on the WMA in descending order were green-wing teal, blue-wing teal and lesser scaup. In addition, hunters harvested an estimated 4,100 coots and 350 gallinule during the 19 hunter interview dates.

The only deer reported harvested this year were the two harvested by the youth lottery deer hunters. During the two hunts, 32 efforts yielded the harvest of a button buck and a doe for a success of one deer per 16 efforts.

The dove field continues to be a success with dove hunters averaging 5.6 doves per hunter effort.

During the 2010 alligator season, 200 alligators having an average length of 7.3 feet were harvested from the area. During the lottery alligator season, the five selected trappers filled 14 of 15 tags.



Coastal Operations staff building dock for Terrebonne Aquatic Clinic on Bayou Pointe-aux-Chenes.

Nutria trappers removed 152 nutria from the WMA this year.

The Terrebonne Aquatic Clinic hosted their annual fishing clinic at the headquarters. Approximately 2,000 middle school students from across Terrebonne Parish visited the WMA to learn how to fish and were taught several outdoor activities.

Waterfowl banding efforts continued this year with the banding of 26 mottled ducks on Pointe-aux-Chenes WMA.

Area staff spent the vast majority of the fiscal year working extensively on LDWF's response to the BP-DH (MC252) oil spill. The staff's knowledge of Louisiana's waterways, expertise in vessel operation, experience in handling wildlife, and dedication to the resources of the state were invaluable during the response. Staff of Pointe-aux-Chenes WMA participated in response activities across the coast including Venice, Grand Isle, Hopedale, Myrtle Grove and Cocodrie.

According to user surveys, approximately 40,000 recreational users visited the WMA during fiscal year 2010-2011.

Salvador/Timken WMA

Area Biologist – Shane Granier

Technician Supervisor – Clint Dauphinot

Salvador WMA is a 33,354-acre WMA located in southern St. Charles Parish. It was purchased from the Exxon Company in 1968 at a cost of \$21 per acre and was part of the first purchase of marsh land by the Wildlife and Fisheries Commission. The revenue to purchase the properties was provided by the Commission's Conservation Fund, which at that time was primarily made up of monies derived from hunting and fishing licenses and mineral income from Pass-a-Loutre WMA.

This area continues to remain un-staffed; however, staff from Pass-a-Loutre and Pointe-aux-Chenes WMAs



Salvador WMA Headquarters

maintain the area on a routine basis. This year the manager's residence has been cleaned and repaired and is now able to be used as an overnight facility for staff.

Water hyacinth and giant salvinia continues to be a problem on the WMA. The aquatic weed control section has been working on the area to minimize the problems.

During the 2010-2011 duck season, hunter success was 1.5 ducks per hunter. The top three species harvested on the WMA in descending order were blue-wing teal, ring-neck and green-wing teal. In addition, hunters harvested an estimated 5,900 coots and 300 gallinules during the 19 hunter interview dates.

Self-clearing permits demonstrated that deer hunters expended 95 hunting attempts this year harvesting 10 deer (six bucks and four does). This equates to a success of one deer per 9.5 efforts deer. The area also provides excellent rabbit hunting opportunities and some of the best freshwater fishing opportunities in the region.

The Bass Master's Classic was hosted in New Orleans and was won by Kevin Vandam this year. Vandam was fishing within Salvador WMA in the area of the Netherlands and Lake Cataouatche. Other anglers in the tournament that fished on the WMA ranked highly in final standings as well.

During the 2010 alligator season 472 alligators were harvested by commercial trappers with an average length of 7.4 feet. During the recreational lottery alligator harvest, 10 selected hunters participated filling 25 of the 30 tags issued.

Area staff continues to work with local oil and gas companies and Minerals Management staff with permitting, pipeline work, etc.

According to user surveys, approximately 50,000 recreational users visited the WMA during fiscal year 2010-2011.

State Wildlife Refuge

Area Biologist – Cassidy Lejeune

Technician Supervisor – David Leblanc

State Wildlife Refuge is a 13,000 acre refuge located in Southern Vermilion Parish. It was donated to the state in 1911 by Mr. Edward McIlhenny and Mr. Charles Ward to be managed as a wildlife refuge. This is the oldest refuge in the state and one of the oldest in the country.

Coastal Operations staff initiated significant repairs to several weirs and the headquarters facility. Staff repaired the following:

- **South Lake Weir:** Repaired tie-backs, fixed wash-outs, added limestone within the wing-walls, and replace regulation signs.
- **Prien Weir:** Plugged breach, repaired tie-backs, fixed washouts, added limestone within the wing-walls, and replace regulation signs.
- **North Lake Weir:** Added limestone within the wing-walls, replaced regulation signs, and replaced walkway.
- **Shallow Bayou Weir:** Added limestone within wing-walls, replaced regulation signs, and patched wash-out on sides.
- **Hog Bayou Weir:** Secured walkway, replaced regulation signs, added limestone within the wing-walls, and removed trip hazards.



Improvements to the State Wildlife Refuge headquarters yard from adjacent dredging and repairs to various weirs on the refuge.

- **Headquarters:** Built new dock adjacent to small boat shed, added limestone to yard, constructed fence to keep public out of restricted area, leveled dirt in yard, constructed a platform for a standby generator, and performed needed repairs to living quarters.

Additionally, staff installed multiple "no wake zone" signs and regulation signs at entrances to the refuge (HQ bayou and Cutoff).

A NRCS/Soil and Water Conservation District smooth cordgrass planting project was planned and implemented during this fiscal year. The project included the planting of approximately 6,000 smooth cordgrass plugs in the vicinity of Bob Lake Weir, Prien Weir, Shallow Bayou Weir, and Tom's Bayou.

Coastal Operations staff assisted with LDWF-funded secretive marsh bird call back surveys at the refuge. The surveys were conducted on multiple occasions during the summer months.

Staff from Marsh Island routinely visited this refuge to maintain facilities and conduct routine monitoring and projects. Marsh Island staff also posted the bay shore of the refuge with boundary signs.

Due to the BP-DH (MC252) oil spill response effort, recreational use and rainfall data were not obtained during fiscal year 2010-2011.

St. Tammany Wildlife Refuge

Area Biologist – Shane Granier

Technician Supervisor – Clint Dauphinet

St. Tammany Refuge is a 1,310-acre refuge located on the north shore of Lake Pontchartrain in St. Tammany Parish. The refuge was purchased by the state in 1935 from the Great Southern Lumber Company. This refuge is managed by USFWS along with Big Branch Refuge. Recreational opportunities include canoeing, bird-watching and nature study.

Limited opportunities exist for the commercial harvest of American alligator and other fur bearers. Ten alligators having an average length of 7.2 feet were harvested from the area during the 2010 alligator season.

No nutria were harvested this year.

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, alligator hide severance taxes, 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. Annual coast-wide alligator nest surveys are conducted to index alligator populations and to establish harvest quotas in coastal Louisiana. During summer 2010 we estimated that 28,168 alligator nests were present in the coastal marsh habitats (Figure 2). Coastal habitats continue to recover from the 2005 and 2008 hurricanes and the 2006, 2009 and 2010 droughts.

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.

In September 2010, the annual wild alligator harvest produced 26,508 alligators, which averaged 7.5 feet in total length and had an estimated value of over \$5.3 million. Beginning in late winter 2008 and continuing into spring and summer of 2009, the worldwide economic recession significantly impacted world trade in raw and tanned alligator skins and manufactured products. Price and demand for wild and farm-raised alligator skins dropped precipitously during this period. The drop in price and demand coincided with the economic recession and with tanners implementing stricter quality standards. During 2010, demand and price for both wild and farm-raised alligators began to recover; that recovery continued into 2011. It is anticipated that price for wild alligators harvested in 2011 will increase as compared to 2010. Adult-sized alligators (those 6 feet and larger) comprised the majority of the harvest (Figure 3).

LDWF provided additional alligator harvest opportunities for the general public by continuing its lottery alligator harvest program. In 2010 the lottery alligator harvest program provided opportunities for 304 alligator hunters to harvest 786 alligators. Lottery alligator harvests were conducted on 37 public areas (WMAs and public lakes) throughout the state.

FARM ALLIGATOR PROGRAM

The December 2010 statewide farm/ranch inventory totaled 376,493 alligators, down from a record 731,909 in December 2008. This decline was due in large part to the worldwide economic recession, and to farmers voluntarily limiting their egg collections significantly in summer 2009; and then collecting about half the usual amount in 2010 (205,261 eggs) as markets and demand slowly improved. The 2009 farm harvest, September 2009 - August 2010, was 303,028 with a base value of \$47.5 million. Average belly width of farm raised alligators was 28.7 centimeters (4.6 feet in length) with the majority of the harvest comprised of 18-29 centimeters belly width alligators (Figure 4).

FIGURE 2.

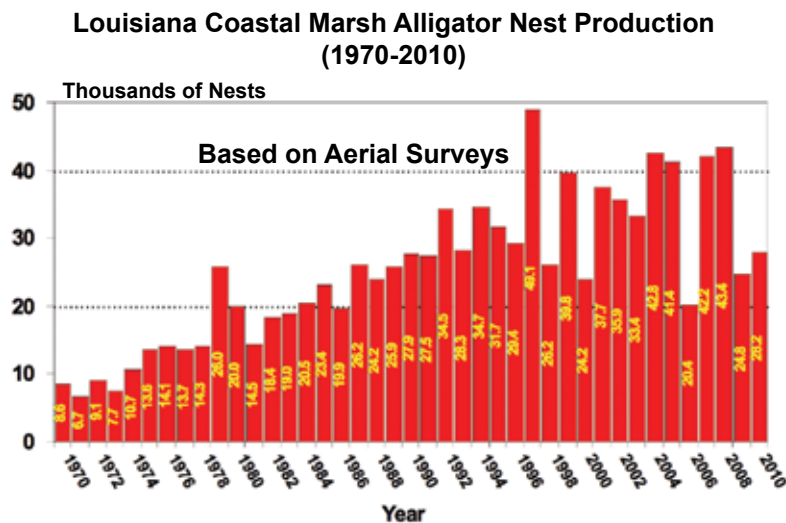


FIGURE 3.

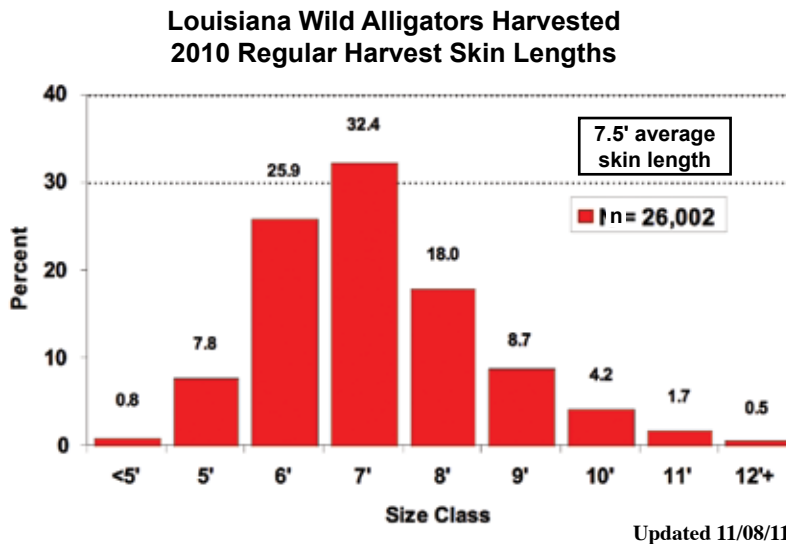
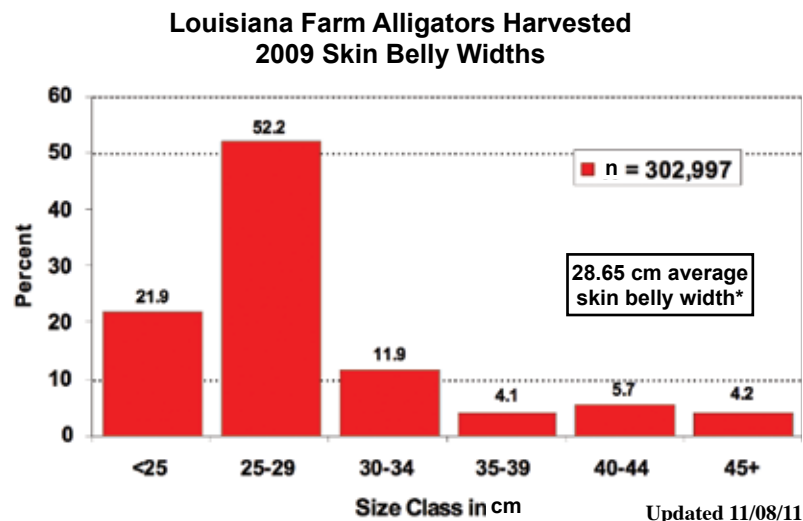


FIGURE 4.



*Skin lengths averaged approximately 55 inches, 2009 Tag Year

During 2010, a total of 710,204 wild alligator eggs were permitted for collection. A total 205,261 wild alligator eggs were collected producing 173,483 hatchling alligators; again, these numbers are lower than average (but significantly increased from 2009) due to the economic recession and lower demand for high end luxury fashion items made from alligator hides. Farmers are required to return 12 percent of the hatchlings as 4-foot alligators, which compensates the wild alligator population for the collection of eggs. The remaining animals can be sold by the farmer. During fiscal year 2010-2011, a total of 10,028 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 2010 and data on size class and sex ratio collected. Data evaluation continues on survival rates of the farm-released alligators.

Program staff routinely communicates with various alligator industry participants including hunters, farmers, landowners and dealers. Information is provided regarding wild alligator and alligator egg harvests, harvest statistics and management recommendations. Staff routinely visits alligator farms providing recommendations on alligator husbandry and culture. Numerous requests for information are handled each year.

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 LDWF.

During the winter and spring of 2009, the worldwide economic recession had a devastating impact on price and demand for alligator skins. Nuisance hunters were unable to sell large skins at profitable levels and had no sales for small (under 6 feet total length) alligator skins. In June 2009, LDWF instituted a policy change which allows for nuisance alligator hunters to charge the complainant a fee of \$30 when they catch and remove a nuisance alligator under 6 feet in length. Depending on market conditions next fiscal year, further nuisance alligator policy changes may be necessary to ensure that appointed nuisance alligator hunters remain in the nuisance alligator program.

During 2010-2011, a total of 63 nuisance alligator hunters were enrolled in the program; on average nuisance hunt-

ers respond to an estimated 5,000 complaints and harvest approximately 2,000 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 fiscal year 2010-2011.

Monitoring

- ***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). Due to the recent reduction of the 14 percent release rate to 12 percent, it is imperative to monitor survival closely. The 12 percent return rate started with the 2007 permits (releases "due" in 2009). Information on size class frequency distribution of wild alligator populations and susceptibility to harvest is provided annually to enhance survival estimates. Although some growth information has been published, we plan to evaluate growth rates in more detail; we now have "retraps" that were captured over 15 years since release, and this is undoubtedly one of the largest mark-recapture projects currently in progress. Staff from the LSU Department of Experimental Statistics assists with annual evaluation of survival and growth based on farm "retraps" recovered in September harvests.
- ***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 for export authority. For the 2011 survey a new alligator program employee will serve as the navigator; the observer will serve his second year as full-time observer.
- ***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 coast wide nest survey will be continued as long as a harvest program is in place. 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.
- ***Evaluation of alligator nest density*** - LDWF biologists work with cooperating alligator farmers to gain access to their GPS data from annual egg collections. This study will facilitate comparisons between our coast wide nest survey and estimates of nest density as recorded by the farmer during egg collections. Some farmers have advised staff of reduced nest production on selected wetlands; this study will allow us to evaluate nest distribution and density changes over time.

- **West Nile Virus (WNV)** - LDWF, in conjunction with LSU School of Veterinary Medicine, continues to monitor occurrence of WNV on alligator farms in Louisiana. Initial mortality related to WNV occurred in fall/winter 2003. Aggressive mosquito control on farms has reduced on farm mosquito populations and seems to have reduced the incidence of WNV in 2010-2011. Studies have determined that WNV exposure is a predisposing factor in development of "PIX/LPSA" skin lesions. We also collected blood samples (plasma and serum) from wild alligators in September 2010 during the sanctioned harvest, to screen for WNV in wild alligators. During fiscal year 2010-2011 we continued to collect samples from farm alligators to monitor for exposure to WNV and other health surveillance parameters.
- **Best management practices** - 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 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 will be updated as new information regarding any pertinent topic 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. Additionally we worked closely with Dr. Nevarez at the LSU School of Veterinary Medicine to investigate methods of euthanasia on commercial farms, and determine the most humane practice to recommend to the alligator farming industry. Results are currently being analyzed.
- **Conduct physical property analysis and biochemical evaluations of farm-raised and wild alligator skins and biochemical evaluations of commercial alligator rations** - New conditions, skin wrinkling and double scaling, have recently become problematic for alligator farmers. Associated with these conditions, farmers are reporting a general observance of weakness of the skin and there appears to be a link to nutritional issues associated with the commercial rations being fed to captive alligators. Biochemical methods will be used to evaluate alligator skins for potential defects and relate to physical tests. The physical method will include the Instron test to evaluate the physical properties of alligator skins. The biochemical tests will include the analysis and comparison of feeds, and the analysis and comparison of skin collagen and keratin. Protein profiles in feed samples will be analyzed by electrophoresis to evaluate any difference between the feeds as a result of processing. Feed samples will also be sent out to a certified laboratory for amino acids profile, especially the sulfur containing amino acids. Alligator skins will be analyzed for collagen and keratin and amino acid profiles will be conducted.
- **Evaluate the health status of farm released alligators** - A total of 40 alligators originating from two different farms were sampled in fiscal year 2010-2011 to evaluate their overall health at the time of release. Study results indicate that the release alligators are healthy, that WNV remains the most important infectious disease for captive reared alligators and that continued surveillance is necessary. Alligators brought into Louisiana from Georgia for release previously were found to be of poorer health than Louisiana-reared alligators and further release of these animals should be closely monitored. Continuation of this study is planned for the future as funding allows.

Contracts

- **Diagnostic services - LSU School of Veterinary Medicine (Dr. Nevarez)** - Dr. 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.
- **LSU Experimental Statistics** - The LSU Department of Experimental Statistics is under contract to provide technical statistical expertise for numerous alligator projects; most importantly the evaluation of survival of farm-released alligators, population trends from nesting survey data, and more recently with hide grade/length correlations. Assistance was provided with refining statistical analyses of dispersal of wild alligators initially marked on Rockefeller Refuge but caught off site, to determine relationship between size at initial capture and sex and dispersal distance. We evaluated dispersal of animals from initial capture sites and submitted a manuscript which was accepted for publication in the scientific literature.

Other Research

In recent years we have spent considerable effort testing telemetry units for practical methods to attach to juvenile alligators and test range of reception. This may be helpful in monitoring the survival of farm-released alligators. Our biological staff constructed an outside holding pen to test the telemetry unit attachment on wild and farm alligators. Unfortunately the pen was damaged by Hurricane Ike in September 2008 and alligators escaped. The telemetry units remained in place on the few animals that were recaptured. We continued to house these animals at RWR demonstrating long-term retention of the telemetry units during 2009-2010. Subsequently the telemetry units were removed by staff and the alligators released. Recently several of the escaped alligators were recovered, and we prepared a paper which has been accepted for publication on site fidelity of these alligators.

Dr. Dan Janes from Harvard University continued molecular biology work on alligator embryos provided by LDWF; as did other collaborators and university professors and graduate students. We coauthored a manuscript with Dr.

Janes and colleagues which is currently "in review" and being considered for publication in the scientific literature.

We assisted again this fiscal year with a Ph.D. student from the LSU Chemistry Department evaluating peptides by providing large volumes of blood for leukocyte extraction.

We have several years of data on alligator dispersal (caught live on RWR, and subsequently harvested "off" RWR). Several have migrated very long distances (20-35 miles) which is important data to consider in evaluating our farm "release to the wild" program. Additional data collected in September 2009 and 2010 helped us evaluate effects of hurricanes Rita and Ike and severe drought on alligator displacement.

We continued to support and collaborate with post-doctoral research associates and their work on oxygen levels in developing alligator embryos and cardiovascular physiology under varying conditions. Associates from several universities (University of North Texas, University of California at San Francisco, Harvard University, Yale University, Indiana University School of Medicine, University of California at Irvine, Vanderbilt University, University of Arizona, and University of Utah) were hosted at RWR in June 2011 to collect additional samples for several studies. Several collaborators made presentations with LDWF staff as coauthors at meetings including the Society for Integrative and Comparative Biology in Salt Lake City, Experimental Biology meetings in Washington, D. C., and the Society of Vertebrate Paleontology in Pittsburgh.

We updated a document on alligators for the Status Survey and Conservation Action Plan for the Crocodile Specialist Group. Future research priorities for the species were included. We also published a note in the *Crocodile Specialist Group Newsletter* on possible consumption of corn at wildlife feeders by alligators.

We previously assisted a graduate student from California with his research on use of stable isotopes to determine alligator diet (noninvasive); the manuscript is in review and follow-up references have been obtained. We also supported Dr. Uriel Zapata with his doctoral research on material properties of alligator mandibular cortical bone. These studies were published in the journal *Bone* and follow up studies are underway, with a presentation being made at the Experimental Biology meetings in Washington, D. C. in April 2011.

We assisted a graduate student from UCLA again in 2010-2011 with samples for her study of intestinal parasitology.

We published a paper this year on the development of the manus in alligators in collaboration with Dr. Hans Larsson.

Our research efforts have been hampered in large part by lack of holding facilities for alligators. We had a small functioning laboratory, but the tremendous physical plant losses due to hurricanes Rita and Ike have limited our progress. This lab was a shared room in the maintenance

workshop and is now not usable due to repairs to the shop. Our biological staff constructed a cover/awning to the semi-repaired holding tanks, which has helped. Initial work done to supply adequate heat to holding tanks was completed in spring 2009 and minor repairs continued this fiscal year. We met several times again this year to discuss schematic drawings for a new lab and holding facility.

PUBLICATIONS/COOPERATIVE RESEARCH

The following scientific papers were published from approximately July 2010 to June 2011:

Bonnan, M. F., J. L. Sandrik, T. Nishiwaki, D. R. Wilhite, R. M. Elsey, and C. Vittore. 2010. Calcified cartilage shape in archosaur long bones reflects overlying joint shape in stress-bearing elements: implications for non-avian dinosaur locomotion. *The Anatomical Record*. 293:2044-2055.

Bonnan, M. F., J. L. Sandrik, T. Nishiwaki, D. R. Wilhite, R. M. Elsey, and C. Vittore. 2010. Non-avian dinosaur and extant archosaur limb joints: what's missing, what's not and where do we go from here? (Abstract). SVP 70th annual meeting. Pittsburgh, Pennsylvania. October 10-13, 2010.

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ALLIGATOR ADVISORY COUNCIL

The Louisiana Alligator Advisory Council joined with Louisiana Fur Advisory Council in all educational endeavors. School and library presentations addressed the educational needs of both councils. The Louisiana Science Teachers Association served as an opportunity to put materials directly into the hands of teachers. The website and CDs provide habitat management education related to the alligator industry as well.

The Alligator Advisory Council also concentrated on several issues associated with alligators and crocodilians in general through the Convention on International Trade in Endangered Species (CITES) and USFWS programs and regulations. The CITES Standing Committee meeting in Geneva, Switzerland was the most active in several years concerning issues of expediting legal trade in exotic skins and streamlining CITES permits. Primary issues discussed at this conference included personal effects, captive breeding, related ranching and source codes, and the snake and lizard trade.

The Alligator Advisory Council had a busy year on the federal legislative front by supporting an initiative to establish a program to develop control methods for the exploding population of feral swine and to minimize the damage done to alligator habitat in the state. Substantial progress was made in moving this bill through the federal legislative process.

The Alligator Advisory Council worked with the LSU School of Human Ecology to promote the use of lower grade alligator skins. Promotional instruction was developed and incorporated into two courses. An instructional video was developed for educating designers on how to design, lay out and construct garments/products made of grade 3 alligator skins.



OFFICE OF FISHERIES

The Office of Fisheries is comprised of five divisions, Marine Fisheries, Inland Fisheries, Research and Assessment, Louisiana Seafood Promotion and Marketing Board, and Socioeconomic Research and Development.

MARINE FISHERIES DIVISION

The Marine Fisheries Division is charged with management of the full range of Louisiana's estuarine and marine resources. Division responsibilities are categorized as Fisheries Management Programs and Habitat Protection Programs. Participation in numerous local, state, regional, national and international committees, task forces and councils provides professional expertise in the development of state and federal regulation, legislation and standards governing the wise use of renewable natural resources.

INLAND FISHERIES DIVISION

The Inland Fisheries Division manages fish populations and habitats for the conservation and improvement of sport and commercial fishing primarily in freshwater areas of the state. Division responsibilities are divided into two major categories: Fisheries Management and Aquatic Habitat Management.

RESEARCH & ASSESSMENT DIVISION

It is the mission of the Louisiana Department of Wildlife and Fisheries Research and Assessment Division to provide technical and scientific support to the Office of Fisheries as it relates to fisheries management issues; to improve fishing/boating access and opportunity for users to enjoy Louisiana's fishery resources and to promote participation in Louisiana's fisheries through outreach and education.

LOUISIANA SEAFOOD PROMOTION & MARKETING BOARD

The Louisiana Seafood Promotion and Marketing Board was created by the Louisiana Legislature with the purpose of enhancing the public image of commercial fishery products, promoting the consumption of these products, and assisting the seafood industry. According to the mission statement, the board assistance is to twofold: product promotion through advertising programs and public image enhancements; and market development by better utilizing existing markets and establishing new market opportunities.

SOCIOECONOMIC RESEARCH & DEVELOPMENT

The Socioeconomic Research and Development Section conducts economic research pertaining to wildlife and fishery resources, provides support to other LDWF programs, and represents LDWF on various study groups, task forces and committees.

OFFICE OF FISHERIES

ABBREVIATIONS

BP - British Petroleum

BP-DH (MC252) oil spill - BP Deepwater Horizon oil spill

GSMFC - Gulf States Marine Fisheries Commission

LARP - Louisiana Artificial Reef Program

LDAF - Louisiana Department of Agriculture and Forestry

LDEQ - Louisiana Department of Environmental Quality

LDHH - Louisiana Department of Health and Hospitals

LDWF - Louisiana Department of Wildlife and Fisheries

LSPMB - Louisiana Seafood Promotion and Marketing Board

LSU - Louisiana State University

LWFC - Louisiana Wildlife and Fisheries Commission

MSC - Marine Stewardship Council

NOAA - National Oceanic and Atmospheric Administration

SEAMAP - Southeast Monitoring and Assessment Program

SRD - Socioeconomic Research and Development

VMS - Vessel Monitoring System

FISHERIES

EXECUTIVE SUMMARY

MISSION

To manage living aquatic resources and their habitat, to give fishery industry support, and to provide access, opportunity and understanding of the Louisiana aquatic resources to the state's citizens and others beneficiaries of these sustainable resources.

GOALS

- 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.
- Provide and enhance recreational fishing experience through improved access, opportunity and public awareness.
- Maintain a sustainable and economically viable fisheries environment.
- Create a work environment in which all Fisheries staff are enabled and empowered to achieve the office's goals and objectives.

OBJECTIVES

Activity 1.

To be an effective, efficient steward of our renewable aquatic resources, remain a national leader in seafood production, and provide quality recreational fishing opportunities for citizens, as well as the economic benefits accruing to the state from our lakes, bays, marshes and rivers.

PERFORMANCE INDICATOR NAME	YEAR PERFORMANCE STANDARD	ACTUAL YEAR END PERFORMANCE
Number of finfish species for which a fisheries management plan is produced.	3	1
Number of shellfish species for which a fisheries management plan is produced.	1	1
Percent of recreational fishers surveyed regarding resource management efforts.	2%	1%
Percent of commercial fishers surveyed regarding resource management efforts.	2%	0%
Percent of water bodies stocked with Florida largemouth bass where the Florida gene is present in at least 15% of the bass population.	80%	94%
Number of major fish kills.	3	9
Number of fish requested for stocking from within and without LDWF.	12,000,000	4,963,630
Number of fish stocked.	8,000,000	4,192,622

Activity 2.

The activity's main objective is to increase and enhance access and opportunity to the beneficiaries of the state's natural resources. Also, through outreach efforts we will advise beneficiaries on stewardship best practices in preserving the unique nature of the state's natural resources.

PERFORMANCE INDICATOR NAME	YEAR PERFORMANCE STANDARD	ACTUAL YEAR END PERFORMANCE
Percent of state water bodies over 500 acres without significant aquatic vegetation problems.	75%	64%
Number of public boating or fishing access sites enhanced, created and promoted.	4	9
Number of artificial reef projects enhanced, created and promoted.	4	17
Number of citizens exposed to outreach programs.	25,000	229,988
Number of outreach events and activities conducted or attended.	15	38
Number of acres treated to control undesirable aquatic vegetation.	54,222	56,867
Number of acres nuisanced by undesirable aquatic vegetation.	600,000	345,561
Number of new or improved boating access facilities.	4	6
Number of requests for assistance in constructing boating access facilities.	15	10

Activity 3.

To maintain Louisiana's abundant fishery resources and their commercial and recreational opportunities by seeking and effectively and efficiently implementing federally-funded programs to aid the recreational and commercial fishing industries in recovery from natural and man-made disasters.

PERFORMANCE INDICATOR NAME	YEAR PERFORMANCE STANDARD	ACTUAL YEAR END PERFORMANCE
Percent of eligible recipients sent application information for fisheries disaster recovery assistance within 30 days of receipt of funding.	80%	0%
Number of days to produce a preliminary assessment of resource and habitat damages as a result of a catastrophic event.	30	0
Number of days to provide a written plan for resource and habitat recovery from a catastrophic event.	180	180

Activity 4.

This administrative activity provides oversight, strategic guidance, interagency collaboration, executive management and administrative support for all of the activities of the Office of Fisheries.

PERFORMANCE INDICATOR NAME	YEAR PERFORMANCE STANDARD	ACTUAL YEAR END PERFORMANCE
Percent of all Office of Fisheries outcome and key indicators met or exceeded	90%	70%

FISHERIES MANAGEMENT CHANGES

The Office of Fisheries completed an extensive reorganization designed to unify activities under the office and eliminate the previous multiple-division structure. The new structure creates a team of section directors with a wider fishery management focus than under the previous structure. Efficiencies are realized by combining like-tasks and statewide activities under one section, eliminating duplication of services.

The reorganization also provides the flexibility to dedicate limited manpower to more effectively manage the aquatic resources of the state and moves the office closer to the goal of a one-to-four supervisory profile as recommended by the Department of Civil Service.

The new Office of Fisheries structure is composed of the following sections:

- **Marine Fisheries Section** – to manage the marine (saltwater) fisheries resources of the state.
- **Inland Fisheries Section** – to manage the inland (freshwater) fisheries resources of the state.
- **Fisheries Management** – to provide technical and scientific research in support of fisheries management.
- **Fisheries Oversight** – to provide guidance and assistance to Louisiana's valuable fishing industries.
- **Fisheries Extension** – to inform the public on fishery management measures and activities.

DATA MANAGEMENT SYSTEM UPGRADE

In addition to reorganization efforts, the Office of Fisheries accepted proposals for Database Management System design and implementation to replace its aging Database Management System to improve efficiency.

Committee reviewed all subsequent bids in October 2009, and Modulant, Inc. was selected. Contract negotiations with Modulant, Inc. were completed, and the final con-

tract was signed on April 1, 2010. Work began in August 2010 and has continued throughout the year. The Office of Fisheries has begun implementation with the new Database Management System in various areas. An extension of the contract with Modulant, Inc. was requested and approved, and work is scheduled to be completed by November 30, 2011.

NEW INITIATIVES

The Office of Fisheries has several major initiatives planned for next year consistent with its mission. These initiatives include:

Community Fishing Program

In an effort to fulfill the objective of developing, enhancing, supporting and promoting public fishing opportunities in Louisiana, the Louisiana Department of Wildlife and Fisheries (LDWF) has created a Community Fishing Program. Within this program, LDWF will identify potential opportunities to bring fishing access to municipal areas as well as suburban and rural communities. LDWF believes fishing should be a readily accessible activity to all Louisiana residents and that the development of community fishing opportunities significantly increases access to quality fishing. LDWF will only support community fishing opportunities that allow public access, with particular attention to access typically in short supply; shoreline angling and accessibility to the handicapped.

Gulf of Mexico/Atlantic Large Pelagic Fishes Tagging Cooperative Program

This study is designed to help clarify the evidence that yellowfin tuna migratory patterns have been altered by the presence of offshore oil platforms.

Understanding movement patterns is an important component of fisheries management programs. Some research has indicated differences in migration patterns of pelagic

species between eastern and western stocks in the Gulf of Mexico, though this is not clear for yellowfin tuna.

Yellowfin tuna migrate throughout the Gulf of Mexico and are widely harvested in commercial and recreational fisheries, yet very little is known about their movement and migratory patterns. Concentrations of yellowfin tuna occur off the mouth of the Mississippi River in waters likely impacted by the British Petroleum Deepwater Horizon (BP-DH) (MC252) event. Migratory patterns of yellowfin may also be affected by the river itself, which acts as a natural barrier separating the Gulf. In addition, the Gulf is dominated by the Loop Current, which divides the Gulf into two unique oceanographic provinces that influence habitat use patterns of pelagic fish species, including tuna.

The study will place 15 satellite tags on yellowfin tuna. The data collection period is one year.

Vessel Monitoring System

The Oyster Seed Ground Vessel Monitoring System (VMS) Pilot Program was launched to collect preliminary data enabling LDWF to better manage the public oyster resource. Data collected will allow LDWF to assess where reef building efforts should be focused, increasing accessibility to the industry over time. The VMS is one step in an overall plan to develop a Gear Modernization Program, to help ensure an economically and environmentally sustainable fishing program in Louisiana.

Currently, very little information is known on the utilization of the public oyster seed ground resource. Incorporating VMS on oyster seed ground vessels would provide valuable data on the patterns of effort for this fishery. By covering costs associated with the purchase, installation and operation of VMS, important information can be gathered through the pilot program and recommendations can be made to the commission regarding the utilization of this public resource.

In the 2011 Regular Session, Louisiana legislators passed Revised Statute 56:433:1 (A) (4), which allows for the Louisiana Wildlife and Fisheries Commission (LWFC) to adopt rules and regulations that require the use of VMS on vessels taking oysters for commercial purposes under the authority of the oyster seed ground vessel permit.

The VMS are GPS systems that utilize satellites to show where a vessel is located at all times. This sophisticated tracking equipment enables effective monitoring of where a boat is working/fishing. All Commercial Oyster Seed Ground Vessel Permit holders who would intend to fish the public seed grounds will be required to participate. Currently, there are 759 permit holders. In the instance that funding is insufficient to provide all 759 permit holders with VMS units, the Secretary of LDWF will have the ability to choose participants using any combination of the following: random selection process, geographic region, or trip ticket landings data.

The pilot project is designed to run for two years based on funding provided through a U.S. Department of Housing and Urban Development grant.

Continued Reorganization Efforts

Currently, the Office of Fisheries has three existing and active task forces, the Shrimp Task Force, the Oyster Task Force and the Crab Task Force. Those memberships are currently housed by the Louisiana Seafood Promotion and Marketing Board.

In the coming year, LDWF will create four new task forces including the Wild Crawfish Task Force, the Finfish Task Force, the Recreational Task Force and the Charter Boat Task Force.

The plan is also to move the new and existing task forces to be housed by the LDWF Office of Fisheries. This will allow for more efficiencies and the hope of greater participation by members. The close working relationship between the task forces and LDWF is essential as we move forward with the continued management of Louisiana's natural resources.

2010 BP DEEPWATER HORIZON (MC252) OIL SPILL

Though the BP-DH (MC252) oil spill began in April of 2010, response and recovery efforts continued throughout fiscal year 2010-2011. The explosion of the MC252 deepwater oil rig that subsequently released an estimated 5 million barrels of oil into the waters off Louisiana's coast was the largest man-made environmental disaster in North American history. As a lead agency in the spill response, LDWF worked to ensure the safety of all those fishing in waters off Louisiana's coast, that the seafood harvested in open waters was safe for consumption, and that ongoing response to stranded animals, marine mammals and turtles was conducted in conjunction with the federal government.

RAPID RESPONSE MEASURES

Personnel with the Office of Fisheries conducted extensive daily area reconnaissance throughout the BP-DH (MC252) oil spill and its long-term response. These activities accounted for approximately 1,678 man days, 757 vessel days, and 704 reconnaissance trips.

State and federal partners, to help determine the extent and severity of oil contamination, utilized information gathered throughout the rapid response to the spill. With information about the extent of contamination, Fisheries staff advised LDWF leadership on recreational and commercial fisheries openings, closures and other response actions.

Four emergency actions were taken in early July 2010 to close portions of state waters to recreational and commercial fishing due to the actual or predicted presence of oil in those state waters. These actions compounded earlier actions in the weeks immediately following the beginning of the spill. At the height the spill, approximately 76 percent of state waters in the Gulf of Mexico were closed. By July 5, roughly 4,425 square miles (57 percent) of state waters were closed by emergency action. Following July 5, LDWF Secretary Robert Barham, with authority granted to him by the LWFC, began reopening portions of state waters in what totaled 12 emergency actions. Fisheries communicated these actions with federal and state partners engaged in similar closures.

The protocol for reopening areas used by Fisheries was one that was devised and agreed upon early in the spill response by the Gulf States, the U.S. Food and Drug Administration, and the National Oceanic and Atmospheric Administration (NOAA).

By April 26, 2011 only 0.6 percent of state waters remained closed to commercial fishing and certain recreational activities.

RESOURCE IMPACT MONITORING

Due to the unique situation posed by the BP-DH (MC252) oil spill, Fisheries biologists increased independent sampling efforts in order to monitor the impacts on fisheries resources, and to document the status of Louisiana saltwater fisheries. Because Fisheries administrators were aware that additional sampling efforts, beyond those normally undertaken, would be necessary to monitor the fisheries for any changes that could necessitate immediate management actions, LDWF worked quickly to negotiate an agreement with BP that would cover the monitoring costs.

Within just a few weeks, the state announced the first agreement with BP for a Fisheries Impact Monitoring Plan. The agreement was finalized on Aug. 17 and work began quickly thereafter.

Included in the signed plan were two primary fisheries monitoring plans: inshore monitoring and nearshore monitoring.

Inshore Monitoring

Inshore monitoring takes place where the water is typically more shallow. Normal depths are anywhere from 1 to 21 feet. Common species found in these areas include tarpon, spotted seatrout and oysters. In the case of oysters, an increase in sampling was implemented in several coastal areas, including those areas east of the Mississippi River where confirmed reports of oil occurred. These sampling sites were located in LDWF Coastal Study Areas (for which a map can be found at 1N, 1S, 6 and 7). In addition to those increases in sampling sites, dredge sampling was instituted during months which dredging did not traditionally occur (November through February).

Nearshore Monitoring

Nearshore monitoring takes place in what recreational anglers sometimes call offshore waters. These are defined as waters of the Gulf of Mexico within the 5-40 fathom contour. Many of Louisiana's commercially and recreationally valuable species are found in these areas, including brown and white shrimp, red drum, red snapper and Gulf menhaden. Nearshore monitoring includes spatial and temporal distribution and abundance of fishes in relation to measured environmental and oil impacts. The information gathered throughout these monitoring efforts is used to manage these species in light of the spill.

Nearshore monitoring is done in three designated zones as listed below:

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

A different zone is sampled for the Nearshore Monitoring component of the Fisheries Impact Monitoring Plan each month. This allows each zone to be tested at least once per quarter. Allowing for sampling of transects within those zones, a total of 48 transects are sampled on an annual basis. The total number of species collected in a given year is 384, as at least eight depth strata are collected at each of the 48 transects annually.

During fiscal year 2010-2011, Fisheries biologists performed 63 shrimp and groundfish surveys within nearshore waters to the Louisiana coastline. Biologists also collected 46 shrimp samples for laboratory testing.

SEA TURTLE AND MARINE MAMMAL STRANDING RESPONSE

The ongoing response to stranded and oiled marine mammals and sea turtles became one of the most widely covered stories of the BP-DH (MC252) oil spill in the months following the start of the environmental disaster. LDWF personnel, including Fisheries staff and enforcement agents, worked diligently to respond to these strandings that would eventually be tied to a federally declared Unusual Mortality Event.

Fisheries staff followed strict protocols established by NOAA's National Marine Fisheries Service and U.S. Fish and Wildlife Service. These protocols included swabbing the exterior of animals to obtain any possible oiling substance, extensively photographing animals, collecting carcasses and/or samples, and handling all evidence under an official chain of custody.

Responses to strandings also included the investigation of many dead animals. Protocols for these animals were still followed and, in the majority of cases, entire carcasses for dead animals were retained so that necropsies could be performed in an effort to determine a cause of death.

From the beginning of the BP-DH (MC252) oil spill, LDWF investigated the following counts of marine mammals and sea turtles:

- Sea Turtles (from May 5, 2010 through July 31, 2011) = 310 strandings, nine incidental captures
- Marine Mammals (from onset of spill response through July 31, 2011) = 212

TISSUE TESTING FOR SEAFOOD SAFETY

Following the start of the BP-DH (MC252) oil spill, the consumption of fish from Gulf of Mexico waters was an immediate concern for both state and federal officials. While closures implemented in both state and federal waters were aimed at preventing seafood products that may have come into contact with BP oil from entering the market, additional measures were undertaken in order to ensure the safety of seafood being harvested in waters off Louisiana's coast.

In the fiscal year 2010-2011, the sampling and testing of finfish, crabs, shrimp and oysters continued based upon the collection, transportation and testing protocols agreed upon by the U.S. Food and Drug Administration, NOAA

and the Gulf States. Louisiana's early efforts to collect and test samples at independent laboratories were highlighted in numerous news stories throughout the summer and fall of 2010.

Though LDWF, along with the Louisiana Department of Health and Hospitals (LDHH), and the Louisiana Department of Environmental Quality (LDEQ) were sampling and testing seafood, water and sediment without an agreement from BP, state officials worked diligently to ensure BP would fully fund a seafood testing plan.

Late in 2010, Gov. Bobby Jindal announced the agreement for \$18 million to test seafood for traces of oil contamination and dispersants that were used throughout the BP-DH (MC252) oil spill. The agreement included LDWF, LDHH, LDEQ and the Louisiana Department of Agriculture and Forestry (LDAF). The payment terms included \$6 million for the testing program over three years, to be renewed if a fishery closure were enacted as the result of the BP-DH (MC252) oil spill. The agreement was finalized and signed in early 2011.

At the end of fiscal year 2010-2011, more than 1,500 composite samples of seafood had been tested by LDWF and LDHH. Samples were collected by Fisheries personnel in the same three zones across the coast and utilized for Fisheries Impact Monitoring. For the sampling of finfish, species targeted by both commercial and recreational anglers were collected for testing.

Thirteen to 18 species were targeted per zone per month. A strict chain of custody was utilized as part of the testing protocol as included in the seafood safety agreement between LDWF, LDHH, LDEQ and LDAF, called the Louisiana Seafood Safety Plan. Each fish sampled was assigned a distinct ID number, and measured, latitude and longitude of capture recorded, and approximately 200 to 300 grams of flesh was removed and preserved according to strict protocol. Samples were either then delivered to an independent laboratory, one of which was Eurofins Central Analytical Laboratory in Metairie, La., or delivered to LDHH.

LDWF, as well as LDHH, made sample results available to the public frequently through LDHH reports and upon request while a web-based resource was built.

NATURAL RESOURCE DAMAGE ASSESSMENT ACTIVITIES

LDWF staff worked cooperatively on numerous Natural Resource Damage Assessment projects specific to the BP-DH (MC252) oil spill, alongside state and federal partners. Some workgroups with which Fisheries staff is engaged include:

- Submerged Aquatic Vegetation Technical Working Group
 - Topic – Seagrass beds in the northern Chandeleur Islands
- Oyster Technical Working Group
 - Topic – Injury assessment to oyster resources in the Gulf of Mexico

- Fish Technical Working Group
 - Topic – Injury to nearshore and inshore estuarine species, including species like penaeid shrimp and crabs
- Marine Mammal Technical Working Group
- Sea Turtle Technical Working Group

Fisheries personnel performed or assisted with much of the fieldwork implemented by these working groups, surveying oyster field evaluations and benthic sampling.

EMERGENCY RESTORATION EFFORTS

In lieu of waiting for BP to commit funds to restore valuable oyster grounds impacted by the BP-DH (MC252) oil spill and its response, LDWF and Gov. Bobby Jindal announced two emergency restoration projects for which the state is seeking reimbursement. Utilizing existing funds within LDWF's budget, the department planned \$4 million of oyster cultch plants to assist the re-establishment of healthy, productive public oyster seed grounds.

One of those cultch plants was designed to be 300 acres in size and was scheduled for execution in May 2011. However, the 2011 Mississippi River Flood event delayed the start of the project until environmental conditions were conducive to oyster recruitment. The project was rescheduled for September 2011, later than the close of the fiscal year (<http://www.wlf.louisiana.gov/news/33786> and <http://www.wlf.louisiana.gov/news/33999>).

Five additional cultch plants were also planned with input from industry stakeholders and other state partners, including the Coastal Protection and Restoration Authority. Those cultch-plant projects were scheduled to begin next fiscal year.

OYSTER HATCHERY

In addition to traditional cultch plantings planned by LDWF as emergency restoration actions, Fisheries partnered with the Louisiana Sea Grant Bivalve Hatchery to begin planning oyster restoration utilizing hatchery-reared oyster larvae and spat (spat are oysters that are smaller than 25mm). During June 2011, LDWF and the Sea Grant Hatchery deployed approximately 1 million oyster larvae. Additional larvae and spat are planned to be deployed on appropriate public oyster grounds during the next fiscal year.

OYSTER CULTCH PLANTING

A reef rehabilitation project was planned for May 2011. Although bids were received and a contract was executed with the successful bidder, this project was delayed until September 2011 due to poor environmental conditions (salinity below that required for optimal oyster recruitment) caused by freshwater inundation from the opening of the Bonnet Carre Spillway. This project was planned to cover approximately 300 acres of existing shell reef south of Halfmoon Island in Mississippi Sound.

2011 MISSISSIPPI RIVER FLOOD EVENT

In the spring of 2011, high levels were present throughout the Mississippi River. By early May, water levels were so high in parts of the Mississippi River throughout Louisiana that the U.S. Army Corps of Engineers opened the Morganza Spillway to ensure that densely populated portions of the state down river were not flooded. Still, the flood had an impact on numerous communities and bodies of water throughout the state.

LDWF Fisheries staff worked diligently to monitor the flood's impacts on water bodies and to monitor the impacts of these floodwaters on both freshwater and saltwater species.

RAPID RESPONSE

Fisheries staff devised and executed a response plan to monitor water quality, possible fish kills, possible infrastructure damage (access points, boat ramps, wharfs and parking lots), resource impacts, and recovery actions ahead of the flood peak. Personnel and equipment were secured in areas where flood waters were predicted.

RESOURCE MONITORING

For inland water bodies, water quality, including dissolved oxygen levels, was measured weekly throughout the basin during the flood pulse, with 27 stations being visited 14 times throughout the event, for a total of 378 water quality samples taken throughout the Atchafalaya Basin.

For marine waters off Louisiana's coast, inshore monitoring and hydrological sampling was conducted. Inshore sampling included 6-foot and 16-foot trawls in state outside waters. Marine finfish monitoring included gill net, seine and trawl sampling, and monitoring of the fish kills within the basins impacted by freshwater flooding both east and west of the Mississippi River. Sample results indicated no major changes with some temporary displacement of saltwater species.

Sampling for shrimp and groundfish resources continued throughout the spring with monitoring and surveys of shrimp and crab stocks. The valuable information gathered from sampling provided the necessary data used to recommend a special spring shrimp season in portions of Shrimp Management Zone 2 and an early reopening of state outside waters previously closed to shrimping.

Oyster monitoring and impact assessment also took place, including dredge sampling within the outfall basins of freshwater flooding in Coastal Study Areas 1N, 1S and 6. Those oyster sampling results revealed significant oyster mortalities in the Mississippi South near Halfmoon Island – nearly 60 percent. Sampling east of Marsh Island revealed 100 percent mortality, with the exception of one site (North Reef), where one live oyster was collected.

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.

MONITORING

Monitoring fisheries, both fresh and saltwater, is a crucial component of resource management. The information gathered during monitoring efforts, such as fisheries independent sampling, gives biologists and administrators the information essential to managing each fishery appropriately – openings, closures, limits and emergency actions are based upon monitoring data.

Coastal Resource Monitoring – Improved Sample Coverage

The Office of Fisheries has recently changed its monitoring sample methodology to improve estuarine coverage and provide better management decisions. Sample stations for each gear-type used by LDWF will be chosen through stratified random design of fixed locations. From the available pool of stations located throughout coastal Louisiana, an equal number of stations will be selected at random for each sample period. For the next sample period, a new set of stations will be sampled at random. The stratified random design increases confidence in providing fish population estimates on a basin or statewide scale.

Although the previous methodology of sampling a set of fixed stations can sometimes provide a greater ability to identify changes in habitat in specific locations over time, the design falls short in measuring fish population by basin or statewide as that habitat changes through accretion or degradation of our estuaries. That comprehensive set of non-randomized fixed stations may not reflect the true distribution and abundance of species on a larger scale.

The previous methodology did not provide the flexibility of moving station locations as habitat changes occur; therefore, station locations needed to be added and none could be removed. As state resources are reduced and we are required to do more with less, the randomized methodology allows the flexibility to increase or decrease sample size as resources dictate.

Shrimp Sampling

In response to the need for information to assess the status of living marine resources in inshore waters, and in the shelf waters off of Louisiana, a long-term sampling program has been designed and implemented to enhance the current monitoring program. This new, more robust approach encompasses a broader geographic scale to access areas impacted by oil but not previously being sampled by LDWF. Inshore sampling has become a modification of the long-term existing sampling program, with the addition of new stations and the incorporation of a stratified random sampling design. This modification provides greater spatial coverage and allows inferences to be made statewide, filling in information gaps that may otherwise not occur with the current fixed-station approach. Sampling for this program began October 1, 2010.

Nearshore sampling consists of a series of trawl transects across Louisiana, using standard 42-foot Southeast Monitoring and Assessment Program (SEMAP) otter trawls, and plans to occupy over 380 stations annually. Sample sites are run from 5-40 fathoms, at five fathom intervals. Sampling is conducted on a monthly basis, in different areas of the state (west, central and east), so that all areas of the shelf are sampled quarterly. Sampling for this program began March 1, 2011.

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. These programs are cooperative with the National Marine Fisheries Service and the Gulf States Marine Fisheries Commission (GSMFC).

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

A comprehensive monitoring program was developed in 1985 to protect or enhance our valuable fisheries resources by providing information regarding the status of fish stocks that occur in the coastal waters of Louisiana at some point during their life cycle. Three gear types are used coastwide 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. Seine samples were taken monthly from January through August, and semi-monthly from September through December, until October 2010. As of October 2010, seine samples are conducted quarterly.
2. A gill net is used to sample juvenile, sub-adult and adult fish and provides information on relative abundance, year class strength, movement and gonad condition. Gill net samples are collected semi-monthly from April through September, and monthly from October through March using a strike net technique. The nets are set in a crescent shape, open towards the shoreline and then circled several times by the sampling boat to drive animals present into the net.
3. A trammel net is used to provide information on relative abundance, standing crop and movement. Trammel net samples are taken monthly from October through March.

In October 2010, LDWF greatly expanded fishery-independent finfish sampling by increasing annual gill net samples from 1,008 to 1,167, increasing annual seine samples from 605 to 659, and increasing annual trammel net samples from 252 to 417. This expanded fishery-independent sampling is a result of both an internal analysis of the program as well as expanded monitoring due to the BP-DH (MC252) incident in 2010.

Hydrological data (conductivity, salinity and water temperature) are collected with each biological sample, as are wind direction and speed. Samples are collected at specific locations and arranged in such a manner so as to cover the beach, mid-marsh and upper marsh areas of all major bay systems throughout coastal Louisiana. The catch and hydrological information is summarized for each Coastal Study Area on a monthly basis to give resource managers information on the current condition of the resource. The pertinent life history information for the species is also used in developing analytical and predictive models.

During fiscal year 2010-2011, 594 (112 percent) seine samples, 1,431 (94 percent) gill net samples, and 492 (95 percent) trammel net samples were completed for a 96 percent completion rate. Seine samples exceeded 100 percent due to extra sampling conducted in some areas of the state. Sample information for fiscal year 2010-2011 includes expanded fishery-independent monitoring and the change in seine sampling frequency.

Oyster Sampling

Management of the public oyster grounds and reservations relies heavily upon data gathered through a comprehensive biological monitoring program. This program provides quantitative and qualitative biological data on oyster populations and other reef-associated animals. Nearly 500 square-meter samples are collected each July, and over 1,100 dredge samples are collected during each calendar year.

Square-meter data is collected using SCUBA, and the data is used to measure the annual oyster stock size and for yearly oyster season recommendations by LDWF. Dredge data is used to monitor the overall health of the oyster resource during the year and to assess recruitment of new age classes of oysters into the population. Field biologists also gather hydrological data on public oyster areas and develop harvest and fishing effort estimates by conducting boarding report surveys of oyster boats.

Standardized fisheries independent sampling for oysters, as indicated in the previous paragraph, greatly increased during the past fiscal year. Additional sample stations

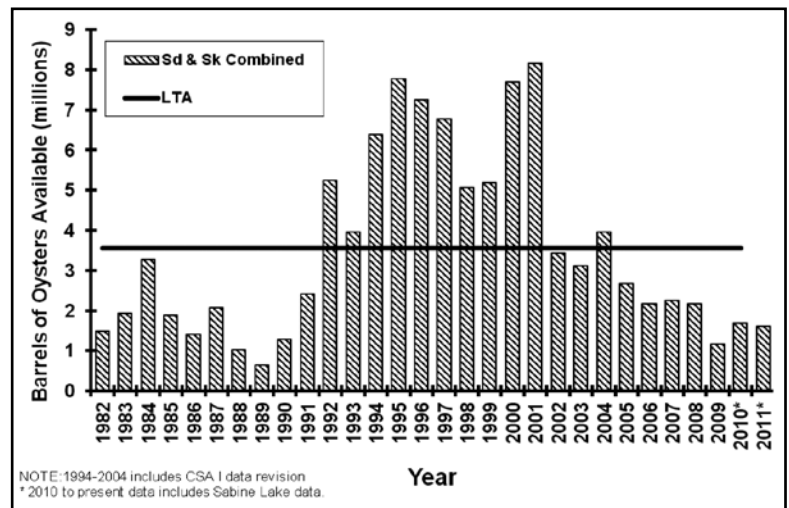


FIGURE 1. Annual oyster stock size on the public oyster grounds as estimated from biological sampling.

were established in four Coastal Study Areas, including 1N, 1S, 6, and 7 (Table 1). Coupled with increases in sample stations were increases in total samples taken throughout the year. Previously, oyster sampling was not undertaken in some months; however, monthly dredge sampling was recently established during the months of November, December, January and February. This increase in sampling effort now provides valuable oyster data during every month of the year.

Side-scan Sonar and Water Bottom Assessments

A side-scan sonar and water bottom assessment of Black Bay and Breton Sound was completed during fiscal year 2010-2011 to assist oyster management programs. This project was funded by the Oyster Seed Ground Development Account and has provided critical habitat mapping and bathymetry information for fisheries management

TABLE 1. Sample sites for the dredge and square-meter oyster sampling programs distributed by Coastal Study Area. "New" columns indicate the number of new sample sites established during the past fiscal year.

COASTAL STUDY AREA	DREDGE SITES		SQUARE-METER SITES	
	New Sites	Total Sites	New Sites	Total Sites
Pontchartrain-North	6	14	3	16
Pontchartrain-South	2	11	1	26
Barataria	0	7	0	7
Terrebonne-East	0	3	0	3
Terrebonne-West	0	8	0	16
Vermilion/Atchafalaya	5	10	5	10
Calcasieu Lake	6	9	4	10
Sabine Lake	5	5	5	5

TABLE 2. Largemouth genetics analyses on selected Louisiana lakes and rivers during fiscal year 2010-2011.

LAKE/RIVER	SAMPLE #	% NATIVE	% HYBRID	% FLORIDA	% FL GENOME
Bistineau	80	80	18.8	1.3	20
Caddo	113	77	18	5	23
Claiborne	124	88	12	0	12
Cross Lake	101	82	12	6	18
Red River - Pool 4	109	92.7	5.5	1.8	7.3
Red River - Pool 1	26	85	15	0	15
Amite River	151	90	7	2	9
Tickfaw River	120	93	7	0	7
Blind River	206	93.7	5.8	0.5	6.3
Palourde	104	90	8	2	10
Tangipahoa	111	95.5	4.5	0	4.5
Grassy Lake	56	87.5	12.5	0	12.5
Ruddock	93	98	2	0	2
Verret Lake	140	88.7	9.3	2	11.3
Killarny	12	100	0	0	0
Atchafalaya Basin	951	95.2	4.8	0	4.8

purposes. This water bottom assessment has provided updated reef location and size information, which was last collected in the late 1970s.

Freshwater Sampling

For inland water bodies, Fisheries personnel estimated relative abundance, age, growth and mortality, size class structure, species composition, and genetics of sport fish populations and physiochemical characteristics of the water on 81 lakes, rivers and streams. All waters are sampled in a similar manner so data from the different water bodies is comparable from year to year.

Electrofishing samples are collected in both spring and fall to provide a measure of population trends including abundance, size distribution, age structure and genetic composition. A total of 466 stations were sampled for 116.5 hours of timed electrofishing during fiscal year 2010-2011. Sampling included largemouth bass and crappie in the spring and fall, with forage samples of all species also collected in the fall.

Seine samples are taken to determine fish community relative abundance, and young-of-the-year recruitment of popular sport fishes. One-hundred and fourteen seine hauls were taken on various water bodies. Entanglement and trap net webbing are also conducted in a standardized manner to collect crappie, catfish and sunfish. One-hundred gill net samples were taken on various lakes and rivers, and 518 lead and hoop net samples were taken during the fiscal year.

Special largemouth bass age, growth and mortality studies continued on 12 water bodies during 2011, and crappie age, growth and mortality studies continued on seven lakes. The extensive data collected will be used in consideration of existing and proposed harvest regulations.

Genetic analyses of largemouth bass populations were conducted on 16 water bodies statewide, with number sampled and results presented in *Table 2*.

COMMERCIAL HARVEST

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

Shrimp

Shrimp are the state's most valuable fishery, and for many years prior to 2010, Louisiana led the nation in shrimp landings. Louisiana shrimp landings in 2010 totaled approximately 47.7 million pounds (all species combined/heads-off weight) and accounted for \$108.5 million in dockside sales. Brown shrimp landings comprised approximately 23 percent of 2010 landings and have continued to decline over the past seven years, measuring 38 million pounds below the long-term mean (1976-2010). Conversely, white shrimp landings over the past eight years have continued to exceed the long-term mean and landings in 2010 measured nearly 36.3 million pounds (heads-off weight). White shrimp landings decreased approximately 12 million pounds from the previous year but still remained 8 percent above the long-term mean. (*Figures 2 and 3*).

Crab

Louisiana commercial blue crab landings for 2010 totaled approximately 30.8 million pounds and had a dockside value of approximately \$31.2 million. Blue crab landings in 2010 represent an approximate 39 percent decrease from 2009 landings of approximately 50.8 million pounds. (*Figure 4*).

Oysters

Louisiana regularly leads the nation in the production of oysters and accounted for an average of 34 percent of the nation's oyster landings from 1997-2009 (*Figure 6*). Among Gulf of Mexico states, Louisiana consistently ranks first in landings, accounting for over 50 percent of all oysters landed. In 2010, however, extensive fisheries closures due to the BP-DH (MC252) oil spill severely reduced harvest, and landings dropped from approximately 15 million pounds in 2009 to approximately 6.8 million pounds. The 2010 harvest marked only the third time since 1950 that Louisiana fishermen landed less than 7 million pounds of oysters. The fiscal year harvest was even lower, as landings between July 1, 2010 and June 30, 2011 were approximately 5.6 million pounds. As is often the case, private oyster lease harvest accounted for the majority of landings during both the calendar and fiscal year. Declines in oyster stock availability on public grounds as well as an industry-supported closure of the public grounds during the 2010/2011 oyster season (*Figure 7*) helped drive this continued trend.

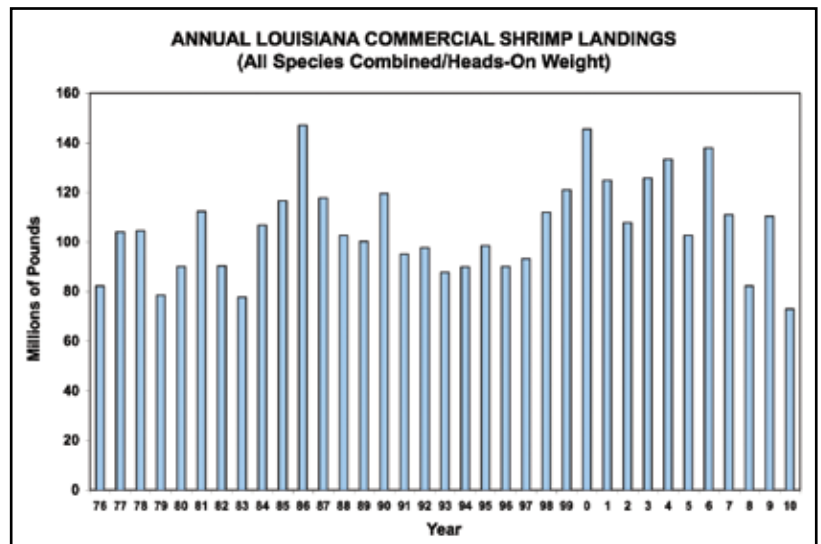


FIGURE 2. Louisiana commercial shrimp landings.

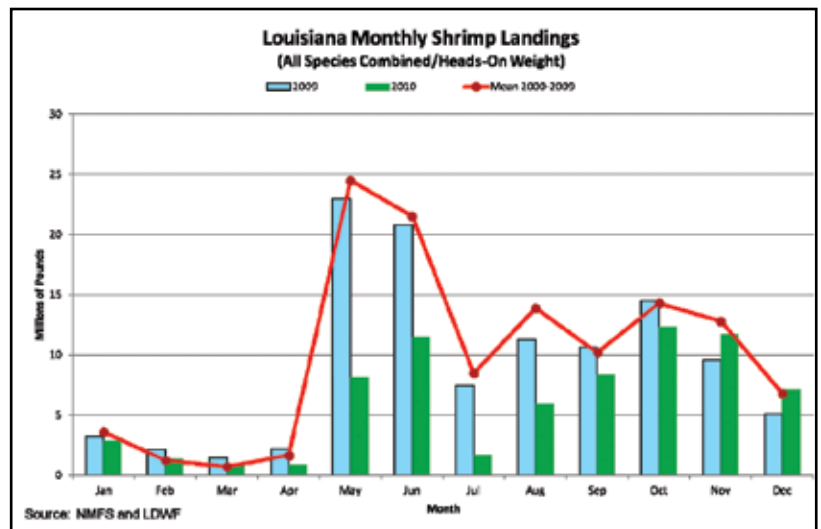


FIGURE 3. Louisiana monthly shrimp landings.

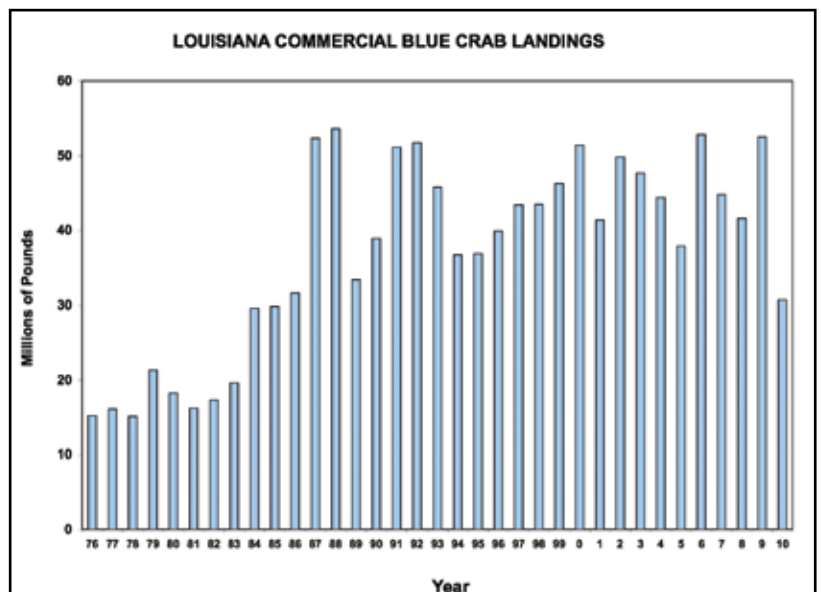


FIGURE 4. Louisiana commercial blue crab landings.

Trip Ticket Program

LDWF continues to collect commercial statistics through the Trip Ticket Program that was implemented in 1999. Through this program, commercial landings data are collected on a trip basis from wholesale/retail seafood dealers, crab shedders and commercial fishermen holding fresh products licenses. There were over 129,000 commercial fishing trips reported last year producing in excess of 160 million pounds of seafood.

Beginning in May 2000, a computerized electronic trip ticket program was developed and made available to dealers. To date, roughly 208 dealers use the computerized program to submit their trip ticket data. Trip ticket information has been used:

- to enhance the accuracy of stock assessments conducted by state and federal fishery management agencies.
- to extend certain inshore shrimp seasons thereby providing additional economic opportunity to fishermen,
- to develop a crop insurance program for oyster growers.
- to estimate damages from hurricanes Katrina and Rita in 2005 and the BP-DH (MC252) oil spill.

After BP announced that it would require certified copies of trip tickets from LDWF, the department has processed over 4,000 requests for trip ticket landings to aid fisherman with their claims.

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.

RECREATIONAL HARVEST

LDWF continues to monitor recreational fisheries through the Marine Recreational Information Program and creel surveys.

The Marine Recreational Information Program, formerly the Marine Recreational Statistics Survey, in cooperation with the National Marine Fisheries Service and GSMFC, uses dockside interviews of recreational anglers to determine catch and a telephone survey to determine effort.

During fiscal year 2010-2011, biologists conducted approximately 5,295 interviews of recreational fishermen statewide. *Table 3* represents available data for the number of marine recreational trips taken, the number of anglers participating, and the numbers of red drum and spotted seatrout caught in Louisiana waters during fiscal year 2010-2011 by two-month sampling periods called "waves."

Between July 2010 and June 2011, more than 40 new individuals were trained to conduct interviews. In that same time period, 53 individuals conducted interviews.

On January 1, 2011, an expenditure survey was incorporated into the standard interviews. The survey, referred to as the "Socioeconomic Add-on Survey," is conducted ev-

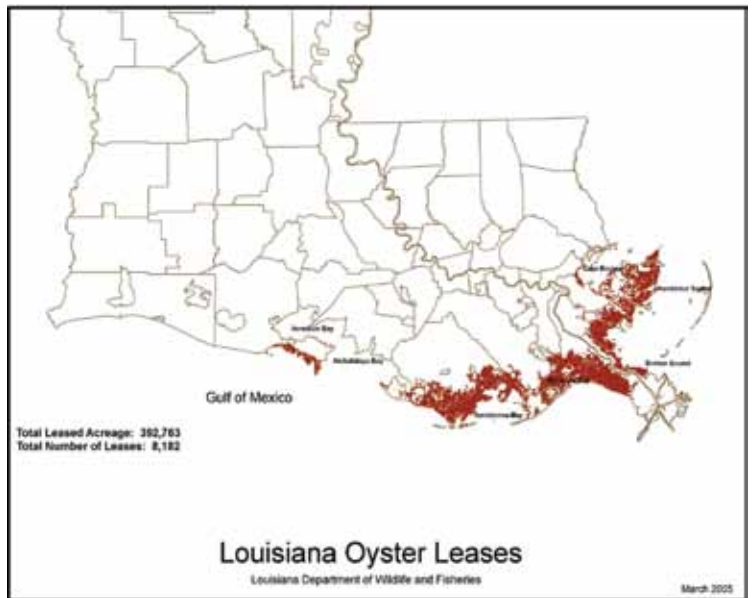


FIGURE 5. Louisiana Oyster Leases.

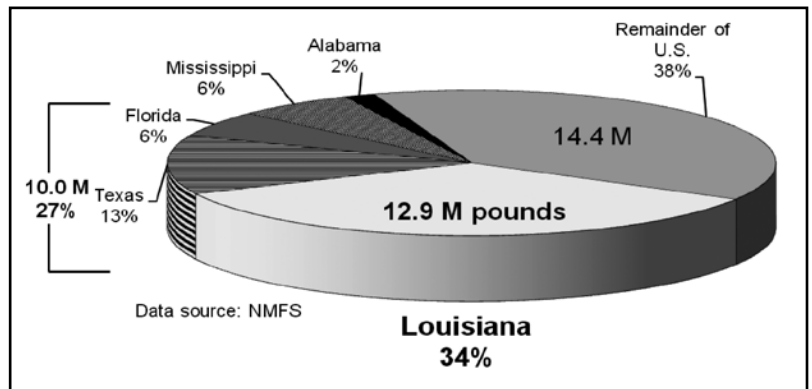


FIGURE 6. Average 1997-2009 oyster landings (all species combined, pounds of meat).

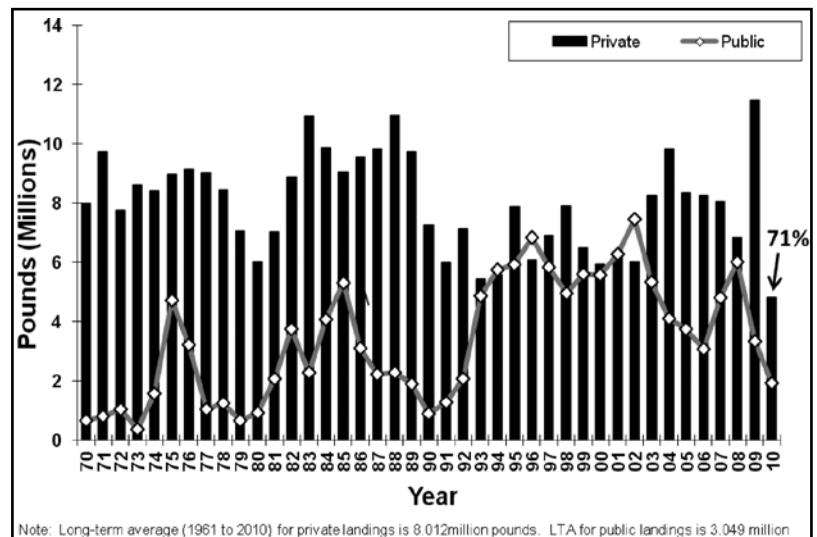


FIGURE 7. Historical Louisiana oyster landings (pounds of meat) divided between public grounds and private leases.

TABLE 3. Marine recreational fishing trips taken in fiscal year 2010-2011*, anglers and numbers of fish caught.

REPORTING PERIOD	TRIPS TAKEN	NUMBER OF ANGLERS	RED DRUM CAUGHT	SPOTTED SEATROUT CAUGHT
July - August	590,073	283,701	513,656	839,280
September - October	743,255	331,830	571,316	1,722,314
November - December	581,850	248,870	353,100	2,619,237
January - February	511,060	240,459	329,557	882,841
March - April	667,732	328,813	357,013	765,714
May - June	1,093,946	517,595	648,210	2,642,985
* Data are preliminary from the NMFS, Fisheries Statistics Division website.				

ery five years and is used to measure the economic value of recreational saltwater fishing. The "Socioeconomic Add-on Survey" will continue until December 31, 2011. Data from this survey will be available in 2012.

In response to the BP-DH (MC252) oil spill, NOAA hired Stratus to administer dockside interviews independent of the "Socioeconomic Add-on Survey" to ascertain the economic impact the oil spill had on recreational saltwater fishing. Initially, Stratus and LDWF staffs were using the same sites to conduct interviews, thus causing duplication. An exchange of assignment schedules between the two reduced overlapping to an almost non-existent level. Interview activity by Stratus is expected to end on December 31, 2011.

Creel surveys require direct contact between the fisherman and the biologist. Information collected includes species sought, species caught, distance traveled, time fished, number caught and released, and length and weight measurements of all fish harvested.

Nine recreational creel surveys were conducted on freshwater water bodies during fiscal year 2010-2011. These lakes and reservoirs include Black, Caddo, Cataouatche, Chicot, Cross and Vernon lakes, False River, Lacassine Refuge and Toledo Bend.

SOUTHEAST AREA MONITORING AND ASSESSMENT PROGRAM (SEAMAP)

The SEAMAP cruise was designed to collect fishery independent data on shrimp, plankton and groundfish associated with abundance and distribution west of the Mississippi River. Surveys were made in fall 2010 and summer 2011 at 42 randomly assigned locations, ranging from latitude 28° 28' to 29° 12' and longitude -89° 39' and -91° 54'. The depths sampled ranged from 5-20 fathoms. Plankton samples were collected at seven set locations per cruise off the Louisiana coast, ranging from latitude 28° 30' to 29° 00' and longitude -89° 30' to -91° 30'. Environmental parameters were sampled at each site along with water samples collected at bottom, middle and surface depths. These water samples were further analyzed for chlorophyll concentrations. Shrimp and groundfish

samples were collected using a 42-foot trawl. Plankton samples were collected by 60 cm bongo and neuston nets. All specimens captured were identified, weighed and measured. Plankton samples were forwarded to the Po-land Ichthyological Laboratory for analysis. A CTD rosette is used as the primary sampling gear for environmental parameters and water collection. Nine Fisheries biologists take part in the cruise and collect and analyze all samples, with data entered to mainframe by headquarters staff.

ASSESSMENTS

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

Species Management Plans

The Office of Fisheries has created several single-species focused plans for the following:

Blue Crab

This annual report examines trends in harvest, life history information, data sources, and research/data needs and summarizes current blue crab management regulations. A catch survey model was used to describe the dynamics of the Louisiana blue crab stock. This model (or variants of) has been extensively used in crustacean stock assessments, and the modeling approach is intended for data moderate situations where a full age structure is lacking. Model requirements include:

1. Annual abundance indices for the recruit and fully-recruited life stages.
2. Annual harvest estimates as individuals.
3. An estimate of instantaneous natural mortality.
4. The relative selectivity of the recruit and fully-recruited life stages to the survey gear

This assessment was developed in order to determine when Louisiana blue crab stocks are approaching over-fishing or considered to be overfished and to identify minimum threshold levels of overfishing. Threshold levels of overfishing and overfished limits are reference points, which if reached, imply that stock biomass is at unacceptable risk and management actions are needed to avoid approaching this limit and to recover the stock if overfished. LDWF is continuing work on this assessment as well as development of a control rule to define the management actions needed if this limit is approached or exceeded.

Spotted Seatrout

An assessment of spotted seatrout is currently being drafted by Fisheries staff and will use an Age Structured Assessment Program to describe the dynamics of the spotted seatrout stock. Previous assessments have relied on an untuned Virtual Population Assessment. The Age Structured Assessment Program uses forward projections that integrate relative-abundance indices into the model fitting process. In addition, the Age Structured Assessment Program assumes observed catch-at-age is known with error, whereas Virtual Population Assessment assumes the catch-at-age is known perfectly. This assessment will

examine trends in harvest, life history information, data sources, and research/data needs and summarize current spotted seatrout management regulations. Assessment results will be available in fiscal year 2011-2012.

Striped Mullet

An assessment of striped mullet in Louisiana waters was produced and presented to the LWFC for transmittal to the Louisiana Legislature in February 2011. This assessment examines trends in harvest, life history information, data sources, and research/data needs and summarizes current striped mullet management regulations. The assessment of striped mullet uses yield-per-recruit and Spawning Potential Ratio to estimate the impact of fishing pressure on potential yield and the spawning potential of these stocks in Louisiana waters.

The methodology previously used for the mullet assessment, an untuned Virtual Population Assessment, was compared to the results from a tuned Virtual Population Assessment. Estimates derived from yield-per-recruit and Spawning Potential Ratio are based on information regarding the growth rate and spawning potential of the fish, and on estimated natural mortality rate and fishing mortality rate of the stock. A conservation threshold of 30 percent Spawning Potential Ratio was established by Act 1316 of the 1995 regular session of the Louisiana Legislature for striped mullet.

The results of yield per recruit analysis based on the continuity case indicate that if $M=0.3$ (the value within the range of estimates that allows the lowest allowable harvest), the current fishery is operating above $F_{0.1}$ and near F_{MAX} with yield near maximum, and Spawning Potential Ratio near 30 percent. An M of 0.6 would indicate a more lightly fished stock with the fishery operating below $F_{0.1}$, with yield being about 83 percent of maximum and with Spawning Potential Ratio being near 61 percent. The results of the Virtual Population Assessment-2BOX analysis at $M=0.3$ over the last three years would indicate a yield of around 94 percent of maximum and fishing at rates that would provide Spawning Potential Ratio near 52 percent, and over the last five years fishing near F_{MAX} and Spawning Potential Ratio near 42 percent.

Based upon this annual assessment of striped mullet in Louisiana waters, for all natural mortality rates examined and if fishing mortality rates continue at current levels, then striped mullet are not being harvested at a rate that would drive the stock below the target Spawning Potential Ratio of 30 percent established by the Louisiana Legislature.

Waterbody Management Plans

Waterbody Management Plans are a compilation of lake description, history, authorities, synopsis of fisheries, and vegetation sampling data, analyses, corrective measures needed and recommended actions.

During fiscal year 2010-2011, seven management plans were approved. Plans will be available on the LDWF website once reviewed and approved. These include:

- Bistineau Lake
- Boeuf Lake
- Bussey Brake Lake
- Chicot Lake
- Ivan Lake
- False River
- University Lakes

LDWF biologists also monitor aquatic environments with respect to fish health and respond to reports of fish kills on an annual basis. In conjunction with the LDEQ, fish kills are assessed and reports are prepared following the investigations. During fiscal year 2010-2011, LDWF responded to and investigated 42 fish kills in freshwater environments. Most were related to naturally occurring low dissolved oxygen events.

Disease pathogens are sometimes responsible for fish kills in freshwater. LDWF biologists in conjunction with the LDAF collected fish samples for Viral Hemorrhagic Septicemia testing on wild lakes and rivers and cultured commercial (farm-raised) systems in an effort to assess the extent of this potentially invasive and lethal disease. Samples were collected from 17 water bodies and were delivered to Louisiana State University's (LSU) Animal Disease and Diagnostic Laboratory for analyses. All 17 water bodies tested negative for the disease.

Aquatic Vegetation Management Plans

Aquatic vegetation management efforts are designed to ensure that the natural environment and human interests are mutually projected.

The Aquatic Vegetation Management Plan format was created for lakes that do not have an approved Waterbody Management Plan to provide basic lake information and description, authorities, historical vegetation control information, and current aquatic plant status and recommendations for control. The documents are used both as a guide for aquatic plant control and as a source of public information.

Four Aquatic Vegetation Management Plans were developed using this new format in fiscal year 2010-2011:

- Bartholomew Lake
- Bistineau Lake
- St. Joseph Lake
- Turkey Creek Lake

Recommendations

The Office of Fisheries collects data on shrimp, crab, oysters and commercially and recreationally important finfish in the estuaries and nearshore waters of Louisiana. This information is used to produce recommendations for setting seasons and harvest limits and to monitor the types of animals found in an area over time.

Shrimp

Due to significant differences in patterns of recruitment, growth and immigration between geographic areas, the Louisiana coast has been divided into three Shrimp Management Zones to better manage the resource (*Figure 8*).

Shrimp management recommendations are listed by zone on the following pages.

Based on analysis of historic data, as well as data generated from biological sampling conducted by Fisheries biologists, the following management recommendations were made to the Secretary and the LWFC and were implemented during fiscal year 2010-2011.

Sample data was used to set the opening and closing dates of the 2010 and 2011 spring inshore shrimp seasons, set opening and closing dates of the 2010 fall inshore shrimp season, set opening and closing dates of special spring shrimp seasons, extend inshore seasons in portions of inside waters, and close and reopen portions of Louisiana outside territorial waters to shrimping.

2010 – Spring Inshore Shrimp Season
Shrimp Management Zone 1

- Opened at 6:00 a.m. May 31, 2010 except for the following:
 - The open waters of Breton and Chandeleur sounds as described by the double-rig line in R.S. 56:495.1(A)2.
 - Those waters extending north of Martin Island at 29 degrees 57 minutes 29.6 seconds north latitude; thence northward to Isle au Pitre at 30 degrees 09 minutes 20.5 seconds north latitude from the double-rig line westward to 89 degrees 17 minutes 10 seconds west longitude.
 - Those waters south and east of Baptiste Collette Bayou
 - State outside waters seaward of the inside/outside shrimp line from the eastern shore of South Pass of the Mississippi River eastward to the Mississippi/Louisiana state line.
- Closed at 6:00 a.m. July 20, 2010 except for the following:
 - Lake Pontchartrain including Rigolets Pass from the mouth of Lake Pontchartrain extending eastward to the western side of the CSX Railway Bridge
 - Chef Menteur Pass from the mouth of Lake Pontchartrain southeasterly to the mouth of Lake Borgne.
 - The portion of Mississippi Sound beginning at a point on the Louisiana-Mississippi Lateral Boundary at latitude 30 degrees 09 minutes 39.6 seconds north and longitude 89 degrees 30 minutes 00.0 seconds west; thence due south to a point at latitude 30 degrees 05 minutes 00.0 seconds north and longitude 89 degrees 30 minutes 00.0 seconds west; thence southeasterly to a point on the western shore of Three-Mile Pass at latitude 30 degrees 03 minutes 00.0 seconds north and longitude 89 degrees 22 minutes 23.0 seconds west; thence northeasterly to a point on Isle Au Pitre at latitude 30 degrees 09 minutes 20.5 seconds north and longitude 89 degrees 11 minutes 15.5 seconds west, which is a point on the double-rig line as described in LA R.S. 56:495.1(A)2; thence northerly along the double-rig line to a point on the Loui-

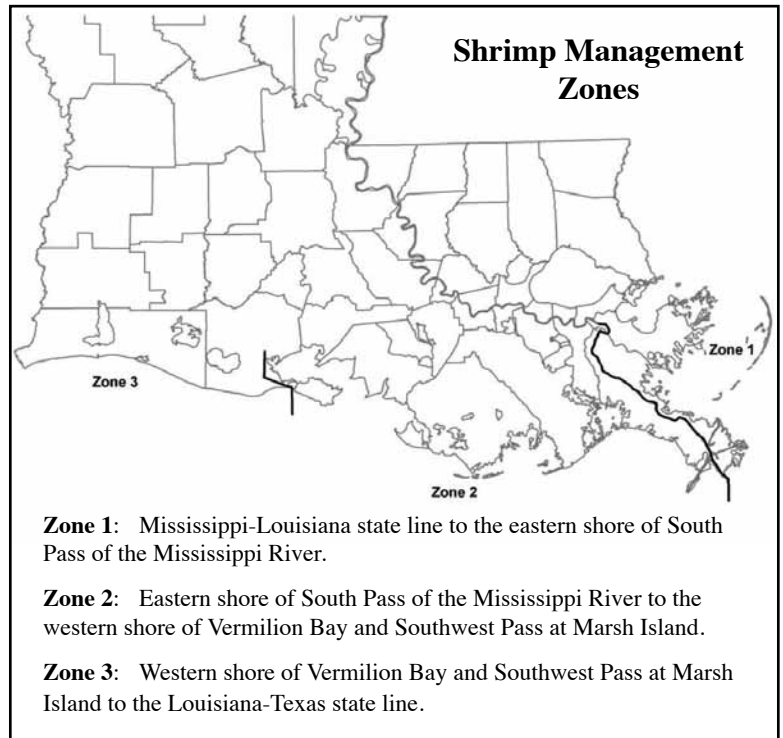


FIGURE 8. Louisiana Shrimp Management Zones

siana-Mississippi Lateral Boundary at latitude 30 degrees 12 minutes 37.9056 seconds north and longitude 89 degrees 10 minutes 57.9725 seconds west; thence westerly along the Louisiana-Mississippi Lateral Boundary to the point of beginning.

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

Shrimp Management Zone 2

- Opened at 6:00 a.m. on May 10, 2010.
- Closed at 6:00 p.m. on July 5, 2010.

Shrimp Management Zone 3

- Opened at 6:00 a.m. on May 8, 2010.
- Closed at 6:00 a.m. on July 20, 2010 with the exception of the following waters:
 - The portion of the Calcasieu Ship channel originating at a line between Channel Markers 85 and 86 southward to a point originating along the inside/outside shrimp line at Calcasieu Pass and including East Pass from its origin at the Calcasieu Ship Channel to the south end of Calcasieu lake and West Pass from its origin at the Calcasieu Ship Channel to the south end of West Cove.
 - The portion of Cameron Parish west of Calcasieu Lake.

2010 – Fall Inshore Shrimp Season

Shrimp Management Zone 1

- Opened at 6:00 a.m. on August 16, 2010.
- Closed at official sunset on December 21, 2010 with the exception of the following waters:
 - Lake Pontchartrain, Chef Menteur Pass, Rigolets Pass, the Mississippi River Gulf Outlet, that part of Lake Borgne seaward of a line extending

one-half mile from the shoreline, a portion of Mississippi Sound and the open water waters of Breton and Chandeleur sounds as described by the double-rig line.

- Closed at official sunset on January 29, 2011 except in the open water waters of Breton and Chandeleur sounds as described by the double-rig line.

Shrimp Management Zone 2

- Opened at 6:00 a.m. on August 16, 2010.
- Closed at official sunset on December 21, 2010.

Shrimp Management Zone 3

- Opened at 6:00 a.m. August 16, 2010.
- Closed at official sunset December 21, 2010.

2011 – Special Shrimp Seasons

State Outside Waters

- Closed at sunset, December, 21, 2010 in that portion of state outside waters, south of the Inside/Outside Shrimp Line as described in LA R.S. 56:495, from the western shore of Freshwater Bayou Canal at 92 degrees 18 minutes 33 seconds west longitude to the U.S. Coast Guard navigation light off the northwest shore of Caillou Boca at 29 degrees 03 minutes 10 seconds north latitude and 90 degrees 50 minutes 27 seconds west longitude.
- Opened at 6:00 a.m. April 18, 2011 in the portion of state outside waters, south of the Inside/Outside Shrimp Line from the U.S. Coast Guard navigational light off the northwest shore of Caillou Boca at 29 degrees 03 minutes 10 seconds north latitude and 90 degrees 50 minutes 27 seconds west longitude westward to the western shore of Freshwater Bayou Canal at 92 degrees 18 minutes 33 seconds west longitude.

Shrimp Management Zone 2

- Opened at 6:00 a.m. April 18, 2011 from the eastern shore of Bayou Grand Caillou northward to the intersection of Bayou Grand Caillou and the Houma Navigation Canal, northward along the eastern shore of the Houma Navigation Canal westward to the western shore of Vermilion Bay and Southwest Pass at Marsh Island.
- Closed at 6:00 a.m. on April 23, 2011.
- Opened at 6:00 a.m. May 6, 2011 from the Atchafalaya River Ship Channel at Eugene Island as delineated by the Channel Red Buoy line to the western shore of Vermilion Bay and Southwest Pass at Marsh Island.

2011 - Spring Inshore Shrimp Season

Shrimp Management Zone 1

- Opened at 6:00 a.m. May 16, 2011 from the northern shore of the Mississippi River Gulf Outlet to the eastern shore of South Pass of the Mississippi River.
- Opened at 6:00 a.m. May 23, 2011 from the Mississippi/Louisiana state line to the northern shore of the Mississippi River Gulf Outlet.
- Closed at 6:00 a.m. July 18 with the exception of the following waters:
 - Lake Pontchartrain, Rigolets Pass, Chef Menteur Pass, the Mississippi River Gulf Outlet, that

part of Lake Borgne seaward of a line extending one-half mile from the shoreline, and that portion of Mississippi Sound beginning at a point on the Louisiana-Mississippi Lateral Boundary at 30 degrees 09 minutes 39.6 seconds north latitude and 89 degrees 30 minutes 00.0 seconds west longitude; thence due south to a point at 30 degrees 05 minutes 00.0 seconds north latitude and 89 degrees 30 minutes 00.0 seconds west longitude; thence southeasterly to a point on the western shore of Three-Mile Pass at 30 degrees 03 minutes 00.0 seconds north latitude and 89 degrees 22 minutes 23.0 seconds west longitude; thence northeasterly to a point on Isle Au Pitre at 30 degrees 09 minutes 20.5 seconds north latitude and 89 degrees 11 minutes 15.5 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 a point on the Louisiana-Mississippi Lateral Boundary at 30 degrees 12 minutes 37.9056 seconds north latitude and 89 degrees 10 minutes 57.9725 seconds west longitude; thence westerly along the Louisiana-Mississippi Lateral Boundary to the point of beginning, and the open waters of Breton and Chandeleur sounds as described by the double-rig line.

Shrimp Management Zone 2

- Opened at 6:00 a.m. May 13, 2011 from the western shore of Bayou Lafourche to the Atchafalaya River Ship Channel at Eugene Island as delineated by the Channel Red Buoy line.
- Opened at 6:00 a.m. May 16, 2011 from the western shore of Bayou Lafourche to the eastern shore of South Pass of the Mississippi River.
- Closed at 6:00 p.m. June 25, 2011 from the western shore of Bayou Lafourche westward to the eastern shore of the Atchafalaya River Ship Channel at Eugene Island as delineated by the Channel Red Buoy line, with the exception of the following waters north of the Inside/Outside Shrimp Line:
 - Those inshore waters south of 29 degrees 13 minutes 00 seconds north latitude from 90 degrees 18 minutes 00 seconds west longitude westward to 90 degrees 34 minutes 00 seconds west longitude.
 - Those inshore waters south of 29 degrees 06 minutes 00 seconds north latitude from 90 degrees 34 minutes 00 seconds west longitude westward to 90 degrees 46 minutes 00 seconds west longitude.
- Closed at 6:00 a.m. July 11, 2011 from the eastern shore of the Atchafalaya River Ship Channel at Eugene Island, as delineated by the Channel red buoy line, westward to the western shore of Vermilion Bay and Southwest Pass at Marsh Island and from the eastern shore of South Pass of the Mississippi River westward to the western shore of Bayou Lafourche with the exception of the following waters within Barataria Bay:
 - Those inside waters south of 29 degrees 26 minutes 00 seconds north latitude from 89 degrees 50 minutes 30 seconds west longitude westward to the western shore of the Barataria Waterway.
- Closed at 6:00 a.m. July 18 in the remainder of Zone 2.

Shrimp Management Zone 3

- Opened at 6:00 a.m. May 16, 2011.
- Closed at 6:00 a.m. July 18, 2011 with the exception of the following waters:
 - That portion of the Calcasieu Ship Channel originating at a line between Channel Markers 85 and 86 southward to a point originating along the inside/outside shrimp line at Calcasieu Pass as described in LA R.S.56:495(A) and including East Pass from its origin at the Calcasieu Ship Channel to the south end of Calcasieu Lake and West Pass from its origin at the Calcasieu Ship Channel to the south end of West Cove, and that portion of Cameron Parish west of Calcasieu Lake and the Calcasieu Ship Channel.

Crab

In September 2010, LDWF did not recommend conducting a 2011 winter crab trap closure and derelict crab trap cleanup due to ongoing response to the Deepwater Horizon oil spill, Natural Resource Damage Assessment planning and sampling and concerns with existing staffing and equipment limitations.

However, in late January 2011, Plaquemines Parish government formally requested the Secretary of LDWF and the LWFC temporarily close certain Plaquemines Parish waters to the use of crab traps for a crab trap cleanup. At its February 2, 2011, meeting, the LWFC adopted a declaration of emergency closing a portion of state waters in Plaquemines Parish west of the Mississippi River to the use of crab traps for an eight-day period from February 26 through March 5, 2011.

Due to extended fishing closures within these waters, large numbers of crab traps were abandoned posing additional hazards to recreational and commercial fishermen and boaters and crews conducting oil spill cleanup operations. Additionally, portions of the crab trap closure area occupied waters that still remained closed to all commercial fishing activity as a result of the BP-DH (MC252) oil spill. Due to the continued presence of oil in portions of the closure area, LDWF contracted removal of these traps through a private company. Cleanup activities were completed in late March and approximately 1,100 abandoned crab traps were removed from the closure area. A description of the closure follows:

- Beginning at a point on the western shoreline of the Mississippi River at 29 degrees 28 minutes 30 seconds north latitude and 89 degrees 41 minutes 15 seconds west longitude; thence southeasterly to a point on the southern shoreline of the Freeport Sulphur Company Canal at 29 degrees 27 minutes 50 seconds north latitude and 89 degrees 42 minutes 10 seconds west longitude; thence southwesterly along the southern shoreline of the Freeport Sulphur Company Canal to a point at 29 degrees 24 minutes 00 seconds north latitude and 89 degrees 46 minutes 20 seconds west longitude; thence west along 29 degrees 24 minutes 00 seconds north latitude to 89 degrees 50 minutes 00 seconds west longitude; thence north along 89 degrees 50 minutes 00 seconds west longitude to 29

degrees 26 minutes 00 seconds north latitude; thence west along 29 degrees 26 minutes 00 seconds north latitude to 89 degrees 58 minutes 00 seconds west longitude; thence north along 89 degrees 58 minutes 00 seconds west longitude to 29 degrees 40 minutes 00 seconds north latitude; thence east along 29 degrees 40 minutes 00 seconds north latitude to the western shoreline of the Mississippi River; thence southeasterly along the western shoreline of the Mississippi River to the point of beginning.

Table 4 summarizes the number of areas cleaned and number of derelict crab traps removed by year since the program's beginning.

TABLE 4. Numbers of crab trap closures and numbers of traps removed annually.

YEAR	AREAS	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
Overall	12	19,546

Finfish

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

2010-2011 Finfish Management Actions and Recommendations

The following management recommendations were made to the Secretary and LWFC and implemented during fiscal year 2010-2011:

July 2010

- Commercial king mackerel season opened on July 1 at 12:01 a.m.
- Commercial fishery for small coastal sharks opened on July 1 at 12:01 a.m.
- Recreational fishery for red snapper closed on July 24 at 12:01 a.m.

August 2010

- Commercial fishery for spotted seatrout opened on Aug. 15.

September 2010

- Issued Notice of Intent to modify commercial seasons for the harvest of spotted seatrout to run from Jan. 2 - Dec. 31 of each year or until the 1 million pound quota is reached; and to prohibit the commercial har-

vest of spotted seatrout within Louisiana waters west of the Mermentau River.

October 2010

- Recreational fishery for red snapper reopened on Oct. 1, concurrent with federal special season.
- Commercial fishery for greater amberjack closed on Oct. 28, concurrent with federal closure.

November 2010

- Commercial fishery for small coastal sharks closed on Nov. 18 at 11:30 p.m.
- Recreational fishery for red snapper closed Nov. 22, concurrent with federal special season.

January 2011

- Commercial fishery for small coastal sharks opened at 12:01 a.m. on Jan. 1.
- Recreational gag grouper fishery was closed on Jan. 6.
- 2011-2012 commercial and recreational reef fish seasonal rules were set consistent with federal season rules.
- 2011-2012 commercial king mackerel season was set consistent with federal season.

February 2011

- The annual stock assessment for striped mullet was presented to the LWFC for transmittal to the Louisiana Legislature.
- 2010-2011 commercial fishery for king mackerel closed at noon on Feb. 11.

March 2011

- Commercial fishery for large coastal sharks opened at 12:01 a.m. on March 1.

June 2011

- Recreational greater amberjack fishery closed June 1, concurrent with the federal season.
- Commercial greater amberjack fishery closed at 12:01 a.m. on June 18.
- Recreational red snapper fishery opened June 1, concurrent with federal season.

Oysters

Oysters provide an economic benefit to the state, and the ecological benefits of oyster reefs are very important as well. Oysters are biomonitors of the overall health of the ecosystem and provide forage and shelter habitat for a variety of fish and invertebrate species. Oysters affect water quality through filter-feeding activities, affect estuarine current patterns and may provide shoreline stabilization. Because oysters are economically and ecologically important, 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 Mollusc Program is responsible for the oyster resource on nearly 1.7 million acres of public oyster seed reservations, public seed grounds and public oyster areas.

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

These public oyster areas are utilized heavily by the commercial oyster industry, and periodic reef rehabilitation projects (cultch plants) help maintain the productivity of the public grounds. Cultch planting provides settlement surfaces for the attachment of larval oysters by placing suitable hard material, such as oyster shells, limestone or crushed concrete on the water bottoms. The last cultch planting projects occurred in May 2009 and were located in Mississippi Sound (St. Bernard Parish), Black Bay (Plaquemines Parish), Lake Chien (Terrebonne Parish) and Calcasieu Lake (Cameron Parish).

Season

State laws mandate that LDWF open the oyster season on Louisiana public seed grounds on the first Wednesday following Labor Day of each year and close these areas no later than April 30 of each year. However, the LWFC is authorized to extend the season beyond April 30, provided sufficient stocks are available for harvest. The Secretary of LDWF may close seasons on an emergency basis if oyster mortality occurs. The Secretary can also delay the season or close certain areas where significant spat catch has occurred with good probability of survival, or if an excess amount of shell in oyster loads occurs. Management practices often use rotational openings of the four oyster seed reservations in alternating years. A law change during the 2008 Louisiana Legislative Session requires that the public grounds only be opened to the taking of seed oysters only between the first Wednesday following Labor Day and the second Monday in October, as well as for harvesting seed oysters.

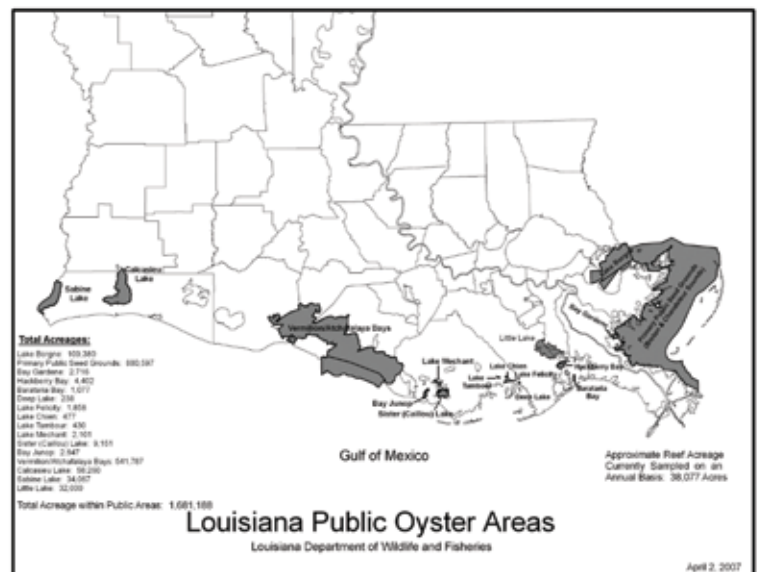


FIGURE 9. Louisiana Public Oyster Areas.

TABLE 5. 2010–2011 Oyster Season Dates.

PUBLIC OYSTER AREA	SEASON OPENING	SEASON CLOSURE
Lake Borgne, Mississippi Sound, and portions of 3-Mile Pass	May 14, 2011	May 31, 2011
Primary Public Oyster Seed Grounds east of the Mississippi River, including Lake Borgne, and the Bay Gardene Public Oyster Seed Reservation	Season Remained Closed	
Hackberry Bay Public Oyster Seed Reservation	Season Remained Closed	
Little Lake Public Oyster Seed Grounds	Season Remained Closed	
Barataria Bay Public Oyster Seed Grounds	Season Remained Closed	
Sister Lake Public Oyster Seed Reservation	Season Remained Closed	
Vermilion/East and West Cote Blanche/Atchafalaya Bay Public Oyster Seed Grounds	Season Remained Closed	
Calcasieu Lake public oyster area except within cultch plant within some coordinates	October 15, 2010	March 25, 2011
Deep Lake, Lake Tambour, Lake Chien, Lake Felicity, Lake Mechant, Bay Junop, and Sabine Lake	Season Remained Closed	

In fiscal year 2010–2011, the oyster season on most of the public grounds remained closed due to low oyster resource availability and per request from the Louisiana Oyster Task Force. The season in Calcasieu Lake was opened; however, heavy harvest pressure was again documented in the lake for a second straight season. Due to harvest pressure and numerous illegal oyster harvest cases on the 2009 cultch plant in southern Calcasieu Lake, it closed approximately one month early at the end of March 2011. In response to the opening of the Bonnet Carre Spillway and the likelihood of significant salinity decreases across productive oyster reefs, the LWFC opened a special oyster season in portions of Coastal Study Area 1N. This special oyster season opened on May 14, 2011, and closed on May 31, 2011.

Poor water quality has prohibited harvest in Sabine Lake for many years due to public health concerns. LDHH, along with concurrence from the U. S. Food and Drug Administration has recently cleared Sabine Lake for harvest due to improvements in water quality. The LWFC appointed a special sub-committee to evaluate the possibility of opening Sabine Lake to harvest for the 2011–2012 season; that sub-committee met twice during the past fiscal year. The sub-committee reached no consensus on the allowance of commercial harvest in Sabine Lake.

Freshwater Fish

Regulations recommended to and approved by the LWFC include changes to the use of recreational yo-yos in Lake Lafourche in Caldwell Parish per House Bill 1466. The

changes allow LDWF to establish standard regulations regarding the use of yo-yos in public waters.

These changes on Lake Lafourche in Caldwell Parish include:

- No more than 50 yo-yos or trigger devices should be allowed per person.
- Each yo-yo or trigger device shall be clearly tagged with the name, address and telephone number of the owner or user.
- When used, each yo-yo or trigger device shall be checked at least once every 24 hours and all fish, and any other animal caught or hooked shall be immediately removed from the device.
- Each yo-yo or trigger device must be rebaited at least once every 24 hours.
- When not being used in accordance to the above regulations, each yo-yo or trigger device shall be removed immediately from Lake Lafourche.
- No yo-yo or trigger device shall be attached to any metallic object.

Trotline restrictions include:

- All trotlines must be marked, tagged and dated with the owner or user's name, address, phone number and the date of placement. The trotline must be marked on each end with a floating object that is readily visible.
- No person shall set more than three trotlines with a maximum of 50 hooks per trotline.
- All trotlines must be removed from Lake Lafourche when not in use.
- All trotlines must have an 8-foot cotton leader on each end of the trotline to ensure that if the trotline is left unattended, the cotton leader will deteriorate and the line will sink.
- All trotlines must be attended daily while in service.

Texas Border Water Regulations

LDWF and the Texas Parks and Wildlife Department were able to reach a milestone agreement with respect to standardized fishing regulations on boundary waters shared by the two states. The action was in response to HCR 124 of the 2010 LA Legislative Session.

After careful statistical analyses of fisheries data, the two agencies were able to agree upon standardized recreational fishing regulations on their boundary waters including Caddo Lake, Sabine River and Toledo Bend Reservoir.

The two agencies' wildlife and fisheries commissions adopted the compromise, scheduled to go into effect concurrently on September 1, 2011. The new, shared regulations are listed in *Table 6*.

TABLE 6. TX/LA border waters compromise.

TOLEDO BEND RESERVOIR			
	Louisiana	Texas	Compromise
Channel Catfish	11" minimum length limit (MLL), 100 fish bag limit in aggregate with blue and flathead catfish	12" MLL, 25 fish bag limit in aggregate with blue catfish	No MLL, only 5 fish over 20", 50 fish bag limit, in aggregate of blue & channel catfish
Blue Catfish	12" MLL, 100 fish bag limit in aggregate with channel and flathead catfish	12" MLL, 25 fish bag limit in aggregate with channel catfish	
Flathead Catfish	14" MLL, 100 fish bag limit in aggregate with channel and blue catfish	18" MLL, 5 fish bag limit	MLL 18", 10 fish bag limit
Black & White Crappie	No MLL, 50 fish bag limit	10" MLL, 50 fish bag limit (no MLL in winter)	No MLL, 25 fish bag limit
CADDO LAKE			
Channel Catfish	11" MLL, 100 fish bag limit in aggregate with blue and flathead catfish	12" MLL, 25 fish bag limit in aggregate with blue catfish	No MLL, only 5 fish over 20", 50 fish bag limit, in aggregate of blue & channel catfish
Blue Catfish	12" MLL, 100 fish bag limit in aggregate with channel and flathead catfish	12" MLL, 25 fish bag limit in aggregate with channel catfish	
Flathead Catfish	14" MLL, 100 fish bag limit in aggregate with channel and blue catfish	18" MLL, 5 fish bag limit	MLL 18", 10 fish bag limit
White Bass	No MLL, 50 fish bag limit	10" MLL, 25 fish bag limit	No MLL, 25 fish bag limit
Yellow Bass	No MLL, 50 fish daily bag limit	No MLL, No bag limit	No MLL, No bag limit
Largemouth Bass	14-17" SL, 10 fish bag limit in aggregate w/spotted bass, only 4 fish over 17"	14-18" SL, 5 fish bag limit in aggregate with Spotted Bass	14-18" Slot Limit (SL), 8 fish bag limit in aggregate with spotted bass, only 4 fish over 18"
Spotted Bass	14-17" SL, 10 fish bag limit in aggregate w/LMB, only 4 fish over 17"	No MLL, 5 fish bag limit in aggregate with LMB	No MLL, 8 fish bag limit in aggregate with largemouth bass
Black & White Crappie	No MLL, 50 fish bag limit	10" MLL, 25 fish bag limit	No MLL, 25 fish bag limit
SABINE RIVER*			
*River proper from the Toledo Bend Dam downstream to the Interstate 10 Bridge. River proper upstream from Toledo Bend Reservoir to the point at which the entire river enters Texas (state line is marked with a sign).			
Channel Catfish	11" MLL, 100 fish bag limit in aggregate with blue and flathead catfish	12" MLL, 25 fish bag limit in aggregate with blue catfish	No MLL, only 5 fish over 20", 50 fish bag limit, in aggregate of blue & channel catfish
Blue Catfish	12" MLL, 100 fish bag limit in aggregate with channel and flathead catfish	12" MLL, 25 fish bag limit in aggregate with channel catfish	
Flathead Catfish	14" MLL, 100 fish bag limit in aggregate with channel and blue catfish	18" MLL, 5 fish bag limit	MLL 18", 10 fish bag limit
Striped Bass	No MLL, only 2 fish over 30", 5 fish daily bag	18" MLL, 5 fish bag limit	No MLL, only 2 fish over 30", 5 fish daily bag
White Bass	No MLL, 50 fish bag limit	10" MLL, 25 fish bag limit	No MLL, 25 fish bag limit
Yellow Bass	No MLL, 50 fish bag limit	No MLL, No bag limit	No MLL, No bag limit
Largemouth Bass	No MLL, 10 fish bag limit in aggregate with spotted bass	14" MLL, 5 fish bag limit in aggregate with spotted bass	14" MLL, 8 fish bag limit in aggregate with spotted bass
Spotted Bass	No MLL, 10 fish bag limit in aggregate with largemouth bass	No MLL, 5 fish bag limit in aggregate with largemouth bass	No MLL, 8 fish bag limit in aggregate with largemouth bass
Black & White Crappie	No MLL, 50 fish bag limit	10" MLL, 25 fish bag limit	No MLL, 25 fish bag limit

RESEARCH

The Fisheries Research Lab has a primary mission to conduct the research required to manage Louisiana's marine, estuarine and freshwater fisheries. Laboratory staff team up with researchers from other organizations and universities and provide personnel and facilities for many research projects. Ongoing research projects include:

Characterization of the Green Stick Fishery and Associated By-Catch

Fisheries lab staff spent time researching, writing and submitting a proposal characterizing the green-stick fishery as it relates to tuna and tuna by-catch. The project's objective is to determine if green-stick gear used in the Gulf of Mexico fishery has lower bycatch and bycatch mortality than pelagic longline gear for bluefin tuna, Atlantic billfish and other species. The program is also used to determine the operational requirements of green-stick and implications for vessel revenues. In addition, the program investigates post release mortality of discarded bluefin tuna, billfish and other species caught with green-stick gear. Areas will be characterized where green-stick gear is used successfully for yellowfin tuna. This will indicate differences between open waters versus oil platforms in relation to tuna bycatch.

By the end of fiscal year 2010-2011 this project was in the initial stages. Randy Blankinship from the NOAA Fisheries Highly Migratory Species Division, was contacted for his expertise in green-stick capabilities for the capture of highly migratory species such as yellowfin tuna. With considerable research and his guidelines, a proposal was written for green-stick bycatch. Vendors on the east coast have provided quotes on green-stick parts and assemblage. To date, a research grant has been awarded to LDWF to conduct this research.

Red Drum Age and Growth

Fisheries Research Lab personnel conducted a Red Drum Age and Growth Study. The goal is to estimate the abundance of red drum in territorial seas and EEZ off the Louisiana coast and characterize the age structure of these stocks. Secondary objectives include examination of adult migration patterns, assessment of Louisiana's contribution to offshore red drum stocks in federal waters and fulfillment of data requests by GSMFC.

Samples collected will determine the age structure of the spawning class offshore, fecundity, and assessment of Louisiana's contribution to red drum stocks in federal waters.

The following data is collected from each sample: coordinates, total length, total weight, eviscerated weight, sex, and gonad weight (females). Sample sites are determined by the seasons. In summer and fall, the passes are sampled to target the spawning red drum. The flooding of the Mississippi River had a significant impact on sample sites and numbers this year because the freshwater influx pushed red drum out of certain areas.

Since January 2011, a total of 33 trips were made, sampling a total of 334 red drum. The project goal is to sample 2,400 red drum per year.

Bottom Longlining

Bottom longlining is associated with the SEAMAP monitoring project. It is conducted to provide fishery-independent monitoring and assessment information essential to management of Gulf of Mexico fishery resources, mainly targeting coastal pelagic species.

LDWF will conduct monthly sets using one mile of bottom longline, fishing 100 hooks per set. The sampling protocol follows the SEAMAP Bottom Longline Handbook.

This project was in its planning stage at the end of fiscal year 2010-2011. All equipment has been ordered and lab personnel accompanied the Gulf Coast Research Lab out of Ocean Springs, Miss. on a bottom longline cruise to observe deploying, retrieving and sampling techniques.

Six to eight sites are projected to be sampled monthly in Louisiana's territorial sea and EEZ.

Vertical Line

As part of SEAMAP resource monitoring, a vertical line project will collect information on the spatial and temporal distribution of commercial and recreational import reef species off the Louisiana coast. Through the project, we will obtain fisheries-independent data characterizing population dynamics of fish assemblages on structured bottom habitat in offshore waters off Louisiana.

This field study was just underway at the end of fiscal year 2010-2011. Four trial runs were completed in June, and the project is on schedule, with monthly sampling cruises scheduled throughout the year.

Sampling site selection is random and scheduled sampling will be monthly, utilizing standard commercial and recreational methods.

Fish Assessment Laboratory

Collection of age, growth and reproductive information used to develop age-structured stock assessments is coordinated through LDWF's Fish Assessment Laboratory. Since the fall of 2009, the lab has monitored 15 species of fish.

Monitoring is done by the collection of otoliths and spines for aging purposes. Length, weight, gender and location are also recorded when these fish are collected in the field. The 15 species consists of 12 saltwater and three freshwater species. The saltwater species include black drum, gray snapper, greater amberjack, gray triggerfish, king mackerel, red drum, red snapper, sheepshead, southern flounder, spotted seatrout, striped mullet, and vermilion snapper. The three freshwater species include black crappie, white crappie and largemouth bass. All saltwater otoliths/spines are obtained through fisheries dependent sampling. This requires our marine biologists to collect the otolith or spine when they conduct interviews. Freshwater otoliths are obtained through independent sampling. This method requires the biologists to target a particular species.

In fiscal year 2010-2011, the Fish Assessment Lab received 9,610 otoliths and 30 gray triggerfish spines. Out

of the 9,640 structures received, 9,140 have been aged. Totals for each species are as follows:

- black crappie – 579
- black drum – 615
- gray snapper – 299
- greater amberjack – 63
- gray triggerfish – 30
- king mackerel – 148
- largemouth bass – 2,859
- red drum – 1,004
- red snapper – 571
- sheepshead – 566
- southern flounder – 411
- striped mullet – 215
- spotted seatrout – 1,344
- vermilion snapper – 23
- white crappie – 933

Tarpon DNA Tagging

Fisheries lab biologists are currently engaged in a tarpon DNA tagging project. The objective of this project is to calculate the geographic range of the Atlantic tarpon using DNA fingerprinting techniques. This project will also yield valuable information relating to the recapture rates and migratory paths. It will also provide fisheries managers necessary information in making decision regarding management of this species.

Through the program, we can determine movement and survival rates in what is primarily a catch-and-release fishery. Survival rates are determined by tracking tarpon using a DNA fingerprint and recapture data obtained from sampling tarpon DNA. The project will also track movement of tarpon using DNA tagging instead of standard internal dart tagging practices. The main advantage to this method is that the actual DNA is the tag.

All sampling is performed by recreational anglers. LDWF provides kits and instruction information to anglers. The samples are sent to the Fisheries Research Lab in Grand Isle. There, the data is recorded, and the samples are then sent to a contact at the Florida Wildlife Research Institute for DNA analysis.

A total of 106 tagging kits were distributed during fiscal year 2010-2011. No samples were received in fiscal year 2010-2011 since tarpon is a late summer/early fall fishery.

Future plans include producing an instructional DVD, posting informative flyers at marinas, and distributing kits and brochures at outreach events and fishing tournaments.

Rigs/Reefs Biodiversity and Relative Abundance

The Rigs/Reefs Biodiversity and Relative Abundance project will develop and test methods of evaluating species distributions, diversity and relative abundance of offshore fish communities residing at oil and gas platforms and nearby artificial reefs. LDWF will develop a comprehensive spatial and temporal profile of the fish assemblages residing within and near these man-made structures.

Three pairs of upright oil platforms and nearby artificial reefs will be sampled quarterly using subsea video coupled with metering lasers. Observations from SCUBA divers will accompany video data as a means of data validation.

Concurrently, Fisheries Research Lab staff established a standardized scientific dive program. With sufficient training, divers will be ready to begin supplementing video data collection with direct observations beginning January 2012.

Oyster Cultch Study

The project goal of the oyster cultch study is to supplement the amount of live oyster seed at various estuarine locations throughout coastal Louisiana. The project will utilize oyster larvae produced at LSU's Sea Grant Bivalve Hatchery to rear on cultch material in six rectangular tanks at the LDWF Marine Research Lab. The resulting spat will be used for deployment on public oyster seed grounds and other public water booms within coastal Louisiana.

Sites selected for this project include Snail Bay, Hackberry Bay, Black Bay and the Mississippi Sound. Project objectives include:

- test the success of oyster settlement on alternative cultch materials.
- determine the feasibility of producing oyster spat at the LDWF Marine Research Lab.
- develop and test appropriate techniques for deploying oyster spat and larvae.
- test the survival of hatchery-reared oyster spat at deployment locations.

Experimental testing for oyster settlement on alternative cultch materials is complete. Three types of cultch materials were used to test spat settlement - limestone, cleaned whole oyster shell and whole oyster shell collected from Hackberry Bay. Spat successfully settled on all three substrate materials, and no sufficient settlement difference was found among the three materials. Planning is currently underway for carrying out the remaining project objectives.

Study of Infectious Diseases in the Maintenance and Culture of Cocahoe Minnows

LDWF worked in cooperation with the LSU School of Veterinary Medicine to develop aquaculture protocols to establish a steady, healthy supply of cocahoe minnows for the bait fishery.

Research continues to investigate and identify important pathogens that impact various life stages of cultured cocahoe minnows from egg to brood stock. Another ongoing objective is to develop a laboratory population of cocahoe minnows, initiated by obtaining laboratory spawned fish from the LSU Agricultural Research Station.

Community Restoration Fishery Management in Bayou St. John and City Park

This project was developed to assess baseline data on reintroduced red drum and native fish assemblages in Bayou St. John and City Park to determine their responses to restoration activities.

City Park is a public park located in the heart of New Orleans. It features two historical waterways and a set of man-made lagoons that connect to Lake Pontchartrain. Bayou St. John, Bayou Metairie and the lagoons have an estuarine influence.

Plans are being made to introduce and track more redfish in Bayou St. John in a continued effort to better understand their habitat needs while improving the local fishery. Plans also include an assessment of local fish assemblages on a monthly basis as a means to quantify long-term improvements to the ecosystem and trophic structure by comparing the data to baseline information collected in 2006/2007.

FISHING OPPORTUNITY

Louisiana is nationally recognized by anglers and fisheries professionals as providing exceptional sport fishing opportunities.

ACCESS

LDWF 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.

In a cooperative effort, LDWF assists local government entities requesting financial assistance in the development and construction of boating and fishing access facilities. This is accomplished through the dedication of federal funding. The goal of the Wallop-Breaux Public Boating and Fishing Access Program is to increase boating and fishing opportunities throughout Louisiana. The Federal Aid in Sport Fish Restoration Act of 1950 (now the Dingell-Johnson Sport Fish Restoration Act) was expanded in 1984 by the passing of the Wallop-Breaux Amendment, which places an excise tax on equipment and supplies used by boaters and fishermen. These taxes, collected by the U.S. Department of Treasury, are administered by the U.S. Fish and Wildlife Service and apportioned to state sport fishery agencies. The state sport fishery agencies must use these funds for projects that benefit boaters and fishermen.

Fifteen percent of our annual Sport Fish Restoration apportionment from the U.S. Fish and Wildlife Service is spent on projects to increase or improve access to public waters for recreational boaters and anglers. Examples of eligible projects under the Wallop-Breaux Program include boating and fishing access as well as habitat and resource enhancement.

Boating and Fishing Access

In a cooperative effort, LDWF assists local government entities requesting financial assistance in the development and construction of boating and fishing access facilities. To accomplish this, LDWF obligates a portion of its federal Sport Fish Restoration funds to match up to 75 percent of the total cost of these projects. This program funds both freshwater and saltwater projects. Projects may include the construction of boat ramps, parking areas, docks, bulk heading and fishing piers.

Four access projects were completed in 2010-2011 for a total of 86 projects completed to date. An additional 10 projects are in the planning or construction stage.

Public Access Projects Completed During Fiscal Year 2010-2011

- Burns Point Park Boat Launch – Project included construction of an expanded boat trailer parking area, concrete parking apron, and extension of the north walkway.
- Jessie Fontenot Boat Launch, Phase II – Project included construction of an expanded boat trailer parking area and addition of lighting in the new parking area.
- Lake Claiborne Boat Lane Marking – Project included placement of channel markers and signage to ensure safe boating on Lake Claiborne.
- Vidalia Landing – Project included the installation of a longer boat ramp, courtesy dock, designated pre and post launching areas, and improvements to lighting in the parking area.

Public Access Facilities in the Planning Stage or Under Construction

- Abbeville Public Boat Launch – Undergoing renovations to the existing parking and docking area, as well as improvements to the entrance and exit ramps from the highway to provide safer access to the facility.
- Leonville Boat Launch – Undergoing construction of a new facility including a 30-foot wide boat ramp to accommodate two vehicles simultaneously.
- Empire Marina (Delta Marina) – Undergoing improvements to existing parking by providing base work and asphalt paving of parking area.
- New Iberia Ship Wreck, Tier I (Boating Infrastructure Grant Program) – Objectives of this project are to construct a transient docking facility to be used by transient, non-trailerable boats.
- Reserve Boat Launch, Phase II – Objectives of this project are to expanding the existing pier by 60 feet, deepen the Reserve Canal next to the pier expansion area, and expand the existing parking area.
- Reserve Boat Launch, Phase III – Project plans include the construction of two new 120-foot piles along the sides of the ramp and expansion of the parking area.
- St. Tammany Fishing Pier and Boat Launch – Project plans include the construction of a 30-foot wide boat ramp, public restroom facility, and parking area to accommodate 120 vehicles and 25 boat trailers.
- Port O'Bistineau Landing – Project plans include an extension of the existing boat ramp by 60 feet to provide convenient access to Lake Bistineau during times of low water levels. Plans also include renovations to existing structures at the facility and expansion of the parking area.
- Ferriday (Lake Concordia) Public Boat Ramp – Undergoing renovations to the existing boat ramp and dock, as well as construction of a new parking area.
- Fort Jackson Boat Ramp and Fishing Pier – Project plans include renovations to the existing boat ramp and parking area in addition to the construction of a new fishing pier.

Control of nuisance plant species is also necessary to provide boating access to many public waterways. 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 nuisance aquatic vegetation control program, which strives to provide the public with safe and usable fishing and boating access. Left unchecked, invasive plants would choke the state's abundant freshwater lakes, making them inaccessible and threatening the natural habitat of our valuable aquatic resources. Aggressive treatment of affected waters continued in fiscal year 2010-2011 in an effort to restore and improve the aquatic habitat and the natural balance of plants and fish.

In fiscal year 2010-2011, the Aquatic Plant Control Program applied herbicide to 57,218 acres of nuisance aquatic vegetation to provide boating and fishing access in lakes and water bodies throughout the state. The major aquatic weeds targeted included 18,777 acres of water hyacinth, 12,451 acres of giant salvinia, 7,715 acres of alligator weed, and 3,314 acres of common salvinia.

Habitat and Resource Enhancement

Louisiana's fishery resources, including habitat, benefit all constituent groups (commercial and recreational users and visitors) 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 collects the basic ecological data needed to efficiently and effectively manage resources to benefit constituent groups. Habitat stewardship and resource management provide opportunities for the public to access these natural resources.

Lake Renovations

Renovations of Ivan Lake in Bossier Parish continued in fiscal year 2010-2011 with the removal of existing fish populations in the creek channel, ponds and borrow pits with rotenone treatment. The water control structure and conduit were replaced. Additional improvements include grubbing and marking boat roads, installing new piers and shoreline access, adding security lighting, and developing spawning beds and artificial reefs. The construction phase of this project is scheduled for completion in 2012. Fish stocking will take place once the lake has refilled.

Artificial Reef Program

The Louisiana Artificial Reef Program (LARP) works closely with stakeholders, public and private conservation groups, and appropriate regulatory agencies when developing, maintaining and monitoring Louisiana's artificial reefs.

LARP was created by Act 1000 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 composed of the Secretary of LDWF, the Executive Director of the School of the Coast and Environment, and the Executive Director of Sea Grant, or their designees. The council is charged with providing guidance on policy, procedural matters, site selection and allocation of funds to the LARP. LDWF administers and manages LARP in accordance with the National Artificial Reef Plan, Louisiana Artificial Reef Development Plan, pertinent regulations, laws and budget allocation.

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

Key accomplishments of LARP during fiscal year 2010-2011 include:

- Enhanced 15 offshore reefs with 23 oil and gas platforms and received \$8.8 million in donations from oil company participation.
- Created the South Twin Span Reef within Lake Pontchartrain from bridge rubble generated from the demolition of 60 I-10 bridge spans.
- Created the Independence Island Reef in Barataria Bay with 8,000 tons of limestone.

Fiscal year 2010-2011 LARP important facts and figures include:

- 68 established offshore artificial reef sites
 - 44 planning area reefs
 - 16 special artificial reef sites
 - Eight deepwater reefs
- Offshore structures converted to permanent habitat
 - 258 platform jackets
 - Eight drill rig legs
 - 23 oil and gas structures deployed
- 29 established inshore reefs
 - Two new inshore reefs created
 - South Twin Span Reef
 - Independence Island Reef
 - Reef materials
 - Shell
 - Limestone
 - Reef balls
 - Recycled bridge rubble

Rigs-to-Reef remains a large component of LARP. LARP averages 25 structure conversions per year, but intends to maintain Rigs-to-Reef participation in proportion to the platform decommissioning rate by the oil companies. Due to recent policy changes by the Bureau of Ocean Energy Management, Regulation and Enforcement, the regulatory body responsible for offshore oil and gas structures, LARP is re-examining its current plan for establishing offshore reefs and identifying additional incentives for Rigs-to-Reef participation.

Currently, LARP is developing plans to expand its inshore reef program by incorporating appropriate materials of opportunity. Recycled concrete and reclaimed oyster shell are being pursued for inshore reef development across the state. Over the next year, LARP intends to identify and permit inshore reef areas for development, implement a process for staging appropriate reef materials and construct additional inshore reefs.

Drawdowns

Drawdowns are often a recommended course of action for varying reasons including structural repairs, fish management, bottom oxidation and vegetation control. Drawdowns were conducted on eight inland reservoirs in fiscal year 2010-2011.

TABLE 7.

LAKE NAME	PURPOSE OF DRAWDOWN	DATES
Ivan Lake	Renovation; structural repair	Annual
Turkey Creek Lake	Bottom oxidation; structural repair	Summer/Fall
Toledo Bend Lake	Structural repair	Summer
Lake Bistineau	Vegetation Control	Summer
Cocodrie Lake	Vegetation Control	Annual
Lake Lafourche	Bottom Oxidation; fish management	Fall/Winter
Chicot Lake	Structural repairs; vegetation control	Summer/Fall
Black Lake Reservoir	Bottom oxidation; vegetation control	Fall/Winter

Stocking

LDWF recognizes that fish stocking, when used as part of a complete fishery management program, can enhance and supplement a fishery and add to the success and enjoyment of fishing. Fish stocking programs must be well thought out and must consider many important factors, the most important of which is habitat management.

Priorities are established annually using a two-step process. Each June, biologist supervisors submit a prioritized request of the water bodies in their district to be considered for stocking. This list is submitted on the standard Fish Stocking Request Form which contains the name of water body, acreage, species and number requested. The request must include, for each water body, a detailed justification for stocking, including how the requested stocking is consistent with the fishery management program for that water body and the goal and/or a desired outcome from the stocking. The request should review the stocking history of the water body and any evaluation of past success. The request is then sent to the Fish Hatchery Program Manager, who will compile the statewide requests, include a projection of the hatchery program's capability to produce the total number of fish requested, and distribute the report to the biologist supervisors and headquarters staff.

Each September, a fish stocking workshop is held and statewide stocking priorities set, depending on their "justifications." Water bodies are stocked in order based upon their individual needs established in written lake management plans. The Division Administrator approves the priority list which is distributed to the Fish Hatchery Program Manager, biologist supervisors, and Assistant Secretary of the Office of Fisheries. Any subsequent changes to the priority list must be authorized in writing by the Division Administrator and distributed as an addendum to the statewide list.

Tables 8-10 detail a listing of fish that were stocked in fiscal year 2010-2011.

TABLE 8.

FISH STOCKING BY SPECIES (July 1, 2010 - June 30, 2011)		
Species	Size	Number
Florida Largemouth Bass	Phase I Fingerling	3,840,828
	Phase II Fingerling	23,159
	Advanced Fry on Feed	31,050
	<i>Total</i>	<i>3,895,037</i>
Bluegill	Phase I Fingerling	106,859
Redear	Phase I Fingerling	60,352
Channel Catfish	Phase I Fingerling	48,741
Blue Catfish	Adults	24
Black Crappie	Fingerling	13,761
Triploid Grass Carp	Adults	66
	1-Year-Old	10,000
	<i>Total</i>	<i>10,066</i>
Native Largemouth Bass	Fingerling	2,695
Grand Total		4,137,535

TABLE 9.

FISH STOCKING BY ORIGIN (July 1, 2010 - June 30, 2011)	
Booker Fowler State Fish Hatchery	
Florida Largemouth Bass Fingerlings	2,564,233
Florida Largemouth Bass Phase II Fingerlings	509
Florida Largemouth Bass (sac fry)	48,375
<i>Total</i>	<i>2,613,117</i>
Beechwood State Fish Hatchery	
Florida Largemouth Bass Phase II Fingerlings	3,733
Blue Catfish Adults	24
Black Crappie Fingerlings	13,761
Triploid Grass Carp Adults	66
<i>Total</i>	<i>17,584</i>
Monroe State Fish Hatchery	
Largemouth Bass Fingerlings	2,695
Bluegill Fingerlings	5,804
<i>Total</i>	<i>8,499</i>
Lacombe State Fish Hatchery	
Largemouth Bass Phase II Fingerlings	7,500
Natchitoches National Fish Hatchery	
Florida Largemouth Bass Fingerlings	527,520
Bluegill Sunfish Fingerlings	101,055
Red Ear Sunfish Fingerlings	60,352
Channel Catfish Fingerlings	48,741
<i>Total</i>	<i>737,668</i>
Rockefeller Refuge Rearing Ponds	
Florida Largemouth Bass Fingerlings	50,000
Florida Largemouth Bass Phase II Fingerlings	1,776
<i>Total</i>	<i>51,776</i>
Cross Lake Fish Hatchery	
Florida Largemouth Bass Advanced Fry on Feed	31,050
Florida Largemouth Bass Fingerlings	650,700
<i>Total</i>	<i>681,750</i>
American SportFish Hatchery	
Florida Largemouth Bass Phase II Fingerlings	9,641
J.M. Malone & Son, Inc. Lonoke, Ark	
Triploid Grass Carp 1-Year-Old	10,000
Grand Total	4,137,535

TABLE 10.

FISH STOCKING BY DISTRICT			
Waterbody	Species	Size	Number
District 01 - Minden			
Black Bayou & Black Bayou Reservoir (Bossier Parish)	Florida Largemouth Bass	Fingerlings	27,983
Black Bayou Lake (Caddo Parish)	Florida Largemouth Bass	Fingerlings	29,233
Caddo Lake & James Bay	Florida Largemouth Bass	Fingerlings	242,978
Caney Creek Reservoir	Florida Largemouth Bass	Fingerlings	228,267
Caney Lake Upper (Webster Parish)	Florida Largemouth Bass	Fingerlings	700
Caney Lake Lower (Webster Parish)	Florida Largemouth Bass	Fingerlings	1,125
Corney Lake	Florida Largemouth Bass	Fingerlings	6,900
Cross Lake	Florida Largemouth Bass	Fingerlings	171,347
		Advanced Fry	27,333
	Channel Catfish	Fingerlings	31,050
Cypress Bayou Reservoir	Florida Largemouth Bass	Fingerlings	24,212
Kepler Creek Lake	Florida Largemouth Bass	Fingerlings	11,935
Lake Claiborne	Florida Largemouth Bass	Fingerlings	50,500
Mill Creek Lake	Florida Largemouth Bass	Fingerlings	3,798
Red River (Shreveport to Dam 5)	Florida Largemouth Bass	Fingerlings	56,600
<i>Total</i>			<i>913,961</i>
District 02 - Monroe			
Bayou D'Arbonne Lake	Florida Largemouth Bass	Fingerlings	151,734
		Phase II Fingerlings	509
Chatham Lake	Channel Catfish	Fingerlings	2,500
Lake St. John	Florida Largemouth Bass	Fingerlings	21,616
Bayou Macon Cutoff 1	Black Crappie	Fingerlings	7,128
	Channel Catfish	Fingerlings	3,200
Bayou Macon Cutoff 2	Black Crappie	Fingerlings	3,267
	Channel Catfish	Fingerlings	1,500
Bayou Macon Cutoff 3	Black Crappie	Fingerlings	2,970
	Channel Catfish	Fingerlings	1,400
Poverty Point Reservoir	Florida Largemouth Bass	Fingerlings	50,994
		Phase II Fingerlings	1,006
Turkey Creek Lake	Florida Largemouth Bass	Fingerlings	30,338
<i>Total</i>			<i>278,162</i>

TABLE 10 continued.

FISH STOCKING BY DISTRICT				
Waterbody	Species	Size	Number	
District 03 - Alexandria				
Black River Lake	Florida Largemouth Bass	Fingerlings	10,808	
Camp Grant Walker Pond	Bluegill	Fingerlings	2,000	
Iatt Lake	Florida Largemouth Bass	Fingerlings	317,498	
Fullerton Lake	Florida Largemouth Bass	Fingerlings	226	
Lake Concordia	Florida Largemouth Bass	Fingerlings	10,808	
Red River (Dam 3 to Dam 2)	Florida Largemouth Bass	Fingerlings	37,928	
Twin Lakes	Florida Largemouth Bass	Fingerlings	512	
Valentine Lake	Florida Largemouth Bass	Fingerlings	413	
Total			380,193	
District 05 - Lake Charles				
Cameron Prairie	Bluegill	Fingerlings	5,000	
Rockefeller Refuge	Florida Largemouth Bass	Fingerlings	50,000	
		Phase II Fingerlings	1,776	
SWLA War Veteran's Home Pond	Triploid Grass Carp	Adults	8	
Vernon Lake	Florida Largemouth Bass	Fingerlings	100,674	
Total			157,458	
District 06 - Opelousas				
Chicot Lake	Florida Largemouth Bass	Fingerlings	72,331	
Cocodrie Lake	Florida Largemouth Bass	Fingerlings	64,328	
Crooked Creek Lake	Triploid Grass Carp	Adults	44	
Dubuisson Lake	Florida Largemouth Bass	Fingerlings	2,016	
Lake Ophelia	Bluegill	Fingerlings	52,200	
	Redear	Fingerlings	60,352	
Millers Lake	Florida Largemouth Bass	Fingerlings	16,705	
Red River Dam (Dam 1 to Locks)	Florida Largemouth Bass	Fingerlings	14,968	
Spanish Lake	Blue Catfish	Adults	24	
Spring Bayou	Florida Largemouth Bass	Fingerlings	20,812	
		Triploid Grass Carp	1-Year-Olds	10,000
		Adults	14	
Total			313,794	

FISH STOCKING BY DISTRICT				
Waterbody	Species	Size	Number	
District 07 - Baton Rouge				
Amite River Complex	Florida Largemouth Bass	Phase II Fingerlings	3,680	
	Channel Catfish	Fingerlings	3,672	
Bayou Plaquemine Brule	Florida Largemouth Bass	Phase II Fingerlings	90	
Blind River Complex	Florida Largemouth Bass	Phase II Fingerlings	3,350	
	Channel Catfish	Fingerlings	3,366	
BREC Pond	Largemouth Bass	Fingerlings	1,430	
	Bluegill	Fingerlings	9,895	
False River	Florida Largemouth Bass	Phase II Fingerlings	600	
Lake Verret & Grassy Lake	Florida Largemouth Bass	Phase II Fingerlings	990	
Lamar Dixon 11-acre Pond	Largemouth Bass	Fingerlings	1,265	
	Bluegill	Fingerlings	5,610	
Lamar Dixon 4-acre Pond	Bluegill	Fingerlings	399	
	Florida Largemouth Bass	Fingerlings	398	
State Police Youth Camp	Florida Largemouth Bass	Fingerlings	302	
	Bluegill	Fingerlings	3,000	
Tickfaw River Complex	Channel Catfish	Fingerlings	1,836	
		Fingerlings	1,845	
	Florida Largemouth Bass	Phase II Fingerlings	1,605	
University Lake	Florida Largemouth Bass	Fingerlings	1,351	
		Phase II Fingerlings	278	
Total			44,962	
District 08 - Slidell				
Bonnet Carre Spillway	Florida Largemouth Bass	Fingerlings	1,840	
		Channel Catfish	Fingerlings	3,067
		Bluegill	Fingerlings	10,560
Lake Cataouatche	Florida Largemouth Bass	Phase II Fingerlings	7,500	
New Orleans City Park	Channel Catfish	Fingerlings	204	
		Bluegill	Fingerlings	18,195
I-55 Canal System	Channel Catfish	Fingerlings	306	
Lac des Allemands	Florida Largemouth Bass	Fingerlings	1,400	
Tangipahoa River Complex	Florida Largemouth Bass	Phase II Fingerlings	375	
		Black Crappie	Fingerlings	396
		Channel Catfish	Fingerlings	357
Total			44,200	

TABLE 10 continued.

FISH STOCKING BY DISTRICT			
Waterbody	Species	Size	Number
District 09 - New Iberia			
Henderson Lake	Florida Largemouth Bass	Fingerlings	53,010
Total			53,010
District 10 - Toledo Bend			
Toledo Bend Reservoir	Florida Largemouth Bass	Fingerlings	1,566,443
Black Lake & Clear Lake	Florida Largemouth Bass	Fingerlings	111,567
Grand Bayou Reservoir	Florida Largemouth Bass	Fingerlings	81,734
Red River (Dam 4 to Dam 3)	Florida Largemouth Bass	Fingerlings	68,431
Red River (Dam 5 to Dam 4)	Florida Largemouth Bass	Fingerlings	36,890
Saline Lake	Florida Largemouth Bass	Fingerlings	86,730
Total			1,951,795
GRAND TOTAL - ALL DISTRICTS			4,137,535

PUBLIC EXTENSION

Office of Fisheries staff advise beneficiaries on stewardship and best practices in preserving the unique nature of the state's natural resources.

Outreach

The Aquatic Outreach Program is designed to inform the public about the Sport Fish Restoration Program, as it is a vital funding source for aquatic access, resource enhancement and management projects in Louisiana.

In addition to increased participation in public events, the Fisheries Research Laboratory personnel provide samples and use of educational facilities for the outreach staff. The new Grand Isle Fisheries Research Laboratory has a classroom and lab space for instruction and hands-on learning. School and community groups have access to the lab for various educational opportunities.

Through outreach efforts, the Aquatic Outreach Program reached over 240,000 Louisiana citizens.

Events

Via a strong presence at youth recreational events, industry-related expos and other state-sponsored events, LDWF strives to align its efforts with the desires of citizens and foster a community sense of resource and habitat stewardship.

At events, our staff was able to educate Louisiana citizens of the importance of Sport Fish Restoration and LDWF's role in these projects. During fiscal year 2010-2011, there were 44 public appearances by LDWF including the Pennington Balloon Championship in Baton Rouge and the Bassmaster Classic in New Orleans, which together accounted for approximately 165,000 attendees.

In March of 2011, LDWF introduced a 1,000-gallon mobile freshwater aquarium to exhibit native species at events.

Future plans include the addition of a 1,000-gallon mobile saltwater aquarium for use at outreach events. In addition, LDWF plans to expand upon the number of educational workshops offered. These workshops will include a series of "Weekend Workshops for Women."

Table 11 lists the Fisheries Extension events for fiscal year 2010-2011.

Louisiana Saltwater Series

The Louisiana Saltwater Series was created to promote the conservation of Louisiana's saltwater sport fish resources. Through this catch-and-release saltwater fishing series, LDWF strives to enhance the resource while providing a competitive opportunity for avid fishermen and newcomers alike. (Table 12).

The events are also used to encourage participation in the Louisiana Cooperative Marine Sport Fish Tagging Program.

Data collected from the tournament entries serves as a valuable tool for LDWF fisheries managers and biologists to better understand the life history and habitat of sport fish.

Tournament target species include redfish and spotted seatrout. Plans for the approaching year include the addition of yellowfin tuna, tarpon and youth-exclusive tournaments to the schedule.

The Audubon Aquarium of the Americas attends many of our tournaments to provide supplemental fish tagging, presenting the unique opportunity to release large numbers of fish at one time and location. The Audubon Aquarium of the Americas provides technical support and information to the anglers regarding best fish handling practices (Table 13).

Outreach Material and Resources

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

Materials and publications designed and available for distribution during fiscal year 2010-2011 include:

- Waterproof/UV-coated fishing regulations
- Red drum pamphlet
- Spotted seatrout pamphlet
- Largemouth bass pamphlet
- Crappie pamphlet
- Invasive brochure
- Grass carp brochure
- Largemouth bass license plate brochure
- "I'd Rather Be Fishing in Louisiana" largemouth bass decal
- Top ten largemouth bass poster
- "I'd Rather Be Fishing in Louisiana" bumper magnet

TABLE 11. 2010-2011 Fisheries extension events and attendance.

EVENT	DATE	ATTENDANCE
Cub Scouts Day Camp	July 8, 2010	120
Louisiana Saltwater Series - Empire, La.	July 10, 2010	100
U.S. Sail and Power Squad	July 13, 2010	30
LSU Day Camp	July 29, 2010	125
Baton Rouge Balloon Festival	Aug. 6-7, 2010	65,000
Louisiana Saltwater Series - Slidell, La.	Sept. 11, 2010	100
Outdoorsman Banquet	Sept. 21, 2010	300
National Hunting and Fishing Day	Sept. 25, 2010	4,100
St. Theresa 5th Grade	Sept. 27, 2010	63
Voice of the Wetlands Festival	Oct. 8, 2010	250
Fall Wetlands Festival	Oct. 9, 2010	30
Louisiana Saltwater Series - Empire Championship	Oct. 8-9, 2010	100
Wild Things	Oct. 16, 2010	4,200
BuzzFest	Nov. 5, 2010	500
Audubon Zoo Swamp Festival	Nov. 6-7, 2010	12,000
Ocean Commotion	Nov. 9, 2010	2,100
U.S. Sail and Power Squad	Jan. 11, 2011	15
Houma Boat Show	Jan. 14-16, 2011	6,000
Lake Charles Boat Show	Jan. 28-30, 2011	6,500
Cabela's Captain Weekend	Feb. 12-13, 2011	600
Bassmaster Classic 2011	Feb. 18-20, 2011	100,000
Louisiana Sportsman's Show	March 11-13, 2011	13,000
Cabela's All Things LA	March 19, 2011	600
North Shore Boat Show	March 18-20, 2011	4,000
Waddill Zachary Schools	March 21, 2011	450
Crosby Arboretum Wildlife Day	March 24, 2011	500
City Park Rodeo	March 26, 2011	500
New Orleans Boat Show	March 31 - April 3, 2011	5,000
Louisiana Saltwater Series - Lafitte, La.	April 2, 2011	100
Bassmaster Elite Series	April 14-17, 2011	10,000
Pontchartrain Elementary Earth Day	April 21, 2011	300
Buck Bonanza	April 21, 2011	600
Louisiana Saltwater Series - Lake Charles, La.	April 30, 2011	60
St. Jude's Dream Day	May 7, 2011	2,500
Louisiana Saltwater Series - Venice, La.	May 14, 2011	100
St. Matthews Rodeo	May 14, 2011	300
Bait and Wait Kid's Derby	May 16, 2011	50
Slaughter Sportsman's Show	May 21-22, 2011	150
New Orleans Oyster Fest	June 4-5, 2011	2,500
Back to the Beach Festival	June 4, 2011	75
Free Fishing Weekend	June 11, 2011	200
Louisiana Saltwater Series - Delacroix, La.	June 18, 2011	100
Bayou St. John ReBridge	June 25, 2011	50
State Trooper Day Camp	June 29-30, 2011	30

TABLE 12. LA Saltwater Series live redfish, tag and release tournaments during July 1, 2010 through June 30, 2011.

DATE	LOCATION	BOATS REGISTERED	TAGGED REDFISH	RECAPTURED IN FY 2010-2011
7/10/2010	The Delta Marina - Empire, La.	31	54	2
9/11/2010	The Dock - Slidell, La.	28	63	15
10/08 - 10/09/2010	The Delta Marina - Empire, La.	22	101	2
4/02/2011	Seaway Marina - Lafitte, La.	47	113	0
4/30/2011	Calcasieu Point Landing - Lake Charles, La.	26	69	6
5/14/2011	Venice Marina - Venice, La.	31	72	0
6/18/2011	Sweetwater Marina - Delacroix, La.	44	109	5
Total		229	581	30

TABLE 13. Fishing tournaments where the Audubon Aquarium of Americas tagged and released sport fish during July 1, 2010 through June 30, 2011.

DATE	EVENT	LOCATION	FISH TAGGED	FISH RECAPTURED
10/30/2010	Our Lady of the Lourdes Redfish for Cash	The Dock - Slidell, La.	27 Red Drum	0
5/14/2011	Louisiana Saltwater Series	Venice Marina - Venice, La.	72 Red Drum 1 Largemouth Bass	0
6/04/2011	CCA Trout Shoot-Out	Calcasieu Point Landing - Lake Charles, La.	38 Spotted Seatrout	4 Spotted Trout

Industry Oversight

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

In addition, LDWF is pursuing several initiatives for Louisiana's commercial fishing industry including origin and quality certification programs, a sustainable long term disaster recovery program, and a gear modernization and professionalization program which aims to create a more informed and efficient industry. Programs to collect and recycle used oyster shell and concrete to create artificial oyster and fishing reefs are also being developed.

Disaster Recovery

LDWF strives to maintain Louisiana's abundant fishery resources and its commercial and recreational opportunities by seeking and efficiently implementing federally funded programs to aid the recreational and commercial fishing industries in recovery from natural and man-made disasters. Since Hurricane Andrew in 1992, LDWF has received continual federal appropriations to assist the commercial and recreational fishing industries during times of declared disasters and aid these industries in recovery from the devastation.

Cooperative Research Program

A total of \$15 million was allocated to commercial fishermen and wholesale/retail seafood dealers (shown in Table 14) for completing surveys that are designed to monitor recovery of Gulf fisheries impacted by hurricanes Katrina and Rita in 2005. Commercial fishermen receive payment from no more than one tier based upon their reported minimum sales level, and dealers upon their reported minimum purchase level (shown in Table 15). The information contained in each tier survey is described in Table 16. The program was launched in April 2009, and the deadline to return a survey was June 30, 2010.

In order to establish eligibility, applicants were to meet the following requirements:

Commercial Fishermen

- Louisiana resident commercial fishermen who held a valid 2008 resident commercial fishing license and had combined trip ticket reported sales valued at \$5,948 or more during the three-year period from September 1, 2005 – August 31, 2008. All saltwater species landings (shrimp, crab, oyster, menhaden, saltwater finfish) are included in total sales, regardless of the fisherman or dealer's parish of residence. Freshwater species landings (freshwater finfish and wild-caught crawfish) are included only if the fisherman resided in any of the 26 LDWF-identified, hurricane-impacted parishes (Orleans, Jefferson, Plaquemines, St. Bernard, St. Tammy, Lafourche, Assumption, Iberville, Point Coupee, Acadia, Avoyelles, Terrebonne, St. Mary, Iberia, St. Martin, Jefferson Davis, Vermilion, Calcasieu, Cameron, Tangipahoa, Livingston, Ascension, St. John the Baptist, St. Charles, St. James and Lafayette).
- Trip tickets dated during the eligible period but submitted after November 30, 2008, were not considered for qualification.
- Commercial fishermen who possessed a 2008 resident commercial fishing license having a "certified" endorsement in addition to having any level of landings during the qualifying period received an added \$500 payment for completing a cooperative research survey.

TABLE 14. Funds paid to Commercial Fisherman and Wholesale/Retail Seafood Dealers by end of fiscal year.

SECTOR	AMOUNT ALLOCATED	NUMBER ELIGIBLE*	NUMBER PAID	AMOUNT PAID
Commercial Fisherman	\$8,000,000	4,438	2,909	\$6,712,526.86
Wholesale/Retail Seafood Dealers	\$7,000,000	395	305	\$6,525,856.71
Total	\$15,000,000	4,833	3,214	\$13,238,383.57

**Per LDWF Records*

TABLE 15. Funds paid to Commercial Fishermen and Wholesale/Retail Seafood Dealers according to Tier Level.

TIER LEVEL	MINIMUM SALES LEVEL	NUMBER ELIGIBLE*	NUMBER PAID	AMOUNT PAID	PERCENTILE**
Commercial Fisherman					
Tier 1	\$5,948	1,267	461	\$208.83	30%
Tier 2	\$24,786	1,583	1,024	\$870.22	50%
Tier 3	\$108,804	1,582	1,419	\$3,820.05	75%
Wholesale/Retail Seafood Dealers					
Tier 1	\$20,756	113	69	\$1,437.91	30%
Tier 2	\$67,527	141	100	\$4,678.05	50%
Tier 3	\$632,436	141	136	\$43,814.97	75%

**Per LDWF records*
***Definitions:*

- 30th Percentile = 30% or more of eligible participants purchased or sold seafood with a dockside value less than the minimum sales or purchase level illustrated during the qualifying period.
- 50th Percentile = 50% or more of eligible participants purchased or sold seafood with a dockside value less than the minimum sales or purchase level illustrated during the qualifying period.
- 75th Percentile = 75% or more of eligible participants purchased or sold seafood with a dockside value less than the minimum sales or purchase level illustrated during the qualifying period.

TABLE 16. Content in each Tier Survey for Commercial Fishermen and Wholesale/Retail Seafood Dealers.

SECTOR	TIER 1	TIER 2	TIER 3
Commercial Fishermen	<ul style="list-style-type: none"> • Descriptive information on industry • Losses incurred by the commercial fisherman 	Tier 1 +questions related to specific fisheries (crab, crawfish, shrimp, oyster, etc.)	<ul style="list-style-type: none"> • Tier 1 &2 + costs and revenues of commercial fishing • Vessels and related problems from hurricanes • Advertising and marketing
Wholesale/Retail Seafood Dealers	<ul style="list-style-type: none"> • Descriptive information on seafood business • Losses incurred by the business due to hurricanes 	<ul style="list-style-type: none"> • Tier 1 + costs & revenue structure of operations • Seafood issues • More detail on problems caused by hurricanes 	<ul style="list-style-type: none"> • Tier 1 & 2 + questions related to specific fisheries • Revenue and cost questions • Questions on sources and markets for seafood products

Wholesale/Retail Seafood Dealers

- Louisiana resident wholesale/retail seafood dealers who held a valid 2008 resident wholesale/retail seafood dealers license and had combined trip ticket reported purchases valued at \$20,756 or more during the three-year period from September 1, 2005 - August 31, 2008. All saltwater species landings (shrimp, crab, oyster, menhaden, saltwater finfish) are included in total sales, regardless of the dealer's parish of operation. Freshwater species landings (freshwater finfish and wild-caught crawfish) are included only if the wholesale/retail dealer's operation was located in any of the 26 LDWF-identified, hurricane-impacted parishes (Orleans, Jefferson, Plaquemines, St. Bernard, St. Tammany, Lafourche, Assumption, Iberville, Pointe Coupee, Acadia, Avoyelles, Terrebonne, St. Mary, Iberia, St. Martin, Jefferson Davis, Vermilion, Calcasieu, Cameron, Tangipahoa, Livingston, Ascension, St. John the Baptist, St. Charles, St. James, St. Charles, St. James and Lafayette).
- Trip tickets dated during eligible period but submitted after November 30, 2008, were not considered for qualification.

LDWF contracted Posthelthwaite & Netterville Accounting Firm to assist with the grant program. The firm created an accounting database for LDWF to communicate between personnel, disburse funds and run reports. Fisheries biologists reviewed each applicant's survey for completion and forwarded the survey to LDWF economists for final approval. Economists contacted all applicants who submitted incomplete surveys. Once economists deemed the applicant's survey complete, the applicant was approved for payment. Posthelthwaite & Netterville printed the checks and then forwarded them to LDWF for distribution. Surveys were scanned, and all data was incorporated into a computerized database. 1099 G forms were sent to all applicants who received funds of \$600 or more in 2010.

At the end of fiscal year 2010-2011, the total funds disbursed through this program was \$13,238,384 (commercial fishermen = \$6,712,527 and wholesale/retail seafood dealers \$6,525,857) as shown in *Table 14*.

Other notable survey results include:

- Out of the 4,438 eligible commercial fishermen, 648 are "certified" commercial fishermen. There are 609 certified commercial fishermen who participated in the program and received a \$500 payment.
- At the end of the fiscal year, 2,909 commercial fishermen had received funds and all surveys were scanned and are being converted into an SAS database to begin checking for scanning errors as shown in *Table 14*.
- At the end of the fiscal year, 305 wholesale/retail seafood dealers received funds and all surveys were scanned and converted into an SAS database to begin checking for scanning errors as shown in *Table 14*.
- There were more Tier 3 surveys completed by commercial fishermen and dealers than Tier 1 or Tier 2 as shown in *Table 15*.
- There were only five applicants who were reconsidered to participate in this program and receive funds.

Wholesale-Retail Dealer Grant

The Louisiana Wholesale-Retail Dealer Grant Program provides grants to wholesale-retail dealers impacted by the 2008 hurricanes, Gustav and Ike. The wholesale-retail dealers must have shown a commitment to remain in the fishery and prove losses based on the program's design. Funds provided through this program are used by eligible wholesale-retail dealers to assist with paying storm-related, uninsured and non-covered fishery losses. Funds can be used to repair or replace gear and/or for other eligible items that were lost or damaged during the 2008 storms.

The program is part of the Louisiana Recovery Authority's 2008 hurricanes Gustav and Ike recovery program funded by the U.S. Department of Housing and Urban Development with Community Development Block Grant funds. \$8,115,510 of Community Development Block Grant funds was initially allocated to develop the Wholesale-Retail Dealer Grant Program, with an additional allocation of approximately \$200,000 being added to fund the program.

The Louisiana Wholesale-Retail Dealer Grant Program was available to Louisiana resident 2008 and 2010 wholesale-retail dealer license holders. In order to establish eligibility, applicants were required to submit the following:

- 2008 and 2010 Louisiana Resident Wholesale-Retail Dealer License to show involvement in the fishing industry.
- Payroll records to show proof of employees.
- Invoices, receipts, bills of sale, expenses, checks from or to six regional or seafood related businesses to show proof of indirect jobs.
- Complete federal 2006, 2007, 2008 and 2009 tax forms with all schedules to prove Annual Gross Receipts and or sales > \$30,000.
- Complete federal 2006, 2007, 2008 and 2009 tax forms with all schedules, or LDWF trip tickets from 2006, 2007, 2008 and 2009, or insurance claim forms to show financial or tangible loss > \$15,000.
- 2010 Louisiana Resident Wholesale-Retail Dealer License, receipts, invoices or trip ticket landings from 2010 that demonstrate fishing activity that shows business currently operating.

The Louisiana Wholesale-Retail Grant Program was administered by LDWF in conjunction with LDAF through the Louisiana Agricultural Finance Authority. Through its partnership with LDAF and Office of Community Development, LDWF provided assistance with monitoring and compliance needs for the program. LDWF, LDAF, Louisiana Recovery Authority-Office of Community Development, and LSU Sea Grant agents conducted orientation and application workshops for wholesale-retail dealers throughout Louisiana. Open enrollment period was held through July 15, 2010.

This program allowed LDWF to control the use of funds but was an extreme benefit to fishermen because it provided immediate assistance. It also had a positive impact on the local fishing business economy because fishermen had the monetary capability to invest in marine-related equipment. LDWF was also able to overcome many of the challenges associated with a multi-agency partnership.

Of the 205 applications received, 103 applicants were approved for payment. The total amount distributed to wholesale-retail dealers through this program was \$8,164,495.61.

Commercial Fisherman Recovery Grant

The Louisiana Commercial Fisherman Recovery Grant Program provides grants to assist commercial fishermen and vessel owners impacted by the 2008 hurricanes, Gustav and Ike. Commercial fishermen must have demonstrated a commitment to remain in the fishery and can prove losses based on the program's design. Funds provided through this program are used by eligible fishermen and vessel owners to assist with storm-related, uninsured and non-covered fishery losses. The funds can be used to repair or replace gear and/or other eligible items lost or damaged during the 2008 storms.

The program is part of the Louisiana Recovery Authority's 2008 hurricanes Gustav and Ike recovery program funded by the U.S. Department of Housing and Urban Development with Community Development Block Grant funds. \$9,300,000 of Community Development Block Grant funds were initially allocated to develop the Commercial Fisherman Grant Program with an additional allocation of approximately \$5,000,000 being added to fund the program.

The Louisiana Commercial Fisherman Recovery Grant Program was available to Louisiana resident 2008 and 2010 commercial fishing license holders and/or Louisiana resident 2008 and 2010 vessel license holders. In order to establish eligibility, applicants were required to submit the following:

- 2008 and 2010 Louisiana resident commercial fishing license or 2008 and 2010 Louisiana resident vessel license.
- Appropriate federal 2006, 2007, 2008 and 2009 tax forms with all schedules to prove annual gross receipts and/or sales > \$15,000.
- Appropriate federal 2006, 2007, 2008 and 2009 tax forms with all schedules, or LDWF trip tickets 2006, 2007, 2008 and 2009, or insurance claims forms, and receipts for eligible items purchased from September 1, 2008 through June 30, 2009 to prove financial or tangible loss > \$5,000.
- 2010 Louisiana resident commercial fishing license or 2010 Louisiana resident vessel license, and receipts, invoices or trip ticket landings from 2010 that demonstrate fishing activity to prove business is currently operating.

The Louisiana Commercial Fisherman Recovery Grant Program was administered by LDWF in conjunction with LDAF through the Louisiana Agricultural Finance Authority. Through its partnership with LDAF and Office of Community Development, LDWF provided assistance with monitoring and compliance needs for the program. Additionally, LSU Sea Grant agents assisted both LDWF and LDAF with outreach for the program. Open enrollment period was held through June 30, 2010.

This program allowed LDWF to control the use of funds but was an extreme benefit to fishermen because it provided immediate assistance. It also had a positive impact on the local fishing business economy because fishermen had the monetary capability to invest in marine-related equipment. LDWF was also able to overcome many of the challenges associated with a multi-agency partnership.

Of the 1,252 applications received and processed, 934 of the applicants were approved for payment. Of those approved for payment, 899 were certified commercial fishermen and 45 were non-certified. The total amount distributed to commercial fishermen through this program was \$13,748,584.31.

Permits

LDWF issues a variety of permits to provide individuals a legal method to participate in a specific activity.

Listed below are the permits that were available and issued in fiscal year 2010-2011:

Experimental Freshwater Minnow Dip Net: Used to allow individuals to commercially fish for minnows using a specific dip net.
No permits issued.

Freshwater Prawn Permit: Issued to allow individuals to possess, conduct research on or culture freshwater shrimp/prawns.
No permits issued.

Gamefish Fingerling Permit: Used to allow individuals to transport, possess and sell game fish fingerlings.
15 permits issued.

Mussel Harvester's Permit (Harvester's and Buyer's): Harvester's permit allows individuals to commercially harvest freshwater mussels. Buyer's permit allows individuals to buy commercially harvested mussels from mussel harvesters.
No permits issued for either.

Scientific Collecting Permit (Freshwater, Saltwater and Saltwater/Oyster): Used to take fish for scientific research or educational purposes, propagation or distribution.
Freshwater Scientific Collecting: 61 permits issued.
Saltwater Scientific Collecting: 124 permits issued.
Saltwater/Oyster Scientific Collecting: 35 permits issued.

Scuba Spearfishing Permit: Used to allow individuals to spearfish in Toledo Bend Reservoir from June through September.
15 permits issued.

Special Bait Dealer Permit: Used to allow for the harvest and sale of live bait shrimp and live croakers to the fishing public during closed shrimp season beginning May 1 of each year until the opening of the spring inshore shrimp season and between the spring and fall shrimp season.
51 permits issued.

Tilapia Permit (Culture, Holder and Research): Used to allow individuals to possess for resale, conduct research on or culture tilapia.

Culture: 4 permits issued.

Holder: 2 permits issued.

Research: 4 permits issued.

Triploid Grass Carp Permit:

Possession and Transport Permit: Used to allow individuals to possess triploid grass carp for aquatic vegetation control in private ponds and lakes.

287 permits issued.

Sellers Permit: Used to allow individuals to import, transport, possess and sell triploid grass carp to the public.

8 permits issued.

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 to promote the prior.

Seafood origin/quality certification:

This component addresses the origin of products, the quality of products as well as food safety practices. In 2010, RS 56:578.15 was enacted, giving the Secretary of LDWF authorization to establish a quality certification program for Louisiana wild fish and seafood products which are taken, harvested or landed in Louisiana. This program, once developed, will have standards that include harvest requirements, post-harvest refrigeration requirements, quality standards, handling practices, traceability, branding and branding registrations, recording requirements, compliance standards, and packaging regulations. This program will initially focus on an inclusive basic origin certification and add higher-level, more exclusive quality certification tiers as the program becomes established.

During fiscal year 2010-2011, a Seafood Certification Steering Committee was established and contained representatives from LDWF, LDAF, LDHH and faculty and staff from LSU. The steering committee met several times throughout the year. Initial work began on specifications for a quality shrimp program. However, the focus was redirected toward a basic origin program. This program is currently in development, but it is anticipated that a basic program will be ready for announcement in January 2012.

Seafood sustainability certification:

The goal of a seafood sustainability program is to manage Louisiana fisheries in a way that provides for today's needs without damaging the ability of the species to reproduce and be available for future generations. Sustainability certification is quickly becoming the standard by which large retailers are measuring their seafood products as being from a sustained fishery. Whole Foods, Wal-Mart and other retailers are under pressure from environmental groups to

boycott seafood products that are not from sustained fisheries. LDWF is seeking out mainstream certifications for major fisheries, such as those offered by the Marine Stewardship Council (MSC), as well as investigating development of its own sustainability certification program.

During fiscal year 2010-2011, LDWF worked diligently with Scientific Certification Systems to take the Louisiana blue crab fishery from a MSC pre-assessment that had been done the year before to a full MSC assessment. By the end of fiscal year 2010-2011, LDWF had the final step in the MSC full assessment process scheduled for the end of August. It is anticipated that the fishery will meet the standards set by MSC, and the Louisiana's blue crab fishery will be the first blue crab fishery in the world to receive sustainability certification.

LDWF has also worked extensively with Global Trust to conduct MSC pre-assessments on five other fisheries: oysters, shrimp, crawfish, black drum and freshwater catfish. In March 2010, LDWF received the results of these pre-assessments. The reports generated are still being assessed to determine if LDWF will seek full MSC assessments on any of those fisheries.

Industry professionalization:

This component will focus on professionalizing the industry by educating and training industry members on best handling practices and food safety principles, allowing members to enhance their current business operation. In addition, industry participants will be educated and trained on the use of more advanced equipment and gear, increasing their efficiency.

LDWF is currently working with Louisiana Sea Grant out of LSU to develop a curriculum for a professionalization program.

Electronic traceability:

Traceability is the ability to trace a product from water to the plate, which is an integral part of any certification program and a must to ensure consumers the product was handled properly. This will provide consumers and retailers assurance that any tainted product can be quickly traced and recalled from the marketplace. Furthermore, it will help deter fraudulent repacking practices of imported products.

LDWF has researched extensively the capabilities of different companies and assessed the needs of Louisiana's fishing industry with respect to electronic traceability. LDWF has lead the way through GSMFC on traceability initiatives currently funded through oil spill disaster funds available to GSMFC.

Marketing

The Louisiana Seafood Promotion and Marketing Board (LSPMB) develops and directs a wide variety of communications and marketing programs to strengthen and revitalize the Louisiana seafood industry. Programs include market development, support of seafood industry trade associations and fisheries agencies, seafood promotions, special events, advertising and public relations.

LSPMB continued to work diligently in fiscal year 2010-2011 to repair the brand image of our seafood post BP-DH (MC252) oil spill. We continued with many of our annual events, but we also hosted additional events and implemented new marketing efforts and sponsorships.

In August 2010, LSPMB held the 7th Annual Great American Seafood Cook-Off. This event featured 14 chefs from across the United States cooking sustainable, domestic seafood. Taking home the winning prize this year was Florida Chef Dean Max. The emcee for the year's event was Jeff Corwin, host of Animal Planet, and Chef John Folse. Each year this event and the Louisiana Seafood Soiree are the highlights of the Louisiana Restaurant Association's EXPO and garner national, regional and local media coverage. LSPMB also partnered with the 4-H Club of Louisiana for its first year to host a seafood culinary competition among 4-H members.

In January 2011, LSPMB along with the Gulf Oyster Industry Council and the Louisiana Oyster Task Force traveled to Washington D.C. for the annual D.C. Mardi Gras Walk the Hill event. During this week, industry leaders met with their delegation to educate legislators on the issues that are facing the oyster industry. This year the focus was not just on Louisiana, but all Gulf States, as we continue to recover from the BP-DH (MC252) oil spill. Several media outlets joined the group and attended LSPMB's two sponsored events, "Let the World Be Your Oyster" reception and "Louisiana Alive."

LSPMB traveled with two chefs in February to participate in the Miami Food and Wine Show. This event gathers foodies from across the country, in addition to the top chefs in the nation. This was a great venue for LSPMB to showcase Louisiana seafood and educate visitors on the industry's recovery, post oil-spill.

In March 2011, LSPMB, industry members and LSU Sea-Grant staff traveled to the Boston Seafood Show. At the show, the group unveiled a newly redesigned trade show booth, complete with a chef demonstration area. Chef Brian Landry and Poppy Tooker both joined the group and prepared samples to distribute to trade show attendees. A new lead generating technology through the Apple iPad was also launched at this event.

As the BP-DH (MC252) oil spill anniversary approached in April, there was a surge in media inquiries. At the Annual American Culinary Federations Conference in New Orleans, LSPMB held an informative Q&A panel for chefs to ask questions and learn more about ongoing testing of Louisiana seafood.

The Oyster Jubilee was again held in the French Quarter, featuring the world's longest oyster poby at more than 340 feet long. Oyster lovers lined up for a block hoping to get a piece of the sandwich, dressed by restaurants throughout the metro area. The poby featured more than 3,000 Louisiana oysters.

To thank our legislators who work tirelessly for our industry, LSPMB built a shrimp and oyster poby on the steps of the Louisiana capitol in May. The same evening, an annual legislative event was held, featuring restaurants and seafood dishes from across the state. The event is a great opportunity to meet with legislators, keep them apprised of LSPMB's marketing efforts, and educate them on issues the industry is facing.

The 4th Annual Louisiana Seafood Cook-Off was also held in May. This year 11 participants competed against each other and Chef Cory Bahr from Monroe, Louisiana was crowned King of Louisiana Seafood. The event has become one of the major highlights at the New Orleans Food and Wine Festival.

Near the end of fiscal year 2010-2011, LSPMB received their first installment of \$30 million dollars allocated to LSPMB by British Petroleum. The funds are to be used over the course of three years to aid in the recovery of Louisiana seafood's brand image post BP-DH (MC252) oil spill. Through the Request for Proposals process, LSPMB hired two agencies, The Food Group and The Graham Group, to work in tandem to reach consumers and retail/trade industries. Through working with these groups, LSPMB hopes to not only repair the damage to the industry's reputation, but to reach into new markets in the United States and beyond.

Task Forces

Shrimp Task Force

- Task Force advocated Senator Landrieu and other Louisiana Congressional Delegates to continue to fight for fair Feinberg payments.
- Task Force advocated Senator Landrieu and other Louisiana Congressional Delegates to support the RESTORE Act which, once passed, would make additional funds available for the promotion of domestic seafood.
- Task Force continues to work with LSPMB on effective marketing techniques for seafood, shrimp specifically, and also holds LSPMB to be accountable and transparent with BP marketing funds.
- Task Force works alongside LDWF to create both basic and premium seafood certification programs.

Crab Task Force

- Task Force continues to seek funding from the U.S. Department of Agriculture to enhance the value of blue crab processing by-products.
- Task Force is actively pursuing eligibility of the Louisiana blue crab fishermen to receive benefits from the Trade Adjustment Assistance Program administered by the Farm Service Agency.
- Task Force works alongside LDWF to create both the basic and premium seafood certification programs.
- Task Force campaigned to work with LDWF to seek MSC certification and once finalized, will be the first certified blue crab industry in the world.

Oyster Task Force

- Task Force advocated Senator Mary Landrieu and other Louisiana congressional delegates to discourage the Louisiana Department of Labor from changing the wage rule for H2B visa workers, which could potentially destroy the Louisiana seafood labor force and cause many seafood businesses to close.
- Task Force advocated Senator Mary Landrieu and other Louisiana congressional delegates to pass the Restore Act, which would provide funds to our coastal communities from penalties assessed to the oil industry for the BP-DH (MC252) oil spill.
- Task Force along with LSPMB continue to create public relations and marketing opportunities to inform the public and media of the quality of Louisiana oysters post BP-DH (MC252) oil spill. This included their annual trip to Washington D.C. where they sponsor the "Let the World Be Your Oyster" reception and "Louisiana Alive," which draw members of the congressional delegation, staff and media and provide an excellent platform to get their message out.

GULF STATES MARINE FISHERIES COMMISSION (GSMFC)

GSMFC, a compact among the five Gulf States, is charged with promoting better utilization of the marine fisheries including finfish, shellfish and anadromous species through development of joining programs for the promotion and protection of such fisheries and by preventing any waste of these resources.

COMMITTEE PARTICIPATION

Fisheries biologists and economists participate in a number of GSMFC programs and initiatives including Sport Fish Restoration, Aquatic Invasive Species, Interjurisdictional Fisheries, Fisheries Information Network, and economics programs, and provide their expertise in the development of management recommendations. Additionally, Fisheries biologists serve on a number of GSMFC Technical Coordinating Sub-Committees including Data, SEAMAP, Habitat, Artificial Reef, Outreach and species-specific committees and working groups.

GULF OF MEXICO FISHERIES MANAGEMENT COUNCIL

The Gulf of Mexico Fishery Management Council is responsible for the management of most fishing activities in the Exclusive Economic Zone (EEZ), Gulf waters from three 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 managers have to control harvest, both recreational and commercial.

COMMITTEE PARTICIPATION

The head of each state's fisheries division has a seat on the council along with representatives from the fishing industry. Louisiana's seat is assigned to Assistant Secretary Randy Pausina. His designee for Council issues is Myron Fischer, who is delegated to act in his behalf. Fischer, a senior member of the Council, has spent 12 years on the Council with an additional six years in an

advisory capacity. In addition to the Council seat, LDWF employees participate in advisory roles on various panels and committees. Participants include:

- Heather Fox-David and Danica Williams – Outreach Committee
- Suzy Delaune – Data Collection
- Heather Finley – Habitat Protection Committee
- Lt. Col. Jeff Mayne – Law Enforcement Committee
- Harry Blanchet – Red Drum Review Panel & Standing SSC
- Jason Adriance – Special Mackerel SSC, Special Reef Fish SSC, & Special Red Drum SSC
- Marty Bourgeois – Special Shrimp SSC
- Ebenezer Oqunyinka – Socioeconomic SSC

These individuals with the addition of Joe West are in the SEDAR pool, a panel assigned to producing the Council's stock assessments.

A list of the Council's Fisheries Management Plans include: Reef Fish, Coastal Migratory Pelagics, 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.

SOCIOECONOMIC RESEARCH AND DEVELOPMENT

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

- To recommend, conduct and coordinate economic research studies pertaining to wildlife and fisheries resources of Louisiana and the Gulf region;
- To present research findings at appropriate professional and scientific meetings, and publish results in departmental publications and peer-reviewed scientific journals;
- To provide information and support to other sections and divisions within LDWF, as well as agencies outside LDWF, assisting them in accomplishing research needs, management tasks and short- and long-term objectives;
- To represent LDWF and Louisiana on various study groups, task forces and committees established to study, manage and improve wildlife and fisheries resources at the local, state, regional and national levels;
- To administer and implement special programs, and;
- To perform other activities as directed by LDWF's appointing authorities.

FISCAL AND ECONOMIC IMPACT STATEMENTS

With assistance from the various program managers within the offices of LDWF, the SRD Section prepares Fiscal and Economic Impact Statements that accompany the Notices of Intent for rules and regulations considered for adoption by the LWFC. During fiscal year 2010-2011, a total of 16 Fiscal and Economic Impact Statements were developed and published along with the Notices of Intent in the Louisiana Register.

PROGRAMS, PROJECTS AND SURVEYS

The SRD Section administered or assisted with the following programs, projects and surveys in fiscal year 2010-2011: Clean Vessel Program; Cooperative Research Survey Program; LDWF Recreational Marina Survey; Gulf of Mexico State Waters' Shrimpers Survey; Oil Spill Damage Assessment Program; LDWF Survey of Louisiana Recreational Boaters; Gulf Seafood Processor and Dealer Economy Surveys; LDWF Turkey Hunters Survey; Louisiana Saltwater Series Participant Survey; and the 2010 Atchafalaya, Henderson and Verret Black Bass Survey.

Clean Vessel Program

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

Clean Vessel construction and renovation project activities for fiscal year 2010-2011 include:

- The completion of a pumpout renovation project at Moon Lake Resort located on the Ouachita River, north of Monroe in Ouachita Parish.
- Entering into an agreement with Non-Flood Protection Asset Management to construct a fixed boat sewage pumpout facility at South Shore Harbor Marina located on Lake Pontchartrain in New Orleans, La.
- Entering into an agreement with Mariners Village Marina, LLC to renovate an existing boat sewage pumpout facility at Lake Pontchartrain Harbor Marina (formerly known as Mariner's Village Marina). Lake Pontchartrain Harbor Marina is located in Mandeville, La., 200 yards east of the Causeway with immediate proximity to Lake Pontchartrain.

Clean Vessel educational activities for fiscal year 2010-2011 include the distribution of educational information at the following events:

- National Hunting and Fishing Day in Baton Rouge, La. on September 25, 2010.
- Louisiana Earth Day celebration in Baton Rouge, La. on April 17, 2011.
- 2011 Louisiana Environmental Education Symposium in Baton Rouge, La. on February 11-12, 2011.

In addition, a clean vessel public notice was placed in the 2011 Recreational Fishing Regulations pamphlet encouraging boaters to properly dispose of their boat sewage at available boat sewage disposal facilities located throughout the state and a new *Boater's Guide to Marina Sewage Disposal in Louisiana* brochure was developed.

In fiscal year 2010-2011, LDWF partnered with the Louisiana Department of Natural Resources to promote the Clean Marina and the Clean Vessel Program throughout the coastal zone of Louisiana.

Cooperative Research Survey Program

The Cooperative Research Survey program was implemented in May 2009 to measure the impact and monitor the recovery of Louisiana's seafood industry from the 2005 and 2008 hurricanes. In the spring of 2009, program application forms were mailed to 4,427 fishermen and 395 dealers to measure interest in participating in the Cooperative Research Survey Program. In fiscal year 2009-2010, surveys were mailed to 3,249 commercial fishermen and to 328 seafood dealers who applied to participate in the program. During this period, 2,900 fishermen and 303 dealers submitted surveys. Of these submitted surveys, 2,291 fisherman and 281 dealer surveys were reviewed and deemed complete.

In fiscal year 2010-2011, an additional 13 fisherman and five dealer surveys were received, and 618 fisherman and 24 dealer surveys were reviewed and deemed complete. LDWF also completed the process of scanning all 2,909 fisherman and 305 dealer surveys into ASCII formatted data files. An outside contractor has been hired by LDWF to use these ASCII files to create SAS datasets for the fisherman and dealer survey responses. It is anticipated that the SAS datasets will be delivered to LDWF in fiscal year 2011-2012. Once the SAS datasets are delivered to LDWF, the data will be used to create a final dealer and fisherman report. It is anticipated that the final reports will be completed in fiscal year 2012-2013.

LDWF Recreational Marina Survey

As part of an economic assistance program administered by the Office of Fisheries Marine Division, the SRD Section conducted a survey of marinas that serve recreational boaters and anglers in coastal Louisiana. Over 60 marinas were selected for participation in the survey by the LDWF Marine Fisheries Division. The survey was designed to estimate marinas' revenues and operating expenses, to assess damages associated with the 2005 and 2008 hurricanes, and to determine their current needs and plans for future operations.

As of July 2010, a total of 58 surveys had been received. An analysis of the survey data was performed and a report was prepared in fiscal year 2010-2011. The report is scheduled to be released in fiscal year 2011-2012.

Gulf of Mexico State Waters Shrimpers Survey

In collaboration with GSMFC and NOAA economists, SRD staff designed and conducted a Gulf of Mexico State Waters' Shrimpers Survey to assess shrimp harvesting activities and expenses of commercial fishermen in Florida, Alabama, Mississippi, Louisiana and Texas. The four-page questionnaire was mailed in May 2009 and was printed in both English and Vietnamese translations. Five hundred and eighty-five surveys were returned. Data was examined and analysis performed in fiscal year 2010-2011. A report of the findings of this survey is expected to be released in September 2011.

Oil Spill Damage Assessment Program

SRD staff assists with oil spill damage assessments by identifying resources that may have been affected, suggesting methods for assessing the damages, and designing survey methods and instruments. In 2010 and 2011, SRD staff served as trustees representing LDWF in consultations with representatives of NOAA and the Louisiana Oil Spill Coordinators Office. The SRD staff participated in conference calls discussing the assessment of damages to recreational fishing resources from the DM932 oil spill (a shipping accident in the Mississippi River in New Orleans) and the BP-DH (MC252) oil spill.

LDWF Survey of Louisiana Recreational Boaters

In 2009, the SRD Section conducted a survey of resident motorboat owners to learn more about the individuals who operate recreational boats in Louisiana and their views on a variety of issues related to boating. In October 2009, 2,000 questionnaires were mailed to Louisiana resident motorboat registration holders. A total of 1,318 questionnaires were received from boat owners and an additional 31 were returned as non-deliverable for a response rate of 66.9 percent. A report based on the assessment of this survey was completed in November 2010.

Gulf Seafood Processor and Dealer Economic Surveys

In collaboration with the GSMFC, NOAA, and state agencies in Alabama, Florida, Mississippi, and Texas, the SRD staff designed a seafood processor survey and a dealer survey in the spring of 2011 to collect economic information from seafood processors and dealers operating in the Gulf of Mexico region. An in-person survey of seafood processors is expected to begin in the summer of 2011, and a mail seafood dealer survey is expected to begin January 2012. The purpose of the survey is to provide policy-makers, trade associations and others involved in this industry with a better understanding of how this sector works and how important the seafood purchasing, processing, wholesaling and distribution industry is to local and regional economies throughout the Gulf region.

LDWF Turkey Hunters Survey

The SRD staff assisted the LDWF Wildlife Division with the development of a survey of Louisiana resident turkey hunters in the spring of 2011. The LDWF Wildlife Division conducted the survey in 2011.

Louisiana Saltwater Series Participants Survey

The SRD staff assisted the LDWF Office of Fisheries in the development of a survey of participants in the Louisiana Saltwater Series fishing tournaments. SRD staff provided summary results of the surveys conducted by LDWF Office of Fisheries staff members on April 2, April 30, May 14, and June 18, 2011.

2010 Atchafalaya, Henderson and Verret Black Bass Survey

In fiscal year 2010-2011, the SRD Section cooperated with LDWF Inland Fisheries Division staff to develop a survey of licensed Louisiana resident recreational anglers who reside in or near the Atchafalaya Basin to assess their preferences for bass management practices and fishing regulations. Questionnaires were mailed to 1,997

licensed Louisiana resident recreational anglers who reside in or near the Atchafalaya Basin in October 2010. A second mailing of 1,385 questionnaires was sent to individuals who did not respond to the first mailing. The total response for both mailings was 663 questionnaires. A report based on the assessment of this survey was completed in June 2011.

PUBLICATIONS, REPORTS AND PRESENTATIONS

Isaacs, Jack C., and David R. Lavergne. "Louisiana Department of Wildlife and Fisheries Survey of Louisiana Recreational Boaters." Louisiana Department of Wildlife and Fisheries, November, 2010.

Isaacs, Jack C. "Louisiana Bird Watchers: A Further Examination of Past Research." Louisiana Department of Wildlife and Fisheries, November, 2010.

Ogunyinka, Ebenezer, and David R. Lavergne: "Limited English Proficiency and Language Assistance Report," The Latino Commission, February 2011.

Adrienne K., E. Ogunyinka, Mei-Hung Sun, S. Soileau, D. Lavergne, and M. Suffet: "Fishing, Fish Consumption and Advisory Awareness among Louisiana's Recreational Fishers." Journal of Environmental Research, Vol. 111 (8), 2011 (pp. 1037-1045).

"Boater's Guide to Marina Sewage Disposal in Louisiana." Louisiana Department of Wildlife and Fisheries, May, 2011.

Buckner, Lee M., Jack C. Isaacs, Ebenezer Ogunyinka, Mike Walker, and David Lavergne. "2010 Atchafalaya, Henderson and Verret Black Bass Survey," Louisiana Department of Wildlife and Fisheries (LDWF), June 2011.

REPRESENTATION ON TASK FORCES, STUDY GROUPS AND COMMITTEES

During fiscal year 2010-2011, SRD staff members represented LDWF on the following task forces, study groups and committees:

- Civil Restitution Penalty Committee
- DM932 Oil Spill Assessment Trustees
- GSMFC Arenarius Technical Task Force
- GSMFC Disaster Recovery Program Committee
- GSMFC FIN Social/Economic Work Group
- Louisiana Blue Crab Task Force
- Louisiana Clean Marina Program Committee
- Louisiana Ozone Action Committee
- LDWF Marine Fisheries Information Systems Proposal Committee
- Louisiana Recreational Freshwater Fishing Task Force
- Louisiana Recreational Saltwater Fishing Task Force
- Louisiana Wild Crawfish Task Force
- BP-DH (MC252) Oil Spill Human Use Trustees Technical Work Group
- Socioeconomic Scientific and Statistical Committee (Socioeconomic SSC) of the Gulf of Mexico Fishery Management Council
- Technical Advisory Committee for the U.S. Fish and Wildlife Service's National Survey of Fishing, Hunting and Wildlife-Associated Recreation