

Annual Report 2011-2012



THE LOUISIANA DEPARTMENT OF

WILDLIFE AND FISHERIES



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(Administration for fiscal year 2012-2013)

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: The satellite image was acquired on Feb. 17, 2013 in true color by the MODIS instrument on NASA's Aqua Earth observing satellite. It was provided by the Space Science and Engineering Center (SSEC) at the University of Wisconsin-Madison. All other photos are LDWF file photos.

FROM THE SECRETARY

The Louisiana Department of Wildlife and Fisheries (LDWF) fiscal year ending June 30, 2012 was a mix of new projects and ongoing progress on recurring programs, including disaster response.

The Office of Fisheries launched the Community Fishing Program to provide fishing opportunities to the rural, urban and suburban areas of the state where shoreline access is sometimes limited. The program promotes community and family oriented activities by suggesting an economical fishing trip close to home and introduces a new generation to fishing, an outdoor activity that can be enjoyed for a lifetime.

Fisheries biologists also began working with scientists at the University of Southern Mississippi's Gulf Coast Research Laboratory and Texas A&M University on a Pelagic Research Program to determine movement patterns in large pelagic fish species.

A new Oyster Seed Ground Vessel Monitoring Systems (VMS) Pilot Program was created to collect preliminary data that will allow the department to better manage the public oyster resource.

Continuing efforts begun following the *Deepwater Horizon* Oil Spill in 2010, the department worked to ensure the safety of all those fishing in waters off Louisiana's coast and that seafood harvested in open waters was safe for public consumption. Additionally, the Natural Resource Damage Assessment continued to track fish and wildlife species impacts post spill, as part of a multi-year process.

The numbers of recreational hunters have shown steady growth since the devastating hurricane season of 2005. Those numbers, certified by the Office of Wildlife, reflected a 6 percent increase from license year 2010 to 2011, reaching 345,525. In fact, in the last five years, Louisiana was second in the nation in hunter recruitment.

The increased hunter numbers were also reflected in a larger estimated number of wildlife management area (WMA) user days. The 252,967 hunter-user day estimate for fiscal year 2011-2012 exceeded the estimated use from for fiscal year 2010-2011 by over 4 percent. Youth hunting opportunities were provided during the fiscal year on 35 WMAs for deer, 12 WMAs for squirrel, 50 WMAs for waterfowl, 17 WMAs for turkey, and three WMAs for youth dove hunts.

The Private Lands Program, started within the Office of Wildlife in 2008 to better coordinate service to private landowners, reported 10,447 technical assistance contacts and 452 site visits to inspect 356,439 acres. Those visits produced 85 written plans for landowners. Additionally, Private Lands biologists assisted 426 hunting clubs comprising 960,458 acres enrolled in the Deer Management Assistance Program (DMAP) and inspected and evaluated 436 Natural Resources Conservation Service - Wetland Reserve Program projects comprising 158,748 acres.

For fiscal year 2011-2012, there was an observed compliance in Boating Safety and Waterways Enforcement of 97 percent. The Enforcement Division identified a 40 percent decrease in the amount of boating crash incidents where alcohol or drugs were involved. Enforcement remains committed to marketing and promoting Boating Education courses by creating special events and activities for students attending courses. As a result, there was a 13 percent increase recognized for students being trained in boating education between fiscal year 2010-2011 and fiscal year 2011-2012.

For whatever the outdoor user may need - hunter education or boating education, or public land access for consumptive or non-consumptive activities - the department remains committed to continue to offer those opportunities and improve the outdoor experience for our customers.



Robert J. Barham, *LDWF Secretary*





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, waterways enforcement activities, search and rescue, and homeland security missions.

LEGAL SECTION

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

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

NASBLA - National Association of State Boating Law Administrators

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/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/LED conducted 342,001 patrol hours in fiscal year 2011-2012: 220,073 on land and 121,928 on water. Agents made 819,249 contacts with the public, the majority of whom were in compliance with state and federal wildlife and fisheries regulations. LDWF/LED agents issued 17,196 criminal citations and 6,154 warnings during this period. The most common types of citations were fishing without a license, failure to comply with personal flotation device requirements, not abiding by rules and regulations on wildlife management areas, and failure to comply with deer tagging or harvest record regulations.

ORGANIZATIONAL STRUCTURE & PERSONNEL

LDWF/LED is organized in a paramilitary structure to assure the efficient use of resources, consistent state-wide 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, serving as the division's legislative liaison and state boating law administrator. There are three majors: one over the even-numbered enforcement regions of the state; one over the odd-numbered regions; and a major over the Bureau of Operations, which includes boater safety education programs, Special Operations Section, Statewide Strike Force, training, and quartermaster.

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 including 235 enforcement agents, 24 administrative staff, six communications officers and two pilots. The actual number of filled positions (as of January 2013) is 206.

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.

FIGURE 1.

LDWF LAW ENFORCEMENT DIVISION ORGANIZATION CHART

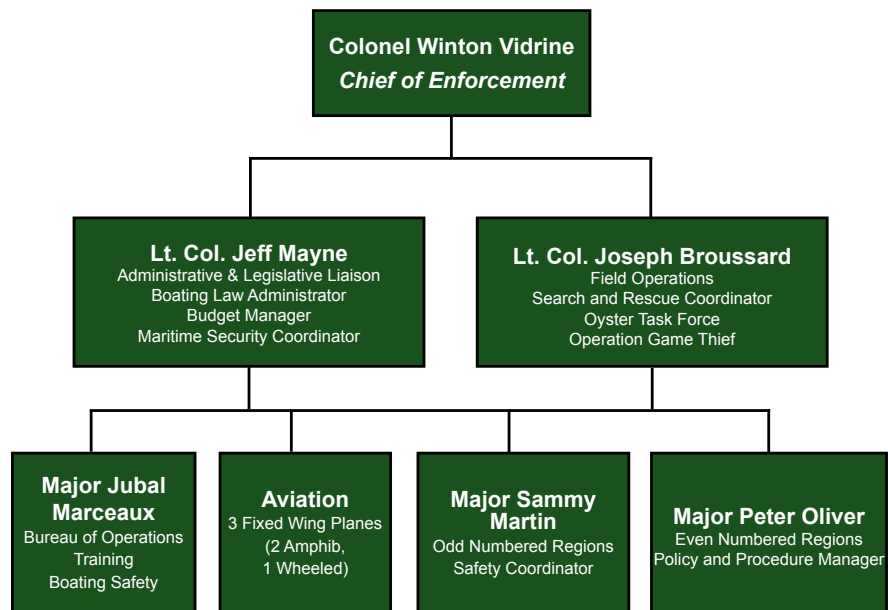
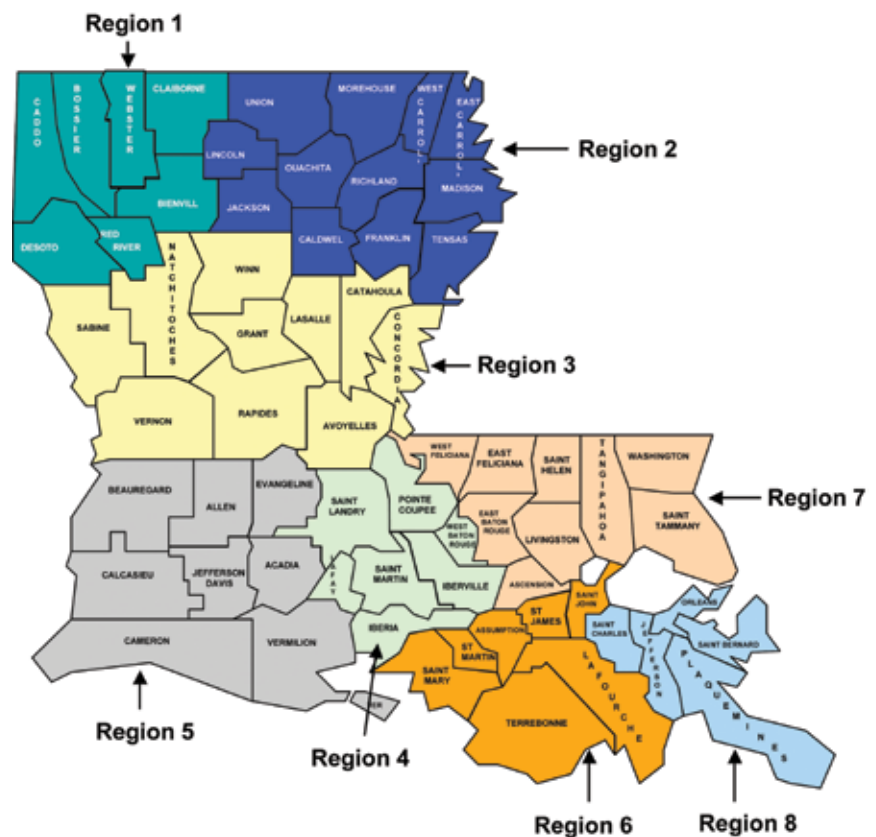


FIGURE 2.

ENFORCEMENT DIVISION REGIONS



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 four specialized units with selected missions or purposes: the Special Operations Section; 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 Statewide Strike Force is assigned to work problem areas statewide. They devote attention to commercial fisheries operations and license fraud. Violations include smuggling, interstate commerce violations and false reporting, and under-reporting of commercial fish harvests.

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 336,851 public contacts during the course of 116,296 patrol hours dedicated to boating enforcement, education and accident investigation in fiscal year 2011-2012. Of those hours, 92,010 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 2011-2012, LDWF/LED agents issued 91 citations for careless and reckless operation of a vessel and 105 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 2011-2012, 9,963 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.

SEARCH & RESCUE OPERATIONS

In fiscal year 2011-2012, agents provided 10,142 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

In January 2012, LDWF/LED started a new annual in-service training program. The new program extends in-service throughout the year and consists of 10 training sessions conducted over a 10-month period. In addition to the required areas of training, this new program allows for areas of specialized training to be added to the curriculum each year while ensuring the continuance of training throughout unforeseen events and relieves the schedule burden of the consecutive week program. This year's in-service provides 43 hours of training in the following areas: Intoxilyzer 5000 recertification; standardized field sobriety; CPR/first aid recertification; defensive tactics; and boating crash incident investigation.

On Sept. 1, 2011 the LDWF/LED became the first agency in the country to receive accreditation through the National Association of State Boating Law Administrators (NASBLA) in the Boat Operations and Training Program (BOAT). This accreditation will facilitate LDWF/LED's transition to the program and, through coordination with NASBLA, provide the training for our partners on the water in Louisiana. On Nov. 17, 2011 the Louisiana Peace Officers Standard and Training (POST) Council accepted the NASBLA training curriculum making Louisiana the first state to adopt the BOAT program for all its maritime law enforcement patrol officers.

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.

Through the LDWF/LED NASBLA BOAT Program accreditation, all agents will receive certificates of training in the NASBLA Level 1 Boat Accident Investigation Program and the NASBLA Boat Operators Search and Rescue Course. The LDWF Enforcement Division's specialized training and equipment and its ability to operate throughout the state's vast maze of waterways and wild areas has complemented Louisiana's ability to respond to emergencies on the water.

JOINT ENFORCEMENT AGREEMENT

LDWF/LED again entered into a Joint Enforcement Agreement with NOAA's Office for Enforcement. LDWF/LED received approximately \$1,109,554 in fiscal year 2011-2012 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 calling a 24-hour toll-free telephone number (1-800-442-2511) or use LDWF's tip411 program. To use the tip411 program, citizens can text LADWF and their tip to 847411 or download the "LADWF Tips" iPhone app from the Apple App Store free of charge. The hotline and the tip411 program are monitored 24 hours a day by the LDWF Communications Center. Reports are immediately referred to agents for action.

Rewards totaling \$22,100 were paid on 53 cases. In those 53 cases, 79 suspects were apprehended and issued a total of 431 citations. The total amount of rewards paid by Operation Game Thief since its inception 27 years ago is \$324,700.

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 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.

LDWF ENFORCEMENT DIVISION MAJOR EVENTS FOR 2011-2012

CARENCRO FLOODING

LDWF Enforcement Division agents transported 80 people from the floodwaters in Carencro to dry ground during the flash flood on March 12, 2012. After receiving 15 inches of rain, Bayou Carencro backed up and jumped its banks flooding many Carencro homes, businesses and roads. LDWF agents got their first call at 7 a.m. about stranded cars on the median of I-49 and other roads. LDWF responded with 18 agents with 13 boats in the area to help during the flood. From 10 a.m. to nightfall, LDWF agents rescued 80 people from their home and brought them to higher ground where vehicles could then transport them to the shelter at the Carencro Civic Center. Agents were then on standby as the floodwaters receded over the following days.

SUMMER CAMPS

LDWF sponsored two summer day camps for children 12 to 16 years old at the Waddill Outdoor Education Center in Baton Rouge this summer. The camps were held on June 25-29, 2012 and again on July 23-27, 2012. Each camp was completely free of charge and allowed participants to receive their official boater and hunter education certifications. A total of 42 children received their boating and hunting education certificates during the camps.

BOATING SAFETY LAGNIAPPE DAY

LDWF certified 229 boaters statewide after their second "Boating Education Lagniappe Day" on May 12. Boating Education Lagniappe Day ran from 9 a.m. to 5 p.m. at eight locations across the state and consisted of the NASBLA boating education course, food and drinks, giveaways, and door prizes all free of charge to the public.





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.

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.

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.

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.

ADMINISTRATIVE SERVICES

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

PUBLIC INFORMATION

The Public Information Office 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

SCS - Louisiana State Civil Service

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, 45 virtual servers and 18 physical Windows-based servers. The Computer Center supports 850 users and 350 mobile devices 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 850 users throughout the state. In the last 15 years, the number of personal computers that LDWF utilizes has grown from under 25 to over 950. We also maintain approximately 350 mobile devices ranging from iPads, iPhones and Blackberry devices. Keeping these machines maintained and secure is one of the Technical Section's biggest challenges. Each of these devices 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 2011-2012, the technical section fielded 14,165 non-trivial telephone support calls, configured, built or relocated 583 computers/printers, and answered 15,857 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, cleaning a malware infection, 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, 45 virtual servers and 18 physical 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 pertinent 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 include:

- Converted our document imaging servers from physical to virtual servers thus saving on hardware and energy cost.
- Used a mobile device management suite to push out and maintain a custom app to the 235 Enforcement Division's tablet computers.
- Exported all BP related data and emails to submit to the state for the *Deepwater Horizon* Oil Spill.
- Upgraded our agency's email server.
- Switched to a managed antivirus solution for all our devices. This has enhanced the security of PCs and laptops.
- Increased our Storage Area Network equipment to accommodate new servers after the datacenter recovery.

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.

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.
- 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.
- Commercial Fisherman surveys.
- Seafood Dealer surveys.
- Electronic signature logs.
- *Deepwater Horizon* Oil Spill time sheets (for Fiscal/as needed)
- 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, corrects, and preserves 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. During fiscal year 2011-2012, the Imaging Section processed over 160,000 LDWF documents.

In addition to scanning duties, the Imaging Section runs 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. During fiscal year 2011-2012, the Imaging Section continued to work with the Fisheries Division on the Cooperative Research Survey project of 2009, concerning hurricane recovery and demographic information.

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.

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 2011-2012, this program certified a moveable property inventory which consisted of 9,738 items for a total acquisition cost of \$67,599,396. Annually, the program is responsible for ensuring that a physical inventory of moveable property is conducted at the various 89 locations throughout the state.

The Property Control Section processed \$9,440,938 in acquisitions and \$3,305,384 in dispositions of inventoried moveable property during fiscal year 2011-2012.

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 571 fleet vehicles and 1,044 other licensed equipment.

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 900 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.

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 2.1 million recreational hunting, fishing, trapping and non-consumptive use licenses and permits sold to 800,000+ customers, generating in excess of \$19.3 million in revenue. Maintain license records for in excess of 68,000 lifetime licensees.
- 72,175 commercial licenses sold, representing 13,555 commercial fishermen, 2,767 business entities, 793 charter businesses, and various permits that generate in excess of \$3.6 million in revenue.
- 190,628 boat registration/title transactions that generate in excess of \$4.2 million in revenue. Maintain boat data in excess of 1 million records - 322,704 of which are actively registered.
- Make available various types of game harvest tags to deer and turkey hunters, and oyster tags to oyster fishermen and processors as required by federal and state law – in excess of 2 million.

FISCAL

Fiscal Year 2011-2012 LDWF Expenditures by Category (type)

Total Expenditures = \$131,001,251

Total Positions = 775

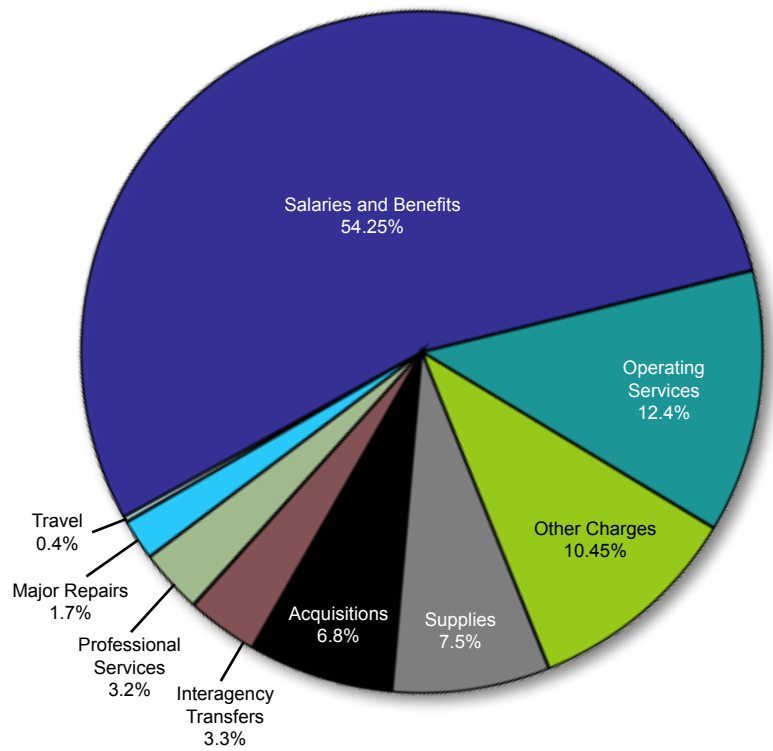
The Fiscal Section staff consists of 13 employees who are responsible for all financial operations of LDWF. The main goal of the Fiscal Section is to achieve compliance with all applicable laws, rules, policies and regulations governing the functions managed. This section develops and implements fiscal controls, provides advice, assistance and training, and standardizes procedures for approximately 900 employees.

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.
- strategic and operational planning.
- financial management of FEMA projects and other disasters.

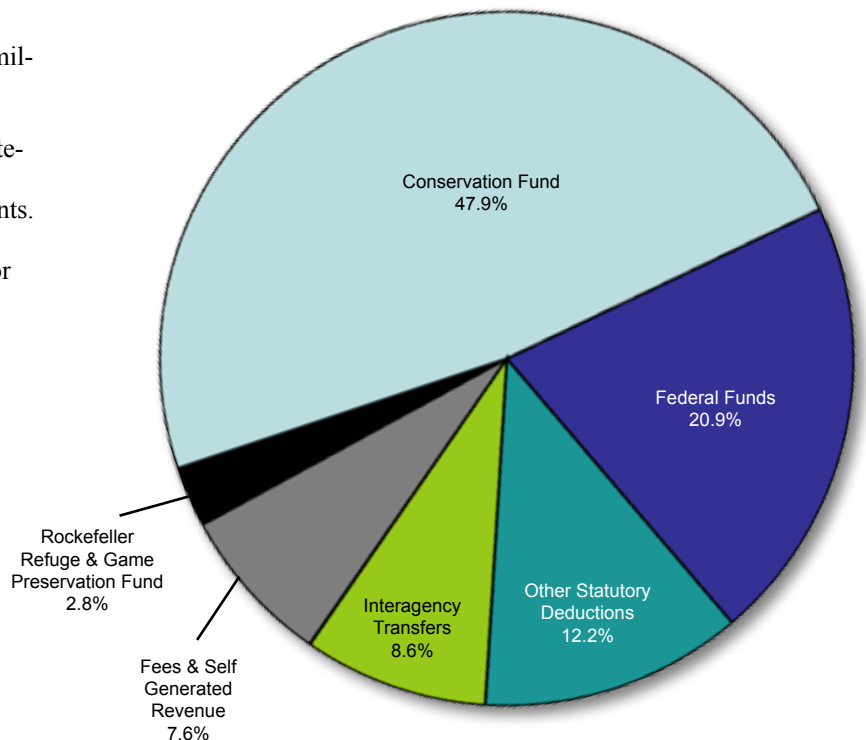
During fiscal year 2011-2012, the Fiscal Section staff:

- prepared four agency budgets consisting of six programs totaling \$185.6 million.
- reviewed 130 new contracts with a total amount payable of \$16.6 million.
- worked on two request for proposals totaling \$900,000.
- processed 953 payments on contracts for \$15.7 million.
- processed 10,087 vendor payments.
- audited and processed 5,371 purchasing card statements.
- audited and processed 3,131 travel reimbursements.
- processed 2,006 checks through QuickBooks.
- warranted funds and prepared periodic reports for 158 federal grants.
- deposited \$63.7 million in receipts from various sources on 358 pay in vouchers.



How Fiscal Year 2011-2012 Expenditures Were Funded (Means of Financing)

Total Means of Financing = \$131,001,251



EXPENDITURES BY CATEGORY

Salaries and Benefits	71,067,163
Operating Services	16,186,336
Other Charges	13,683,834
Supplies	9,836,261
Acquisitions	8,946,166
Interagency Transfers	4,303,869
Professional Services	4,220,893
Major Repairs	2,214,632
Travel	542,097
TOTAL	\$131,001,251

HOW EXPENDITURES WERE FUNDED

Conservation Fund	62,773,729
Federal Funds	27,411,145
Other Statutory Dedications	16,011,597
Interagency Transfers	11,213,144
Fees & Self-Generated Revenue	9,900,646
Rockefeller Refuge & Game Preservation Fund	3,690,990
State General Fund	0
TOTAL	\$131,001,251

SOURCES OF REVENUE TO THE CONSERVATION FUND

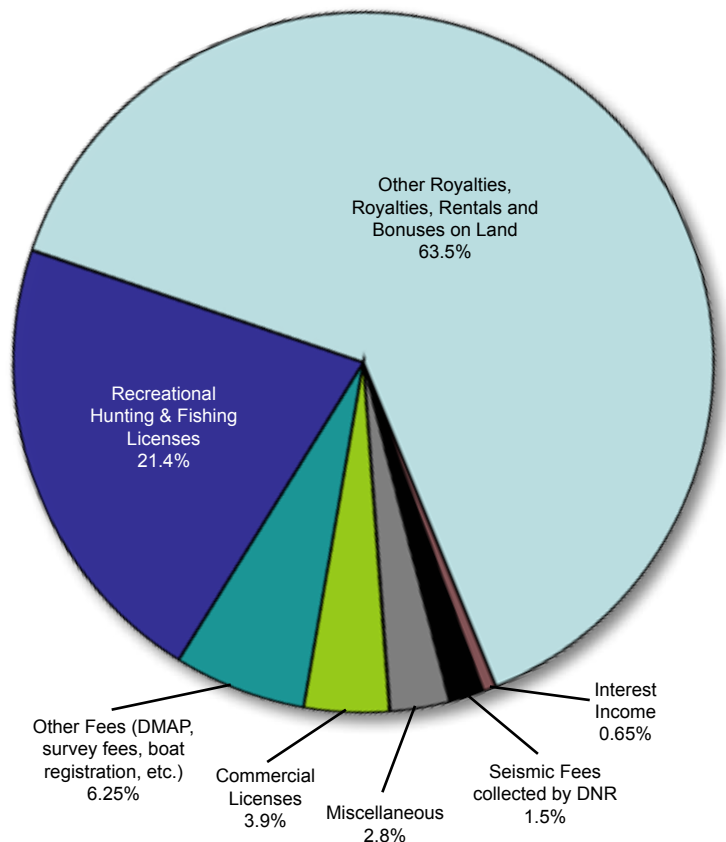
Other Royalties, Royalties, Rentals and Bonuses on Land	52,661,198
Recreational Hunting & Fishing Licenses	17,760,278
Other Fees (boat registrations, survey fees, DMAP, etc.)	5,180,708
Commercial Licenses	3,195,186
Miscellaneous	2,321,905
Seismic Fees collected by DNR	1,257,516
Interest Income	535,513
TOTAL	\$82,912,303

EXPENDITURES BY PROGRAM

Office of Management and Finance	10,777,949
Office of the Secretary - Administration	983,955
Office of the Secretary - Enforcement	31,225,051
Office of Wildlife	34,637,068
Office of Fisheries	51,667,288
Office of Fisheries - Seafood Promotion & Marketing Board	1,709,940
TOTAL	\$131,001,251

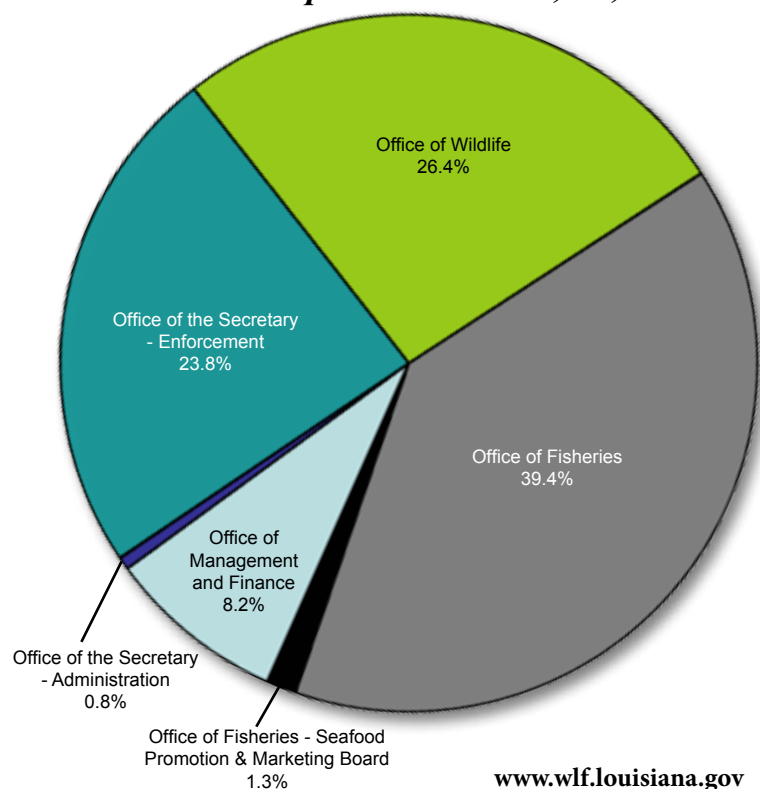
Fiscal Year 2011-2012 Sources of Revenue to the Conservation Fund

Total Revenue = \$82,912,303



Fiscal Year 2011-2012 LDWF Expenditures by Appropriated Program

Total Expenditures = \$131,001,251



HUMAN RESOURCES

The Human Resources section originates and leads human resources practices and objectives that will provide an employee-oriented, high performance culture that emphasizes empowerment, quality, productivity and standards, goal attainment, and the recruitment and ongoing development of a superior workforce. The Human Resources section is actively involved in developing, organizing and carrying out programs, projects and operations through the exercise of personal efforts, knowledge and attention. Program areas consist of Organizational Development, Classification and Salary Administration, Recruiting, Selection and Placement, Affirmative Action, Employee Administration, Discipline, Grievances, Employee Relations, Performance Evaluation System, Employee Recognition, Benefits, American's with Disabilities Act, Safety and Training, Rewards and Recognition, Equal Employment Opportunity, and Worker's Compensation. The department works to make sure that all programs are in compliance with the Louisiana State Civil Service (SCS) rules as well as state and federal regulations and guidelines.

The authorized number of funded positions for the Louisiana Department of Wildlife and Fisheries (LDWF) for the fiscal year 2011-2012 was 775. LDWF also employs students and other temporary employees throughout the state and have a total of 983 employees statewide.

The Human Resources section is responsible for the following duties:

- Advising agency personnel and clients on recruitment and staffing matters.
- Advising section heads, appointing authorities and managers on various appointment types and selection procedures in order to create and maintain a diverse workforce.
- Serving as a resource for layoff related matters and for handling administrative aspects of the layoff process to maintain compliance with the SCS rules.
- Serving as the LDWF system administrator for the NeoGov (LaCareers) Online Hiring Center. Reviews and determines qualifications of approximately 10,000 applications for employment each year.
- Managing the notification process for the attainment of permanent status, by probational employees and attainment of Career Progression Group (CPG) eligibility for LDWF employees. Processed 137 CPG reallocations.
- Developing the LDWF workforce plan and collaborating with LDWF sections to create workforce plans tailored to address specific needs/issues.
- Developing LDWF succession planning procedures.
- Managing compensation issues by reviewing pay schedules and ranges, and comparisons to other jobs and positions.
- Reviewing job specifications and position descriptions and making recommendations for classification and compensation issues.
- Managing the allocation of positions to the appropriate job title by virtue of authority delegated from SCS. Reviewed and allocated approximately 300 job descriptions during fiscal year 2011-2012.
- Developing, recommending, implementing, reviewing, interpreting, and revising all LDWF personnel and compensation policies.
- Advising managers and employees regarding the SCS system's classification and compensation, policies, rules and structure.
- Preparing job studies for submission to SCS. Completed the Licensing Job Study during fiscal year 2011-2012.
- Working with agency administrators to develop and structure organizational units.
- Reviewing special pay requests for individuals under SCS rules: Optional Pay Adjustments; Rewards and Recognition; and other available pay mechanisms.
- Managing and advising requests for 36 unclassified authority and five restricted appointments. Monitoring appointment contract end dates and requesting extensions.
- Maintaining updates on federal and state labor law postings. Assisting LDWF sections in maintaining compliance with related policies.
- Coordinating the office of human resources Strategic Plan.
- Serving as the employment webmaster.
- Maintaining the LDWF Employee Handbook.
- Processing all personnel/payroll actions and various other documents relating to employee status to ensure data integrity and quality assurance are maintained in accordance with SCS rules and regulations, departmental/agency policies and procedures, and federal and state laws. There were approximately 900 personnel actions (new hires, agency transfers, reallocations, promotions, demotions, resignations, etc.) during fiscal year 2011-2012.
- Conducting time and attendance audits for all LDWF agencies and auxiliaries for compliance with policies and procedures established by LDWF and/or the Office of State Uniform Payroll. Processed approximately 4,000 prior period payroll adjustments.
- Maintaining and/or monitoring organizational management, costing issues, and position authority in LaGov HCM (Human Capital Management).
- Assuring appropriate documentation is maintained for all employees in compliance with record and retention policies.
- Implementing onboarding program which aids new employees in acquiring the necessary knowledge, skills, and behaviors to become effective organizational members.
- Assisting all active and retired employees for LDWF on all matters relating to retirement benefits. Processed 36 new retirement requests during fiscal year 2011-2012.
- Advising managers, section heads and employees on available health and life insurance policies and other programs available.

- Developing course materials and providing orientation to all new employees for LDWF.
- Facilitating pre-employment drug testing and criminal history checks for all LDWF new employees.
- Advising employees and coordinating with ORM/Fara concerning issues relating to Workers' Compensation.
- Advising and training employees regarding the applicability and obligations of federal employment laws (Fair Labor Standard Act, Family Medical Leave Act, American's with Disabilities Act, and Title VII) and assisting in the interpretation and administration of those laws. Managing these programs for LDWF & our employees.
- Managing the claims made for unemployment by former employees of LDWF and clients. Processed approximately 150 separations from employment.
- Administering the Performance Evaluation System (PES) including reporting statistics to SCS. Training managers on the effective use of the PES program and advising managers regarding performance management. Processed over 1,000 performance evaluation planning documents and entries required in LaGov HCM.
- Investigating performance and behavioral incidents, workplace violence, harassment, and discrimination claims.
- Investigating discipline issues and grievances on behalf of management. Managing disciplinary actions, SCS appeals and litigation resulting from employment actions in accordance with SCS rules and federal and state law.
- Managing the scheduling for LDWF and other clients for the state training program through the Comprehensive Public Training Program (CPTP) as well as the requirements of Minimum Supervisory Training (MST) implemented by SCS. Monitoring compliance with MST and training required by Executive Order such as Ethics and Sexual Harassment.

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 (LDWF) 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 and the procurement card system for approximately 900 employees. 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 three purchasing professionals.

In fiscal year 2011-2012 this section:

- maintained, initiated or updated 49 leases of equipment.
- maintained 14 leases of buildings.
- maintained 761 state purchasing card accounts.
- maintained 730 state fuel card accounts.
- issued 260 delegated purchase orders.
- issued 130 requisitions for bids.
- reviewed for compliance all other agency purchase orders.
- trained in the purchasing system and/or purchasing card rules approximately 131 new employees

In addition to the above, the Purchasing Section handles rental and payment for state-wide trash pickup, pest and termite control, 38 boat slip rentals, and one aircraft hangar.

GENERAL SERVICES

General Services, consisting of one employee, supports all divisions of LDWF by operating the mail system, receiving all deliveries, and shipping all packages for the Baton Rouge office. This section is also responsible for duplicating and binding large numbers of documents as required by the divisions. Approximately 680 duplicating and binding projects were completed, in addition to a large number of smaller duplicating jobs. 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 the Louisiana Department of Wildlife and Fisheries (LDWF). These programs cover a variety of communication avenues including publications, audio-video productions, website, telecommunications, *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 professional staff.

PUBLICATIONS

The publications unit is responsible for the production of specialized publications, all regulation pamphlets, and the annual report. All pre-press functions, including graphic design and final printing approvals are handled 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.

ANNUAL PUBLICATIONS

- Louisiana Department of Wildlife and Fisheries 2010-2011 Annual Report
- Regulation pamphlets
 - Louisiana Commercial Fishing Regulations 2012
 - Louisiana Recreational Fishing 2012
 - Louisiana Hunting Regulations 2011-2012
 - Louisiana Migratory Game Bird Regulations 2011-2012
 - Louisiana Trapping Regulations 2011-2012
 - Louisiana Turkey Regulation 2012

Newsletters

- Forest Stewardship Newsletter: Summer 2011, Winter 2012 and Summer 2012
- Wildlife Insider Newsletter: Fall/Winter 2011 and Spring/Summer 2012

Flyers/Posters

- 2012 NHFD Flyer and Map
- Asian Carp poster
- White Lake Activities poster
- White Lake Common Birds poster
- White Lake Common Plants poster

SPECIALIZED PUBLICATIONS

Brochures & Handouts

- Wildlife Forestry in Bottomland Hardwoods
- Becoming an Outdoor Woman
- FUN Camp
- Hunter Education (2012 updated)
- Hunting Heritage
- 2012 Freshwater and Saltwater Waterproof Fishing Regulations
- White Lake Hunter Safety Handout

Books

- Louisiana Conservationist magazine online: Winter 2012 and Spring 2012

Miscellaneous

- Bear Safety Shirt
- Trade Show LDWF Banner
- Whooping Crane Reward Sign

AUDIO-VIDEO PRODUCTIONS

PIO is responsible for the production of specialized audio and video (AV) projects, video news releases, media footage requests, and audio recordings of various meetings. The AV library consists of more than 1,900 tapes of raw footage available for media and education purposes. During the past year, efforts were put into place to begin digitizing the video footage in-house.

The AV Production staff assisted the department in promoting several programs throughout the year by producing educational videos and video news releases for media distribution. All pre- and post-production is handled in-house by Public Information staff.

Many of the department's video productions are located on YouTube.

DEPARTMENT VIDEOS

- Red-cockaded Woodpecker Nest Installation
- Marine Fisheries Overview
- National Hunting and Fishing Day 2011 (30 second spot)

VIDEO NEWS RELEASES

- Whooping Crane Arrival (2nd cohort)
- Whooping Crane Release (2nd cohort)
- Whooping Crane Banding
- Maurepas Swamp Acreage Addition
- Birding Trail Grand Opening, White Lake WCA
- Louisiana Safe Boating Week
- 2012 Louisiana Waterfowl Conservation Stamp Competition
- Ghost Wranglin' – Derelict Crab Trap Removal Program
- Bassmaster's Behind the Scenes
- LDWF Summer Agent Camp

WEBSITE

The LDWF website, wlf.louisiana.gov, grew in popularity this year. It received 2,097,220 visits from 1,166,482 viewers, a growth of just over 30 percent from last fiscal year. The breakdown of new and returning viewers was comprised of 52.1 percent new and 47.90 percent returning visitors. This is a reversal of last year's percentages. Site visitors executed more than 8.6 million page views, at approximately 4.11 page views per visitor, and spent an average of 3.29 minutes on the site.

The website increased interaction with Facebook and Twitter supporters. By the end of fiscal year 2011-2012, the site had 16,463 Facebook "likes" and 1,827 Twitter 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 again came from Louisiana and the United States.

WEBSITE VISITOR DEMOGRAPHICS BY U.S. CITY (Top 10)	
City	Visits
Baton Rouge	196,672
Houston	130,061
Lafayette	122,746
New Orleans	120,538
Atlanta	92,486
Shreveport	74,813
Lake Charles	45,631
Houma	39,120
Monroe	37,383
Dallas	36,649

WEBSITE VISITOR DEMOGRAPHICS BY COUNTRY/TERRITORY (Top 10)	
Country/Territory	Visits
United States	2,060,121
Canada	8,990
Not Set (forwarded to LDWF homepage from another site)	3,885
United Kingdom	3,580
Australia	1,890
India	1,450
Germany	1,210
Philippines	1,192
Brazil	1,182
France	834

WEBSITE ACCESS THROUGH MOBILE DEVICES	
Apple iPhone	302,705
Apple iPad	65,858
Not Set	52,871
Motorola DroidX	15,145
Sony Ericsson LT15iXperiaArc	12,651
HTC EVO 4G	11,879
Apple iPod Touch	8,319
HTC ADR6300 Incredible	6,179
HTC Inspire	4,676
Motorola Droid X2	4,550
Total	484,833

TOP 10 VISITED WEBSITE PAGES	
Page	Page Views
Homepage	1,042,591
Hunting	647,598
Boating/Boat Title & Registration	283,030
Fishing	252,987
Licenses	249,994
WMA	242,913
Wildlife/Alligator Hunting	242,579
Hunting/Deer - Seasons	226,179
Hunting/Deer	178,030
Hunting/Regulations	174,471

TELECOMMUNICATIONS

In January 2012, the office took on the department's telecommunications duties. A new Toshiba key system was installed in 17 offices across the state replacing phone systems that were in most cases, a couple decades old or older. The new phone system offered better customer service with menu options to assist callers directly to the person/office they needed; allowed for quicker in-house service by providing extension-to-extension calls between offices statewide eliminating long distance charges between regional offices; and eliminated several outdated telecommunication charges, streamlining the billing process and saving money.

PIO worked with the Louisiana Office of Telecommunications Management and Preferred Data, Voice and Network for the installation and programming. Headquarters was installed in January and the final location finished in June.

LOUISIANA CONSERVATIONIST ONLINE MAGAZINE

The *Louisiana Conservationist* online magazine embarked deeper into using digital mechanics this year, adding slide-shows and YouTube videos to compliment the written pieces. During this fiscal year, the magazine was successful in redesigning its website giving it a cleaner look and adding new options for offering comments and questions related to magazine stories and other department issues.

Each time a new edition is released, subscribers receive an email with a link to the latest publication. In March 2012, the Public Information Office promoted the magazine at the Louisiana Sportsman Show, inviting the public to sign up for the free publication. This effort resulted in approximately 500 additional subscribers. At the time of this publication, the magazine had a subscription base of 18,180.

Subscribers have commented on the fresh new online look of the *Louisiana Conservationist*. In the coming year, the PIO plans to make the online experience even more beneficial through various web elements (maps and geo-tagged photos) as well as building an online archive of past magazine editions.

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 2011 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 2,200 visitors from Baton Rouge and surrounding parishes attended the event at the Waddill Outdoor Education Center.

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 2011-2012, the desk logged 32,495 phone calls and 31,588 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

CNCP - Coastwide Nutria Control Program
CPRA - Coastal Protection and Restoration Authority
CUP - Coastal Use Permits
CWD - Chronic Wasting Disease
CWPPRA - Coastal Wetlands Planning, Protection and Restoration Act
DMAP - Deer Management Assistance Program
DOI - Department of Interior
DU - Ducks Unlimited
EGCP - East Gulf Coast Plain
GCIMT - Gulf Coast Incident Management Team
GIS - Geographic Information Systems
GOHSEP - Governor's Office of Homeland Security & Emergency Preparedness
LAA - Limited Access Area
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
LSUSVM - LSU School of Veterinary Medicine
MAVN - Mississippi Alluvial Valley - North
MAVS - Mississippi Alluvial Valley - South
NAWCA - North American Wetlands Conservation Act
NAWMP - North American Waterfowl Management Plan
NFWF - National Fish and Wildlife Foundation
NGO - Non-Governmental Organization
NOAA - National Oceanic and Atmospheric Administration
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
SCAT - Shoreline Cleanup Assessment Techniques
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
USFWS - United States Fish and Wildlife Service
USGS - United States Geological Survey
VHF - Very High Frequency
WAP - Wildlife Action Plan
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 wildlife and to provide wildlife associated recreational opportunities for citizens to enjoy. Staff biologists conduct research and surveys for use in formulating hunting regulations and for development and management of habitat. They present information to the public and develop workshops for 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 input to a wide array of public agencies, non-governmental organizations and private industry. The species programs are White-tailed Deer, Webless Migratory Game Birds, Wild Turkey and Resident Small Game, Waterfowl, Large Carnivore, and Wildlife Disease.

WHITE-TAILED DEER

During the 2011-2012 deer season, 158,600 deer hunters harvested 133,000 white-tailed deer. On wildlife management areas (WMAs), 2,378 deer were harvested during managed deer hunts. During managed deer hunts, hunters are required to bring their deer to a check station where LDWF staff collect biological data from the deer. The total hunter effort (a hunter having used a WMA for a hunt) for the managed deer hunts was 22,144.

The Deer Management Assistance Program (DMAP) harvest was 14,309 deer. There were over 700 clubs/cooperators with 1.5 million acres participating in the program, a slight decrease from the previous year which was expected due to the redevelopment of DMAP to address reported issues.

Deer harvest information from across the state was analyzed and evaluated. These data were used to establish deer regulations for the 2011-2012 season. Harvest data for WMAs and DMAP cooperators are summarized in Federal Aid W-55-26 Report.

Bucks harvested during 2011-2012 that scored high enough to qualify for the Louisiana Big Game Records Recognition Program were documented in the annual Deer Program report. Trophy deer that qualify for the State Record List were also added.

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-seven deer have been ear tagged. Remaining deer are being monitored by remote cameras. The statewide browse and habitat study was completed with 570, 1-meter exclosures placed across all physiographic regions. Two years of sampling have been completed with a list of all deer browse plant species identified and recorded and a master's degree thesis documenting the research is in progress. Herd health collections and disease and parasite investigations continued on both private and public lands. Planning began for a new project designed to measure fawn mortality and adult deer movement at Tensas National Wildlife Refuge (NWR).

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 2012 Louisiana breeding population index, based on doves heard along the routes, was 13.8. This represents a 7.8 percent increase in doves heard from 2011. The 10-year and 46-year trends for doves heard along routes illustrated 2.1 and 1.9 percent annual increases, respectively. The 10-year and 46-year trends for doves seen along routes represented 2.7 and 2.4 percent annual increases, respectively.

Dove hunting regulations for Louisiana in 2011-2012 were set at 70 days with a bag limit of 15 birds. A survey of resident license holders indicates that approximately 33,300 Louisiana hunters harvested approximately 611,900 doves during the 2011-2012 hunting season. An estimated 28,500 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 2011, four fields totaling 1,235 acres were leased. During the opening day hunt, 817 hunters participated, bagging 2,155 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 1,738 doves during July-August 2011 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-55-26 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. From December 2011 - February 2012, 144 woodcock were banded. Of these, 139 were banded on Sherburne WMA and five were banded at Lake Ophelia NWR. Two indirect (one or more years after banding) and two direct (the same year as banding) band recoveries were reported, all occurring in Louisiana. Data are summarized in the Federal Aid W-55-26 Annual Report.

Beginning in October 2011, a research project to examine nocturnal habitat use by woodcock was initiated. Four treatments, (Mow, Burn, Disk, Mow/Burn) were implemented on a 25.9 ha tract on Sherburne WMA. Each was 0.81 ha (2 acres) in size and replicated four times, for a total of 16 study plots. Preliminary analyses indicate that mowed and burned treatments were selected more frequently than mow/burn and disk treatments.



LDWF participated in the USFWS Annual Woodcock Wing Bee in 2012. 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 4,300 Louisiana hunters harvested 16,400 woodcock during the 2011-2012 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 2011 survey indicated a poor hatch in four of the five habitat regions. The North Mississippi Delta, Southeast Loblolly Pine, Western Longleaf, and Atchafalaya/South Mississippi Delta all experienced declines in production from the previous year. However, the Northwest Loblolly/Shortleaf/Hardwood region exhibited increased production from 2010 which resulted in an overall rating of "fair" for this region.

The most recent hunter harvest survey estimated 19,100 turkey hunters harvested 7,000 wild turkeys during the spring of 2011. The wild turkey population in Louisiana is estimated at about 60,000 birds.

LDWF is involved in several wild turkey research projects. LDWF supports a wild turkey research project on Tunica Hills WMA in conjunction with the University of Georgia, with additional support from the National Wild Turkey Federation (NWTf). This project is investigating the movements of male wild turkeys during the spring hunting season. Another project on the Pearl River WMA uses cameras and marked wild turkey gobblers to monitor the site's recovery from Hurricane Katrina. LDWF is also engaged in banding gobblers on the Kisatchie National Forest. Banding 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 42 randomly located routes and an additional six routes on LDWF WMAs and the Kisatchie National Forest. Fall whistle counts did not differ among the five habitat types for 2011, nor did they differ between 2010 and 2011. All regions exhibited significant long-term (1983-2010) declines in calls per stop. 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-55-26 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 2012 differed from past years in the northeast region of the state. To generate more scientifically sound, statistically based estimates of ducks and geese using that region, the historical cruise survey was converted to a transect-based survey as part of an effort with partners in Arkansas and Mississippi to produce a multi-state survey of waterfowl in the Mississippi Alluvial Valley using consistent methods. Survey methods in all other areas of Louisiana remained consistent with past years. The 2012 mid-winter inventory indicated 3.51 million ducks and 843,000 geese wintered in coastal marsh and inland areas of the Mississippi Delta.

Based on federal harvest estimates from the 2011-2012 waterfowl hunting season, 97,500 active duck hunters harvested 2.82 million ducks. This represents a 9.2 percent increase in the number of duck hunters and a 2.9 percent increase in duck harvest compared to the previous year. Furthermore, it is the sixth 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 30 percent gadwall, 20 percent green-winged teal, 16 percent blue-winged teal, 8 percent wood duck, 5 percent mallards, and 5 percent shovelers. Mottled duck, pintail, wigeon, scaup, ring-necked duck, canvas-back, and redhead comprised the remainder.

Louisiana goose hunters harvested 75,000 geese during the 2010-2011 waterfowl hunting season; a 15 percent increase from the previous year that reversed three consecutive years of declining goose harvest. This spring was the second consecutive year of at least average breeding conditions on arctic breeding grounds, and production was slightly above average. The increase in overall goose harvest was entirely accounted for by a 175 percent increase in light goose harvest (snow and Ross'), which overwhelmed the 35 percent reduction in Canada goose harvest and 31 percent reduction in white-fronted goose harvest. The total statewide goose harvest comprised of 53 percent light geese, 41 percent white-fronted geese, and 6 percent Canada geese.

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 2011-2012, North American Wetland Conservation Act grants were approved for construction of a 3,007-acre greentree reservoir on Dewey Wills WMA, as well as construction of a large re-lift pump to provide dependable water to the greentree reservoir on Russell Sage WMA. Construction on Dewey Wills and Russell Sage may begin during summer 2013 and summer 2014, respectively. The Sherburne WMA project was once again postponed to summer 2013 due to permitting delays. 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. Two North American Wetland Conservation Act projects to improve waterfowl habitats on Bayou Pierre and Buckhorn WMAs were completed. Enhancement work on Bayou Pierre included building a wet well and electric pump to deliver dependable water to 319 acres of wetlands. Enhancement work on Buckhorn included construction of a well and water control structure to provide dependable water to 198 acres of shallow wetlands.

Efforts to chemically and mechanically treat invasive vegetation on Catahoula Lake were once again unsuccessful due to unfavorable lake levels. The U.S. Army Corps of Engineers (USACE) recently renewed a permit with LDWF to research the efficacy of bulldozing to control invasive woody vegetation that is too large to spray or mow. Herbicide spraying, bush hogging and bulldozing activities are planned for summer 2013 pending favorable lake levels. Aerial herbicide application and substantial mechanical treatments are planned for Sherburne's North and South farms and on Bayou Macon during summer 2013. These measures are necessary to enhance degraded wetland habitats.

Wood Ducks

During 2011-2012, LDWF banded 2,456 wood ducks, over twice the 1,167 banded the previous year, which was a substantial increase over the year before. This was a new high for LDWF wood duck banding and was due to increased effort and success in all regions of the state but especially near Baton Rouge where new stations were intensely maintained and trapped by the NAWMP Coordinator. Pre-season rocket-netting accounted for 2,176 of the total bandings and 280 hens were captured in nesting boxes. In addition, 1,816 black-bellied whistling ducks were banded during the winter. This was over twice the 787 banded the previous year, and birds were banded in two new locations to support an expanded effort to obtain information on movement and survival of these birds to support future harvest management decisions.

The wood duck nest-box program completed its 23rd year in 2012. LDWF personnel are maintaining 2,269 boxes currently in use. That is substantially fewer than the peak of 2,800 statewide a few years ago but is up slightly from 2,117 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 expand the number of boxes through growth in the Private Lands Program. Utilization is monitored currently at 1,969 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.

Tensas River Basin

Twenty-six Very High Frequency (VHF)-only collars (25F:1M) and 13 GPS-equipped VHF collars (2F:11M) were monitored in 2012. One GPS-equipped collar (male) was reported inactive and recovered at the carcass site of a suspected illegal kill. One GPS-equipped (male) and one VHF-only (female) collar were reported as missing. One VHF-only collar was reported inactive, recovered, and determined to have released because the leather spacer had broken releasing the collar from the bear. Twenty-nine females were monitored for reproduction during February and March. Reproductive status was determined for 21 bears, with the status for eight bears being undeterminable because of inaccessible den locations, radio signal failure, or actively mobile females. Fourteen females were accompanied by cubs of the year with litter sizes ranging from one to four, one female was accompanied by two yearlings, and six females were not accompanied by any offspring. After the winter den monitoring, monthly monitoring by airplane resumed in April 2012 to determine GPS collar activity and location and VHF collar activity. Reproductive and survival data have been collected and database spreadsheets have been constructed. The analysis of reproductive and survival data based on radiotelemetry will be included in a Ph.D. dissertation expected in 2013.

Hair sampling continued and was extended through 2011 to refine parameter estimates and to better estimate inter-annual stochasticity, which is essential for population viability analysis. Sampling was conducted in 2009 and 2010, with 3,862 and 8,148 hair samples collected, respectively. Those samples are currently being genotyped. Hair samples are used to identify individual bears and estimate population size.

During 2012, the monitoring program for the Tensas population was initiated. Sampling for mark-recapture DNA analysis was modified by reducing the number of sessions from eight to three to track changes in population trend over time. That sampling routine will be continued for the foreseeable future.

Upper Atchafalaya River Basin

Due to record flooding on the Mississippi River, the U.S. Army Corps of Engineers opened the Morganza Flood Control Structure in May 2011, which flooded the study area inside the spillway levees with relief water from the Mississippi River. Water levels reached depths of 2-5m within the 150km² of habitat impacted by the flooding and remained for several weeks. The two smaller study areas outside the spillway were minimally affected. The impacts of this unprecedented flooding on the resident bear population in the floodway are unknown, therefore the cooperators extended the study to document the effects of the flooding event on bear population dynamics and distribution, and the longer-term impacts after water levels recede.

Intensive monitoring of radio-collared bears affected by the flooding began on May 25, 2011. VHF radio-locations on 13 female bears were collected. Twenty-two flights were conducted weekly, ending on Oct. 27, 2011. Six of the 13 VHF radio-collared bears were in areas affected by flooding along the Mississippi River and associated tributaries (5) and within the Morganza Floodway (1). In addition, there was one male bear in the Floodway that was equipped with a GPS collar at the time of flooding.

A total of 2,166 hair samples were collected at 51 sampling sites during the 2011 field season. Based on DNA, 27 individuals were identified, 22 recaptures and five new individuals (4M:1F). Field sampling for 2012 is currently ongoing. A population estimate and trends will be produced as will an evaluation of the effects of flooding on the Upper Atchafalaya bear population.

Lower Atchafalaya River Basin

Hair sample collection for 2011 began in May and concluded in July. During the 2011 field season, 1,416 hair samples were collected at 118 sampling sites. 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 study area on May 27-29 at 16 feet. Genotyping results from the 2011 field season were received from Wildlife Genetics International. Following sub-selection and analysis, 326 samples were assigned to individuals bringing the two-year total to 549. Of those, 86 (41M:45F) were identified from 2011 compared to 81 (34M:47F) from 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:

- Maintain close communications with biologists to assist specific call areas by working closely with caller reporting the nuisance bear behavior to ensure all bear proofing efforts are being implemented.
- Daily monitoring of bear proof cans occurs to assist homeowners and industrial complexes with questions, damages and procedures to further bear proof their property and facilities.
- Maintain close communications and work with Roddie Matherne, division manager of Progressive Waste Solutions, Robert Stesney, operations manager of Progressive, and Kuchonnie Lewis, district manager of Progressive, to resolve damage/maintenance issues, customer concerns and proper can distribution of the bear proof cans.
- 200 bear proof lids were received and used to repair damage issues to the bear proof cans.
- A list of rules from Progressive was completed to further assist residents with garbage services, and proper use and maintenance of bear proof cans.
- Work is continuing to change the garbage collection schedule in the Patterson area - currently there are four collection days, the change would be only two collection days for the entire 900+ customers in that area.
- St. Mary Bear Conflict Officer provided a Bear Safety information booth at several festivals, children's camps, parish activities, and with LDWF for the Keep Louisiana Beautiful Conference.
- Continued to work closely with the town of Berwick and residents of Berwick with Bear Safety technical support, provided support materials to Berwick Elementary with interactive CDs and information binders from the Untamed Science Black Bear Program.
- Conflict Officer provided public awareness interviews through TV news casts and newspaper articles.
- The St. Mary Parish Black Bear Conflict Program has been named "Bear Safety in St. Mary" and has created a t-shirt for volunteers.
- Provided corporate customers in the identified area with information regarding bear proofing their facilities with continued support from Progressive Waste Solutions and Waste Management with the availability of tall side/bear proof dumpsters.
- St. Mary Bear Conflict Officer, St. Mary Parish 4-H Junior Leaders, and Progressive coordinated and completed the first of three "door knob" campaigns in the Patterson area distributing over 300 informational bags - each clear door knob bag contained black bear safety/awareness informational flyers, brochures, stickers, refrigerator magnets, copies of ordinances pertaining to garbage can storage and the state law pertaining to feeding bears.
- St. Mary Bear Conflict Officer continues to team with St. Mary Parish 4-H and will dedicate the 2012-2013 school year to Bear Safety; will focus on habitat restoration and bear science programs, and will provide CDs and informational binders to all elementary schools in St. Mary Parish to aid in classroom activities for all elementary students throughout the parish.
- The continued technical support provided to the local RV & recreational facility has resulted in no reports of bear problems in Kemper Williams Park since December 2010.
- Conflict Officer began working with LDWF - Venise Ortego, Maria Davidson, Carrie Salyers and Angela Capello - regarding a black bear teacher workshop slated for March 2013.

Mortality

There were 43 bear mortalities documented in fiscal year 2011-2012.

Conflict

Seven management captures of bears were 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 517 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 was discontinued due to closure of the federal program which supported this activity.

A study funded by the USFWS was initiated on Catahoula Lake to determine the status of lead shot consumption by ducks and to evaluate and compare the current lead shot content of soil with historical levels.

Surveillance of feral swine for Brucellosis and Pseudorabies was continued this year, with 438 animals tested. To date, sampling has revealed a 3.4 percent incidence of Swine Brucellosis and a 3.6 percent incidence of Pseudorabies. Surveillance efforts will continue. Additionally, LDWF cooperated with Louisiana State University (LSU) and University of Louisiana at Monroe graduate students to investigate seasonal and regional variations in the reproduction of feral swine.

A multi-year study of deer liver copper levels was continued 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 reproductive, size and antler mass variations in Louisiana's white-tailed deer herd.

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. The Wildlife Division is organized and staff are assigned to ecoregions (Gulf Coastal Plain or Mississippi Alluvial Valley). Within each ecoregion, personnel are assigned to either the WMA or Private Lands Program. This structure enables staff to focus efforts on management of WMAs and enhances delivery of services to private landowners and managers.

LAND DEVELOPMENT & MANAGEMENT

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 2012, LDWF acquired over 11,814 acres of land, more or less, for the purpose of providing public recreational opportunities and to conserve the state's diverse wildlife resources indigenous to the respective areas.

LDWF added another 235 acres of unclaimed state lands to the Dewey Wills WMA in LaSalle Parish by resolution of the Louisiana Wildlife and Fisheries Commission. Through a donation from a non-profit organization, The Conservation Fund, three separate parcels were added to the Maurepas Swamp WMA in Livingston Parish totaling 433. The Maurepas Swamp WMA has grown into one of the largest WMAs in the wildlife management program with the acquisition of the Rathborne Tract in Livingston and Tangipahoa parishes. Rathborne, which comprises 11,145 acres, was fully funded pursuant to the consent decree reached by United States as a result of the *Deepwater Horizon* Oil Spill in the Gulf of Mexico.

Lastly, LDWF acquired a 1-acre tract, more or less, to be used for supplemental operations and management of the Pass-a-Loutre WMA in Plaquemines Parish.

WILDLIFE MANAGEMENT AREAS

WMAs serve the equally important purposes of conserving habitat for wildlife, serving as a "laboratory" to develop and demonstrate wildlife management practices, and providing outdoor recreational opportunities for the public. For administrative and management purposes, the WMAs are grouped by ecoregions - Gulf Coastal Plain (east and west) and Mississippi Alluvial Valley (north and south).

West Gulf Coast Plain (WGCP) WMAs (370,861 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
- Union
- Walnut Hill
- West Bay

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

The WMAs are managed to provide diverse wildlife habitat to support game and non-game wildlife and provide quality outdoor recreational opportunities for the public. A total of 143,387 user days were estimated for WGCP WMAs during fiscal year 2011-2012. 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 outdoor activities. Managed deer hunts were conducted on several of the WMAs to collect accurate information on herd health and hunter success rates. Collectively, managed deer hunts on WGCP WMAs resulted in 7,402 hunter efforts accounting for 1,020 deer harvested.

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. In addition, 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.

Except for Bayou Pierre, Elbow Slough, Marsh Bayou and Walnut Hill, which are owned by LDWF, at least a portion of the remaining WGCP WMAs are leased free of charge to LDWF for public use from the 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 participated in 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 320 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.

East Gulf Coast Plain (EGCP) WMAs (198,377 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 on these WMAs include marshes and swamps, natural and plantation pine stands, bottomland hardwoods and 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. A total of 120,911 user days were estimated for EGCP WMAs during fiscal year 2011-2012. An alligator season was open on Joyce, Manchac, Maurepas Swamp, and Pearl River WMAs with a harvest of 1,023 alligators by 14 commercial alligator trappers. To facilitate recreational alligator harvest, 60 additional people were selected by lottery and harvested an additional 148 alligators on these four areas. 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 1,795 hunter efforts with a total of 72 deer harvested.

On Sandy Hollow WMA, the Natural Resources Conservation Service (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 food plots for upland birds. Alligator egg collections were monitored by EGCP personnel on Manchac, Pearl River and Maurepas Swamp WMAs. A total of 16,720 eggs were collected.

EGCP personnel maintained 192 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 understand deer breeding periods within the ecoregion.

Feral hogs that can threaten native wildlife populations and habitat 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.

LDWF in conjunction with Louisiana Department of Transportation and Development (LDOTD), repaired two bridges and resurfaced 2 miles of asphalt road on Old Highway 11 on Pearl River WMA. LDWF provided the materials, while LDOTD provided the equipment and personnel to do the repairs and resurfacing.

Mississippi Alluvial Valley - North (MAVN) WMAs (128,736 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, black bears, doves, furbearers, shorebirds and other non-game wildlife. Recreational opportunities were provided to thousands of hunters, fishers, campers, sightseers and other public users. A total of 87,394 user days were estimated for MAVN WMAs during fiscal year 2011-2012. Deer hunting was extremely popular with 17,044 hunters harvesting 1,018 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. A deer hunt for women who participated in the Becoming an Outdoors Woman program was conducted for the first time on Floy McElroy WMA. 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 9,373 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 7,672 small game hunters enjoyed hunting on MAVN WMAs.

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. A total of 257 wood duck nesting boxes were maintained and monitored by MAVN WMA personnel.

The "Wish I Could ATV Trail Ride," an annual one-day ATV trail riding event, was held on Boeuf WMA on June 2, 2012. The event attracted 2,300 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 (257,999 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 USACE 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 deliver alligator and nuisance animal programs and assisted with program projects such as dove and wood duck banding, as well as deer, woodcock, turkey, black bear and nongame research projects.

The WMAs are maintained and managed to provide outdoor recreation opportunities for all user groups, including both consumptive and non-consumptive. WMA personnel performed a variety of development and maintenance functions such as boundary marking, building maintenance, 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.

A total of 194,974 user days were estimated for MAVS WMAs during fiscal year 2011-2012.

White-tailed deer is the most popular game animal hunted on the MAVS WMAs. Either-sex deer hunts, with mandatory deer checks were held on the WMAs, with over 7,200 user-days recorded and over 500 deer harvested. An additional 1,000 deer were harvested during other either-sex, bucks-only, youth/handicapped, archery and muzzleloader hunts, where self-clearing permits were utilized. Turkey hunts were held on seven WMAs, where 34 turkeys were harvested by an estimated 900 users. This includes 26 youth hunters who participated in the Sherburne, Spring Bayou, Grassy Lake, and Pomme de Terre 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 safe turkey hunting techniques. Squirrel and rabbit hunting is also very popular on the ecoregion's bottomland hardwood WMAs, accounting for over 19,500 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 14,300 for this period. Dove fields are maintained, along with many acres of food plots. Feral hogs have populated many of the WMAs and damage the resource. Hunting is used as a tool to help reduce feral hog populations. Hog hunting with dogs was allowed under permit. Over 80 permits were issued to individuals for this purpose.

Biologists and technicians maintain and monitor over 604 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. Sixteen youth waterfowl lottery hunters harvested 93 ducks, for an average of 5.8 ducks per youth hunter. One-hundred youth deer lottery hunters harvested 33 deer on 17 hunts, 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 61 WMA hunters. There were six WMA alligator hunters who bid on tags on the WMAs, with all but one WMA hunter participating in the season. One hunter was not allowed to hunt, due to failure to follow contract guidelines. These hunters were issued 165 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, 55 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. Efforts to improve the road system on Dewey Wills WMA continue. Spot repairs on all WMA roads were made as funding allowed.

WMA personnel conducted user interviews and operated check stations. Wildlife food plots were also planted on several MAVS WMAs. A handicapped accessible fishing pier located along Big Alabama Bayou on Sherburne WMA was completed.

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 implementation, were completed on Big Lake, Buckhorn, Dewey Wills, Grassy Lake, Lake Ramsay, Red River, Russell Sage, Three Rivers, Tunica Hills, and Walnut Hill WMAs. Harvests to improve wildlife habitat were initiated and/or conducted on Big Lake, Boeuf, Dewey Wills, and Red River WMAs.

A complete forest habitat inventory was conducted on Dewey Wills WMA. The current forest condition was evaluated on 64,895 acres of bottomland hardwood.

Chemical treatments of invasive/non-native species, primarily Chinese tallowtree and cogon grass, were conducted on Dewey Wills, Pearl River, Sandy Hollow and Sherburne WMAs. Beaver control activities continued with beavers removed from Big Lake, Boeuf, Buckhorn and Dewey Wills WMAs. Forest health flights were conducted and no significant forest loss was reported this year from beaver or insect activity.

Prescribed burning, both growing season and dormant season, were conducted on Alexander State Forest, Little River and Sandy Hollow WMAs.

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. Monitoring efforts were initiated on Sherburne WMA to document the impacts of flooding resulting from the opening of the Morganza Spillway.

Reforestation monitoring was conducted on Boeuf, Buckhorn, Lake Ramsay, Marsh Bayou, Red River and Ouachita WMAs. No reforestation planting projects were conducted during the 2011-2012 planting season.

Statewide mast production was determined this year with the annual mast survey conducted on WMAs, refuges, state parks, and private landholdings. The mast survey provides an indication of the future health and abundance of forest wildlife species such as squirrels which depend on mast production.

Growth Monitoring Plots were read on Attakapas, Grassy Lake, and Little River 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 and Pearl River WMA. Forestry Section personnel provided support for this project, expected to continue for 10 years (this completed year nine). Results from this study will aid in the 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 11 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 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.

The forestry section was involved in several additional research projects involving wildlife response to various forest management treatments. The information gathered from such research is used to adjust habitat management on WMAs and share results with other agencies and organizations managing forest habitat in 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 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 turkey, but includes all wildlife and their habitats. Most private lands program biologists are responsible for three to five parishes, with those along the coast responsible for six to nine parishes.

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 Environmental Quality 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 2011-2012, Private Lands Program biologists made 452 site visits with landowners and delivered 85 management plans impacting 356,439 acres. These same staff members conducted 67 deer browse surveys covering 169,016 acres. They fielded 19,795 requests for information from the public. Under an agreement with USDA NRCS, Private Lands Program biologists conducted 436 inspections of Wetland Reserve Program properties to assess conditions and make recommendations for management. This project provided these biologists an opportunity to impact an additional 158,748 acres of wildlife habitat.

Private Lands Program biologists are actively engaged with other agencies and organizations to coordinate conservation delivery efforts in Louisiana. Program biologists chair the LA Prescribed Fire Council and Louisiana Conservation Delivery Committee. They are also active partners on the Texas/Louisiana Longleaf Pine Task Force, West-Central Louisiana Ecosystem Partnership, Louisiana/Mississippi Alluvial Valley Conservation Delivery Network, 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 waterfowl and dove banding, collection of biological data for research, habitat evaluations, disease investigations, administration of the alligator program, delivery of the DMAP program, and public outreach.

EDUCATION

Conservation education is a vital part of the LDWF mission. The Education Section within the Wildlife Division focuses 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.

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.

Louisiana uses the Event Manager program hosted by Kalkomey Enterprises for on-line registration for hunter and bowhunter education courses. For 2012, courses were submitted electronically by staff and instructors which reduced the

time for certification cards to be mailed to students. Louisiana hosted the 2012 Region 4 Hunter Education Administrators Meeting in Lafayette, La. Attendees were treated to presentations by LDWF staff, NGOs and vendors. A field trip was taken to a local indoor shooting range and to the Woodworth Outdoor Education Center. In June, the State Coordinator, John Sturgis, attended the International Hunter Education Association convention in Kansas City, Mo. to represent the state of Louisiana.

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 NWRs in Louisiana. Certification details are as follows:

HUNTER EDUCATION			
Course Type	# Courses	# Students	Percentile
Classroom Course	398	14,442	83%
Alternative Study	105	2,935	17%
Total	503	17,377	100%
BOWHUNTER EDUCATION			
A total of 85 people for eight courses were certified in bowhunter education in Louisiana.			

Instructor Training

A total of 80 new volunteer hunter education instructors were trained and provided with credentials to teach hunter education in the state of Louisiana through 11 instructor courses. One statewide workshop was planned and carried out at Camp Grant Walker in Pollock, La. with 121 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 2011-2012.

Hunting Incidents

A total of 10 hunting incidents were documented for fiscal year 2011-2012. All were firearms related with one involving a treestand. Two of the 10 resulted in fatalities. Results were compiled by type and category and entered into the International Hunter Education Incident Database. Information on these incidents was presented to instructors at the 2012 Volunteer Instructors Workshop. A spreadsheet detailing this information was given to each instructor to use in hunter education courses. Major factors for these incidents were as follows:

HUNTING INCIDENTS (Fiscal Year 2011-2012)	
Type	# Victims
Victim Out of Sight of Shooter	1
Failure to Identify Target	3
Careless Handling of Firearm	4
Shooter Swinging on Game	1
Fall While Climbing In/Out of Position	1
Total Incidents	10

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

This range is located in Bossier Parish on the Bodcau WMA. Accommodations for public use include 25 shooting points on the rifle/handgun range and a shotgun range with four manual and one remote controlled clay target thrower. In 2012, parking accommodations for the disabled were added in accordance with Americans with Disabilities Act (ADA) guidelines. Additionally, a sidewalk was constructed from the bathroom facilities to the ranges to provide access for the disabled. Plans include construction of new berms to accommodate shooters at different yardages on the rifle/handgun range. The range is open to the public three days a week and is staffed by one technician.

Woodworth Education Center

The Woodworth Education Center located in Rapides Parish contains a classroom, lodging facilities and a public shooting range. Range facilities consist of a rifle range, handgun range and a five-stand shotgun range. The range is open for public access and receives a high degree of use. The range is staffed by one wildlife technician with assistance provided by the manager and student worker. Volunteer help to operate the range is provided by the Bayou State Muzzleloaders Association and other volunteers. An effort is being made to increase volunteer recruitment to assist with range duties. Volunteers are certified through the NRA Range Officers Safety Course.

Sherburne Shooting Range

Located in Pointe Coupee Parish at the Sherburne WMA, the Sherburne range consists of two shotgun ranges, one archery range, one handgun range, and one rifle range. It is operated by one technician and is open to the public seven days per week. In 2011, the Morganza Spillway was opened to relieve downstream flooding from the Mississippi River and completely flooded the range. Consequentially, damage occurred to the range. The fence surrounding the range was damaged but has since been repaired. Most other damage was cosmetic, such as water staining to wooden structures. The classroom used to teach hunter education was flooded and is yet to be repaired. Until this occurs, no hunter education courses will take place at this facility

Waddill Outdoor Refuge

The Waddill Outdoor Refuge in East Baton Rouge Parish provides a outdoor education environment in an urban setting. A classroom, solar powered shotgun range, archery range and air rifle range are used for hunter education instruction and recreational shooting opportunities. The refuge is staffed by one manager and one technician. In 2012, parking accommodations for the disabled were added to the shotgun and air rifle ranges in accordance with ADA guidelines. Additionally, a sidewalk was constructed from the bathroom facilities next to the classroom to an outdoor pavilion to provide access for the disabled.

Honey Island Shooting Range

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

- Installation of a hard surface parking area on the range.
- Installation of concrete walkways from parking area to ranges.
- Adjustments to some shooting points for physically challenged users.
- Widening of shooting range accommodations for ease of movement by physically challenged users.

All improvements, except the hard surface parking area, were funded by range fees collected by the third party operator. 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 7,912. These hours are used as in-kind service time to match hunter education federal aid dollars.

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 7,095 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" - 9,765 distributed
- "Let's Go Fishing" - 7,541 distributed
- "Finnie the Fingerling" - 5,461 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)

WETSHOP was held July 8-13, 2012 at the Grand Isle Marine Laboratory. WETSHOP is a week-long teacher workshop that focuses on the important role wetlands play in our coastal ecosystem. Teachers spent time learning about wetland plant communities, aquatic life, how fragile coastal ecosystems can be and how to bring this message back into the classroom. Partial funding was made possible through a grant by the Barataria-Terrebonne Estuary Program, who partners with LDWF to host this workshop. A total of 19 teachers were trained and equipped to return to their respective jurisdictions and train additional teachers about bringing wetland education into the classroom.

Coastal Wetland Workshops

Coastal Wetlands Workshops were held to train teachers about wetlands ecology in coastal habitats. "Wonder of Wetlands" manuals and other resources were provided to help prepare teachers to deliver wetland education to their students. A total of 15 workshops were held in which 125 teachers were trained.

Hatchery Education

Educational programs were held at the Booker Fowler hatchery to demonstrate techniques used to raise fish in a hatchery environment. Tours of the hatchery were conducted for school students and the general public. Education materials and special presentations were made available through the visitor's center. There were approximately 300 students educated through the hatchery aquatic education program for fiscal year 2011-2012.

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 project is to develop an attitude of natural resource stewardship and to create a constructive, active learning situation in which students can explore strategies for sustaining aquatic ecosystems. Students obtain hands-on, science-based knowledge of the state's native aquatic resources. A total of 1,350 students participated in the NFC project during fiscal year 2011-2012.

During the 2011-2012 school year, 12 Louisiana teachers participated in the NFC project which impacted approximately 841 students. Teachers attended several workshops and meetings to ensure successful preparation for receiving paddlefish eggs in the spring. Teachers then participated in the spring paddlefish spawn where they received paddlefish eggs to hatch and raise in their classrooms. The paddlefish fingerlings were then returned to the LDWF Booker Fowler Fish Hatchery. Schools brought students on a field trip to the hatchery to return their classroom raised fish. The hatchery then released the student-raised paddlefish into suitable aquatic habitats.

"Finnie the Fingerling"

This workbook was developed to provide information on the day to day operations of a fish hatchery. 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.

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 135 participants in attendance.

Louisiana Women in the Wild (LWW)

LWW is a recruitment and retention program that strives to introduce women to the outdoors through hands-on learning. One workshop was held to introduce the participants to the basics of hunting and two workshops were held to teach fishing basics. Approximately 75 women participated in the three workshops. The hunting workshop was followed by a hunting trip where the workshop attendees participated in either a deer or duck hunting trip. The deer hunting trip was hosted by a private hunting club in West Feliciana Parish. The duck hunting trip was conducted on private land in Terrebonne Parish. Cabela's has partnered with the department to host these events.

Families Understanding Nature (FUN) Camp

Families Understanding Nature 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 recreational shooting equipment. The education staff participated in two FUN Camps for this grant cycle. One Mother/Child and one Father/Child.

National Archery in the Schools Program (NASP)

The 2012 Louisiana State NASP tournament was held March 17-18 at Louisiana State College in Alexandria, La. A total of 183 students from five schools competed in the elementary division, 79 students from four schools in the middle school division and 42 students from two schools in the high school division.

Non-Governmental Organization Activities

The education staff supports and participates in activities sponsored by non-governmental organizations such as Ducks Unlimited, 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 land to the state of Louisiana. Along with serving as a refuge for fisheries and wildlife species, RWR is also considered an “outdoor laboratory,” with the property serving as a site for marsh-related research pursued by RWR staff, collaborators, governmental, and academic researchers. RWR staff also provides professional expertise for the implementation of plans which aid in the sustainable use of alligators, management of coastal wetlands, and other important wildlife and fisheries resources. Further, management expertise, technical assistance, and guidance is provided by RWR staff to local landowners for the wise use of their marshland. Lastly, RWR serves as a recreational outlet for the local populace, as well as a destination for regional tourists.



Based on the original deed of donation, the primary goal of RWR is to provide a refuge and preserve for all wildlife and fisheries species. Therefore, management activities are used to promote appropriate habitat and conditions for waterfowl species (the original intent of E.A. McIlhenny for the property), establish/maintain historic flora and fauna of RWR, and maintain the hydrology of the Mermentau River Basin. In many cases, refuge management activities positively benefit other marsh inhabitants including shorebirds, wading birds, alligators, furbearers, and estuarine organisms (i.e., fish, shrimp, and crabs). Another main goal is to study wildlife, fisheries, and wetlands in order to 1.) address pertinent ecological research questions and 2.) to disseminate findings to local, state, national, and international audiences. Since 1955, RWR staff has contributed over 500 professional and popular publications, as well as contributed papers to professional conferences and to a wide array of audiences. Secondary goals include 1.) providing technical assistance and public outreach and 2.) providing a popular destination for recreational activity, primarily through the use of abundant fisheries resources (i.e., fishing, shrimping, crabbing) and the diversity of watchable wildlife (i.e., birdwatchers); it should be noted that these two activities never supersede the main goals of RWR.

POST HURRICANE CONSTRUCTION/REPAIRS

RWR personnel and administrators continue to work with FEMA to move post-hurricanes Rita and Ike construction projects forward. Engineering and design continue for the Office and General Quarters renovations. Plans are complete to demolish and rebuild the four residences with construction beginning in 2012-2013; total project costs are \$3,250,920.19. Construction also began on the \$2.88 million Capital Outlay Project to replace the East End road and Joseph Harbor boat launch, which will be completed in 2012-2013.

Louisiana Department of Wildlife and Fisheries (LDWF) personnel have completed negotiations with FEMA and the Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP) to reconstruct the laboratory and build a new alligator research grow-out facility. The lab and grow-out facility will be moved to the storm platform area for storm surge protection and efficiency.

Engineering and design began on the FEMA project to replace the Vermilion Nine-Pipe Water Control Structure at a cost of \$1,853,131.00. Construction should begin in 2012-2013. Additional water control structures that were damaged by the hurricanes are scheduled for replacement with FEMA funds.

MINERAL MANAGEMENT

During the fiscal year, mineral activity on RWR increased, with an increasing trend in mineral development anticipated in the near future. One of the major mineral activities on RWR is Chevron's Lineham Creek well. Beginning in October 2011, Chevron began rig setup and exploration for an ultra deep gas venture in the northwestern corner of RWR. Biologists spent considerable time working with Chevron to minimize environmental impacts associated with access and well pad development. The well pad created a large foot print (660 feet by 660 feet) due to the size of the rig, with Unit Rig 201 being one of the largest land rigs in North America (200 feet tall, 1500 tons). Chevron is attempting to drill to depths of approximately 30,000 feet, making it one of the deepest on-land oil/gas wells in the United States. Existing roads were used to access the well site and the location was placed in a force drained pasture to minimize impacts to wetlands. RWR Biologist W. Selman is currently monitoring the response of bird diversity and abundance to the presence of the rig (see right). As of June 30, 2012, the depth reached was approximately 19,000 feet and the target depth is expected to be reached during early 2013.



MARSH, WILDLIFE, & FISHERIES MANAGEMENT

Marsh Management

RWR staff maintains over 200 miles of levees and 40 water control structures for the conservation of approximately 76,000 wetland acres on RWR 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. Biological staff use the approved RWR management plan, which acts as a tool to guide research and management on the property. A new \$426,000.00 spud barge, the *Whooping Crane*, was purchased to facilitate wetlands enhancement work.

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, repairing levees, and water control structures in Units 5, 6, 10, 13, 14, and 15 which encompasses 23,950 wetland acres. Additionally, the maintenance crew replaced the four-pipe water control structure in Unit 5. Maintenance staff assisted Louisiana Department of Natural Resources (LDNR) to monitor the placement of limestone on and around Coastal Wetlands Planning and Protection Act (CWPPRA) Highway 82 water control structures, while also spending considerable time at White Lake Wetlands Conservation Area (WLWCA) renovating/repairing the boathouse and the whooping crane pen.

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 and summer, and also provide new stem growth for migratory waterfowl species. Generally, one-third of the refuge is burned on a yearly basis. During fiscal year 2011-2012, approximately 2,665 acres were burned in the Price Lake unit, and an additional 610 acres burned in Unit 8 due to an escaped marsh fire from adjacent private property. Less acreage was burned than normal due to the few days of appropriate burning weather.

Staff also worked with surveyors to calibrate all 21 staff gauges (i.e., water level gauges) across the refuge to NAVD88 datum. Marsh and pond elevations (within ~500 yards of the corresponding staff gauge) were also determined in all RWR impoundments and unmanaged marsh areas.

Marsh Creation and Habitat Enhancement with Beneficial Use of Dredge Material

LWDF 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 in Louisiana's Coastal Zone. The major objective of LDWF in establishing the mitigation bank is to compensate for impacts occurring on RWR or 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, with the site completed on Feb. 24, 2010 in compliance with requirements with our MOA. In June 2009, a contract was negotiated with HDR Engineering for the second salt marsh site (66 acre site). Geotechnical work was completed in August 2009 and the bid process was completed and construction began during fiscal year 2010-2011. Grass plantings were completed in March 2012, and an elevation survey was completed in May 2012.

Shoreline Protection and Stabilization

ORA Technologies, LLC 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 oyster growth and material deposition. A version of this technology was placed along the RWR Gulf of Mexico Shoreline. The \$1.7 million Bio-Engineered Oyster Reef Demonstration Project LA08 is sponsored by LDNR. The objective is to evaluate an oyster break system's capacity to reduce and/or prevent shoreline erosion and wetland loss. The system is patented technology with interlocking Oystercrete units composed of nutrients and the proper texture to attract oyster larvae. Construction was completed in February 2011, with the barrier placed approximately 2.5 miles west of Joseph Harbor Bayou. Preliminary observations indicate that the breakwater sections are slowing coastline erosion and catching sediment behind the structures.



Marsh creation.



Shoreline protection.

Biologists continued cooperating with U.S. Fish and Wildlife Service (USFWS) on their South Grand Chenier Hydrologic Restoration Project (CWPPRA ME-20). This included field trips, meetings, and review of dredge pipeline placement plans.

Wildlife Management

Alligator Nuisance Harvest

An experimental nuisance alligator harvest was conducted on RWR from Sept. 7-10, 2011. Nine Rockefeller alligator hunters (with 40 tags each) completed the harvest of 360 alligators during the four days. The harvest was done by alligator hunters with a prior trapping history on RWR, as well as two hunters selected via a lottery system; all were 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, thus reducing the chance of negative interaction between alligators and humans. The average length of 2011 alligators caught was 7.39 feet with a \$16.69 average price per foot. This was an increase of \$4.33 per foot compared to 2010 prices, but 2011 prices remained much lower than the average of \$21.96 per foot and the high of \$38.28 per foot in 2008.



Fisheries Management

RWR staff's ability to manage estuarine organisms continues to be limited due to the damage to levees and water control structures following hurricanes Rita and Ike; difficulties will continue until repairs are completed and units are functioning as planned. 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 2012, approximately 100,800 fry were stocked in the rearing ponds at RWR and later seining of these

ponds resulted in approximately 52,100 fingerlings (51.7% survival rate). All fingerlings were released into the Superior Canal system on RWR.



Waterfowl Program

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 effort with Texas and Louisiana and involves many state and federal biologist, 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. CNR biologists completed the 18th year of the program by banding 578 mottled ducks statewide in 2011; capture was lower than normal due to fluctuating water levels. Since 1994, CNR staff have banded 36,354 mottled ducks.



Whooping Cranes

This past year brought both highs and lows for the whooping crane reintroduction project. Unfortunately, survival of the 2010 cohort continued to decrease leaving just two survivors out of the original 10 that were released, with five additional birds dying or disappearing. Two of these were presumed to have been killed by predators (minimal remains were left to determine the cause of death), two of the other three were shot and killed by two teenage boys, and the fifth bird disappeared and is presumed dead; the latter was in a group with the two that were shot and disappeared at the same time as the shooting incident.

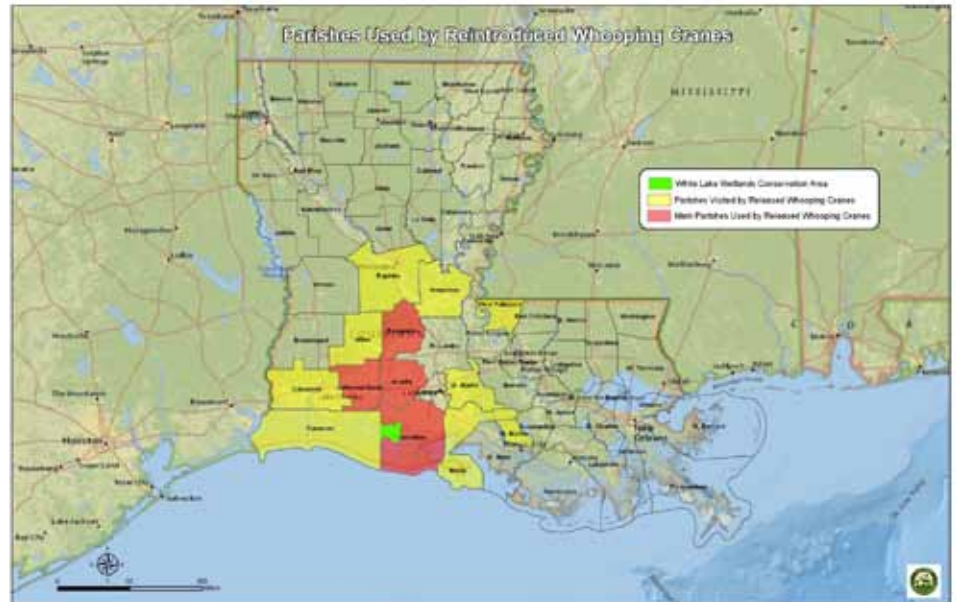
Although the shooting incident was extremely disappointing and a major setback to the reintroduction, it brought a lot of attention to the project and ultimately a great deal of good came out of the incident. First, the shooting was witnessed and reported to us the next morning, and the juvenile offenders were caught and charged the following evening. Second, the incident showed how important outreach and education are and provided motivation to seek out funding for expanded coverage. Third and subsequently, a large grant was obtained from Chevron specifically for education and outreach, with funding used for the development of 10 different lesson plans for middle and high school age children, as well as a number of teacher training workshops. Further, this funding was used to create billboards and short radio and TV advertisements promoting the importance of the reintroduction project. Pending success of this first year, we hope to obtain additional years of funding from Chevron.

On Dec. 1, 2011, 16 new whooping cranes arrived from the Patuxent Wildlife Research Center in Laurel, Md. The birds were held in the top-netted portion of the release pen at WLWCA for several weeks before being released on Dec. 27, 2011. Unfortunately, a female (L14-11) suffered an injury in early January while being handled to replace a transmitter thus rendering her unable to fly. Radiographs revealed a fractured left coracoid bone with surgery being the best option for repair. On Jan. 27, 2012, surgeons at the LSU School of Veterinary Medicine performed the surgery and used a small metal plate to stabilize the fracture site. This was the first surgery of its kind and it was a complete success, with L14-11 flying again three weeks after the surgery and still surviving on the landscape on June 30, 2012.

The second cohort of cranes had higher survivorship than the first cohort, with 14 still alive as of June 30, 2012. One bird disappeared in early February, and only the GPS transmitter was found several weeks later. The bird is presumed to have been killed by a predator, but this could not be confirmed without any remains. A second bird was found dead not far from the release pen in late March; it was not predated, but necropsy results could not determine a cause of death.

Two groups of three birds left the marsh and moved north into agriculture fields in the historic Cajun Prairie shortly after food was discontinued at the pen. However, the majority of the second cohort remained in the marsh until July when they too moved north into agricultural fields; this includes a group of seven that settled in Avoyelles and Rapides parishes, which is a more northern location than previous cranes have used. As of June 30, 2012, 16 of the 26 whooping cranes remain alive, with two of 10 from the first cohort and 14 of 16 from the second cohort, surviving on the landscape in southwestern Louisiana.

Research led by LSU colleagues has continued, with primary topics including monitoring habitat use and behavior of cranes from both cohorts. For the 2011 cohort, half of the cranes were fitted with VHF transmitters, which have allowed real-time tracking and observations. As a result, we have more visual observations of the birds and are able to correlate behaviors observed with the habitat the birds are utilizing.



WILDLIFE & FISHERIES RESEARCH

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. From this list, 432 of the ~575 research papers have been scanned to electronic copies and some are available on the LDWF website. Further, biologists attended and research was presented at regional, national and international meetings and workshops, with future collaborations developed from meeting attendance.

Staff Research at RWR

Avian Diversity and Abundance in Altered Wetlands and Effects of Mineral Exploration

The loss of wetlands is one of the most pressing environmental issues across coastal Louisiana. However, many altered wetlands still provide some value to wildlife species. RWR staff designed a field study to document the avian diversity and abundance in altered wetlands (i.e., pump-off wetlands, a.k.a., goose pastures); this project also secondarily documents the effects of the Chevron Lineham Creek well on avian diversity and abundance. Through 43 weekly sampling periods, a total of 8,806 individuals of 49 species have been observed on line transects. Dominant species include red-winged blackbirds (36%), boat-tailed grackles (15%), and eastern meadowlarks (14%). In addition, nine Louisiana bird species of concern have been documented in the goose pastures.



Diamondback Terrapin Distribution, Abundance and Population Status

Following the *Deepwater Horizon* Oil Spill, it became evident that critical information was lacking to adequately determine the status of diamondback terrapins (*Malaclemys terrapin*) in Louisiana. Following the pilot study of 2010-2011, RWR staff surveyed for diamondback terrapins throughout Cameron Parish at seven sites, with two sites on RWR, one on Sabine National Wildlife Refuge, two on state lands or waters, and two on privately owned property. Researchers used fyke nets with leads and manual capture from an airboat to capture terrapins. At the seven sites, 201 terrapins were captured, with terrapins documented at all but one site. The highest terrapin densities occurred on private property in the lower Mermentau River (140 individuals in 18 net days). At the two sites on RWR that were trapped in 2010-2011, we did not recapture any of the 140 individuals during the 2011-2012 effort. The data collected during the 2010-2011 pilot study were analyzed, prepared, and submitted as a techniques manuscript.



Collaborative Research at RWR

During fiscal year 2011-2012, RWR biologists collaborated on a number of marsh management, wildlife and fisheries research projects on the refuge, across the region, throughout the state, and beyond (ex., bald eagle migrating to Canada). These projects include:

- *History, nesting population, migration, home range, and habitats used by Louisiana bald eagles.* - T. Hess with A. Afton and N. Smith (LSU).
- *Life history and ecology of coastal alligator gar.* - B. Salyers with A. Ferrara, J. Duke, and M. Felterman (Nicholl's State University).
- *Continued trials on bio-engineered Oystercrete rings.* - B. Salyers with S. Hall and J. Risinger (LSU).
- *Salt acclimation of *Spartina alterniflora*.* - B. Salyers with L. Breaux and Q. Fontenot (Nicholl's State University).
- *Hybridization and paternity in mottled ducks.* - W. Selman with S. Taylor (LSU).
- *Surveys of the aquatic turtle fauna in southwestern Louisiana, with emphasis on three Louisiana species of conservation concern.* - W. Selman with E. Lyons, C. Huntzinger, I. Louque (McNeese State University), P. Lindeman (Edinboro State University), and S. Shively (U.S. Forest Service).
- *Population status of diamondback terrapins in Louisiana and the interaction of crab fisheries on population viability.* - W. Selman with J. Weibe and B. Stultz (LDWF).

Non-collaborative Research

During 2011-2012 fiscal year, several non-collaborating researchers used RWR as a study site. These studies include:

- *Population genetics and conservation of seaside sparrows along the Gulf Coast.* - S. Woltmann, S. Taylor, and P. Stouffer (LSU).
- *Long term manipulation of marsh grass and vegetation structure.* - J. Visser (ULL).
- *Determining the origin of winter tree swallows using stable isotope analyses of feathers.* - A. Laughlin and C. Taylor (Tulane University).
- *Estimating shorebird potential mortality for the Deepwater Horizon Oil Spill.* - S. Wilson, C. Jeske, and T. Cochran (USGS).
- *Distribution of secretive marsh birds and anurans as detected by automated recording units.* - T. Thigpen, C. Jeske, and S. Wilson (USGS).



Publications by RWR Staff Biologists

- Elsey, R.M., P.L. Trosclair III, J.J. Wiebe, and W. Selman. 2011. *Alligator mississippiensis* (American Alligator). Juvenile site fidelity. *Herpetological Review* 42: 596-598.
- Selman, W. *Graptemys flavimaculata* (Yellow-blotched Sawback). 2011. Unique aerial basking behaviors. *Herpetological Review* 42:593-595.

- Selman, W. and R.L. Jones. 2011. *Graptemys flavimaculata* Cagle 1954- Yellow-blotched Sawback, Yellow-blotched Map Turtle. In: Rhodin, A.G.J., Pritchard, P.C.H., van Dijk, P.P., Saumure, R.A., Buhlmann, K.A., Iverson, J.B., and Mittermeier, R.A. (Eds.). Conservation Biology of Freshwater Turtles and Tortoises: A Compilation Project of the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group. Chelonian Research Monographs No. 5, pp. 052.1-052.11, doi:10.3854/crm.5.052.flavimaculata.v1.2011, <http://www.iucn-tftsg.org/cbft/>.
- Selman, W. and C. Qualls. 2011. Basking ecology of the yellow-blotched sawback (*Graptemys flavimaculata*), an imperiled turtle species of the Pascagoula River system, Mississippi, USA. *Chelonian Conservation and Biology* 10:188-197.
- Selman, W., T. Hess, Jr., B. Salyers, and C. Salyers. 2012. Short-term response of Brown Pelicans (*Pelecanus occidentalis*) to oil spill rehabilitation and translocation. *Southeastern Naturalist* 11:G1-G16.

TECHNICAL ASSISTANCE, OUTREACH, & EDUCATION

Refuge personnel continued public outreach activities, hosting several events to educate elementary, high school and college students in wildlife, marsh ecology and coastal erosion. Students were housed from various colleges and universities including Tulane, LUMCON, LSU Baton Rouge, LSU Shreveport, LSU Alexandria, Nicholl's State, ULL, Northwestern State, Lamar, and Clemson. RWR staff also participated in guided tours with PBS, 4H, Audubon, and various other organizations and groups. One of the largest groups the refuge hosts each summer is the 4-H Marsh Maneuvers Camp. In 2011, 62 high school students from 21 parishes throughout Louisiana participated in the week long camps in July. These camps are designed to educate high school students in the importance of coastal marsh erosion, restoration, conservation and ecology. Examples of other technical assistance provided by RWR staff include:

- participated in guided tours to the whooping crane pen site and Nunez Woods Bird Sanctuary
- judged science fair projects
- presented on the whooping crane reintroduction to multiple grade school, college, local and professional groups
- presented lectures to visiting college and university students on wetlands ecology, wetlands management, waterfowl ecology, and conservation research
- guided Natural Resource Damage Assessment (NRDA) biologists for secretive marsh bird surveys
- guided U.S. Geological Survey (USGS) scientists on wetlands ecology and management tour
- assisted the Natural Heritage Program during annual winter plover surveys
- assisted private landowners in assessing marsh conditions and management for waterfowl
- conducted peer-review and editorial duties for scientific journals; reviewed graduate theses proposals and grant proposals for university students and faculty
- provided long-term water level/salinity data to interested local and state parties



RECREATIONAL USE

Marsh management units and more specifically, water control structures, continue to be very popular with sports fisherman. However, Hurricane Ike in 2008 damaged levees and water control structures, creating some problems for managers and fewer recreational opportunities. Due to reconstruction work on the roads and boat ramps, the East End Locks road was closed on Dec 19, 2011 and the Joseph Harbor boat launch was closed on April 18, 2012. These closures severely limited recreational access on the refuge and the public voiced concerns to refuge personnel regarding these closures. However, the vast improvements made to this recreational area will be realized during fiscal year 2012-2013. According to car counter data collected in 2011-2012, it was estimated that RWR experienced approximately 90,852 man-days of public use, with 88,541 considered for consumptive use and 2,311 for non-consumptive activities (e.g., bird watching).

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 Nov. 5, 1929. BP owned and managed the BP American Production White Lake Property until July 8, 2002 when BP donated the property to the state of Louisiana. On July 8, 2002, a Cooperative Endeavor agreement between the state and White Lake Preservation Inc. (a 501(c) 3 corporation) for management of the property was executed. On Jan. 1, 2005, Act 613 of the 2004 Regular Legislative Session became effective. This act established:

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

SURFACE LEASES

Agricultural and Hunting

There are currently 37,613 acres of property leased out in nine separate tracts. The property is leased to six separate tenants for the purpose of farming, raising cattle, crawfish farming, and hunting. There is a rice base totaling 4,708.2 acres on this property. There were approximately 400 acres of rice planted in 2012. In addition to the reduced crop harvest, there were no crawfish harvested on the property in 2012.

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.

Trapping

There were a total of 486 Alligator Tags issued for the 2011 Alligator Trapping Season. The average size of the alligators trapped was 6.14 feet, with an average live length value of \$13.45 per foot.

There was a contract negotiated for the collection of alligator eggs from the WLWCA property in 2011. WLWCA received a payment of \$15.10 per egg. A total of 3,031 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 three oil and gas valve site leases, and a single oil and gas surface use agreement on the property in fiscal year 2011-2012.

LOTTERY ACTIVITIES

Waterfowl Lottery

Waterfowl Hunting		
	Total Hunts	Participants
Teal Lottery Hunts	0	0
Marsh Lottery Hunts	2	24
Youth Hunts	0	0
Rice Field Lottery Hunts	23	98
Group Hunts	1	6

Waterfowl Hunting Results (2010-2011 season)		
	Marsh	Rice Field
Total Ducks Harvested	142	35
Average Kill/Hunter (ducks)	3.94	0.36
Total Geese Harvested	10	40
Average Kill/Hunter (geese)	0.53	0.41

Fishing Lottery

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 Aug. 15, 2011.

2012

Sixty-four 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, 2012 to Aug. 15, 2012.

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 18 day-trips and nine overnight trips made available for public booking during fiscal year 2011-2012. During this period there were five day-trips scheduled and hosted by WLWCA. A total of 75 nature photographers/bird watchers visited the property in conjunction with our non-consumptive trip activities. No overnight trips were requested.

Birding Trail

The WLWCA Birding and Nature Trail, with accompanying kiosk, was completed in April. A grand opening of the trail was held on April 12, 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 is easily accessible to the public and because of its close proximity to the WLWCA Headquarters complex. Birding paths, a parking area, access bridges, a birding tower and a picnic pavilion are open to the public. There have been approximately 210 logged names in our Visitor's Guest Book.

EDUCATION, OUTREACH & RESEARCH

Marsh Maneuvers

During December 2011, 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

There is approximately 200 acres of coastal prairie on the WLWCA property located south of the Gulf Intracoastal Waterway and west of the Florence Canal. For the past couple of years LNHP has been conducting research on the different plant species located on this prairie. 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 of the area.

Whooping Crane Re-Introduction Project

WLWCA assisted the Whooping Crane Reintroduction Project by providing office space, staff and vessel support. In addition, WLWCA staff maintained the 700-acre impoundment located approximately 3.5 miles north of the existing pen location.

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

Marsh Management

The WLWCA property consists of approximately 52,000 acres of fresh water marsh. There are four separate management units that comprise the marsh. Within these marsh areas there are over 100 miles of trenasses, seven water control structures, four 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.

Agricultural Management

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

Many of the agricultural tracts border the Gulf Intracoastal Waterway (GIWW). Years of erosion on the GIWW levees/spoil banks have washed away much of the protection from high water and wake in the channel. To counteract some of the erosion, a project was designed to add riprap rocks to the GIWW shoreline in the most affected areas. In total, \$3 million in funding from various sources (LDWF, Ducks Unlimited, National Fish and Wildlife Foundation [NFWF], Shell Oil, Walker Foundation, Stuller Family Foundation, Richard and Elaine Zuschlag Family Foundation) will provide approximately 1.25 miles of rock breakwaters. Permitting and planning for the project has begun, and once completed, the project will be opened for public bid. Priority areas for rock placement have already been designated.

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 (approximately 800 acres) was owned and operated by Texas Petroleum Investments. In the spring of 2010, Texas Petroleum Investments purchased the West White Lake and Florence Field and became the sole oil and gas operator on the WLWCA property. 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. The exploration resulted in a dry hole and the lease was terminated.

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 2011 to Magnum Producing, L.P. on a portion of this acreage. LDWF/WLWCA negotiated a surface lease with Magnum Producing, L.P. to facilitate the drilling of an exploratory well, which was located on the WLWCA property in Section 23, Township 13 South, Range 1 West, Vermilion Parish, La. The well is currently producing natural gas and oil.

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 main boat house at the Florence Landing was expanded to include two additional covered slips and an uncovered wharf.

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 2011-2012

Totals	
Beginning Fund Balance 2011-2012	\$1,994,498
Total Revenue	\$1,283,353
Total Expenditures	-\$1,011,788
Ending Fund Balance 2011-2012	\$2,266,063
Revenue	
Group Hunt Fees	\$29,847
Agricultural Leases	\$715,380
Alligator Egg Collection	\$45,768
Lottery Hunt Fees	\$22,530
Alligator Trapping Income	\$16,056
Interest Income	\$5,279
Mineral Bonuses	-
Surface Leases	\$442,028
Surplus Property	\$360
FEMA Reimbursements	-
Oil and Gas Royalty	\$200
Non-Consumptive Trips	\$2,930
Fishing Lottery	\$2,975
Total	\$1,283,353

Expenditures	
Salaries	\$376,869
Wages	\$66,590
Related Benefits	\$173,650
Travel	\$80
Operating Services	\$75,665
Supplies	\$153,412
Professional Services	\$9,693
Other Charges	-
Acquisitions	\$44,593
Major Repairs	\$81,999
Interagency Transfers (insurance)	\$29,237
Total	\$1,011,788

FURBEARER MANAGEMENT

MONITORING FUR HARVEST

The 2011-2012 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 2,054 trapping licenses were sold during the 2011-2012 trapping season. Of these, 1,968 were adult residential licenses, 18 were adult non-residential trapping licenses, and 68 were youth residential licenses. These figures show an increase in trapping licenses sold when compared to the previous season (1,957).

A total of 373,842 animals were harvested (all species), which was an increase of 23,119 from the previous season's total of 350,723. The total value of the 2011-2012 fur harvest to the state's trappers was estimated at \$2,066,058.84. This total value was an increase of \$212,513.49 from the previous season.

The nutria harvest (354,354) increased by 15,842 from the previous season's total of 338,512. The average nutria pelt price paid to trappers during this past season was \$2.79. An additional \$5 was paid for all nutria taken during the Coastwide Nutria Control Program 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 2011-2012 season, a total of 354,354 nutria tails, worth \$1,771,770 in incentive payments, were collected from 285 participants. Eighty-eight participants (31%) turned in less than 200 tails, 50 participants (17%) turned in 200-499 tails, 33 participants (12%) turned in 500-799 tails, and 114 participants (40%) turned in 800 or more tails.

Total Number of Nutria Harvested by Method of Take in 2011-2012

There were 17 parishes represented in the program with harvests ranging from 142 to 85,578 nutria per parish. Terrebonne Parish reported the highest number of tails with 85,578 followed by Plaquemines and St. Mary parishes with 71,878 and 45,859, respectively.

January was the most active month for harvesting nutria (106,953 tails) while November was the least active month (11,847 tails). (See CNCP 2012 Report, CWPPRA Project LA-03b.)

Vegetative Damage Caused By Nutria

As a monitoring requirement of CNCP, a coast-wide aerial survey was conducted in April 2012 covering the coastal parishes of Louisiana. The total number of sites visited in 2012 was 10, all of which were classified as nutria damage in 2011. During the 2012 survey, nine of the 10 sites were classified as nutria damage, one was considered recovered, and two new sites were identified.

The 2012 survey identified 11 sites (nutria) with a total of 1,129 acres impacted by nutria feeding activity along transects (4,233.75 extrapolated). This is approximately a 33 percent decrease from the 1,679 damaged acres reported in 2011. CNCP continues to be a successful means of controlling the nutria population with over 300,000 animals 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 allows for public support of the second goal of market enhancement for fur products.

The Fur Advisory Council has continued its statewide education program. The council focused the educational message on trapping and habitat management and carried the program to schools and public libraries throughout the state of Louisiana during fiscal year 2011-2012. The educational module paired with the educational CDs continued to be a great success. Requests for sample skins and programs have been steady. The Fur Advisory Council continued with a presence at large public events such as the La Fete D' Ecologie, National Hunting and Fishing Day and Ocean Commotion. The Council has also worked with Boy Scouts and 4-H groups within Louisiana to teach the benefits as well as the techniques of trapping. The website carried the educational story to a much broader audience of teachers and students worldwide. The success of our education program will likely determine the future of markets.

The international fur market continues to be dynamic. Mainland China still holds the brightest future for new and expanded markets, and Chinese fur buyers purchased from Louisiana this year. The Chinese economy is growing quickly. The Fur Advisory Council attended fur shows in mainland China and Hong Kong during fiscal year 2011-2012. The Beijing Fur Show is more focused every year, and buyers are very interested in Louisiana products. The market in Turkey has also opened for Louisiana fur dealers. A buyer from Turkey visited Louisiana this year and has incorporated Louisiana furs into his fashion line. The council has succeeded in developing fur markets in Asia and Eastern Europe, and Louisiana dealers are now challenged to expand the fur harvest locally.

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 14 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.
- **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 (NAWCA) 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 75 well locations, pipeline projects and other mineral exploration related permits on LDWF properties. The program also issued nine rights-of-way and two surface leases, and 19 mineral leases were allowed on LDWF properties during fiscal year 2011-2012. 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 \$53 million, which included mineral royalties, rights-of-way, surface leases and seismic fees. In addition, the Mineral Program staff issued 79 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 Louisiana Department of Natural Resources (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 continued 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.

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 2011-2012 the Habitat Section was comprised of 18 full-time technical staff members and 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.

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, and works with landowners that have rare species and habitats to promote their future survival. Data concerning rare elements is collected and stored in the Biotics database system. This data is then used to determine if there are any potential adverse impacts to the environment.

Digital Data Projects and Database

Heritage data is integral in determining the status and state rankings for species of conservation concern, which drives the direction of non-game species research and conservation for the state of Louisiana. The information is stored in easily

accessed GIS computer database files known as Biotics, which was developed by the Natural Heritage Network's data coordination organization, NatureServe. During fiscal year 2011-2012, a total of 825 element occurrence records were added and/or updated in Biotics along with the associated information including location, species population status, and habitat condition. Waterbird nesting colony records and plover records were updated with 2011 survey data and Bachman sparrow data collected in the spring of 2011 were added into the database. The red-cockaded woodpecker (RCW) was a focal dataset with new records added and existing records updated. In addition to adding and updating the RCW records, the geospatial representation of the RCW element occurrences was reconsidered and these records underwent several changes in Biotics.

The Biotics database is used daily by the LNHP staff to review construction activities and development projects planned by government and private entities throughout the state. These activities range from small to large-scale projects including residential, commercial and industrial development, and the development of pipelines and roads. These activities repeatedly threaten RTE species and natural habitats across the state, and LNHP is concerned with reducing and limiting these threats as much as possible.

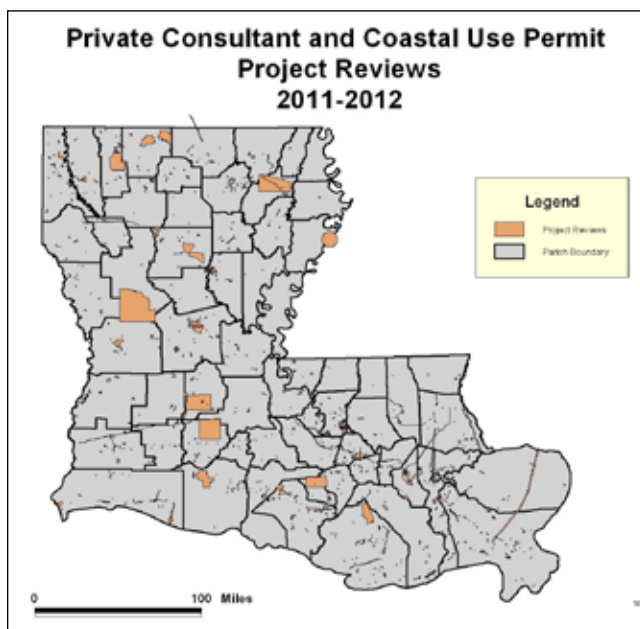
Throughout the year, government and private entities will request species and habitat reviews for projects occurring in Louisiana. These reviews are collectively referred to as private consultant projects. The requesting organization submits a description of the proposed project to the LNHP and a query of the LNHP database is run against the proposed project area. The results of the query show species of conservation concern and natural communities within one mile of the project area. A comment letter is submitted to the requesting organization identifying potential impacts to LNHP tracked species, communities and critical habitats. The letter also indicates the presence of scenic rivers, state or federal parks, wildlife refuges, and wildlife management areas occurring within 400 meters of the project area.

The LNHP receives Coastal Use Permits (CUP) submitted to LDWF by the LDNR. CUPs are required for commercial, residential and oil and gas projects occurring within Louisiana's Coastal Zone. LDNR houses a subset of the LNHP database, allowing LDNR to flag CUPs that occur near LNHP tracked species. These flagged CUPs are forwarded to LNHP biologists for review. As with private consultant reviews, comments regarding potential impacts to RTE species, critical habitats, natural communities, and species of concern are generated. The LNHP's comments, along with comments from other departments within LDWF, are consolidated, and an agency wide letter is submitted to LDNR.

The LNHP also reviews USACE permits and permits from other regulatory agencies. These reviews are collectively referred to as internal reviews due to the fact they are received by the LNHP from other departments within LDWF.

In fiscal year 2011-2012, the LNHP staff conducted 1,546 project reviews which included 736 private consultant project reviews, 704 new or modified Coastal Use Permits, and 102 internal project reviews.

The LNHP Database Section processed a total of 32 digital data requests for private consultants, nonprofit organizations, universities and government agencies. The digital data request involves large scale projects. The requesting organization submits a description of the proposed project to the LNHP, and a query of the LNHP database is run against the proposed project area. The results of the query show species of conservation concern and natural communities within a predetermined distance stated in the project request letter. A comment letter is submitted to the requesting organization identifying potential impacts to LNHP tracked species, communities and critical habitats, along with point and/or polygon data and associated species information. The information provided by the LNHP is applied to land use decisions, environmental impact assessments, resource management, conservation planning, endangered species reviews, research, and education.



environmental impact assessments, resource management, conservation planning, endangered species reviews, research, and education.

In addition to data agreements produced for public and private entities, the Database Section worked in-house with the Seismic Section on 11 large-scale seismic and micro-seismic projects occurring throughout the state. These projects were reviewed by the LNHP and comments submitted to the Seismic Section indicating potential impacts of these projects to LNHP tracked species and natural communities.

Endangered Species Act Section 6 and SWG

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. Section 6 Cooperative Agreements were renewed between LDWF and USFWS and National Oceanic and Atmospheric Administration (NOAA).

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

- LNHP coordinated with NRCS to develop ranking criteria for the Working Lands for Wildlife Program.
- Coordinated with USFWS to develop ranking maps for threatened and endangered species through the Wetland Reserves Program.
- LNHP continued to partner with USFWS and Natural Resources Conservation Service on Endangered Species Act coordination.
- Prescribed burning of public and private properties
- White-nose syndrome coordination
- Mussel identification services to inland fisheries during the Pearl River Spill response
- Louisiana pearlshell mussel coordination with federal and parish partners
- Relocation of exposed pearlshell beds during drought on private lands
- Offered workshop to Hancock Forest Management on rare elements on their properties
- Louisiana pine snake research and coordination with Pine Snake Working Group
- Gopher tortoise surveys on pipeline/powerline right of ways
- Ringed map turtle trapping was conducted on the Pearl River to determine the status of the population.
- The manatee sighting database was maintained and staff responded to stressed/dead manatees when reported.



Louisiana pine snake research.

Gopher Tortoise Surveys

LHNP staff coordinated and completed gopher tortoise surveys on pipeline/powerline rights of ways in Washington, St. Tammany and Tangipahoa parishes. Staff documented 272 burrows of which 152 were active, 108 inactive, and 12 were abandoned. Data were collected to work towards calculating a burrow occupancy rate and a population estimate. Occupancy rate was determined by scoping burrows with a burrow camera. Reproduction was discovered on Sandy Hollow WMA. Landowners with tortoises on their property were contacted and habitat conditions were assessed.



Environmental Review Online Tool for Rare, Threatened, and Endangered Species

This project will provide an easily accessible tool in a user-friendly interface that enables project managers, consultants, non-governmental organizations (NGOs) and government agencies to perform online searches for potential project impacts to species of conservation concern and other natural resources. An online tool is expected to increase the number of project reviews due to the interactive map service that allows project managers, consultants, NGOs, and government agencies to submit project boundaries on-line and receive an automatically generated response. It will also aid in early consultation efforts for staff in the environmental decision making process and minimize impacts to RTE species and natural communities through early awareness. This project is scheduled to be completed by the summer of 2013.

Ongoing State Wildlife Grants (SWG) Projects

Zoological projects funded through SWG included:

- Monitoring Avian Productivity and Survivorship Program
- Winter Bird Atlas
- Breeding Bird Surveys
- Calcasieu Painted Crawfish Surveys
- Winter Plover Surveys
- Secretive Marsh Bird Callback Surveys
- Christmas Bird Counts
- Loggerhead Shrike Banding
- Aerial surveys for waterbird nesting colonies
- Aerial surveys for pre-migration roosts of swallow-tailed kite
- RTE Species and Natural Communities on LDWF WMAS and Refuges

Habitat related projects included:

- Natural Areas Registry
- S1,S2 Habitat Assessments
- Coastal Prairie Assessments and Restoration
- Ringgold Prairie Restoration
- Natural Community Assessments
- Upland Longleaf and Longleaf Sandhills Management



Natural Areas Registry Program

The LNHP Natural Areas Registry Program, partially supported by SWG funds, has 49,358 acres enrolled across the state. New registry sites entered into the program in fiscal year 2011-2021 totaled over 11,000 acres. The Keiffer-Tan-cock prairies on Kisatchie National Forest were added to the registry. This site contains the most significant calcareous prairie/forest complex in the state. There are also seven registries totaling 2,278 acres currently pending.

Alligator Snapping Turtle

LNHP continued our partnership with Inland Fisheries division on 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 head-started turtles into depleted areas. Turtles were overwintered at the USFWS Natchitoches Fish Hatchery and transported to the LDWF Monroe Hatchery in the spring of 2012.

These juveniles are currently housed in indoor raceways constructed to mimic natural habitat. Turtles will be transferred to outdoor ponds in 2013.

Ringgold Prairie Restoration

The Morse Clay prairies of northwestern Louisiana can be described as small openings on side-slopes and flats in shortleaf pine/oak-hickory forests. There are only 11 of these prairies left in Louisiana, and nearly half of those are in poor condition. One of the major threats to calcareous prairies is woody species encroachment, most notably by *Juniperus virginiana*. Inadequate management techniques, particularly lack of regular prescribed fire, continues to cause loss of plant diversity, and an overall decrease in the size and function of prairie remnants. These changes appear to be degrading the remaining remnants at a rapid rate, and immediate action is essential to prevent the total loss of prairie in Louisiana. The LNHP has recently documented a new Morse Clay prairie in



Ringgold prairie before treatment.



Ringgold prairie after treatment.

Bienville Parish, near Ringgold. This prairie is on private timber company property and is being managed for brush encroachment. The prairie is 7 acres and has recently been cleared of woody species and burned to begin the restoration process. The landowner has agreed to continue to manage woody encroachment on this prairie if LDWF will monitor the effectiveness of these restoration activities at this site. This project will increase our knowledge of the effectiveness of current restoration practices on this habitat type and increase the quality of Morse Clay prairies in Louisiana.

Deepwater Horizon Oil Spill

LNHP assisted significantly in the ongoing *Deepwater Horizon* Oil Spill response and Natural Resource Damage Assessment (NRDA). Staff was and continues to be involved in conference calls, meetings and document drafting concerning the NRDA. LNHP biologists also located zoos that could house oiled terrapins.

Committees

Staff participated in many committees during fiscal year 2011-2012, 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
- SEAFWA Wildlife Diversity Committee Board
- LDWF Website Committee
- Louisiana Native Plant Society.
- Gopher Tortoise Bank Review Team
- Louisiana Pine Snake Group
- Natural Areas Association.
- SEPIF Executive Committee
- State Wildlife Action Plan committees

Presentations and Public Events

Public events that staff participated in included:

- Grand Isle Migratory Bird Festival
- Audubon Endangered Species Day
- National Hunting and Fishing Day
- Yellow Rails and Rice Festival
- Various high school and elementary talks.

Professional development courses, outreach and workshops attended or hosted include:

- Becoming an Outdoor Woman
- White Lake Conservation Area bird checklist
- Grand Isle Wetshop
- Hancock Forestry Management RTE Species Workshop
- Sea Turtle Monitoring Workshop
- Longleaf 101
- Longleaf 201-Understory Restoration



- Longleaf sandhills monitoring protocol training
- Shortleaf Pine Conference
- Gopher Tortoise Monitoring Workshop
- Wetland Remote Sensing Workshop
- Sedge and Rush ID Workshop
- Woody Plant Identification Workshop

LOUISIANA'S WILDLIFE ACTION PLAN AND STATE WILDLIFE GRANTS

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 (WAP), was submitted for approval to the National Advisory Acceptance Team and was subsequently approved in December 2005. The WAP is the roadmap for non-game conservation in Louisiana, and must be reviewed and revised every 10 years to ensure that it remains an effective tool for conservation planning and implementation. The first comprehensive revision of the Louisiana WAP was undertaken during fiscal year 2011-2012. A SWG to fund the revision effort was awarded in February 2012, and committees were formed to begin revising the WAP. A total of 13 WAP revision meetings were held before the end of the fiscal year, and significant progress was made on the revision, including the generation of new Species of Concern lists.

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 \$10,678,752 in federal SWG funding, with an apportionment of \$708,882 in fiscal year 2011-2012. Louisiana has funded 106 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, NGOs 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 2011-2012, 19 new project proposals were received for funding consideration. Sixteen proposals received approval by the SWG Committee by the end of fiscal year 2011-2012 (*Table 1*), and had been submitted to USFWS for approval, along with all required documentation. After grant closings on June 30, 2012, there remained 49 ongoing SWG-funded projects, including the 16 new projects.

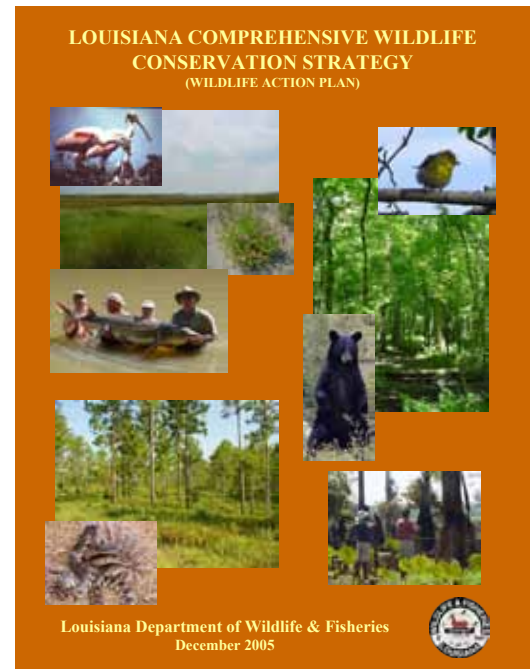


TABLE 1

New Louisiana State Wildlife Grants Opened During Fiscal Year 2010-2011	
T-30-4	Productivity and Survivorship of Landbirds and Their Response to Habitat Alteration
T-67-2	Louisiana Breeding Bird Survey Coordination
T-72-5	Bear Conflict Management Program
T-83-3	Promotion of Prescribed Burning in the East Gulf Coastal Plain
T-88-2	Efficacy of Newly Constructed Barrier Island Marshes and Rock Breakwaters for Providing Fish Habitat
T-101	Louisiana Wildlife Action Plan Revision
T-102	Bat Surveys in Louisiana
T-103	Ringgold Morse Clay Prairie Restoration
T-104	Distribution and Population Characteristics of the Calcasieu Painted Crawfish
T-105	Population Size and Genetic Connectivity of Seaside Sparrows in Louisiana
T-106	Status of the Alligator Snapping Turtle in SE Louisiana
T-107	Diamondback Terrapin Nesting Habitat and Productivity
T-108	Rare, Threatened, and Endangered Species and Natural Communities on Louisiana WMAs and Refuges
T-109	Distribution and Survival of Brown Pelicans
T-110	Time-Lapse Photographic Monitoring of Colonial Nesting Waterbirds
T-111	Wildlife Habitat in a 25 Year Old Restored Bottomland Hardwood Forest

During fiscal year 2011-2012, six SWG grants were closed (Table 2). Copies of final reports for all closed SWG grants are available to interested parties upon request. Twenty-three grant amendments were submitted to USFWS during fiscal year 2011-2012.

TABLE 2

Louisiana State Wildlife Grants Closed During Fiscal Year 2010-2011	
T-10-2	S1, S2, and S3 Species Inventory
T-16-2	Louisiana Natural Areas Registry - Segment 2
T-75	Watershed Scale Assessment of Fish Assemblages in the Ponchartrain Basin
T-83-1	East Gulf Coastal Plain Prescribed Burning
T-87	Southwest Louisiana Prescribed Fire Initiative
T-88-1	Efficacy of Newly Constructed Barrier Island Marshes and Rock Breakwaters for Providing Fish Habitat

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 1,871 state and federal permit applications during fiscal year 2011-2012. It was determined that compensatory mitigation was required on approximately 369 of the 1,871 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 three years.

Staff continued to see 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 LDNR and the Louisiana Department of Environmental Quality (LDEQ) to provide USACE regulators with a single comprehensive and technically sound guidance document for each of the 41 proposed Section 10 permit applications.

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 2011-2012, staff conducted 42 on-site field inspections and participated in 141 meetings with applicants, agents and regulatory agency personnel.

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 2011-2012, staff evaluated, inspected and provided technical comments and recommendations on approximately 40 proposed wetlands mitigation banks. A total of 12 wetland mitigation banks were approved and authorized in Louisiana during fiscal year 2011-2012, totaling over 4,091 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 completed a comprehensive plan in March 2012. This plan, entitled "Managing Louisiana's Groundwater Resources," was distributed to members of the Louisiana Legislature. Furthermore, by Act No. 471 of the 2012 Regular Session, the Legislature changed the name of the Ground Water Resources Commission to the Water Resources Commission and charged them with evaluating the state's surface water resources.

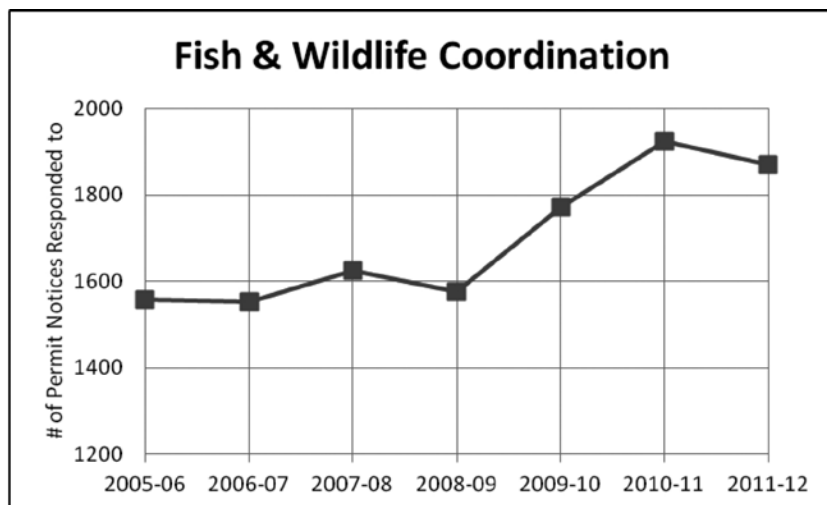
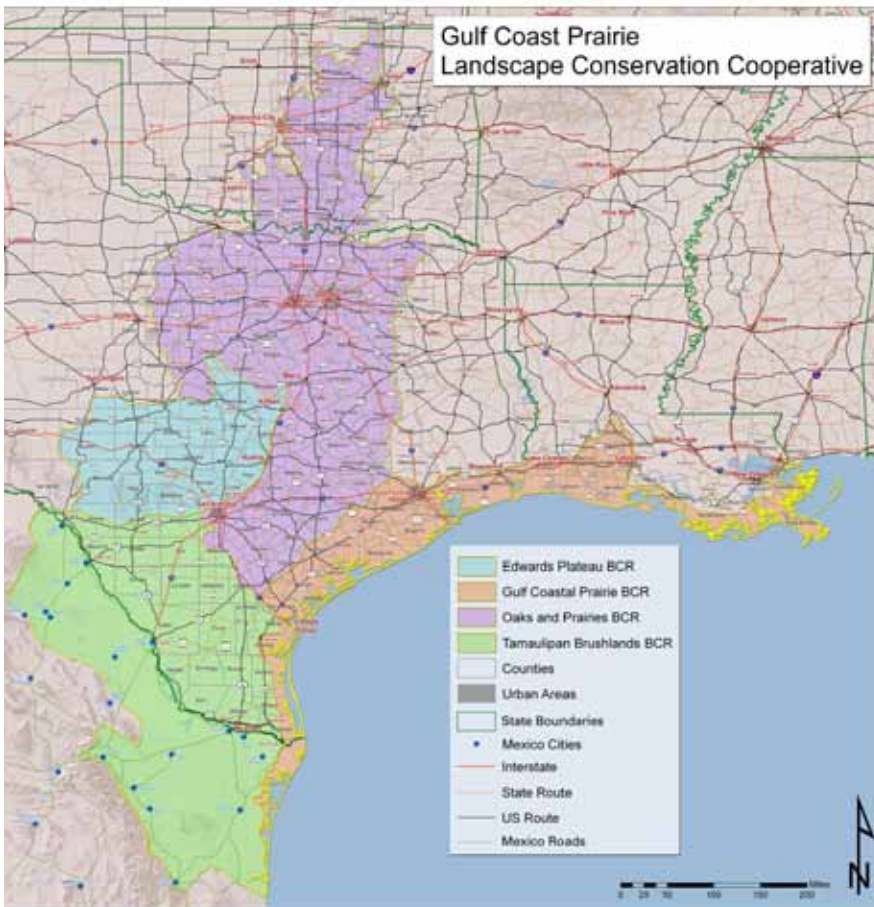


FIGURE 1. Annual total of State and Federal permit notices responded to by LDWF.

This past fiscal year LDWF also committed to participating in the Gulf Coast Prairie Landscape Conservation Cooperative (Gulf Coast Prairie LCC), the purpose of which is to provide the best available science as the founda-



Gulf Coast Prairie LCC area, including parts of Louisiana, Texas, Oklahoma and Kansas

tion in delivering a coordinated approach to meeting conservation needs across the Gulf Coast Prairie LCC landscape (see map of LCC area). LDWF participates as both a Steering Committee member and Science Team member.

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.

LDWF worked with numerous governmental agencies in conducting environmental investigations including: USFWS; National Marine Fisheries Service; U.S. Environmental Protection Agency; USACE; U.S. Forest Service; U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS); Federal Highway Administration; Federal Aviation Administration; Farmers Home Administration; U.S. Coast Guard (USCG); Department of Energy; Federal

Energy Regulatory Commission; 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 unnecessarily impacts an oyster reef. There were 78 water bottom assessments reviewed and approved by agency staff during fiscal year 2011-2012.

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 3,100 linear miles of Louisiana's streams, rivers and bayous.

House Concurrent Resolution 49 of the 2012 Regular Session of the Legislature nominated Bayou Teche for inclusion into the Historic and Scenic Rivers program. LDWF was urged and requested to study the 135-mile long waterway which begins near Port Barre in St. Landry Parish and flows southward to meet the Lower Atchafalaya River in St. Mary Parish. LDWF has initiated the study and will complete its work prior to the convening of the 2013 Regular Legislative Session.

In fiscal year 2011-2012 staff put into action plans to produce Scenic River Management Plans for newly included streams and to revise existing stream management plans in need of revision. The effort started with the development of a Scenic River Management Plan for Bayou Manchac (located in East Baton Rouge, Iberville and Ascension parishes). Future plans are for the production of a management plan for Bayou Liberty (St. Tammany Parish) and a revision of a management plan for the West Pearl River (St. Tammany Parish). Each management plan is developed in consultation with the Division of Administration, Department of Culture, Recreation and Tourism, Louisiana Department of Agricul-

ture and Forestry, LDEQ, and local governmental and NGOs. Each Scenic River Management Plan aims to accomplish the following:

- Identify important features to be protected and preserved;
- Identify potential issues, problems and needs that impact the river;
- Recommend measures for enhancement and reclamation of resources;
- Set forth management goals for the preservation of the river; and
- Provide for continuing public involvement.

Since the summer of 2011, staff has partnered with Tangi Clean, an organization dedicated to cleaning up litter in Tangipahoa Parish, in their efforts to control litter along the banks of the Tangipahoa River. Staff participated in two river cleanups in fiscal year 2011-2012. The picture shown to the right (middle) is from a cleanup event on Aug. 13, 2011 along the Tangipahoa River near Tangipahoa and Kentwood.

Louisiana experienced severe drought conditions during this fiscal year. As a result, there was an increased demand for surface water to be used for irrigation, oil and gas production activities, etc. and the “ordinary low water marks” of many streams were not as readily identifiable as usual making the marking of 100-foot buffers for silviculture more challenging. Scenic Rivers staff monitored water level conditions to ensure sufficient levels were maintained to support fish and other aquatic life, investigated and monitored fresh water mussel die offs associated with unusually low water conditions, and assisted timber companies with identifying and marking accurate buffers for their harvesting operations adjacent to designated Scenic Streams.

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 were constructed and are being placed along Bayou Dorcheat to aid boaters in navigation and enhance wildlife habitat along the bayou.

Several enforcement actions were initiated in fiscal year 2011-2012. These included cases of illegal mining activities, littering,



Bayou Bartholomew mussel die off near Point Pleasant.



Members of the Bayou Chapter of the Ozark Society hanging a wood duck box/mile marker on Bayou Dorcheat

A total of 28 Scenic River Permits were issued during fiscal year 2011-2012. The coordinator and staff conducted 144 site visits and field investigations statewide, surveyed approximately 140 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. The database also archives LDWF's response to all permit notices dating back to 2006. During fiscal year 2011-2012 several enhancements were made to improve the tracking ability, accuracy and usefulness of the permits database.

During fiscal year 2011-2012, the Permits Coordinator received, processed, tracked and disseminated responses to 1,871 permit notices.

DEEPWATER HORIZON OIL SPILL RESPONSE

DEEPWATER HORIZON OIL SPILL RESPONSE

Jon J. Wiebe – Program Manager

Matthew M. Weigel – Biologist Manager

Overview

During the last year, the LDWF NRDA Program remained heavily involved in the ongoing *Deepwater Horizon* Oil Spill response and cleanup, and throughout the Louisiana area of response, we continued to advocate for LDWF's trust resources, striving to protect wildlife and valuable habitat while monitoring response activity. We worked closely with

illegal point source discharges, operating on scenic rivers without permits, 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.

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

The coordinator gave seven presentations on the Scenic Rivers Program to local civic and governmental organizations and continued to participate on a parish government board formed to restore and promote Bayou Dorcheat in Webster Parish. The coordinator continued 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.

department land managers on our impacted WMAs, refuges and other managed properties in an effort to maintain LDWF goals and management objectives while *Deepwater Horizon* Oil Spill response continued. We endeavored to pursue treatment of remaining oil and the attenuation of associated threats, while calling attention to the need for proactive and long-term oil reconnaissance and removal program. We coordinated these efforts with the Gulf Coast Incident Management Team (GCIMT), which includes key state agencies (LDEQ, Louisiana Oil Spill Coordinator's Office [LOSCO], Louisiana Coastal Protection and Restoration Authority [CRPA], and LDNR), federal agencies (USFWS and NOAA), and the USCG. These efforts regularly included the following:

GCIMT Participation

Staff actively participated in workgroups as well as provided comments and recommendations on various response plans, Shoreline Treatment Recommendations, and net environmental benefit analyses. We participated in Technical Advisory Groups, interagency field trips, and worked with the GCIMT to resolve issues related to wildlife and oiling conditions along our shorelines. LDWF staff reviewed and commented on all 2011 Post-Hurricane Season Survey reports and Shoreline Inspection Reports submitted by Shoreline Cleanup Assessment Techniques (SCAT) teams, often petitioning USCG for further treatment and/or monitoring when warranted.

Shoreline Treatment Recommendation Monitoring

There remained a great need for continued treatment throughout many miles of our shorelines; therefore, Shoreline Treatment Recommendations have continued to be generated and implemented. Frequent re-oiling of impacted segments required multiple maintenance patrols per week and in some cases, daily visits by response cleanup crews, called "Operations." In sensitive habitat, on WMAs, refuges and other LDWF-managed property, our staff regularly monitored these treatment activities. Our monitors recommended various treatment methods, treatment guidelines, and the need for follow-up treatment. We also provided guidance on avoiding impacts to wildlife and wildlife habitat, relying on our knowledge of the resources.

Shoreline Cleanup Assessment Technique (SCAT) Participation

When SCAT teams surveyed LDWF-managed properties or valuable habitat, such as rookeries, our staff accompanied the survey teams in an attempt to ensure that surveys were thorough, accurate, and that best management practices were followed closely. As the SCAT effort increased during 2012, LDWF broadened our involvement and began joining SCAT teams as a state representative.

Monitoring of Avian Nesting

During the 2012 nesting season, LDWF biologists regularly surveyed known rookeries, nesting colonies and beaches. With the information garnered from these surveys, LDWF continued to update GCIMT's Geographic Information Systems (GIS) database, allowing the entire GCIMT to maintain awareness of active nesting habitat and appropriate no-activity buffers. Our staff spent considerable effort filling gaps and ensuring the database was accurate and up to date. When the threat of oiling warranted action within established buffers, our staff provided consultation and often accompanied Operations and others in an attempt to attenuate disturbances to wildlife.

Hurricane Isaac Related Activity

As evidenced by the 2012 hurricane season, high-energy events like Hurricane drastically increased re-oiling along the Louisiana coast, uncovering tar mats of residual MC252 oil from the *Deepwater Horizon* Oil Spill, exposing hundreds of thousands of pounds of oil and oily material. LDWF assisted GCIMT with an effort called "Rapid Assessment" to locate areas of potential re-oiling and investigate tar mats of MC252 oil discovered after Hurricane Isaac.

Oiled Wildlife Response

LDWF maintained the ability to respond quickly to calls of oiled wildlife and carcasses throughout much of the year. During this period we assisted the Office of Fisheries, documenting and collecting data on numerous marine mammal and sea turtle carcasses.

Hazing

In an attempt to attenuate ongoing wildlife impacts, LDWF continued active hazing programs and oversaw its implementation within Pass-a-Loutre WMA. Limited passive hazing was also implemented in northern Barataria marshes.

Continued Effort

It is important to remember that the *Deepwater Horizon* Oil Spill response is still on-going. LDWF continues to participate in the activities mentioned above, and plans to continue participating as long as the response effort continues.

LDWF RESEARCH AND NATURAL RESOURCE DAMAGE ASSESSMENT (NRDA) ACTIVITIES

Jon J. Wiebe – Biologist Program Manager
Margaret L. Hawkins – Biologist Supervisor
Benjamin Stultz – Biologist II

Research Activities

Overview: All NRDA's utilize background information gleaned from prior ecosystem research in order to inform the assessment process. Although not particular to the *Deepwater Horizon* Oil Spill, outside grant funding has allowed for outside research in the following areas, which will help assist in future NRDA's.

Population Status of Diamondback Terrapins (Malaclemys terrapin) in Louisiana and the Interaction of Crab Fisheries on Population Viability

Jon J. Wiebe^a, Will Selman^b, Benjamin Stultz^a and Beau Gregory^c

- Louisiana Department of Wildlife and Fisheries, Natural Resources Damage Assessment Group, Lafayette, LA 70508
- Louisiana Department of Wildlife and Fisheries, Rockefeller Wildlife Refuge, Grand Chenier, LA 70643
- Louisiana Department of Wildlife and Fisheries, Natural Heritage Program, Lake Charles, LA 70601



Overview

LDWF Office of Fisheries is interested in the potential impact commercial blue crab (*Callinectes sapidus*) fisheries have on diamondback terrapin (*Malaclemys terrapin*) populations within state waters, an impact that has been observed in other parts of the species' range. However, current knowledge of this species within Louisiana is quite limited (i.e., chance encounters and personal observations), with little information regarding population distribution, much less abundance. LDWF-NRDA program is currently implementing a step-wise work plan (2012-14):

Objectives

- Evaluate sampling methodology for various size classes/sexes and habitats throughout coastal Louisiana;
- Determine diamondback terrapin distribution and abundance throughout coastal Louisiana;
- Develop bio-statistical modeling component to assist in ascertaining Louisiana terrapin stock status.

Evaluation of Diamondback Terrapin (Malaclemys terrapin) Nesting Habitat and Reproductive Productivity throughout Coastal Louisiana

Benjamin Stultz^a, Will Selman^b, Beau Gregory^c and Jon J. Wiebe^a

- Louisiana Department of Wildlife and Fisheries, Natural Resources Damage Assessment Group, Lafayette, LA 70508
- Louisiana Department of Wildlife and Fisheries, Rockefeller Wildlife Refuge, Grand Chenier, LA 70643
- Louisiana Department of Wildlife and Fisheries, Natural Heritage Program, Lake Charles, LA 70601

Overview

The work plan: "Population Status of Diamondback Terrapins (*Malaclemys terrapin*) in Louisiana and the Interaction of Crab Fisheries on Population Viability" documents terrapin abundance and distribution, a priority species research initiative as identified within the state's WAP, throughout coastal Louisiana. Several physiological and ecological factors may influence these select endpoints including reproductive productivity as well as threats/interactions which potentially limit reproductive productivity (i.e., nest depredation, coastal erosion). The LDWF-NRDA program has been implementing the following work plan (2012-14):

Objectives

- Delineate terrapin nesting habitat throughout coastal Louisiana;





2. Document/evaluate select metrics of terrapin reproductive productivity (i.e., fecundity, egg morphometrics, hatchability, hatchling emergence, and nest depredation);
3. Describe terrapin nest characteristics (i.e., GPS position, nest age, nest elevation, slope of nest and vegetative presence) throughout coastal Louisiana.



Development of a Standardized Method using Time-Lapse Photography to Monitor Colonial Waterbird Reproductive Productivity

Margaret L. Hawkins^a, Genevieve Bazer^a, Amy Magro^a, Todd Credeur^a, Megan S. Sarver^b and Jon J. Wiebe^a

a. Louisiana Department of Wildlife and Fisheries, Natural Resources Damage Assessment Group, Lafayette, LA 70508

b. LSU AGCenter, Acadia Parish Office, Crowley, LA 70526

Overview

LDWF has a long standing interest in the protection and management of the state's brown pelican (*Pelecanus occidentalis*) population. Department personnel and other natural resource agencies and universities implemented significant restoration activities to re-populate several barrier islands with this species. Using established ocular sampling methods (S.T. Walter, ULL Dissertation), the LDWF-NRDA program is in the process of validating a novel and cost-effective sampling method (i.e., time-lapse photography) which will expand/refine LDWF's ability to quantify brown pelican ecological and behavioral parameters (i.e., hatchability, fledging success, parental effort, habitat utilization) with potential future applications for colonial waterbird populations throughout Louisiana's coastline.

Natural Resource Damage Assessment (NRDA) Activities (Office of Wildlife)

Overview

Since the *Deepwater Horizon* Oil Spill, Office of Wildlife staff members have been evaluating the potential impacts of the spill on Louisiana's natural wildlife (non-fisheries) resources. These efforts have been accomplished through the development of strong collaborative relationships among the principal state (i.e., CPRA, Louisiana Oil Spill Coordinator's Office, LDEQ, LDNR, LDWF - Office of Wildlife [i.e., Coastal Operations, Natural Heritage, Waterfowl, Fur and Marsh Management, Veterinary Services and Rockefeller Refuge]), and LDWF - Office of Fisheries) and federal (i.e., NOAA and Department of Interior [DOI]) trustees. The principal injury endpoints to Louisiana's (non-fisheries) wildlife resources in relation to the *Deepwater Horizon* Oil Spill include:

1. Identification of exposure routes;
2. Evaluation of physiological endpoints indicative of PAH exposure (i.e., biomarkers);
3. Evaluation of survival metrics; and
4. Development of paired field/laboratory work plans to assist in injury quantification.



NRDA Work Plans (Wildlife)

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
- Survival
- Health Assessments
- Toxicological Assessments
- Telemetry

By participating in Technical Working Groups for avian and other resources, program personnel are currently focused on addressing both short-term (i.e., NRDA assessment plan implementation, data analysis/interpretations) and long-term (i.e., monitoring and restoration) activities which evaluate potential *Deepwater Horizon* Oil Spill related injury and support restoration of Louisiana's natural resources.

COASTAL OPERATIONS PROGRAM

The Coastal Operations Program is comprised of two sections. The Coastal Operations Section is responsible for the stewardship of several WMAs and refuges within LDWF's Coastal and Nongame Resources Division. These 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 Oil Spill Section responds to all significant oil spills within the state and assesses damage to wildlife for potential restoration. They also attend various meetings with federal and state agencies to push for better response coordination and draft solutions that may reduce the frequency and volume of releases in the future.

The Coastal Operations Section spent most of the year transitioning out of the *Deepwater Horizon* Oil Spill response and NRDA effort and began to catch up on traditional tasks. Three areas of focus this year were to progress and close out FEMA claims from the storm seasons of 2005 and 2008, compete for and implement meaningful restoration projects, and facility maintenance. During fiscal year 2011-2012 our staff was able to complete and close out 100 percent of the pending 14 contents and small building FEMA claims. We also solicited engineering proposals for all outstanding "in-house" FEMA projects. It is expected that all the "in-house" claims will be either completed or under contract next year.

Coastal Operations staff proposed several restoration projects for funding this year from five large budget CWPPRA projects, to smaller NAWCA and NFWF grants to even smaller cooperative endeavor projects with local and non-profit companies. This staff was successful in being awarded funding on several of these requests and completed several small meaningful restoration projects as well. Details of these projects are further explained under each WMA/refuge.

Facility and equipment maintenance also consumed a significant portion of staff time this year. LDWF's tug boat underwent a major over haul. Many portions of the hull were replaced along with all four keel coolers, rudder bearings, cutlass bearings, rudder repairs, and reconstruction of the drive shaft's strut boxes. Major repairs were also made to the *Pintail* spud barge. The long reach amphibious excavator was completely overhauled and converted to a land based machine. Facility maintenance was significantly invested in as well. Staff replaced generators, roofs, walls and siding, and built many small projects on our facilities to enhance public recreation and to ensure the longevity of our infrastructure.

Tropical Storm Lee hit the Louisiana coast this year, and the associated storm surge and rainfall damaged infrastructure such as levees and water control structures at Pointe-aux-Chenes WMA and Marsh Island and State Wildlife refuges.

Staff conducted fewer waterfowl bag checks this year due to decreased manpower. This year staff conducted nine checks during the 60-day season. During these checks on Atchafalaya Delta, Pass-a-Loutre, Pointe-aux-Chenes and Salvador WMAs staff interviewed 2,763 hunters who averaged 3.2 ducks per hunter effort. Green-wing teal, gadwall and blue-wing teal were the most common harvested bird. This year's teal season bag checks were also reduced. Staff interviewed 736 teal hunters on the same WMAs who reported an average of 1.8 teal per hunter effort. Other species harvested during the waterfowl seasons include an estimated 4,920 coots, 260 gallinule, 50 mergansers, 55 rail, 40 snow geese, and 15 speckled belly geese.

All but two of the 1,169 commercial alligator tags were filled by hunters on Coastal Operations properties. LDWF's 40 percent share of this harvest totaled \$48,477.

Deer season on coastal WMAs concluded with the harvest of 189 deer (118 bucks/71 doe) during 3,204 hunting attempts. This equates to a success of one deer per 16.9 attempts. Ninety-three percent of the hunter effort and 92 percent of the harvest was on Atchafalaya Delta WMA.

Hog season resulted in 183 hunter efforts harvesting 75 hogs for a success of one hog per 2.4 hunter efforts. Ninety-one percent of these efforts were on Pass-a-Loutre WMA. This year marked the first reported successful hog harvest on Salvador WMA. Two hogs were taken on this WMA.

Commercial trappers harvested 13,278 nutria off Coastal and Nongame Resources WMAs this season.

COASTAL OPERATIONS SECTION

Atchafalaya Delta WMA

Area biologist – Cassidy Lejeune

Technician Supervisor – David Leblanc

Atchafalaya Delta WMA is the largest WMA in the state at 137,000 acres 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 marshes.

WMA staff continues to work closely with the USACE on dredging needs of the Atchafalaya River and beneficial use of dredged materials to create new marsh. The USACE requested to permit additional disposal locations on the WMA including a “permanent pipeline” through Big Island. Staff commented on several of these plans and continues to develop mutually beneficial projects for the USACE and the department. The USACE pumped approximately 1.2 million cubic yards of material on to Bird Island West and created a new island (Avocet Island) approximately 15 acres in size. These projects created additional marsh habitat and habitat suitable for a variety of nesting and wintering waterbirds.

Oil and gas exploration and development continue at a rapid pace on Atchafalaya Delta WMA. Apache dredged access and drilled a new well. During this project approximately 20,000 yards of material were disposed of beneficially to encourage the growth of new marsh. Lobo Operating also completed a plug and abandonment project of a well and associated lines near Breaux’s pass.

The annual winter plover surveys were conducted with staff observing more than 15 piping plover on the WMA. Most of these birds were observed on the newly created Avocet Island. In addition to these surveys, staff banded 136 mottled ducks.

A black bear was observed on the Big Island of the WMA just prior to the deer season. During the season several hunters reported seeing the bear and observed aggressive behavior from the bear. Minor bear damage was reported on state equipment and deer stands as well.

Houseboat permits were also issued on the Wax and Main deltas of the WMA. We were able to accommodate 71 houseboats for the hunting season.

The youth lottery deer hunts were conducted again. Twenty-seven youth hunters expended 53 hunter efforts and harvested 10 deer (six bucks and four doe). Several other missed shots were fired and the youths averaged one deer per 5.3 efforts.

Deer hunters on the WMA harvested a record high 175 deer (107 bucks/68 does) with 2,965 hunter efforts for an average success of one deer per 16.9 efforts. The largest deer harvested this year was a 175 pound 12 point with an 18-inch spread.

Waterfowl hunters were interviewed on nine dates during the 2011-2012 season and found that an estimated 2,595 hunters on these dates had an average success of 3.3 ducks per hunter effort. The most successful area on the WMA was the Main Delta Limited Access Area (LAA) which averaged four ducks per hunter effort. The top three species harvested were green-wing teal (43%), gadwall (11%), and blue-wing teal (9%). During the September teal season it was estimated that 655 hunters averaged 2.4 teal per hunt during the four bag checks conducted during this season. In addition, the interviewed hunters harvested 905 coots, 30 gallinule, five mergansers, five rail, 40 snow geese, and 15 speckled belly geese during the waterfowl seasons.



Left: Staff preparing deer stands for youth hunt. Right: Youth Hunt participants.

The shotgun season for hogs resulted in the harvest of six hogs during 35 hunter efforts. This equates to a success of one hog per 5.8 hunting attempts.

Commercial trappers collected 9,828 nutria off the Atchafalaya Delta this trapping season.

Recreational usage of the WMA this year was estimated at 28,210 users.

Total rainfall at the headquarters for the year was 51.4 inches.



Discharge pipe from USACE dredge creating Avcocet Island and on the West side of the river.

Biloxi WMA

Area Biologist – Shane Granier

Technician Supervisor – Clint Dauphinot

Biloxi WMA is owned by the Biloxi Marsh Land Co. and has been managed by LDWF since 1957. This 35,644-acre WMA located in St. Bernard Parish is dominated by brackish smoothchord grass and black needle rush. 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.

A new 25 year lease was signed with Biloxi Marsh Land Co. this year. The acreage was reduced by 3,956 acres. Pointeaux-Chenes WMA staff posted the new property boundary.

Waterfowl hunting this season was reported as excellent. Success among interviewed hunters was approximately four ducks per hunter effort. Top species harvested were green-wing teal, gadwall and northern shoveler.



Staff posting the new boundary of Biloxi WMA.

Isles Dernieres Refuge

Area Biologist – Cassidy Lejeune

Technician Supervisor – David Leblanc

This refuge is a series of barrier islands in Terrebonne Parish including 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 the department in 2000. The refuge is saline marsh/dune habitat and home to the largest colonial waterbird colony in Louisiana (Raccoon Island).

Impacts from the *Deepwater Horizon* Oil Spill are still evident on the refuge. SCAT teams continue to visit the refuge and make recommendations on cleanup of tar balls, tar mats and abandoned response equipment such as anchors that were used to position containment boom. Cleanup crews removed several hundred thousand pounds of residual oil and sand from the refuge this year.

Several restoration projects were in planning or being implemented this year:

- The Coalition to Restore Coastal Louisiana and Nicholls University planted approximately 2,000 mangrove seedlings on the refuge. (Raccoon = 200, Whiskey = 1,550, and Trinity = 250)
- CPRA awarded a contract to Coastal Environments Inc to plant the marsh creation component of the TE-50 Whiskey Island Back Barrier Marsh Creation Project. The contractor planted 25,000 smooth cordgrass plugs and 1,000 black mangrove seedlings.
- Nicholls University collected black mangrove propagules (4,000) and smooth cordgrass cuttings (40) to establish a greenhouse population of plants to be used for future planting projects on the refuge.
- Staff nominated a CWPPRA project this year to restore Wine Island. The project was not selected for funding.
- Meetings and planning continue with NRCS for the TE-48 CWPPRA project. This is a back barrier marsh creation project that will restore in excess of 60 acres to the north side of Raccoon Island. Sediment samples and other information were collected to improve planning efforts.
- Staff met several times with the Coalition to Restore Coastal Louisiana to discuss funding from small scale restoration projects on Raccoon Island to improve nesting habitat for pelicans and implement shoreline protection measures.
- A project is being planned with members of the Restore the Earth Foundation to build a small scale “gulf saver bag” black mangrove planting project.

The annual winter plover survey was conducted this year. Staff noted over 20 piping plover observations. It was also noted that brown pelicans began nesting early. Pelicans were laying eggs in February. This was likely due to the unseasonable mild winter experienced that year.



Coalition to Restore Coastal Louisiana and Nicholls University Planting Project on the refuge.



Nicholls staff collecting black mangrove propagules and the planting of the Whiskey Island CWPPRA project.

Lake Boeuf WMA

Area Biologist – Shane Granier

Technician Supervisor – Clint Dauphin

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.

Coastal Operations staff mowed the ridge and trimmed woody growth in preparation for hunting season twice this year.

Three airboat permits were issued to LOCAP to maintain their pipeline “right-of-way.”

The eight alligator tags issued were filled and had an average length of 5 feet, 11 inches.

Self-clearing permits illustrated that 55 hunting attempts were made for deer with only one doe being harvested.

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 the department 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 are audited annually by the Russell Sage Foundation Committee.

Replacement/consolidation plans have been made to replace the refuge boat shed and headquarters. The functions of several buildings have been consolidated to one building to serve as both the headquarters and boat shed. LDWF has submitted this plan to FEMA for consideration. We are awaiting a final decision so that we can solicit an architect to prepare final building designs. FEMA, GOHSEP and Facility Planning and Control visited the refuge many times this year.

Several repairs were made to the headquarters facility. The following projects were completed:

- Lightning struck the generator shed destroying one generator. The generator was replaced.
- S&S Renovations replaced the vinyl siding on the headquarters and work shop.
- The central bathroom was remodeled and the subfloor replaced.
- Staff repainted the inside of the boat shed, shop, storage area under the camp, fuel dock, front dock, and generator shed.
- A new lease was secured in Cypermort Point to moor boats, park trucks, and stage fuel. Staff also installed a new fuel dock to service the refuge at this location.

Several restoration projects were monitored, planned, or implemented:

- Staff worked with LSU’s Andy Nyman on an experimental installation of “marsh organs” on the refuge. The organs are artificial substrate for vegetation to be planted on. Success of the project is being monitored.
- Monitoring of the East Marsh Island marsh creation CWPPRA project continued. Staff made recommendations for gapping the containment dike and continued monitoring the vegetative response of the project.
- Two prescribed burns were conducted to improve preferred foraging habitat for wintering geese and minimize fuel loads to reduce the risk of wildfires. The first was a 25-acre burn in the vicinity of Joe Aucoin Bayou. The second was a 730-acre burn near the Big Dam and Belly Dam.
- A SWG application was submitted to restore the Marsh Island Chenier. This would involve planting select native species of trees to restore up to 10 acres of forested habitat.
- Refuge staff planted 680 hackberry and live oak seedlings on the Marsh Island Chenier. These plants were donated by NRCS to test the successfulness of a future large scale restoration project.
- Vegetation succession set back was conducted on the bird nesting islands in Bayou Platte. This is an annual event to improve habitat conditions for nesting waterbirds.
- A site visit was conducted to select future planting sites for the LA-39 CWPPRA project. We are trying to encourage shoreline planting projects in the scoured broken marsh near Oyster Lake.
- LDWF staff began clearing vegetation from the Big Impoundment Levee so that necessary repairs to the levee can be engineered and built. The repairs are needed from Hurricane Rita impacts.
- A cooperative endeavor project was implemented between NRCS, Iberia Soil and Water Conservation District, and LDWF in the vicinity of the East Marsh Island restoration project. This project involved the planting of 8,000 plugs of smooth cordgrass on the refuge. The Iberia Sheriff’s Department supplied inmate labor to construct the project.
- A proposal was made for a NFWF Shell Marine Habitat Program. If awarded the project will restore and enlarge the bird nesting islands in Bayou Platte.

Several boaters were stranded or broken down across the refuge this year. Refuge staff assisted with several of these incidents.

Oil and gas activity continues on the refuge. Hilcorp initiated a plug and abandonment project of a variety of infrastructure across the east end of Marsh Island. Several pipelines, pilings and other infrastructure were removed. Several barge loads of debris were removed from the refuge and adjacent water bottom in Vermillion Bay.

The annual winter plover surveys were conducted but no target species were observed. This is likely due to the unusual amount of wrack and debris found along the southern shore of Marsh Island.

Recreational use of the refuge was estimated at 23,400 users.

Total rainfall for the year was 51.1 inches.



Hilcorp removing pipelines and abandoned infrastructure from the refuge.



Prescribed burn and wintering geese response near the Northeast Unit.



Refuge staff setting back vegetation on Bayou Platte islands in preparation for nesting season.

Pass-a-Loutre WMA

Area Biologist – Shane Granier

Technician Supervisor – Clint Dauphin

Pass-a-Loutre WMA is a 115,000-acre WMA that was established in 1921 by an act of state legislature. It was designated as a “state shooting ground” which was the precursor to today’s WMA. It is Louisiana’s oldest WMA and one of the first 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 WMA is dominated by freshwater Roseau cane marsh and fringed by a brackish vegetation community. The WMA lies within the Mississippi River Delta in Plaquemines Parish.

Clean up from the *Deepwater Horizon* Oil Spill continued this year. Oil is still present at Middle Ground, East Bird Island, Buttermilk Pond, Cow Horn, Cow Horn Island, and the South Pass Spit. Crews surf-washed the South Pass Spit, and collected tarballs at Cow Horn, Cow Horn Island and South Pass Spit. Soil agitation was attempted at Middle Ground and was later abandoned for various reasons. Hazing of wildlife in an attempt to prevent them from using the contaminated areas continues to be conducted at the South Pass Spit and Middle Ground.

Staff completed several infrastructure improvements. The highlights of these include the installation of a wooden bulkhead along the boat shed and board walk, installation of a cistern and water pump at the generator shed, and conversion of the old shop into a laboratory/large meeting room.

Several restoration projects were proposed, monitored, or implemented:

- Planning continues with CPRA for the implementation of the final round of maintenance funds for the MR-09 CWP-PRA project. LDWF proposed several new crevasses and some crevasse clean-outs for potential funding.
- Staff nominated a large scale crevasse project for CWPPRA funding. The project moved to the second round of the selection process, but ultimately did not get funded.
- Monitoring of the North Pass “Gulf Saver Bag” project continues. This project used off site sediments to fill burlap bags. The bags were anchored at North Pass and planted with smoothchord grass and black mangrove. The project was very successful and plant survival is excellent.
- Forest Oil Co. damaged an approximate 200-foot long high elevation wetland via prop washing. They remobilized soon after at LDWF’s request and restored the damaged area.
- Staff assisted the Restore the Earth Foundation with the installation of 4,000 additional Gulf Saver Bags at Buttermilk Pond. Black mangrove and smoothchord grass were planted in the bags.
- The Restore the Earth Foundation purchased, and LDWF planted, 300 additional black mangroves in trade pots on Buttermilk Pond Beach.
- LDWF is working with the USACE on mitigation requirements for wetland impacts from construction of several miles of levees in Plaquemines Parish. The USACE needs to construct approximately 1,000 acres of wetlands of various characterizations. Staff supplied them with conceptual projects with more than their required needs on the WMA.
- Staff continues to work with the USACE on dredging needs and beneficial disposal plans for both South Pass and Head of Passes dredging projects.
- A controlled burn was attempted but was only minimally successful. Approximately 25 acres were burned.

Oil and gas exploration continues at a rapid pace on the WMA. The following are a list of those projects:

- Forest Oil drilled two new wells on Chenierie Pass that were very successful. The sediment from the required dredging was used beneficially to enhance an existing high elevation wetlands and set back succession.
- Dune Energy plugged and abandoned (P&A) 16 wells this year as required by the Office of Conservation.
- Dune Energy had a rig in the field that worked over several existing wells in an attempt to increase production.
- Dune Energy had an oil spill near their facility in the Garden Island Bay Field. It resulted from a barge collision with a well head.

The final year of deer capture and tagging was conducted this year. A total of seven deer were captured and tagged which is well off the 10 deer/year average. The mild winter and prolific vegetation made sighting and capture much more difficult than previous capture attempts. Monitoring of tagged deer continues via hunter participation and motion cameras. Good numbers of re-sightings are continuing to be recorded.

The WMA hosted a visit from Secretary of the Interior, Ken Salazar. The purpose of his trip was to visit the Mississippi River Delta and look at restoration needs of the area. He toured Delta National Wildlife Refuge with the USFWS and had an interview at our headquarters to announce a large mineral lease in the Gulf of Mexico.

Trebtor Victoriano (WMA staff) observed and reported the presence of two American flamingos on the WMA. They showed up in October and stayed nearly 30 days. This is only the second confirmed sighting of the species in LA ever and the only one that was not an obvious captive escape.

Eight mottled ducks were banded this year.

Waterfowl season was very successful. During the nine waterfowl bag checks, staff interviewed hunters and observed that an estimated 540 hunters averaged 4.5 ducks per hunter attempt. The Limited Access Area (LAA) averaged 5.8 ducks per hunter effort. The top three species harvested were gadwall (27%), green-wing teal (20%), and blue-wing teal (16%). During the four teal season checks an estimated 70 hunters harvested 3.5 teal per hunter attempt. Waterfowl hunters also harvested 20 coots, 10 gallinule and 10 snow geese.

The three commercial trappers harvested all their allotted 258 alligator tags. The average length of alligators harvested was 6 feet, 2 inches long. These trappers also harvested 1,588 nutria from the WMA.

Deer season concluded with 32 hunter attempts as recorded on self-clearing permits. These attempts were successful in the harvest of five bucks for a success of one buck per 6.4 attempts. This success is the highest among Coastal and Non-game Resources WMAs.

Hog season resulted in 136 hunter efforts harvesting 67 hogs for a success of one hog per two attempts.

Recreational use of Pass-a-Loutre is estimated at 25,595 users.

The headquarters logged visitation of 807 guests.

Campground usage demonstrated by self-clearing permits was recorded at 755 users.

Total rainfall for the year was 38.6 inches.



Deployment of "Gulf Saver Bags" by the Restore the Earth Coalition, volunteers and LDWF



Two deer being released after tagging, Buck #87 and #81

Pointe-aux-Chenes WMA

Area Biologist – Shane Granier

Technician Supervisor – Mark Castille & Clint Dauphin

Pointe-aux-Chenes WMA is a 33,488-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 marked the first purchase of marsh land by the Wildlife and Fisheries Commission. It was purchased along with Salvador WMA. The habitat of this WMA is primarily brackish and intermediate marsh dominated by smoothchord and wire grass. Point Farm is a 1,000-acre bottomland hardwood ridge that is also located on the WMA

GOHSEP, FEMA and Facility Planning and Control visited the headquarters many times this year to discuss repair of the buildings and structures on the WMA. LDWF is pushing for timely repairs but the project continues to be delayed. LDWF submitted program narratives and necessary documentation as requested.

Pointe-aux-Chenes WMA was very busy, primarily with infrastructure repairs and improvement to levees and water control structures by both LDWF and the Terrebonne Levee and Conservation District (TLCD). This year LDWF was able to complete FEMA repairs to the PAC/DU levee and water control structure and the Grand Bayou Levee. The TLCD began enhancements to the Montegut levee which is the future alignment of the Morganza to the Gulf J-2 alignment. They also made repairs to the 4-1 levee, and began construction of a bridge across the eastern water control structure on the Montegut levee. This bridge will allow future enhancement of the Montegut levee and will allow us to manage the Montegut Wetlands Unit more efficiently and effectively. We also worked closely with TLCD to make emergency repairs to the Montegut levee following Tropical Storm Lee. Our staff mobilized our amphibious excavator to make several repairs and installed a temporary wooden bulkhead to prevent a significant breach.

Terrebonne Parish elevated Island Road approximately 2 feet. This is a portion of the southern border of the WMA and the southern levee of the PAC/DU wetlands project. The elevation of this road will enhance our ability to manage the PAC/DU wetlands project.

The 112 acre Karlog tract was purchased by TLCD and donated to LDWF this year. This is a portion of the TLCD's obligation to donate property to the WMA equivalent to the value of the property they are converting to levees.

The Terrebonne Aquatic Clinic was again hosted by Pointe-aux-Chenes WMA. Approximately 1,300 students from across Terrebonne Parish participated in this event.

Several infrastructure improvement/enhancement projects were completed:

- The roof was replaced on the headquarters.
- Vinyl siding was replaced on several areas of the headquarters.
- The boat sheds were repaired after Tropical Storm Lee.
- Counter top and garage door was replaced in the headquarters
- Flooring was replaced in the headquarters
- A backup generator was installed at the headquarters
- The flapgates on the PAC/DU S-3 structure were repaired/replaced.
- Additional fishing piers were constructed for use by youth during the Terrebonne Aquatic Clinic.

Several restoration projects were proposed, implemented, or maintained:

- The Grand Bayou Wetlands Enhancement NAWCA project was completed. This project enhanced approximately 3,255 acres of the Grand Bayou Wetlands project by enhancing the levee system, replacing a water control structure, and installing a new and additional structure to capture fresher water and lower salinity in the project area. This was a cooperative endeavor with Ducks Unlimited.
- The PAC/DU floating islands were constructed and anchored near the Island Road Boat Launch and along Island Road. This project is a series of floats constructed out of recycled water bottles that were planted by various schools groups with smoothchord grass and anchored in the marsh.
- Staff worked with the USFWS to compile and nominate the Grand Bayou freshwater diversion/terrace project. This project has made it to the final round of voting and may be funded for engineering.
- LDWF nominated the Bayou Terrebonne Diversion Project for CWPPRA funding. This project would divert fresh water into the Montegut and PAC/DU wetlands projects. This project did not get voted through for funding.
- The Coastal Roots Program of the LSU AgCenter and LDWF implemented three separate bottomland hardwood planting projects on the farm this year. This cooperative endeavor planted 1,950 trees this year. Species planted include persimmon, nuttall oak, cherry bark oak and balt cypress.
- The LDWF/TLCD terrace project was initiated. This project is a series of marsh terrace creation projects that will fulfill wetland mitigation requirements that the TLCD is responsible for. In this cooperative endeavor TLCD is funding LDWF to hire employees and use our equipment to build marsh terraces on the WMA.
- A NAWCA project was developed with the assistance of Ducks Unlimited to convert the lower 65 acres of Point Farm to a moist soil unit. This project was submitted for potential funding.
- WMA staff coordinated with Barataria-Terrebonne National Estuary Program to conduct tallow tree removal on Point Farm. They also planted 500 bottomland hardwood species across the project area.
- The Terrebonne Leadership Institute planted 270 bottomland hardwood trees at the campground on Hwy 665.

Badger Oil Co. drilled and completed two new oil and gas wells on the WMA in the Bully Camp Field.

Staff banded 113 mottled ducks on the WMA and reported an additional three previously banded or "recaptured" birds.

Dove season was again a success. This year Tropical Storm Lee hit on the opening weekend of the first split of dove season and inundated the fields with 2 feet of water. Thirty hunters showed up for the hunt and had to walk/wade approximately 2 miles to the underwater fields and still averaged 3.8 doves per hunter effort. During the second split, staff interviewed 27 hunters throughout the season and observed that they averaged 3.7 doves per hunter attempt.

Commercial alligator hunters filled all their allotted 150 tags on the WMA. The average length of alligator harvested was 6 feet, 9 inches. They also harvested 138 nutria on the WMA.

During the youth lottery deer hunt, there was a total of 37 youth hunt attempts that were unsuccessful. All youth reported having a great time and saw a lot of wildlife.

Deer season concluded with 58 unsuccessful hunter attempts. Nine unsuccessful attempts were made for feral hogs as well.

During the nine waterfowl bag checks conducted, staff estimated that 1,645 hunters hunted on those selected dates and observed that success was 2.8 ducks per hunter effort. The most successful area on the WMA was the Montegut LAA which averaged 4.6 ducks per hunter effort. The top three species harvested were green-wing teal (42%), gadwall (27%), and blue-wing teal (8%). During the four bag checks conducted for teal season it was estimated that 435 hunters averaged 0.9 teal per hunter effort. The Montegut LAA averaged 3.3 teal per effort. Waterfowl hunters also harvested 2,815 coots, 120 gallinule, 45 mergansers and 20 rail

Headquarters usage was recorded as 285 visitors.

Estimated recreational use of the WMA was 85,115 users.

Total rainfall was 44.6 inches.



New water control structure on the St. Louis Canal for the Grand Bayou Wetland NAWCCA project.



Left: NAWCCA dedication ceremony for the Grand Bayou NAWCCA project.



Right: Lt. Gov. Jay Dardenne addressing the crowd.



The first terrace being constructed as part of the TLCD/LDWF terrace project

Salvador/Timken WMAs

Area Biologist – Shane Granier

Technician Supervisor – Clint Dauphinot

Salvador WMA is a 35,121-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 marked the first purchase of marsh land by the Wildlife and Fisheries Commission. It was purchased along with Pointe-aux-Chenes WMA. This WMA is a freshwater marsh dominated by bull-tongue and maiden cane. Just to the East of Salvador is the 3,920 acre Timken WMA. It is owned by the New Orleans City Park Improvement Association and has been leased to LDWF since 1995. Both of these WMAs are currently the beneficiary of one of the largest restoration projects in the state. The Davis Pond freshwater diversion diverts freshwater from the Mississippi River into the northern portion of Salvador WMA then drains into Lake Cataouatche.

The USACE installed a new flood gate on Seller's Canal near Pier 90 as part of the Westbank Hurricane Protection Project. The installation of this gate closed Seller's Canal for several months thus restricting public access to the WMAs.

Staff nominated a shoreline protection project for the WMAs through the CWPPRA process. The project was not voted through for funding.

Commercial hunters harvested all but two of the allotted 532 alligator tags issued on the WMA. The average length of alligator harvested was 6 feet, 1 inch. They were also instrumental in the harvest of 1,724 nutria from the WMAs.

Deer season concluded with 94 hunter attempts harvesting seven bucks and two doe. This is a success of one deer per 10.4 attempts.

The special shotgun season for feral hogs resulted in four hunter efforts which harvested two hogs. This is a success of one hog per two attempts. This was the first reported harvest of hogs on Salvador WMA.

During the nine waterfowl bag checks conducted it was estimated that 390 hunters had an average success of 2.3 ducks per hunter effort. The area with the highest success was the Davis Pond area which averaged three ducks per effort. The top three species harvested were blue-wing teal (35%), ring-neck (18%), and green-wing teal (16%). During the four bag checks conducted during teal season and estimated 185 hunters harvested one teal per hunter effort. Waterfowl hunters also harvested 1,200 coots, 100 gallinule and 30 rail.

St. Tammany Refuge

Area Biologist – Shane Granier

Technician Supervisor – Clint Dauphinot

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 Co. The refuge is managed in cooperation with the USFWS along with Big Branch National Wildlife Refuge.

The 11 alligator tags issued for the refuge were all filled. LDWF's 40 percent of the harvest equated to \$553.38.

State Wildlife Refuge

Area Biologist – Cassidy Lejeune

Technician Supervisor – David Leblanc

State Wildlife Refuge is a 13,000-acre refuge located in southern Vermillion 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 first in the country.

LDWF is working closely with FEMA, GOHSEP and Facility Planning and Control to repair and replace all buildings and structures on this refuge. Several field trips to the refuge have been conducted to discuss rebuilding plans. A consolidation plan has been developed on all buildings between this refuge and Marsh Island Refuge and submitted to FEMA. This plan calls for repairs to the boat sheds, all bulkheads, and moving funding for the rest to major renovations at Marsh Island. We are waiting their response before moving forward.

Staff installed several new signs throughout the refuge including boundary signs, regulation signs and no wake signs. Several improvements were made to the headquarters island including construction of a new generator platform, new dock, and installation of a new boat hoist. Improvements to the headquarters building include replacing the ceiling tiles, light fixtures, paneling and porch screen, and repairs to the AC units and roof.

Staff continues to repair several weirs across the refuge. Perhaps the most work and attention has been focused on multiple repairs to the Prien Weir.

Refuge staff met with the Audubon Society staff and Ducks Unlimited to draft a NAWCA proposal to install a water control into Tom's Bayou and repair other refuge water control structures. This project would place approximately 16,000 acres into management on both Audubon's Paul J. Rainey Wildlife Sanctuary and State Wildlife Refuge.

A CWPPRA project was nominated to install marsh terraces in Fearman and North lakes. Additionally, a shoreline protection/nourishment feature along North Lake and a marsh restoration feature for Fearman Lake were proposed. This nomination did not get voted through for funding.

A prescribed burn was conducted between Fearman Lake and Redfish Point in an effort to provide improved forage habitat for snow geese and reduce fuel loads to minimize wildfires. The burn was approximately 350 acres in size.

Recreational use of the refuge was estimated at 14,750 users.



Above: Front dock and generator platform constructed on the headquarters island.

Left: Newly erected sign of refuge regulations.

OIL SPILL SECTION

Laura Carver and David Garland

The oil spill section monitors and responds to oil spill reports throughout Louisiana. This section works within the incident command structure to minimize impacts to wildlife and sensitive wildlife habitat when oil spills occur. In the event that wildlife is impacted by oil, they also take measures to recover the affected animals and have them treated and later released. In addition to immediate response activities, this section is charged with assessing the total impacts that a spill has on wildlife and developing a formal damage assessment. This assessment is then used to direct the responsible party on restoration measures.

This year the oil spill section received 3,858 National Response Center Reports and 8,048 reports from state police. Staff reviewed the reports daily to assess which spills posed a significant impact to wildlife. Many of the spills, staff simply coordinated with other responding agencies to gain further information on the necessity of a response action. This fiscal year staff responded to in excess of 35 of those reports. In addition they participated in 213 “drills” in which responsible party and contractor’s of responsible parties would make sure coordination numbers were correct and discuss response actions to hypothetical releases.

Some of the significant NRDA that were developed are as follows:

- **Calcasieu River/Citgo Case** - Avian injury reports from the spill were under review and development.
- **Joseph Bayou I&II/Shell Oil Case** - Staff continues to develop a draft assessment for these spills that occurred on Pass-a-Loutre WMA.
- **LWMIWCB/Exxon Case** - The responsible party and trustees are currently discussing restoration alternatives.
- **Garden Island Bay/Dune Energy Case** - This spill is still releasing oil, and the unified command issued an administrative order to Dune Energy which directed them to provide alternative remediation options for capping of the leaking production pit. Bench scale testing is underway.
- **Little Lake/BP Case** - On Dec. 13, 2011 the state received a \$1,333,497.61 cash settlement from BP for damages caused by an oil spill in Little Lake. This is the first “cash settlement” received by the state for oil spill impacts. The state is now responsible for restoration from this incident
- Staff attended restoration monitoring site visits for several restoration projects this year including the Octave Pass/Devon Energy, and the South Pass Crevasses/Westchester Oil projects.

Some of the significant spills that our staff responded to were:

- **Exxon Mobile/North Line/Tolbert, La.** - This spill was an approximately 1,900-barrel spill which impacted Bayou Choppe. A large fish kill was documented in addition to impacts to birds, reptiles, amphibians and various mammals.
- **Barataria Bay Spills** - Several slicks were identified in Barataria Bay by LDWF and Plaquemines Parish. No responsible party was formally assigned to this release.
- **Manilla Village/Cedyco** - This release was near Lafitte, La. where oil and sheen were noticed around the Cedyco facility.
- **Mendicant Island/Hilcorp Energy** - This 15-barrel spill near the Queen Bess rookery was originally reported as a one-barrel spill. Fortunately winds kept the spill away from the rookery.
- **Barataria Bay/Plains Pipeline** - Reported as a 20-barrel release resulting from a jack up barge dropping a spud on an active pipeline. Significant impacts were observed in West Champagne Bay in close relation to the Queen Bess rookery. During the response effort the cleanup crews deployed wildlife hazing cannons on the rookery instead of in the impacted areas. Staff quickly responded by shutting off the devices and directing them to be removed immediately. Impacts to the rookery are being monitored.



Oil spill from Barataria Bay/Plains Pipeline and the improper deployment of hazing cannons on Queen Bess Rookery.

In addition to responding to spills and developing damage assessments; staff participated in the Clean Gulf Conference, Area Contingency Planning meetings, and steering committee meetings. Each of these endeavors are designed to increase response effectiveness and prevent future releases.

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).



Left: Staff documenting oil spill impacts and searching for impacted wildlife on the Torbert, La./Exxon North Line Release. Right: Bayou Choppe covered in oil from the Tolbert, La./ Exxon Mobile North Line spill.



Above: Alligator being cleaned after oiling Tolbert, La./ Exxon Mobile North Line Release.

Right: Manilla Village/Cedyco release site. Scare cannons ineffective when turned off.



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 2011 we estimated that 35,782 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 for property ownership and habitat assessment.

In September 2011, the annual wild alligator harvest produced 32,325 alligators, which averaged 7.4 feet in total length and had an estimated value of over \$7.4 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 and 2011, demand and price for both wild and farm-raised alligators began to recover; that recovery continued into 2012. It is anticipated that price for wild alligators harvested in 2012 will increase as compared to 2011. 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 2011 the lottery alligator harvest program provided opportunities for 314 alligator hunters to harvest 806 alligators. Lottery alligator harvests were conducted on 39 public areas (WMAs and public lakes) throughout the state.

FARM ALLIGATOR PROGRAM

The December 2011 statewide farm/ranch inventory totaled 486,023 alligators, up from 376,493 alligators in

FIGURE 2.

Louisiana Coastal Marsh Alligator Nest Production (1970-2011)

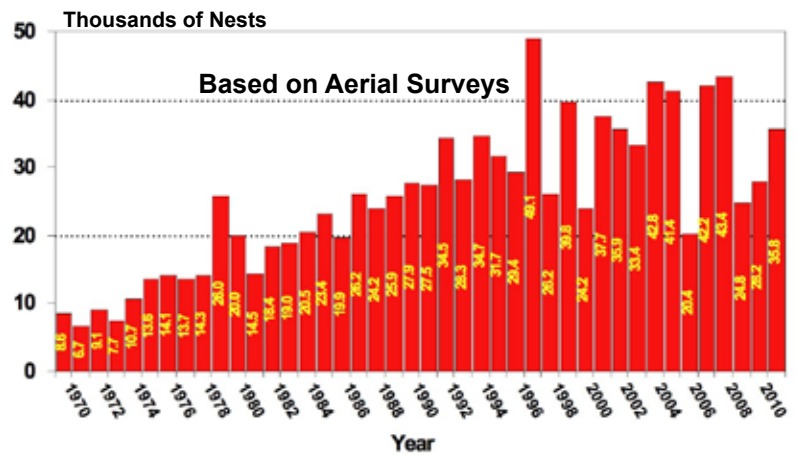


FIGURE 3.

Louisiana Wild Alligators Harvested 2011 Regular Harvest Skin Lengths

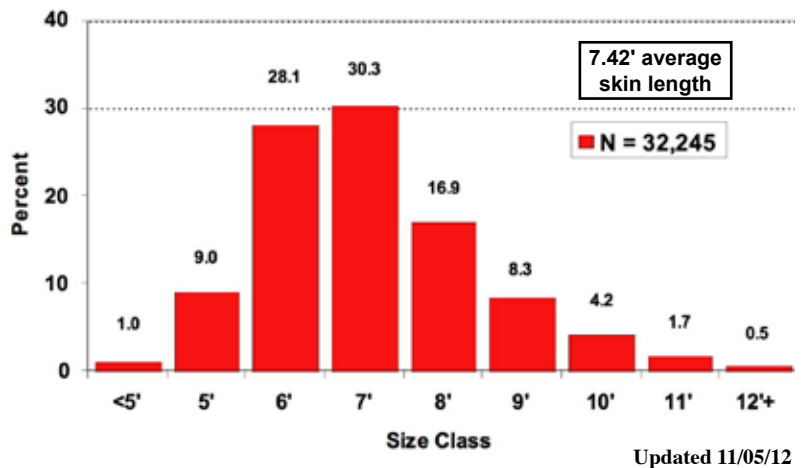
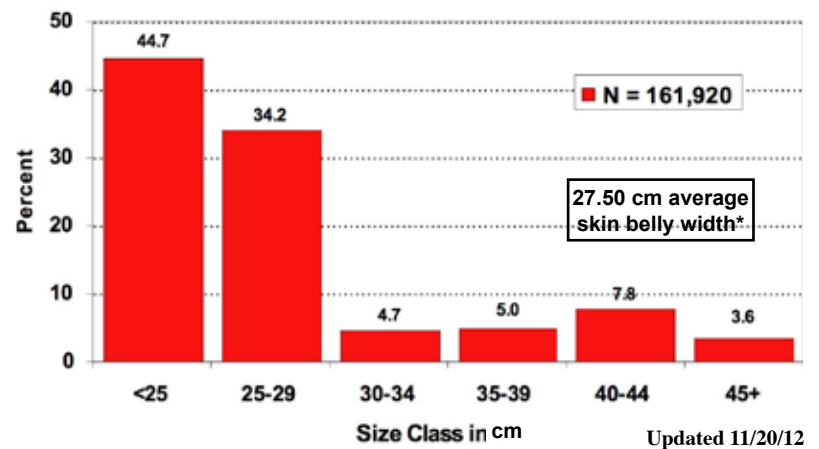


FIGURE 4.

Louisiana Farm Alligators Harvested 2010 Skin Belly Widths



*Skin lengths averaged approximately 53 inches, 2010 Tag Year

December 2010, but 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. Market conditions continued to improve in 2011-2012 as both skins and meat are in high demand, and in 2011 farmers collected 353,176 wild alligator eggs yielding 300,546 hatchlings. During the 2010 tag year farm harvest, September 2010 - August 2011, 161,936 alligators with a base value of \$31.1 million were harvested. Average belly width of farm raised alligators was 27.5 centimeters (4.42 feet in length) with the majority of the harvest comprised of 18-29cm belly width alligators (*Figure 4*). Projected farm alligator harvest for the 2011 tag year (September 2011 - August 2012) is 240,000 alligators valued at over \$51 million.

Farmers participating in the wild alligator egg collection program are required to return 12 percent of the eggs hatched 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 2011-2012, a total of 22,959 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 2011, 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 the department.

During 2011-2012, a total of 61 nuisance alligator hunters were enrolled in the program; annually the nuisance hunters respond to several thousand complaints and harvest approximately 1,500 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 2011-2012.

Monitoring

- 1. Evaluation of survival, growth, and reproduction in farm released alligators** - This activity involves numerous projects related to survival analysis, growth and reproductive success (farm-released vs. native wild). 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 "re-traps" 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 "re-traps" recovered in September harvests.
- 2. Coast wide nest survey** - The annual coastal nesting survey is essential for monitoring our alligator population, and is used annually to determine wild alligator and wild alligator egg harvest quotas (for the adult harvest each September as well as egg ranching quotas). This is an integral part of our required "finding of no detriment" needed to achieve for export authorization by the USFWS.
- 3. Evaluation of statewide harvest program** - We continue to analyze size class frequency distribution, average size, sex ratios, etc. for alligators harvested each year. During the 2011 wild season staff collected sex ratio data on 12,550 alligators (69% males, 31% females) which represented 39 percent of the total alligators harvested. This project, coupled with coast-wide nest survey provides critical information regarding the status of the wild alligator population. Data generated from these projects provides the basis for evaluating the impact of our current harvest strategies and for establishment of annual wild harvest quotas.
- 4. Evaluation of alligator nest density** - LDWF biologists work with cooperating alligator farmers to gain access to their GPS data from annual egg collections. This data 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; close review of this nesting production data will allow us to evaluate nest distribution and density changes over time.

5. **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 recent years. However, 2012 has turned out to be the worst year on record for human cases of WNV in Louisiana and the U.S. Notifications have been provided to all farmers regarding the increased frequency of occurrence, and farmers have been urged to be diligent with their on-farm practices to control mosquito populations in their grow-out pens and surrounding farm area. During fiscal year 2011-2012 we continued to have expertise from staff at LSUSVM available if needed to collect samples from farm alligators to monitor for any health concerns, provide diagnostics as needed, and assist with other health surveillance parameters.

After several years of research, development and testing, a WNV vaccine was developed, gained conditional approval by the USDA and became available to farmers in October 2011 from the Boehringer-Ingelheim Company. The vaccine requires two, 0.5ml injections into the tail of the alligator (two to four week interval between injections is recommended). Cost is \$2.50 per injection or \$5 per animal. Work continues on development of a single dose vaccine. Several farmers have taken advantage of this new proactive technology to prevent WNV in captive hatchling and yearling alligators.

6. **Best management practices** - LDWF and the LSUSVM in conjunction with the Louisiana Alligator Farmers and Ranchers Association developed a document entitled "Best Management Practices for Louisiana Alligator Farming." The document was distributed in June 2011 and details recommended practices to ensure animal welfare of captive-reared alligators in Louisiana, including egg collection, hatching, rearing, release to the wild and euthanasia. This document 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. Through industry contributions, Dr. Nevarez at the LSUSVM has evaluated the most appropriate methods of euthanasia for alligators. Results of this important research will be incorporated into a revised BMP document and distributed to farmers in January 2013.
7. **Alligator research facility** - After several years of planning and fund raising by industry personnel, construction began on an alligator research facility at LSU's AgCenter Aquaculture Research Station. Funding for facility construction was provided purely by monetary donations from alligator industry participants including alligator farmers, wetland landowners, tanners, feed manufacturers, alligator hunters and other interested parties. The building will be available to house alligators of various sizes for projects related to all phases of alligator husbandry. LDWF staff has worked closely with alligator producers and feed manufacturers to provide input to identify and prioritize research goals and secure long term funding sources for facility operation. The LSU AgCenter has established an Alligator Research Fund to receive additional donations for funding various research projects. Facility completion is set for January 2013.

Contracts

1. **Diagnostic services - LSUSVM (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 LSUSVM in Baton Rouge for evaluation. Periodic health surveillance of farm released alligators is conducted to monitor health status of farm alligators released to the wild.
2. **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 is being provided with refining statistical analyses of growth comparisons of farm-released and native wild alligators.
3. **Nutrition Research - LSU AgCenter, Aquaculture Research Station** - A detailed research project entitled "Effects of Dietary Protein on Alligator Growth and Air/Water Quality of Production Systems" was undertaken after being listed as a high priority area requiring further knowledge to improve farm production while minimizing costs (avoid feeding excess protein that might go unutilized). The investigators (Dr. Robert Reigh and Dr. Greg Lutz) are evaluating various commercially available feeds with protein levels ranging from 37 percent to 55 percent protein in order to evaluate food conversion rates and water and atmospheric ammonia levels; so as to advise alligator farmers as to the optimum dietary regime available while avoiding toxic ammonia buildup in commercial sheds.
4. **Electrical Immobilization - Smith-Root, Inc.** - LDWF has contracted with Smith-Root, Inc., to conduct a study entitled "Evaluation of Pulsed Electric Field Technology to Immobilize Farm-Raised Alligators." Recent concerns regarding the handling and euthanasia of reptiles in commercial operations overseas has led the Louisiana alligator industry to evaluate their husbandry and harvesting practices. The recent demand for larger alligator hides has led to an increase in the number of alligators being raised to over 5 feet in length. This creates a new challenge for

restraining these animals for evaluation of hide quality and euthanasia. Although electrical immobilization has been well investigated in fish, little work has been done with this technology for alligator immobilization. In order for this technique to be deemed acceptable, a number of studies have to be performed to ensure their humane application. This pilot study will determine applicability of electro-immobilization equipment for alligators.

Other Research

We spent considerable effort to 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; however the few recaptured held the telemetry units snugly in place. We held the alligators recaptured at Rockefeller and showed long-term retention of the telemetry units during 2009-2010; units were eventually removed by staff and alligators released. Recently several of the alligators were recovered, and we prepared a paper which was published this fiscal year in *Herpetological Review*.

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 co-authored a manuscript with Dr. Janes and colleagues which is currently "in review" and being considered for publication in the scientific literature.

We have several years of data on alligator dispersal (caught live on Rockefeller, and subsequently harvested "off" Rockefeller). 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 published a manuscript on long-distance movement of alligators in *The Southeastern Naturalist*.

We co-authored a paper on physiological variability in yearling alligators in *Comparative Biochemistry and Physiology*.

We continued to support and collaborate with post-doctoral research associates with 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 Bernardino, Harvard University, Yale University, Indiana University School of Medicine, Vanderbilt University, University of Arizona, University of Florida, and University of Iowa) were hosted at Rockefeller in late summer 2011 and June 2012 to collect additional samples for several studies. Several collaborators made presentations with LDWF staff as co-authors at meetings including the Federation of American Societies for Experimental Biology in San Diego in April 2012. We co-authored a paper with a Ph.D. student on somitogenesis published in the prestigious journal "Developmental Biology."

We published an updated on alligators used for reintroductions in "Global Reintroduction Perspectives: 2011. More case studies from around the globe." We co-authored an abstract that was presented at an international conference on reintroductions in Thailand in December 2011.

We conducted a study on the effects of feral swine on alligator nests; including a detailed survey of all Louisiana alligator ranchers. This was accepted and published in *The Southeastern Naturalist*.

We previously assisted a graduate student from California with his research on use of stable isotopes to determine alligator diet (non-invasive); the manuscript is in review. 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 San Diego, Calif. in April 2012.

We assisted a Ph.D. graduate student from UCLA again in 2011-2012 with samples for her study of intestinal parasitology. We also assisted a Ph.D. student from University of Tennessee with alligator specimens for her research involving molecular techniques and bacterial community diversity in the gastrointestinal tract. We submitted an abstract co-authored with her to the 7th Congress of the International Symbiosis Society for consideration for presentation at the conference.

We published a paper last year on the development of the manus in alligators in collaboration with Dr. Hans Larsson; in June 2012 we began collections of a series of embryos for his further studies.

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 Hurricane Rita in 2005 and Hurricane Ike in 2008 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 2011 to June 2012.

Elsey, R. M. and N. Kinler. 2011. Supplementation of juvenile American alligators in Louisiana, USA. Pgs. 125-129 in *Global Re-introduction Perspectives: 2011. More case studies from around the globe*. P. S. Soorae (ed.). Gland, Switzerland: IUCN/SSC Re-introduction Specialist Group and Abu Dhabi, UAE: Environment Agency-Abu Dhabi. xiv + 250 pp.

Elsey, R. M., P. L. Trosclair, III, J. J. Wiebe, and W. Selman. 2011. *Alligator mississippiensis* (American alligator). Juvenile site fidelity. *Herpetological Review*. 42(4):596-598.

Lance, V. A., R. M. Elsey, and P. L. Trosclair, III. 2011. Long-distance movement by American alligators in Southwest Louisiana. *Southeastern Naturalist*. 10(3):389-398.

Platt, S. G., C. Kanwatanakid-Savini, M. Pliosungneun, A. Pattanawiboon, C. Limlikitaksorn, and R. M. Elsey. 2011. (Abstract). An assessment of the potential for reintroducing Siamese crocodiles (*Crocodylus siamensis*) to Kaeng Krachan National Park, Thailand. 32nd Annual Thai Wildlife Seminar, Bangkok, Thailand, 15-17 December 2011.

Bagatto, B., D. A. Crossley, J. Altimiras, R. M. Elsey, and J. Hicks. 2012. Physiological variability in yearling alligators: clutch differences at rest and during activity. *Comp. Biochem. Physiol.* 162A: 44-50.

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ALLIGATOR ADVISORY COUNCIL

The Alligator Advisory Council addresses a wide scope of issues concerning the alligator industry both locally and internationally. The council supports husbandry and disease research, addresses public concerns regarding animal welfare, engages in international conservation and trade issues, and develops markets for sustainable Louisiana products.

The council concentrated on several issues associated with alligators and crocodilians through the Convention on International Trade in Endangered Species (CITES) and USFWS programs and regulations. The council, along with LDWF staff, continued to work with USFWS to streamline the export process. Documented illegal snake trade created a backlash for all reptile trade internationally. New working groups within CITES were developed for snake trade, captive-bred and ranches specimens, and humane killing techniques. Louisiana remains a benchmark for sustainable and verifiable trade.

A Swiss documentary film, exposing the insensitive, inhumane and partly illegal Indonesian snake trade, caused the executives of some luxury brands to consider a ban on all exotic leathers. The Council and LDWF met with concerned leather goods managers about Louisiana's sustainable program. LDWF is working closely with LSUSVM to research best euthanasia methods as a result of these meetings.

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. S. 893, the Feral Swine Eradication and Control Pilot Program Act of 2011, and S. 899, the

Nutria Eradication and Control Act of 2011, moved through the Committee on Environment and Public Works and were placed on the full Senate Calendar for consideration under General Orders.

The Alligator Advisory Council worked with the LSU School of Human Ecology to promote the use of lower grade alligator skins. Several LSU alumni have incorporated grade-3 alligator leather into their fashion lines. Siquorney Morrison developed an exclusive line with alligator trim which is selling in North Beach, Manhattan and New Orleans. Dr. McRoberts incorporated a new “Eco-gator” category in the Dallas Career Day Competition 2012. She also presented grade-3 alligator research at the Beijing Institute of Fashion Technology.



OFFICE OF FISHERIES

*The Office of Fisheries is comprised of six sections:
Marine Fisheries, Inland Fisheries, Fish Management,
Fisheries Extension, Fisheries Oversight, Fisheries Administration,
and the Louisiana Seafood Promotion and Marketing Board.*

OFFICE OF FISHERIES ABBREVIATIONS

CCA - Coastal Conservation Association

CPRA - Coastal Protection and Restoration Authority

DHH - Louisiana Department of Health and Hospitals

FDA - U.S. Food and Drug Administration

EPA - Environmental Protection Agency

GSMFC - Gulf States Marine Fisheries Commission

LARP - Louisiana Artificial Reef Program

LDWF - Louisiana Department of Wildlife and Fisheries

LSPMB - Louisiana Seafood Promotion and Marketing Board

LSU - Louisiana State University

LWFC - Louisiana Wildlife and Fisheries Commission

NMFS - National Marine Fisheries Service

NOAA - National Oceanic and Atmospheric Administration

SEAMAP - Southeast Monitoring and Assessment Program

SRD - Socioeconomic Research and Development

VMS - Vessel Monitoring System

OFFICE OF FISHERIES

EXECUTIVE SUMMARY

MISSION

The Office of Fisheries is charged with managing living aquatic resources and their habitat, giving fishery industry support, and providing access, opportunity and understanding of Louisiana's aquatic resources to the state's citizens and other beneficiaries of these sustainable resources.

OBJECTIVES

- To provide high quality fishery management information through effective data collection, analysis and information sharing.
- To be an effective, efficient steward of our renewable aquatic resources.
- 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.

ORGANIZATION

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

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

FISHERIES MONITORING CHANGES

The Office of Fisheries has changed its monitoring sample methodology to improve estuarine coverage and provide better management decisions. Sample stations for each gear-type used by Fisheries biologists will be chosen through stratified random design of fixed locations. An equal number of stations will be selected at random for each sample period from the available pool of stations located throughout coastal Louisiana. 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 occurred. New station locations would be added as needed, but none of the previous unusable stations could be removed.

DATA MANAGEMENT SYSTEM UPGRADE

In an effort to further increase efficiency, the Office of Fisheries accepted proposals to replace its aging Data Management System. A contract was awarded in April 2010 and began work later that August. The work was scheduled to be completed in November 2011, but as the completion date neared, it was apparent that not all work would be completed. The remaining aspects of the system were expected to be completed by Jan. 31, 2013.

ONGOING MONITORING OF 2010 *DEEPWATER HORIZON* OIL SPILL

Although the *Deepwater Horizon* Oil Spill occurred in April 2010, response and recovery efforts continued throughout fiscal year 2011-2012. As one of the primary state agencies involved in oil spill response, Louisiana Department of Wildlife and Fisheries (LDWF) staff worked to ensure the safety of all those fishing in waters off Louisiana's coast and that seafood harvested in open waters tested at acceptable levels for public consumption according to standards set by the U.S. Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA).

RAPID RESPONSE MEASURES

During fiscal year 2010-2011 large portions of state waters were affected by closures related to the *Deepwater Horizon* Oil Spill. By April 26, 2011, only 0.6 percent of state waters remained closed to commercial fishing and certain recreational activities.

No emergency actions were taken during fiscal year 2011-2012 to close additional areas to recreational or commercial fishing, though the Office of Fisheries continued to conduct reconnaissance of areas oiled. Portions of state waters located around Grand Terre Island and Bay Jimmy, within the Barataria Basin, remained closed to all recreational and commercial fishing except for recreational and charterboat angling. Portions of state waters within the Mississippi River Delta also remain closed to commercial fishing. These areas were still closed at the end of fiscal year 2011-2012.

RESOURCE IMPACT MONITORING

In response to the *Deepwater Horizon* Oil Spill, Fisheries biologists increased independent sampling efforts in order to both monitor the impacts on fisheries resources, and to document the condition of Louisiana saltwater fisheries. The Office of Fisheries was aware that increased sampling efforts, beyond those normally undertaken, would be necessary to monitor the fisheries for any changes that would necessitate immediate management actions. LDWF, along with Louisiana state officials, worked quickly to negotiate an agreement with BP to 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, 2010, and work began quickly thereafter.

Included in the signed plan were three primary fisheries monitoring plans:

1. Inshore monitoring,
2. Nearshore monitoring,
3. Reef fish monitoring.

Inshore Monitoring

Inshore monitoring takes place in the shallower areas around the coast where normal depths are 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. In addition to the increases in sampling sites, dredge sampling was also instituted during months when dredging did not traditionally occur (November through February). Increases in sample replication at sites was instituted in 2011 and continued throughout fiscal year 2011-2012.

Nearshore Monitoring

Nearshore monitoring takes place in what recreational anglers often refer to as offshore waters, where normal depths are from 30 to 240 feet. Many of Louisiana's valuable species, such as brown and white shrimp, red drum, red snapper and Gulf menhaden, are found in these areas. Nearshore sampling provides fishery-independent monitoring (samples collected without direct reliance on commercial or recreational sectors) and assessment data essential to the management of Louisiana's marine fisheries. The information gathered throughout these monitoring efforts is used to manage these species in light of the oil spill.

Nearshore monitoring is conducted in the three designated zones off Louisiana's coast: Eastern Zone, Central Zone and Western Zone (*Figure 1*). A different zone is sampled monthly, which allows each zone to be sampled quarterly during the year. A total of 384 samples are taken on an annual basis.

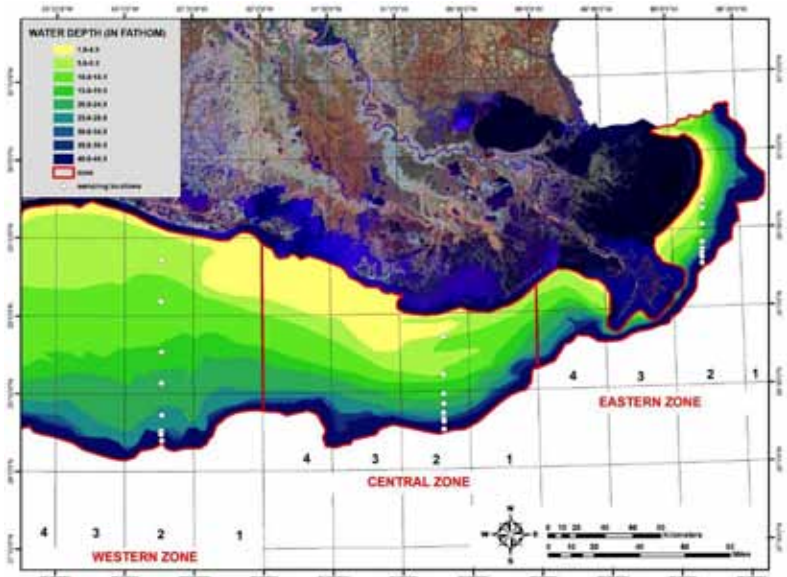


FIGURE 1. Geographic boundaries (zones) established in the Fisheries Impact Monitoring Plan

Reef Fish Monitoring

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

Data is collected during eight 12-day cruises taken each year of the study. Acoustic and video imagery, vertical longline, fish traps and neuston nets are all used to collect valuable information including reef/community structure, population diversity and density, biological metrics, and larval condition.

SEA TURTLE AND MARINE MAMMAL STRANDING RESPONSE

The Office of Fisheries continues to receive and investigate all reports of live and dead marine mammals and sea turtles. LDWF personnel, including Fisheries biologists and enforcement agents, worked diligently to respond to these strandings reported by members of the public, local government officials, and the Natural Resource Advisors still working out on barrier islands and beaches.

All sea turtle carcasses are recovered for necropsy to be performed by a veterinarian. Where logistically possible and appropriate, depending on the state of decomposition, marine mammal carcasses are also recovered for necropsies. Fisheries biologists work closely with our federal counterparts and staff at National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service to investigate the cause of deaths.

Since the onset of the *Deepwater Horizon* Oil Spill response through June 30, 2012, more than 425 live and dead sea turtles, including incidental captures, have been responded to, as well as over 310 live and dead marine mammals.

TISSUE TESTING FOR SEAFOOD SAFETY

Following the *Deepwater Horizon* 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 that the seafood being harvested in waters off Louisiana's coast were safe for consumption.

By the end of fiscal year 2011-2012, 922 composite samples (52 crab, 247 shrimp and 623 finfish) of seafood had been tested by LDWF and the Louisiana Department of Health and Hospitals (DHH). The samples were collected by Fisheries biologists in the same three zones utilized for Fisheries Impact Monitoring. The samples were collected, transported, and tested based on protocols agreed upon by the FDA, EPA and the Gulf States.

LDWF, as well as DHH, made sample results available to the public frequently through DHH reports and GULF-SOURCE, a web-based resource that provides the latest Gulf testing data (www.gulfsource.org).

NATURAL RESOURCE DAMAGE ASSESSMENT ACTIVITIES

***Deepwater Horizon* Oil Spill**

Since the *Deepwater Horizon* Oil Spill, Office of Fisheries staff have worked in coordination with state and federal trustees on a Natural Resource Damage Assessment. This coordination included conference calls, work plan development, work plan review, data QA/QC, and many meetings to develop an injury assessment. Staff participated in Technical Work Groups on fish, oyster, submerged aquatic vegetation, marine mammals and sea turtles, in addition to assessments on shoreline, water column, nearshore benthic, lost human use, and response injury. LDWF staff assisted with vessels and staff time in the spring 2012 Intertidal Oyster Sampling Plan, Marine Mammal and Sea Turtle Prey Sampling Plan, and a Dolphin Health Assessment Plan.

RESTORATION EFFORTS

Emergency Restoration Efforts

In lieu of waiting for BP to commit funds to restore valuable oyster grounds impacted by the *Deepwater Horizon* 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 Office of Fisheries executed two oyster reef rehabilitation projects (cultch plants) valued at nearly \$3.1 million to assist the re-establishment of healthy, productive public oyster seed grounds. These projects were completed in the fall of 2011. Information about each of the cultch plants is listed below:

Mississippi Sound Cultch Plant - St. Bernard Parish

The Mississippi Sound Cultch Plant is an approximately 300-acre site located south of Halfmoon Island. LDWF contracted to deposit 31,300 cubic yards of crushed concrete via high-pressure water spray. The final project resulted in an approximate plant rate of 105 cubic yards of cultch per acre. Project cost was approximately \$1.48 million.

Black Bay Area (California Bay) Cultch Plant - Plaquemines Parish

The Black Bay Area Cultch Plant is an approximately 300-acre site located west of Pelican Island in California Bay. LDWF contracted to deposit a mixture of approximately 3,000 yards of oyster shell and 24,955 yards of limestone via high-pressure water spray. The final project resulted in an approximate plant rate of 93 cubic yards of cultch per acre. Project cost was approximately \$1.66 million.

Early Restoration Efforts

Following extensive input by the Louisiana Oyster Task Force, the Coastal Protection and Restoration Authority (CPRA), and the Governor's Oyster Advisory Committee, six additional cultch plant locations were selected. Negotiations between the NRDA Trustees and BP led to an agreement to utilizing *Deepwater Horizon* Oil Spill NRDA Early Restoration funding to implement cultch plants in the following locations: Sister Lake, Hackberry Bay, South Black Bay, Lake Fortuna, Drum Bay, and 3-Mile Bay. Additionally, NRDA Trustees and BP agreed to the construction of an oyster hatchery to improve existing oyster hatchery operations in order to help facilitate and expedite success of the cultch placements. Construction of the hatchery is expected to begin in early 2013. The estimated cost of the cultch plants and hatchery project is approximately \$15.6 million.

All six cultch plant projects were permitted during fiscal year 2011-2012. The Sister Lake and Hackberry Bay projects were fully completed at the end of fiscal year 2011-2012. For the Hackberry Bay Cultch Plant (Lafourche Parish), LDWF contracted to deposit #57 limestone at an approximately 200-acre site located in the northwest portion of Hackberry Bay, south of Snail Bay. For the Sister Lake Cultch Plant (Terrebonne Parish), LDWF contracted to deposit #57 limestone at an approximately 350-acre site located in the central portion of Sister (Caillou) Lake.

OYSTER HATCHERY

In addition to traditional cultch plantings planned by LDWF as emergency restoration actions, Fisheries partnered with the Louisiana SeaGrant Bivalve Hatchery to begin planning oyster restoration utilizing hatchery-reared oyster larvae and spat (spat are oysters that are smaller than 25mm). During May and June 2012, LDWF and the Sea Grant Hatchery deployed approximately 2.7 million oyster spat on emergency restoration cultch plants in California Bay (Plaquemines Parish) and Mississippi Sound (St. Bernard Parish). Sampling of these areas is planned for the next fiscal year to determine the success of hatchery-raised spat. Additional larvae and spat are planned to be deployed on appropriate public oyster grounds during the next fiscal year.

In May of 2012, LDWF presented a Capital Outlay request for the construction of an Oyster Hatchery on Grand Isle, Louisiana. The new Oyster Hatchery Laboratory will be adjacent to the existing LSU Oyster Hatchery residence building on Grand Isle. This new Laboratory building will support administrative offices, technicians, and support staff and include a wet lab, dry lab, chemistry area and library research and reference area. Break room, restrooms, are all to be ADA compliant. Field equipment shed, sample work up area, outdoor covered tank area, fresh water, electricity, pumping systems for flow through systems, parking area, and emergency generator power for building and systems. The structure will be similar construction to the adjacent DWLF Marine lab facility including pre-stressed concrete piles, floor decking and wall panels, and standing seam metal roofing. Construction is expected to start in the first quarter of 2013.

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

Shrimp Sampling

Throughout the year the Office of Fisheries maintained a coast-wide sampling program which monitored relevant parameters of shrimp, groundfish and crab resources. The sampling provided a biological and hydrological database utilized to develop rational management recommendations for Louisiana's shrimp, groundfish and crab resources.

Inshore sampling continued with last year's modified sampling program. As a result, additional 6-foot and 16-foot trawl sampling stations were included in the sampling plan, and the frequency of sampling was adjusted in some cases. During fiscal year 2011-2012, 607 6-foot trawl and 3,385 16-foot trawl samples were collected. Information crucial to setting both the opening and closing dates for the spring shrimp season in inside waters was collected using these sampling procedures.

Finfish Sampling

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

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

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

1. A bag seine is used to sample young of the year and provide information on growth and movement. More significantly, these samples provide information on the forage species and ecological components of marsh-edge and shoreline habitats throughout the coastal zone. Seine samples are taken quarterly.
2. A gill net is used to sample juvenile, sub-adult and adult fish. It provides information on relative abundance, year class strength, movement and gonad condition. Gill net samples have been collected semi-monthly from April through September, and monthly from October through March using a strike net technique.
3. A trammel net is used to sample juvenile and sub-adult fish. It provides information on relative abundance, standing crop and movement. Trammel net samples are taken monthly from October through March.

During fiscal year 2011-2012 the fishery-independent finfish sampling program collected 1,907 (99%) gill net samples, 468 (113%) seine samples, and 544 (99%) trammel net samples for a 99 percent completion rate. Seine samples exceeded 100 percent due to extra sampling conducted in some areas of the state. Sample information for fiscal year 2011-2012 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 used to measure the annual oyster stock size and for yearly oyster season recommendations by the Office of Fisheries. Dredge data is used to monitor the overall health of the oyster resource during the year and to assess recruitment of new age classes of oysters into the population. Field biologists also gather hydrological data on public oyster areas and develop harvest and fishing effort estimates by conducting boarding report surveys of oyster boats.

Standardized fisheries independent sampling for oysters greatly increased during the previous fiscal years and was continued during fiscal year 2011-2012. Previously, oyster sampling was not undertaken in some months; however, monthly dredge sampling was recently established during the months of November - February. This increase in sampling effort now provides valuable oyster data during every month of the year.

Annual Oyster Stock Assessment

During fiscal year 2011-2012 the 2011 oyster stock assessment was produced and made available to the public. Countless hours were spent by field staff providing the necessary biological data required for this assessment. Stock assessment results indicated a slight decrease (-5%) in statewide oyster resource availability on the public oyster seed grounds, with stocks remaining at some of the lowest levels in the last 20 years. The overall statewide oyster stock assessment for 2011 showed approximately 1.597 million barrels of oysters (seed-size and market-sized oysters combined) available.

Freshwater Sampling

In fiscal year 2011-2012 Inland Fisheries personnel estimated relative abundance, age, growth and mortality, size class structure and species composition, and genetics of sportfish populations in addition to physiochemical characteristics of the water on 90 lakes, rivers and streams. All waters are sampled in a similar manner so that data from the different water bodies is comparable from year to year.

Sampling sites on inland lakes, reservoirs and rivers are predetermined and selected to represent available aquatic habitats within the various water bodies. Sampling protocol is standardized to the extent possible to allow for comparison of data over time.

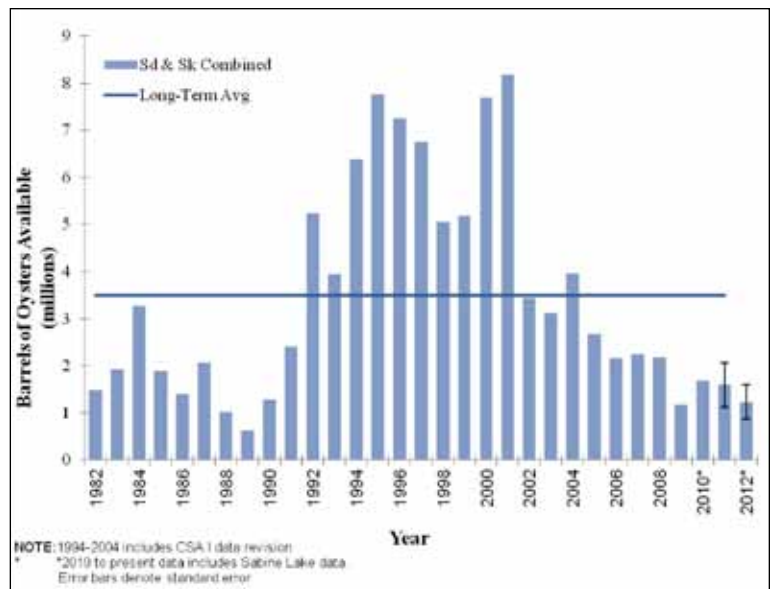


FIGURE 2. Historical Louisiana oyster combined seed and sack (market) landings.

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 670 stations were sampled for 147.25 hours of timed electrofishing during the fiscal year. Sampling included largemouth bass and crappies 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. Forty-three seine hauls were made during the fiscal year.

Entanglement and trap net webbing are also fished in a standardized manner to collect crappies, catfishes and sunfishes. Two hundred 63 gill net samples were taken on various lakes and rivers, while 226 lead nets and hoop net samples were fished during the fiscal year.

Mini biomass samples (one-day rotenone) were taken in the coastal freshwater marshes as a means to measure species diversity and abundance. Coastal districts cooperatively made 45 biomass samples in fiscal year 2011-2012.

Special largemouth bass age, growth and mortality studies continued on 12 water bodies during 2011-2012, while 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 completed on 12 waterbodies statewide with final number sampled and results presented in *Table 1*.

TABLE 1. Largemouth genetics analyses on selected Louisiana lakes and rivers during fiscal year 2011-2012.

LAKE/RIVER	SAMPLE #	% NATIVE	% HYBRID	% FLORIDA	% FL GENOME
Henderson	78	96.2%	3.8%	0.0%	3.8%
Atchafalaya Basin	141	88.6%	10.0%	1.4%	11.4%
Chicot Lake	128	70.3%	24.2%	5.5%	29.7%
Cross Lake	307	73.2%	23.5%	3.3%	26.8%
Caddo Lake	207	71.4%	26.6%	2.0%	28.6%
False River	119	67.2%	28.6%	4.2%	32.8%
Cataouatche Lake	119	81.5%	14.3%	4.2%	18.5%
Toledo Bend	364	67.3%	28.6%	4.1%	32.7%
Vernon Lake	124	66.1%	22.6%	11.3%	33.9%
Concordia Lake	154	68.8%	26.6%	4.6%	31.2%
Black/Clear Lake	128	79.7%	17.2%	3.1%	20.3%
Red River*	62	56.5%	43.5%	0.0%	43.5%

*Samples were collected from anglers at the Bass Master's Classic®

COMMERCIAL HARVEST

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

Shrimp

Shrimp are the state's most valuable fishery. In 2011 total shrimp landings measured approximately 92 million pounds (all species combined/heads on weight) and had a dockside value of \$130 million. Brown shrimp landings comprised approximately 43 percent of 2011 landings. White shrimp landings in 2011 measured nearly 53.6 million pounds (heads-off) weight (*Figures 3 and 4*).

Crab

Louisiana commercial blue crab landings for 2011 totaled approximately 43.8 million pounds and had a dockside value of approximately \$36.8 million. Louisiana leads all Gulf states, and was second only to Maryland in landings during 2011 (*Figures 5 and 6*).

Oysters

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

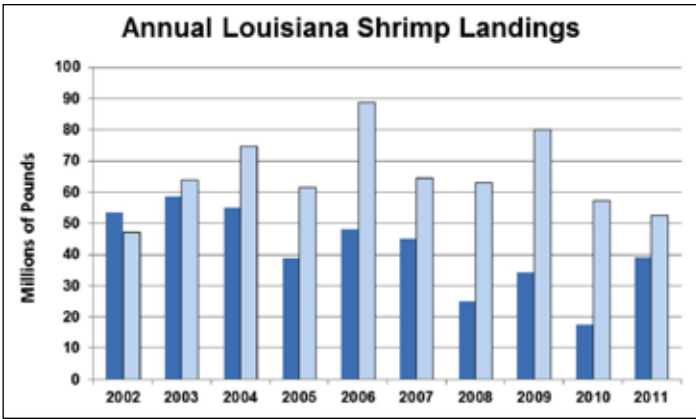


FIGURE 3. Louisiana commercial shrimp landings broken down by brown shrimp (dark blue) and white shrimp (light blue).

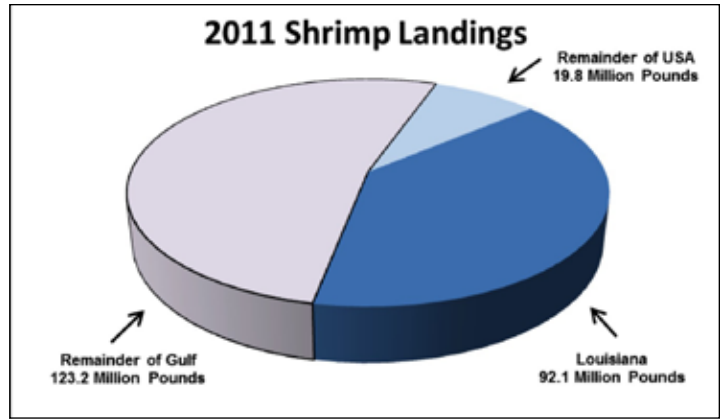


FIGURE 4. Breakdown of U.S. 2011 shrimp landings.

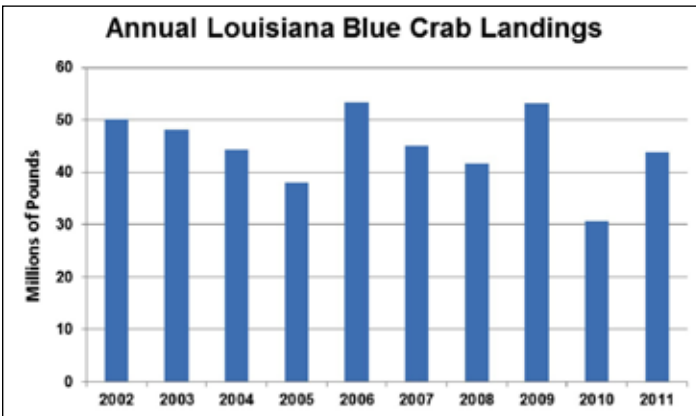


FIGURE 5. Annual Louisiana Blue Crab Landings.

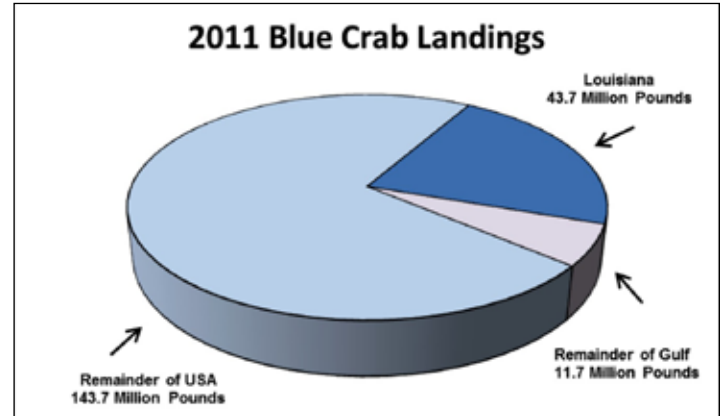


FIGURE 6. Breakdown of U.S. 2011 crab landings.

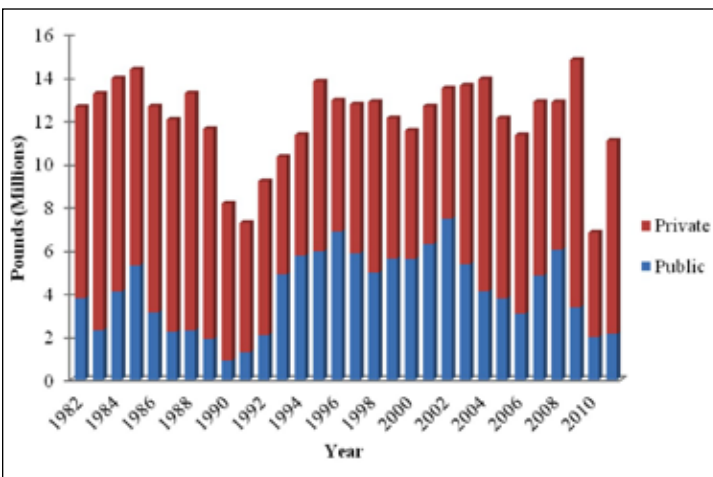


FIGURE 7. Historical Louisiana oyster landings (pounds of meat) divided between public grounds and private leases.

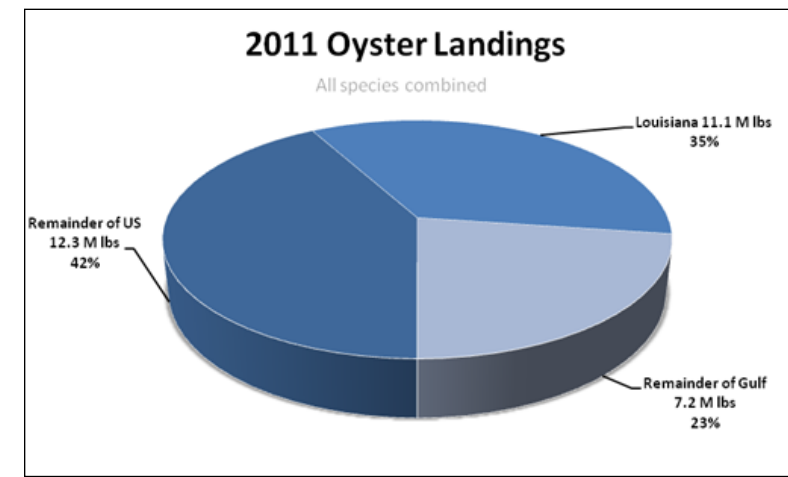


FIGURE 8. Breakdown of U.S. 2011 oyster landings.

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 233,000 commercial fishing trips reported last year producing in excess of 155 million pounds of seafood.

Beginning in May 2000, a computerized electronic trip ticket program was developed and made available to dealers. To date, roughly 200 dealers use the computerized program to submit their trip ticket data. Trip ticket information has been used:

- to enhance the accuracy of stock assessments conducted by state and federal fishery management agencies,
- to extend certain inshore shrimp seasons providing additional economic opportunity to fishermen,
- to develop a crop insurance program for oyster growers, and
- to estimate damages from hurricanes Katrina and Rita in 2005 and the *Deepwater Horizon* Oil Spill.

After BP announced that it would require certified copies of trip ticket from LDWF, the department processed over 6,500 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 (MRIP) and creel surveys.

Marine Survey

MRIP, formerly the Marine Recreational Statistics Survey, in cooperation with NMFS and Gulf States Marine Fisheries Commission (GSMFC), uses dockside interviews of recreational anglers to determine catch, and a telephone survey to determine charter fishing effort.

During fiscal year 2011-2012 Fisheries biologists conducted approximately 6,317 interviews of recreational fishermen along Louisiana's coast. There were an estimated total of 5,044,651 angler trips taken. Anglers harvested an estimated 10.5 million spotted seatrout and 2.6 million red drum during this time. Approximately 400 charter vessels were monitored with an estimated 121,737 charter angler trips during this time.

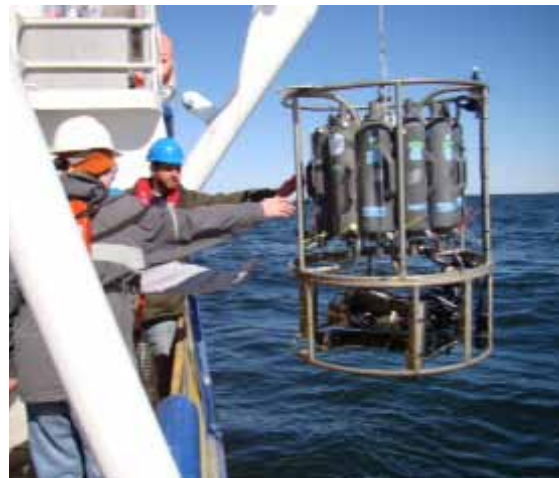
On Jan. 1, 2011, an expenditure survey was incorporated into the standard MRIP interviews. The survey, referred to as the "Socio-Economic Add-on Survey" or "SEAS," is conducted every five years, and is an effective tool in measuring the economic value of recreational saltwater fishing. SEAS continued until Dec. 31, 2011. Data collected from this survey is not yet available.

Freshwater Surveys

Creel surveys puts the fisheries biologist in direct contact with the fishermen. Information collected includes species sought and species caught, distance traveled, time fished, number caught and released, and length and weight measurements of all fish harvested. Eight recreational creel surveys were conducted on inland waters during fiscal year 2011-2012. These lakes and reservoirs include Black, Caddo, Cataouatche, Chicot, Concordia, D'Arbonne, and Poverty Point lakes and Lacassine National Refuge.

SOUTHEAST AREA MONITORING AND ASSESSMENT PROGRAM (SEAMAP)

SEAMAP is a cooperative state, federal and university program designed for the collection, management and dissemination of fishery-independent biological and environmental data of the coastal waters (state and EEZ) off the Southeastern United States. For the past 32 years SEAMAP has collected data on fish stocks that are managed by either state or federal governments. Louisiana takes part in four components of the SEAMAP program: shrimp/groundfish, ichthyoplankton, bottom longline, and vertical line. The surveys are conducted by teams of five to nine Fisheries biologist who collect, work-up and enter data on all biological samples. In addition, all surveys collect environmental parameters, primarily using a Conductivity/Temperature/Depth rosette, at each site along with water samples collected at bottom, middle and surface depths.



Fisheries biologist collecting water samples using a CTD.

SEAMAP Shrimp/Groundfish Survey

The SEAMAP shrimp/groundfish survey is designed to collect fishery-independent information on abundance and distribution of shrimp, groundfish and plankton west of the Mississippi River. Shrimp and groundfish samples are collected using a 42-foot trawl. All specimens captured are identified, weighed and measured. Opportunistic plankton samples are also collected in this survey using 60cm bongo and 1x2m neuston nets. Plankton samples are forwarded to NMFS for preparation and shipment to the Poland Ichthyological Laboratory for species identification. During the fall of 2011 and spring and fall of 2012, 71 shrimp/groundfish randomly assigned locations, ranging from latitude 28° 14' to 29° 12' and longitude -89° 21' and -92° 13', were sampled. The depths sampled ranged from 36-330 feet. Plankton samples were collected at seven set locations per survey off the Louisiana coast, ranging from latitude 28°30' to 29° 00' and longitude -89° 30' to -91° 30'.

SEAMAP Ichthyoplankton Survey

SEAMAP ichthyoplankton surveys are conducted to provide information on the occurrence, abundance and geographical distribution of the eggs and larvae of spring spawning fish, particularly Atlantic bluefin tuna, and of fall spawning fish, particularly king and Spanish mackerel, lutjanids, and sciaenids. This information is essential to fisheries management of the Gulf of Mexico. Plankton sampling is conducted in conjunction with the NMFS SEAMAP Spring and Fall Plankton Surveys. Sampling is conducted using 60cm, 0.335mm-mesh bongo and 1m x 2m, 0.950mm-mesh neuston nets. Samples are transported back to the lab for preparation and transfer. Samples are then transferred to the NMFS Pascagoula, Miss. lab for shipment to the Poland Ichthyological Laboratory for species identification. In the spring and fall of 2012, surveys were conducted with a total of 18 stations sampled (between the latitudes 28°00 and 29°02, longitudes 88°00 and 93°01).

SEAMAP Bottom Longline Survey

The SEAMAP Bottom Longline Survey is conducted to obtain fishery-independent data essential for monitoring and assessment of benthic species and shark populations in order to implement fishery regulations. Using standard 1 nautical mile longline sets, one of three corridors are sampled (eastern, central, western) monthly, March through October. Sites are randomized in each corridor by longitude and depth (longitude 89.00°- 91.00°, depth 6-600 feet). A different set of depths are sampled monthly. All species are identified, weighed, counted, measured and sexed (sharks) according to the SEAMAP Bottom Longline manual guidelines. Otolith and female ovaries are removed and processed in the lab for age and growth data. Office of Fisheries biologist completed a total of 81 bottom longline stations, landing 2,249 sharks and 635 other various species.

SEAMAP Vertical Line Survey

The SEAMAP Vertical Line Survey is conducted to collect information on the spatial and temporal distribution of commercial and recreational reef species off the Louisiana coast. Sampling site selection is random within the three zones, ranging in depth from 60 to 360 feet. Each block is sampled quarterly in rotation utilizing standard commercial and recreational methods. Otolith and female ovaries are removed and processed in the lab for age and growth data. Vertical line surveys took place in July, September and October of 2012. Ninety-five vertical line stations were sampled, landing 586 fish (487 were red snapper [86%]).

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.

Spotted Seatrout

An assessment of spotted seatrout is currently being drafted by Fisheries biologists using an Age Structured Assessment Program (ASAP) to describe the dynamics of the spotted seatrout stock. Previous assessments have relied on an untuned Virtual Population Assessment (VPA). The ASAP uses forward projections that integrate relative-abundance indices into the model fitting process. In addition, the ASAP assumes observed catch-at-age (CAA) is known with error whereas VPA assumes the CAA 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 2012-2013.

Striped Mullet

An assessment of striped mullet in Louisiana waters was produced and presented to the Louisiana Wildlife and Fisheries Commission (LWFC) for transmittal to the Louisiana Legislature in February 2012. 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.

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 2011-2012, nine management plans were approved. Plans will be available on the LDWF website once reviewed and approved.

- Cocodrie Lake
- Kepler Lake
- Lake Bartholomew
- Lake Concordia
- Lake Fausse Pointe
- Lake Martin
- Lake Providence
- Lower Sunk Lake
- Tchefuncte River

Aquatic Vegetation Management Plans

Aquatic vegetation management efforts are designed to ensure that the natural environment and human interests are mutually protected.

The Aquatic Vegetation Management Program format was created for lakes that do not have an approved LDWF Waterbody Management Plan to provide basic lake information and description, a listing of lake authorities, historical vegetation control information, current aquatic plant status, and recommendations for aquatic control. These documents are used as a guide for aquatic plant control, and as a source of recommendations and information to provide to the lake authorities and the public. In fiscal year 2011-2012 the Aquatic Plant Control Program completed 74 Vegetation Management Plans for Louisiana public waterbodies.

Henderson Lake Water Hyacinth Control Efforts

For many years invasive aquatic weeds, mostly water hyacinth, have been a chronic problem in the Henderson Lake area of the Upper Atchafalaya Basin, causing navigation and access issues throughout the complex. As a result, there are often public requests for herbicide applications to alleviate the problem. Water hyacinth flows south from a large, shallow area called the North Flats that serves as a nursery area for the hyacinth. Poor access to the North Flats has limited the Office of Fisheries ability to treat the source of the problem.

In fiscal year 2011-2012, the Aquatic Plant Control Program devised a strategy to maximize the effects of herbicide application to the Henderson Lake area. Starting in the fall of 2011 through March 2012, a combined effort of LDWF crews, contractor airboats and aerial application via helicopter sprayed various areas of the Henderson Lake area including the I-10 Canal, North Flats and Bayou Fordoche. The various stages and application techniques were timed to optimize the effectiveness of the herbicide. The spraying efforts proved effective, with boat launches remaining clear, I-10 no longer harboring thick mats, and very little live plant material has been found floating from the North Flats.



North Flats of Henderson Lake prior to aerial application in January 2012.



North Flats area of the Henderson Lake system following aerial application in January 2012.

MANAGEMENT RECOMMENDATIONS

The Office of Fisheries collects data on shrimp, crab, oysters and commercially and recreationally important finfish throughout the state and its nearshore waters. This information is used to produce recommendations for setting seasons and harvest limits, and to monitor the species found in an area over time.

Shrimp

Since 1975, LDWF has managed the shrimp fishery in inside waters using a shrimp management zone concept that has provided the flexibility needed to create staggered opening and closing dates, season extensions, special seasons and special gear seasons between shrimp management zones. However, greater flexibility in managing the shrimp resource is now provided through the use of a basin type management approach. Louisiana's major estuarine basins include the

Pontchartrain Basin, Mississippi River Basin, Barataria Basin, Terrebonne Basin, Atchafalaya River Basin, Vermilion-Teche River Basin, Mermentau River Basin, and Calcasieu and Sabine River basins.

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 of LDWF and the LWFC. These measures were implemented during fiscal year 2011-2012.

Pontchartrain and Portions of Mississippi River Basins

2011 - Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 16, 2011, in the following waters:

- That portion of state inside waters 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, in the remainder of Zone 1.

Closed at 6:00 a.m. July 18, 2011 except for the following waters:

- Lake Pontchartrain including Rigoletes Pass from the mouth of Lake Pontchartrain extending eastward to the western side of the CSX Railway Bridge.

Closed at 6:00 a.m. July 18, 2011, except for the following waters:

- Chef Menteur Pass from the mouth of Lake Pontchartrain southeasterly to the mouth of Lake Borgne,
- The Mississippi River Gulf Outlet beginning at its juncture with the Industrial Canal.
- That portion of Lake Borgne seaward of a line extending one-half mile from the shoreline.
- That portion of Mississippi Sound beginning at a point on the Louisiana-Mississippi Lateral Boundary at latitude 30° 09' 39.6" north and longitude 89° 30' 00" west; thence southeasterly to a point at latitude 30° 03' 12" north and longitude 89° 21' 30" west; thence northeasterly to the most easterly point on Isle Au Pitre at latitude 30° 09' 20.5" north and longitude 89° 11' 15.5" west, which is a point on the double-rig line; thence northerly along the double-rig line to a point on the Louisiana-Mississippi Lateral Boundary at latitude 30° 12' 37.9056" north and longitude 89° 10' 57.9725" 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.

Closed at 6:00 a.m. Aug. 2, 2011, except for the following waters:

- That portion of Mississippi Sound beginning at a point on the Louisiana-Mississippi Lateral Boundary at latitude 30° 09' 39.6" north and longitude 89° 30' 00.0" west; thence due south to a point at latitude 30° 05' 00.0" north and longitude 89° 30' 00.0" west; thence southeasterly to a point on the western shore of Three-Mile Pass at latitude 30° 03' 00.0" north and longitude 89° 22' 23.0" west; thence northeasterly to a point on Isle Au Pitre at latitude 30° 09' 20.5" north and longitude 89° 11' 15.5" 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 Louisiana-Mississippi Lateral Boundary at latitude 30° 12' 37.9056" north and longitude 89° 10' 57.9725" 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 double rig line.

2011 - Fall Inshore Shrimp Season

Opened at 6:00 a.m. Aug. 22, 2011.

Closed at official sunset Dec. 20, 2011, except in the following waters:

- That portion of state inside waters north of the southern shore of the Mississippi River Gulf Outlet including the Gulf Intracoastal Waterway north of the Paris Road Bridge.
- The open waters of Breton and Chandeleur sounds as described by the double-rig line.

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

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

2012 - Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 21, 2012.

Closed at 6:00 a.m. July 9, 2012, except for the following waters:

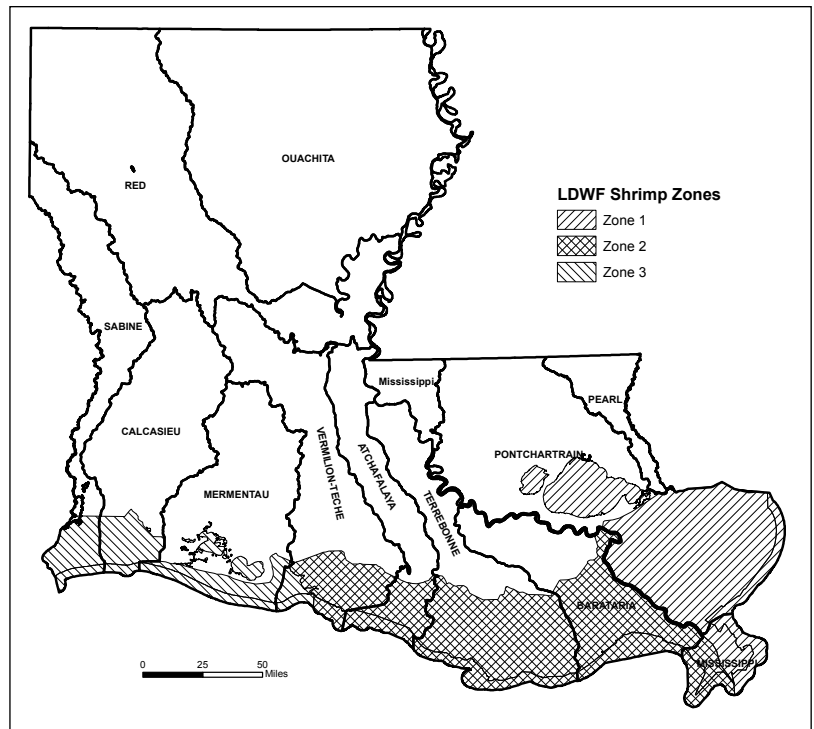


FIGURE 9. Shrimp Management Zones.

- Lake Pontchartrain including Rigoletes Pass from the mouth of Lake Pontchartrain extending eastward to the western side of the CSX Railway Bridge. Chef Menteur Pass from the mouth of Lake Pontchartrain southeasterly to the mouth of Lake Borgne.
 - Mississippi River Gulf Outlet.
 - That portion of Lake Borgne seaward of a line extending one-half mile from the shoreline.
 - That portion of Mississippi Sound beginning at a point on the Louisiana-Mississippi Lateral Boundary at latitude 30° 09' 39.6" north and longitude 89° 30' 00" west; thence southeasterly to a point at latitude 30° 03' 12" north and longitude 89° 21' 30" west; thence northeasterly to the most easterly point on Isle Au Pitre at latitude 30° 09' 20.5" north and longitude 89° 11' 15.5" west, which is a point on the double-rig line; thence northerly along the double-rig line to a point on the Louisiana-Mississippi Lateral Boundary at latitude 30° 12' 37.9056" north and longitude 89° 10' 57.9725" 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.
- Closed at 6:00 a.m. July 14, 2012 in the remainder of Zone 1 except for the following waters:
- The open waters of Breton and Chandeleur sounds as described by the double-rig line.

Barataria, Terrebonne, Atchafalaya and Vermilion-Teche River Basins

2011 - Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 13, 2011, in the following waters:

- That portion of state inside waters from the western shore of Bayou Lafourche (waters from the Atchafalaya River to the western shore of Vermilion Bay and Southwest Pass at Marsh Island were opened earlier by special season).

Opened at 6:00 a.m. May 16, 2011, in remainder of Zone 2.

Closed at 6:00 p.m. June 25, 2011, in the following waters:

- That portion of state inside waters from the western shore of Bayou Lafourche westward to the Atchafalaya River Ship Channel at Eugene Island as delineated by the River Channel red buoy line except for the following waters:
- That portion of state inside waters south of 29° 13' 00" north latitude from 90° 18' 00" west longitude westward to 90° 34' 00" west longitude.
- That portion of state inside waters south of 29° 06' 00" north latitude from 90° 34' 00" west longitude westward to 90° 46 minutes 00 seconds west longitude.

Closed at 6:00 a.m. July 11, 2011, in the remainder of Zone 2 except for the following waters within the Barataria Basin:

- That portion of state inside waters south of 29° 26' 00" north latitude from 89° 50' 30" west longitude westward to the western shore of the Barataria Waterway.

Closed at 6:00 a.m. July 18, 2011 in the remainder of Zone 2.

2011 - Fall Inshore Shrimp Season

Opened at 6:00 a.m. Aug. 22, 2011.

Closed at official sunset Dec. 20, 2011.

2012 - Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 7, 2012.

Closed at 6:00 a.m. June 23, 2012, except for the following waters:

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

Closed at 6:00 am July 9, 2012, in the remainder of Zone 2.

Mermentau, Calcasieu and Sabine River Basins

2011 - Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 16, 2011.

Closed at 6:00 a.m. July 18, 2011, except for 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.
- That portion of Cameron Parish west of Calcasieu Lake.

Closed at 6:00 p.m. July 23, 2011, in the remainder of Zone .

2011 - Fall Inshore Shrimp Season

Opened at 6:00 a.m. Aug. 22, 2011.

Closed at official sunset Dec. 20, 2011.

2012 - Spring Inshore Shrimp Season

Opened at 6:00 a.m. May 21, 2012.

Closed at 6:00 a.m. July 9, 2012, except for the following waters:

- That portion of state inside waters from the eastern shore of the Calcasieu River Channel westward to the Louisiana/Texas state line.

Closed at 6:00 a.m. July 12, 2012, in the remainder of Zone 3.

Offshore Shrimp Seasons

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

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

Opened at 6:00 a.m. April 14, 2012, in the following waters:

- That portion of state outside waters south of the inside/outside shrimp line from the U.S. Coast Guard navigational light off the northwest shore of Caillou Boca at 29°03'10' north latitude and 90°5'27' west longitude westward to the Atchafalaya River Ship Channel at Eugene Island as delineated by the River Channel red buoy line.

Opened at 6:00 a.m. May 21, 2012, in the following waters:

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

Crab

Management of the blue crab fishery strives for the maintenance of the stock while providing for long-term benefits to the fishery. Key objectives of management include conservation, restoration and enhancement of habitat essential to blue crabs; reductions in juvenile blue crab incidental mortality, wasteful harvesting practices within the fishery, and conflicts among crab fishermen and other user groups; enhancement of social and economic benefits derived from resource use; and the assessment of biological, social and economic impacts of existing and proposed fisheries management regulations affecting the fishery. These objectives are met via licensing, record keeping and reporting requirements, and minimum size limit, time, gear and area restrictions.

Louisiana commercial blue crab landings have remained above 40 million pounds annually since 1997 with the exception of 2005 and the passage of hurricanes Katrina and Rita which caused substantial reductions in fishing effort in comparison with other years. Inception of the LDWF Trip Ticket Program in 1999 has significantly increased the ability to monitor trends in blue crab catch rates coastwide as well as among estuarine basins.

Marine 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.

2011/12 Finfish Management Actions and Recommendations

The following management recommendations were made to the LDWF secretary and LWFC and implemented during fiscal year 2011-2012:

July 2011

- Commercial king mackerel season opened on July 1 at 12:01 a.m., concurrent with a federal opening.
- Commercial fisheries for small coastal sharks and large coastal sharks re-opened July 1 following an annual seasonal closure from April 1 through June 30.
- Commercial fishery for large coastal sharks closed on July 17 at 12:01 a.m., concurrent with a federal closure.
- Recreational fishery for red snapper closed on July 18 at 12:01 a.m., concurrent with a federal closure from NOAA Fisheries and the GSMFC.

August 2011

- Recreational fishery for greater amberjack opened Aug. 1 after an in-season closure from June 1 through July 30.
- LWFC adopted a Notice of Intent to modify recreational harvest limits of bluefin tuna to be consistent with federal regulations.
- LWFC adopted a Notice of Intent to modify commercial regulations for the harvest of mullet to allow a commercial cast net fishery for the harvest of live mullet for bait purposes per Act 65 of the 2011 regular session of the Louisiana Legislature.

September 2011

- Recreational fishery for gag opened on Sept. 16.
- Commercial fishery for greater amberjack re-opened on Sept. 1.
- Commercial fishery for king mackerel closed Sept. 16 concurrent with a federal closure.

October 2011

- Commercial fishery for greater amberjack closed on Oct. 19 at 11:59 p.m., concurrent with a federal closure.

November 2011

- Recreational fishery for gag closed on Nov. 15 concurrent with federal closure.

December 2011

- LWFC adopted a Notice of Intent to create a Recreational Offshore Landing Permit that will require individuals who are recreationally fishing for tunas, billfish or swordfish to obtain a free permit.
- LWFC adopted a Notice of Intent to modify tuna recreational harvest requirements to require a Recreational Offshore Landing Permit when recreationally harvesting tunas and to require reporting of all recreationally landed yellowfin tuna.

- Commercial fishery for spotted seatrout closed at midnight on Dec. 31.
- Commercial fishery for small coastal sharks closed on Dec. 31.

January 2012

- Commercial fishery for small coastal sharks opened at 12:01 a.m. Jan. 24.
- Recreational gag grouper fishery was closed on Jan. 5.
- 2012-2013 commercial and recreational reef fish seasonal rules were set consistent with federal season rules.
- 2012-2013 commercial king mackerel season was set consistent with federal season.
- Commercial fishery for spotted seatrout opened on Jan. 2.

February 2012

- The annual stock assessment for striped mullet was presented to the LWFC for transmittal to the Louisiana Legislature.
- 2012 commercial fishery for large coastal sharks opened on Feb. 15 consistent with federal season.
- 2010-2011 commercial fishery for king mackerel closed at 12:00 noon on Feb. 11.

April 2012

- Commercial and recreational fisheries for all sharks closed April 1 due to an annual closed season from April 1 through June 30.
- LWFC adopted a Notice of Intent to modify Reef Fish Harvest Regulations. Changes included modified closed season dates, modified size limits, modified possession limits, and wording changes to reflect consistency with federal regulations.
- LWFC emergency action set grouper regulations consistent with federal regulations.
- Commercial greater amberjack fishery closed April 4 consistent with federal closure.

May 2012

- LWFC adopted a Notice of Intent to modify Reef Fish Harvest Regulations to include a state waters only recreational red snapper season beginning on the Saturday preceding Palm Sunday and extending until Sept. 30 of each year, on weekends only, with a three fish limit. Weekends include Friday, Saturday and Sunday as well as the Mondays of Memorial Day and Labor Day.

June 2012

- Commercial gray triggerfish fishery was closed on June 30 at 11:59 p.m., concurrent with a federal closure.
- Recreational red snapper fishery opened June 1 concurrent with federal season.
- Recreational greater amberjack fishery closed June 1 in conjunction with an annual closed season from June 1 through July 30.

Oysters

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

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

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

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.

In fiscal year 2011-2012, the oyster season on most of the public grounds opened on Oct. 31, 2011 (*Table 2*). The season yielded only modest amounts of harvest as oyster availability was generally low statewide. Based on harvest estimates

from fishermen interviews on the water, the public oyster areas produced approximately 169,000 barrels of oysters during the season (1 barrel = 2 sacks). The public oyster seed grounds in Plaquemines Parish east of the Mississippi River and south of the Mississippi River Gulf Outlet received the most harvest pressure as fishermen took approximately 91,000 sacks of market-size oysters and 19,000 barrels of seed-size oysters. On Nov. 14, 2011, nearly all of the public grounds east of the Mississippi River were restricted to “sacking-only,” and no seed oyster harvest was allowed. Despite its small area, strong harvest was recorded in Sister Lake (Terrebonne Parish) where over 86,000 sacks of market-size oysters were harvested and nearly 16,000 barrels of seed oysters. Calcasieu Lake fishermen harvested approximately 28,000 sacks of market-size oysters.

Freshwater Finfish

Yo-Yo and Trotline regulations

Act 631 of the 2010 regular session authorized the LWFC to establish pre-determined uniform regulations for the use of mechanical yo-yo fishing devices and trotlines that local lake commissions could opt to adopt. Since the act repealed existing yo-yo regulations on Black Lake, Clear Lake and Prairie Lake (Natchitoches Parish), Caddo Lake (Caddo Parish), Chicot Lake (Evangeline Parish), D’Arbonne Lake (Union Parish), and Lake St. Joseph (Tensas Parish), the commission moved to adopt a rule to apply the new uniform regulations. These changes on Caddo Lake, Chicot Lake, Lake D’Arbonne, Black Lake, Clear Lake, Prairie Lake, and Lake St. Joseph include:

Yo-Yo regulations

- 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 trigger device shall be removed immediately.
- No yo-yo or trigger device shall be attached to any metallic object.

Trotline restrictions

- 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 personal shall set more than three trotlines with a maximum of 50 hooks per trotline.
- All trotlines must be removed 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.

False River Commercial Fishing

In February 2012, the LWFC took action to establish a recurring commercial net season on False River in Point Coupee Parish.

The use of fish nets in False River Lake is prohibited EXCEPT:

- A special recurring commercial fishing season allowing the use of gill and trammel nets greater than or having at least a minimum of 3 1/2 inches square (7 inches stretched) is permitted.
- Season will commence each year at sunrise on Nov. 1 and closes at sunset on the last day of February the following year.
- Commercial fishing will be allowed only during daylight hours, except that gear can remain set overnight but fish captured shall be removed during daylight hours only.
- Commercial fishing with trammel and gill nets will be allowed on False River Lake only during the open season and only by licensed commercial fishermen.

D’Arbonne Crappie Regulations

The commission adopted a rule to reduce the daily creel limit for D’Arbonne Lake crappie from 50 to 25 fish per person (LAC 76:VII.197), with the on-water possession limit the same as daily limit per person.

TABLE 2. 2011-2012 Oyster Season Dates.

PUBLIC OYSTER AREA	SEASON OPENING	SEASON CLOSURE
Primary Public Oyster Seed Grounds east of the Mississippi River, including Lake Borgne, and the Bay Gardene Public Oyster Seed Reservation	Oct. 31, 2011	Feb. 2, 2012
Hackberry Bay Public Oyster Seed Reservation	Oct. 31, 2011	Nov. 4, 2011
Barataria Bay Public Oyster Seed Grounds	Oct. 31, 2011	April 30, 2012
Lake Chien and Lake Felicity Public Oyster Seed Grounds	Oct. 31, 2011	Nov. 4, 2012
Deep Lake, Lake Tambour, and Lake Mechant Public Oyster Seed Grounds	Oct. 31, 2011	April 30, 2012
Sister Lake and Bay Junop Public Oyster Seed Reservation	Oct. 31, 2011	Dec. 15, 2012
Vermilion/East and West Cote Blanche/Atchafalaya Bay Public Oyster Seed Grounds	Oct. 31, 2011	April 30, 2012
West Cove portion of Lake Calcasieu public oyster area	Nov. 1, 2011	April 30, 2012
Little Lake Public Oyster Seed Grounds	Sept. 7, 2011	April 30, 2012
East side of Calcasieu Lake and Sabine Lake	Season Remained Closed	

Aquatic Nuisance Species

Regulations were developed to address the Rio Grande cichlid possession rules which had a conflict with the fisherman not being able to keep or release the fish once caught. These fish are now allowed to be kept if they are dead. Another regulation was developed to restrict the sale of in-state “wild caught” invasive apple snails to help reduce the speed of spreading this species to other part of the state by the aquarium trade. In conjunction with the outreach section, materials were developed to distribute to the public in order to help educate them on the existing exotic species and reducing introductions.

FISHERIES RESEARCH

The Fisheries Research Lab

The Fisheries Research Lab is located on Grand Isle, right on the shore of Barataria Bay, one the richest estuarine complexes in the Gulf of Mexico. While fisheries research is conducted throughout the state, the Fisheries Research Lab is the heart and primary location for research in the Office of Fisheries. This ideal location allows for the research and monitoring of many of Louisiana’s key recreational and commercial marine species including offshore species that are just a short boat ride away. In addition to traditional sampling data collected, the Fisheries Research Lab also provides Fisheries biologist with the ability to develop and conduct additional research projects, collecting vital information for the management Louisiana’s aquatic resources.

Pelagic Research

Understanding movement patterns is an important component of fisheries management programs. Some research has indicated differences in migration patterns of pelagic species between the eastern and western stocks in the Gulf of Mexico, but due to their habitat ranges, very little is known about their life cycle and habitat preferences. In a collaborative effort, the Office of Fisheries is working with scientists at the University of Southern Mississippi’s Gulf Coast Research Laboratory and Texas A&M University on a Pelagic Research Program.

Ocean pelagic fish spend most, or all, of their life far offshore, traveling large distances, making the use of conventional tag return slim. Their migratory routes often include multiple countries, posing additional challenges for fisheries management. Utilizing satellite tags (state-of-the-art animal tracking technology) Fisheries biologist expect to learn more about movements, distribution and the essential habitat requirements of highly migratory species in the Gulf of Mexico such as whale, dusky, hammerhead and tiger sharks, and other important fisheries species, such as yellowfin tuna.

Satellite tags provide the opportunity to study the movements, distribution and habitat preferences of pelagic fishes throughout their range. The two types of tags being used are SPOT and PSAT tags. SPOT tags provide real-time location data when the animal surfaces while the satellite is over head. Data from SPOT tags can be linked to a website to show the animal’s real-time movements. PSAT tags store the location, water temperature, and depth data on a computer chip. At a pre-programmed time, the tag pops off the animal, floats to the surface, and transmits the stored data through the satellite (*Figure 10*).

In the fall of 2011 the collective team of scientists tagged 10 whale sharks in the northern Gulf of Mexico using both SPOT and PSAT tags. To date, this was the most whale sharks tagged at one time in the northern Gulf of Mexico. Data collected with these tags have shown whale shark movement into the southern Gulf almost into Mexican waters (*Figure 11*).

Since October 2011 PSAT tags have been deployed on yellowfin tuna in the Gulf of Mexico. The first fish, a 78 lb. yellowfin tuna, was released about 40 miles south of the Mississippi River. The PSAT tag remained on the fish for one month until the fish was recaptured by a commercial fisherman out of Slidell, La. Scientists were able to recover the tag from the fisherman, resulting in the most fine-scale data possible (15 minute intervals).



FIGURE 10. Two types of satellite tags: SPOT (top) and PSAT (bottom).

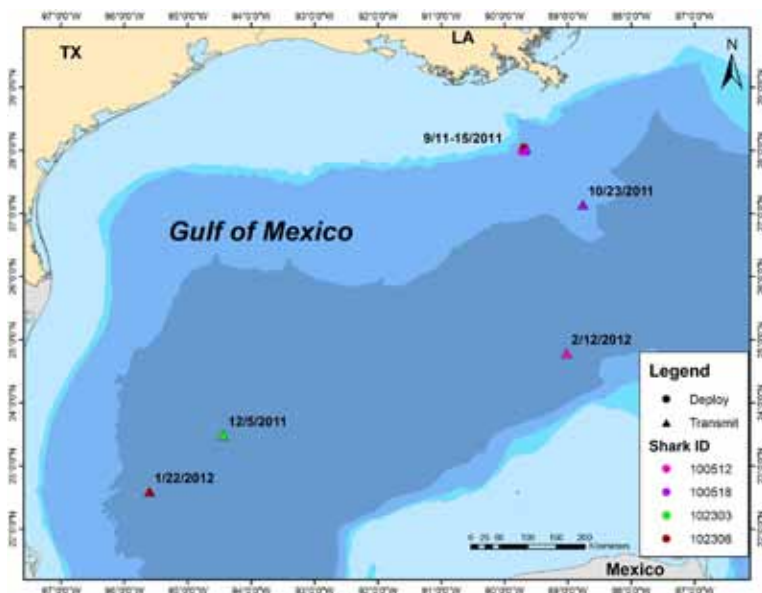


FIGURE 11. Whale shark movement 2011/12.

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

LDWF provides kits and instruction information to anglers. Once collected, the samples are sent to the Fisheries Research Lab where the data is recorded, and the samples are then sent to a contact at the Florida Wildlife Research Institute for DNA analysis. A total of 68 tagging kits were distributed during fiscal year 2011-2012. Future plans include producing an instructional DVD, posting informative flyers at marinas, and distributing kits and brochures at outreach events and fishing tournaments.

Spotted Sea Trout Tag Retention Study

As a popular recreational sport fish, spotted seatrout are economically and culturally significant to Louisiana. The Office of Fisheries is currently involved in a long-term tagging program that's effectiveness is based on a variety of factors, particularly tag retention and causative mortality. This study will evaluate the retention of dart tags and T-tags on spotted seatrout, as well as tag retention across size classes, and will be used to recommend tagging methods to reduce tag shedding and tag mortality.

The pre-trial study was stated in May 2012, and will be completed in September 2012. A total of 80 undersized (<12 inches) and 80 legal-sized (>12 inches) fish were tagged with either a dart tag or T-tag and evenly distributed among four holding tanks (replicates). Each holding tank received 10 small (8-12 inches) T-bar tagged, 10 legal-sized (8-12 inches) T-bar tagged, 10 small (8-12 inches) dart-tagged, and 10 large (12-16 inches) dart tagged fish. During the course of the trial, all fish are removed, measured, and tag site examined for tag loss and abnormalities. Tag retention for each replicate will be calculated and statistically compared for differences in tag retention between tag and size treatments. A full six-month trial will be conducted in fiscal year 2012-2013.

Atlantic Croaker Bait Initiative

A main objective of the bait initiative is to evaluate the feasibility of captive spawning of the Atlantic croaker. Recirculating tanks have been constructed at the Fisheries Research Lab and croaker brood stock has been obtained from the Louisiana Universities Marine Consortium. Croakers are currently being observed for natural spawning activities and will be evaluated for production.

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

The primary objective of this project is to characterize the catch and bycatch of green-stick fishing gear when used to target Atlantic tunas, particularly yellowfin tuna, in the northern Gulf of Mexico. Data collection focuses on reporting the features that contribute to the gear's success (or lack thereof) at catching target tuna species. Catch condition and release condition data are also collected to help evaluate the gears ability to target commercial species and provide lower incidental bycatch mortality.

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

Fisheries biologists continue to report to Randy Blankinship within the Highly Migratory Species Division at NOAA in St. Petersburg, Fla. Efforts are currently underway to have a commercial green-stick fisherman from Florida assist LDWF biologists with sampling techniques. Monthly sampling trips are planned to continue throughout fiscal year 2012-2013.

Red Drum Aging Study

Sampling of offshore adult red drum began in 2011 with the goal of filling in gaps and updating life history data. The offshore spawning population has not been sampled in decades and "up-to-date" life history parameters are necessary for accurate population assessments. Adult red drums are sampled via hook and line, bottom longline and vertical line on a monthly basis. Once fish are caught and brought to the dock, biological parameters are recorded. Otoliths and ovaries are removed for age and growth data. Otoliths are removed for aging, and ovaries are removed for histological and fecundity analysis. Data are entered into the Fisheries Data Management System.

Rigs/Reefs Biodiversity and Relative Abundance

The Rigs/Reefs Biodiversity and Relative Abundance project was created by the Office of Fisheries to test methods of evaluating species distributions, diversity and relative abundance of offshore fish communities residing at oil and gas platforms and nearby artificial reefs.

In fiscal year 2011-2012 three project and three control sites (upright oil platforms and nearby artificial reefs) were surveyed in both the spring and summer. Roving scientific divers identified 98 species and obtained supporting samples, photos and/or video for 82 percent of the recorded observations. In total, 35 diver surveys were conducted, for over 37 hours of direct observation. The study is scheduled to continue through December 2013.

The data gathered by this study will assist in setting up the groundwork for long term monitoring, comparisons between standing structures, reefed structures, and natural habitat, and better understand how artificial substrates may act as nurseries and foraging grounds for economically and ecologically important species.

Study of Infectious Diseases in the Maintenance and Culture of Cocahoe Minnows

Office of Fisheries 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 into the infectious diseases of cocahoe minnows was completed. Important pathogens that impact various life stages of cultured cocahoe minnows were identified. A seminar was given on the "Diagnosis and Management of Diseases of the Cocahoe Minnow" at a LSU workshop. Additionally, an educational brochure was created on the "Recognition and Management of Diseases and Parasites of the Cocahoe Minnow." Laboratory spawned cocahoes were obtained from the LSU Agricultural Research Station in attempts to develop a laboratory populations.

Fishery Management in Bayou St. John and City Park Lagoons

This project was developed to assess baseline data on reintroduced red drum and native fish assemblages in Bayou St. John and City Park to determine their responses to restoration activities.

In fiscal year 2011-2012 monthly nearshore seines in New Orleans City Park and Bayou St. John were completed, along with analysis of the benthic epifauna. Top species collected included inland silversides, rainwater killifish, mosquito fish, and sailfin mollies. Six acoustic telemetry receivers were deployed into Bayou St. John; 120 redfish were tagged, and six were inserted with acoustic transmitters.

Meters that continually record water quality with real-time satellite communication continued to collect data (dissolved oxygen, salinity, temperature, conductivity, and water level elevation) throughout the project area. These meters are calibrated and managed by the U.S. Geological Survey and funded and supported by the Office of Fisheries.

Removal of the old flood control structure from the mouth of Bayou St. John is planned for late 2012. This may improve water quality and fisheries recruitment into the bayou.

FISHING ACCESS AND OPPORTUNITY

Louisiana is nationally recognized by anglers and fisheries professionals as a premier sport fishing destination.

ACCESS

The Office of Fisheries strives to create, enhance, and restore our state's inventory of public boating and fishing access sites. Access sites, including marinas, boat launches and fishing piers, serve as doorways to our state's natural resources.

Boating Access

In a cooperative effort, LDWF assists local government entities requesting financial assistance in the development and construction of boating and fishing access facilities. This program covers both freshwater and saltwater projects. Projects may include the construction of boat ramps, parking areas, docks, bulk heading and fishing piers. Three access projects were completed in fiscal year 2011-2012. An additional 11 projects are in the planning or construction stage.

Public Access Projects Completed During fiscal year 2011-2012

- New Iberia Ship Wreck, Tier I (Boating Infrastructure Grant Program) - A transient docking facility was constructed for use by transient, non-trailerable boats.
- Reserve Boat Launch, Phase II - The existing pier was extended by 60 feet and the Reserve Canal next to the pier was deepened. In addition, the existing parking area was expanded.
- Reserve Boat Launch, Phase III - Two new 120-foot piles were constructed along the sides of the ramp and the parking area was expanded. .

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.

- 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.
- Slidell Municipal Marina, BIG-P, Tier II - Project plans include upgrading an existing facility to include accommodations for boats greater than 26 feet.
- New Iberia City Park Enhancement - Project includes upgrading parking, boat ramp and dock facilities.
- Parish Camp Boat Ramp, Lake Bistineau - Project plan includes upgrading an existing boat ramp and parking.

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 have the potential to completely inundate the state’s abundant freshwater lakes, making them inaccessible and threatening the natural habitat of our valuable aquatic resources. Aggressive treatment of affected waters continued in fiscal year 2011-2012 in an ongoing effort to restore and improve the aquatic habitat and the natural balance of plants and fish.

In fiscal year 2011-2012, the Aquatic Plant Control Program applied herbicides to 75,414 acres of nuisance aquatic vegetation to provide boating and fishing access in lakes and water bodies throughout the state. The major aquatic weeds controlled included 29,896 acres of water hyacinth, 24,100 acres of giant salvinia, 8,270 acres of alligator weed, and 6,317 acres of common salvinia. In addition, approximately 280,000 adult giant salvinia weevils were stocked into 10 different water bodies across the state.

Fishing Access Project

Grand Isle-Chenier Fishing Pier

Project plan includes renovation to an existing fishing pier.

Community Fishing Program

The Community Fishing Program was developed to provide fishing opportunities to public community water bodies of the state where shoreline access is sometimes limited, providing economical (close to home) fishing experiences while helping to promote community and family oriented activities. Each year suitable sites will be improved to make lasting fishing opportunities for anglers of all ages.

Community fishing projects completed in fiscal year 2011-2012:

- BREC Greenwood Park in Baton Rouge, La. - stocking ponds and youth aquatic outreach and education
- Waddill Wildlife Refuge in Baton Rouge, La. - Pond renovations
- Garland Gregory Hide-Away Park in Ruston, La. - pond renovation and fish stocking

FISHING OPPORTUNITY

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

Lake Renovations

The renovations of Ivan Lake in Bossier Parish continued in fiscal year 2011-2012 with removal of existing fish populations in the creek channel, ponds and borrow pits with rotenone treatment. Replacement of the water control structure and conduit were also completed. The construction phase of this project is scheduled for completion in fiscal year 2012-2013. Additional improvements include grubbing and marking boat roads, installing new piers and shoreline access, spawning beds, artificial reefs, and security lighting. Fish stocking began in December 2011 with the stocking of forage species. Largemouth bass stocking was conducted during April and May 2012.

The drawdown of Anacoco Lake began in January 2012 for lake renovation. The lake will be down throughout the growing season and allowed to refill in the winter of 2012 with restocking of fish to follow.

Artificial Reef Program

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

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

The Louisiana Artificial Reef Plan was developed and implemented in November 1987. The plan outlines the siting, permitting, and monitoring requirements of LARP. The plan centers on nine artificial reef planning areas and the conversion of oil and gas platforms in permanent marine hard-bottom habitat. The program also includes Special Artificial Reef Sites, deepwater reefs and inshore artificial reefs. LARP works closely with stakeholders, public and private conservation groups, and appropriate regulatory agencies when developing, maintaining and monitoring Louisiana’s artificial reefs.

In fiscal year 2011-2012, LARP enhanced 19 offshore reefs on 24 oil and gas platforms, and received \$13.1 million in donations from oil company participation. To aid in future management, monitoring and development of offshore artificial reefs, a comprehensive multi-beam survey of 66 offshore reefs was conducted. In addition, the North Twin Span Reef was created on Lake Pontchartrain from bridge rubble generated from the demolition of the I-10 bridge spans.

Fiscal year 2011-2012 Important Figures:

- 69 Total established offshore artificial reef sites
 - 44 planning area reefs
 - 12 special artificial reef sites
 - Eight deepwater reefs
- Offshore structures converted to permanent habitat
 - 298 platform jackets
 - Eight drill rig legs
 - 24 oil and gas structures deployed
- 29 established inshore reefs
 - created North Twin Span Reef
 - permitted two inshore artificial reef sites for development
- Sweet Lake Reef- Lake Calcasieu
- California Point Reef- Breton Sound
 - Reef materials
- Shell
- Limestone
- Reef balls
- Recycled bridge rubble

Rigs-to-Reef remains a large component of LARP. Due to recent policy changes by the Bureau of Safety and Environmental Enforcement, the regulatory body responsible for offshore oil and gas structures, LARP is examining options to expand its current plan to address the removal of nearshore oil & gas structures and identifying incentives for increased oil company participation.

LARP has been expanding its inshore reef program by incorporating appropriate materials of opportunity. Recycled concrete and reclaimed oyster shell are being pursued for inshore reef development across the state. The Breton Sound and Lake Calcasieu Reefs are well underway to be developed and completed in fiscal year 2012-2013. A comprehensive water bottom habitat characterization and assessment survey is being contracted for LARP’s inshore reefs to evaluate the current reefs and aid in further management of the inshore reef development.

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

Water Level Fluctuation

Natural water systems benefit from high springtime water levels and lower water levels in the fall. Benefits include aquatic vegetation control and a more healthy fish population. For impounded waters, partial dewaterings, typically called drawdowns are often conducted to induce similar benefits. These drawdowns also provide the opportunity for improvements to shoreline properties. Drawdowns were conducted on eight inland reservoirs in fiscal year 2011-2012 (*Table 3*).

TABLE 3.

LAKE NAME	PURPOSE OF DRAWDOWN	DATES
Anacoco Lake	lake bed renovation	Annual
Black Bayou Lake	bottom oxidation; vegetation control	Summer/Fall
Cheniere Lake	bottom oxidation; vegetation control	Fall/Winter
Chicot Lake	bottom oxidation; vegetation control	Fall/Winter
Cocodrie Lake	water supply; vegetation control	Summer/Fall
Lake Bruin	bottom oxidation; fish management	Fall/Winter
Lake Louis	bottom oxidation	Fall/Winter
Nantachie Lake	water supply; vegetation control	Summer/Fall

Stocking

The fish hatchery program provides and stocks fish as a management tool to enhance statewide sport fisheries, hasten the recovery of fisheries affected by natural or man-made disasters, and produce threatened or endangered species when necessary. The hatchery program also assists other local, state and federal agencies by providing fish and/or fish transportation services for outreach activities that introduce or encourage fishing.

Each year, a statewide fish stocking request list is compiled by the Inland Fisheries Section based on fisheries management objectives and standardized sampling results for individual water bodies throughout the state. Based on this list, the fish hatchery program plans, coordinates, produces and stocks the fish requested by Inland Fisheries.

During fiscal year 2011-2012, the office of Fisheries hatcheries, through partnerships with the U.S. Fish and Wildlife Service, the City of Shreveport, Rockefeller State Wildlife Refuge, and other local government and private organizations, stocked over 6,138,032 fish in 53 water bodies around the state of Louisiana. Excess Florida largemouth bass fry were provided to Oklahoma and Arkansas. Progress was also made on the design phase of the improvements for the Beechwood and Huey P. Long hatcheries.

The Office of Fisheries advises beneficiaries on stewardship and best practices in preserving the unique nature of Louisiana's natural resources.

TABLE 4. Fish Stocking by Species (7/1/11 through 6/30/12, to the nearest 1,000).

SPECIES	# REQUESTED	# STOCKED
Florida Largemouth Bass	2,506,000	5,054,000
Native Largemouth Bass	132,000	66,000
Hybrid Striped Bass	198,000	40,000
Bluegill	453,000	289,000
Redear	135,000	93,000
Channel Catfish	248,000	283,000
Paddlefish	0	307,000
Triploid Grass Carp	5,000	5,000
Totals	3,677,000	6,137,000

TABLE 5. Breakdown of Fish Stocking by Species (July 1, 2011 - June 30, 2012).

SPECIES	SIZE	NUMBER
Florida Largemouth Bass	Adults	361
	Phase 1 Fingerling	4,128,341
	Phase 2 Fingerling	13,854
	Advanced Fry on Feed	911,800
	<i>Total</i>	<i>5,054,356</i>
Native Largemouth Bass	Phase 1 Fingerling	66,383
Hybrid Striped Bass	Phase 1 Fingerling	39,978
Bluegill	Phase I Fingerling	285,032
Coppernose Bluegill	Adults	200
	Phase 1 Fingerling	3,531
	<i>Total</i>	<i>3,731</i>
Redear	Adults	2,756
	Phase I Fingerling	90,211
	<i>Total</i>	<i>92,967</i>
Channel Catfish	Adults	74
	Phase I Fingerling	283,366
	<i>Total</i>	<i>283,440</i>
Paddlefish	Sac Fry	307,415
Triploid Grass Carp	1-Year-Old	4,730
Grand Total		6,138,032

TABLE 6. Fish Stocking by Origin (July 1, 2011 - June 30, 2012).

SPECIES	SIZE	NUMBER
Booker Fowler State Fish Hatchery (Forest Hill, La.)		
Florida Largemouth Bass	Fry	911,800
	Fingerlings	2,777,404
	Adults	361
Hybrid Striped Bass	Fingerlings	39,978
Bluegill	Fingerlings	82,421
Coppernose Bluegill	Fingerlings	3,531
	Adults	200
Redear	Fingerlings	32,713
Channel Catfish	Fingerlings	283,366
Paddlefish	Fry	307,415
<i>Total</i>		<i>4,439,189</i>
Beechwood State Fish Hatchery (Forest Hill, La.)		
Florida Largemouth Bass	Fingerlings	39,224
	Phase 2 Fingerlings	5,327
Bluegill	Fingerlings	1,046
Redear	Fingerlings	57,498
	Adults	2,756
<i>Total</i>		<i>105,851</i>
Cheniere Brake Lake Association Rearing Pond		
Florida Largemouth Bass	Phase 2 Fingerlings	2,835
<i>Total</i>		<i>2,835</i>
Cross Lake Fish Hatchery (Shreveport, La.)		
Florida Largemouth Bass	Fingerlings	625,049
<i>Total</i>		<i>625,049</i>
Haring's Catfish (Winser, La.)		
Triploid Grass Carp	1 Year Old	4,730
Channel Catfish	Adults	74
<i>Total</i>		<i>4,804</i>
Huey P. Long State Fish Hatchery (Lacombe, La.)		
Florida Largemouth Bass	Phase 2 Fingerlings	5,548
<i>Total</i>		<i>5,548</i>
Monroe State Fish Hatchery (Monroe, La.)		
Northern Largemouth Bass	Fingerlings	66,383
Bluegill	Fingerlings	201,565
<i>Total</i>		<i>267,948</i>
Rockefeller State Wildlife Refuge (Cameron Parish, La.)		
Florida Largemouth Bass	Fingerlings	76,669
Bluegill	Phase 2 Fingerlings	144
<i>Total</i>		<i>76,813</i>
U.S. Fish and Wildlife Service - Natchitoches National Fish Hatchery (Natchitoches, La.)		
Florida Largemouth Bass	Fingerlings	609,995
<i>Total</i>		<i>609,955</i>
Grand Total		

TABLE 7. Fish Stocking by District (July 1, 2011 - June 30, 2012).

WATERBODY	SPECIES	SIZE	NUMBER
District 01 - Minden Area			
Caddo Lake and James Bay	Florida Largemouth Bass	Fingerlings	380,343
Caney Lake Upper (Webster)	Channel Catfish	Fingerlings	1,014
Caney Lake Lower (Webster)	Channel Catfish	Fingerlings	1,014
Corney Lake	Channel Catfish	Fingerlings	4,126
Cross Lake	Florida Largemouth Bass	Fingerlings	193,494
	Channel Catfish	Fingerlings	45,026
Ivan Lake	Florida Largemouth Bass	Fingerlings	42,003
	Bluegill	Fingerlings	186,357
	Redear	Fingerlings	84,192
Kepler Creek Lake	Channel Catfish	Fingerlings	20,125
Lake Claiborne	Hybrid Striped Bass	Fingerlings	39,978
	Channel Catfish	Fingerlings	6,480
La. Tech Community Pond	Bluegill	Fingerlings	4,330
Mill Creek Lake	Channel Catfish	Fingerlings	14,852
<i>Total</i>			<i>1,023,334</i>
District 02 - Monroe Area			
Bayou D'Arbonne Lake	Florida Largemouth Bass	Fingerlings	150,990
Chemin-A-Haut State Park	Bluegill	Fingerlings	16,254
		Fingerlings	2,184
	Redear	Adults	2,756
Cheniere Brake Lake	Florida Largemouth Bass	Phase 2 Fingerlings	2,835
Chennault Park	Channel Catfish	Fingerlings	417
Lake Bruin	Florida Largemouth Bass	Fingerlings	9,186
Poverty Point Reservoir	Florida Largemouth Bass	Fingerlings	50,042
Turkey Creek Lake	Florida Largemouth Bass	Fingerlings	1,061,077
		Adults	167
<i>Total</i>			<i>1,295,908</i>
Districts 03 and 04 - Alexandria/Ferriday Areas			
Iatt Lake	Florida Largemouth Bass	Fingerlings	326,004
Indian Creek Reservoir	Triploid Grass Carp	1-Year-Old	3,000
Kincaid Lake	Channel Catfish	Fingerlings	47,502
Lake Buhlow	Florida Largemouth Bass	Adults	194
	Triploid Grass Carp	1-Year-Old	530
Fullerton Lake	Florida Largemouth Bass	Fingerlings	250

TABLE 7. (cont.)

WATERBODY	SPECIES	SIZE	NUMBER
Districts 03 and 04 - Alexandria/Ferriday Areas (cont.)			
Twin Lakes	Florida Largemouth Bass	Fingerlings	615
	Channel Catfish	Fingerlings	507
Woodworth Outdoor Educational Center	Bluegill	Fingerlings	1,719
	Redear	Fingerlings	747
	Northern Largemouth Bass	Fingerlings	399
Valentine Lake	Florida Largemouth Bass	Fingerlings	455
Total			381,922
District 05 - Lake Charles Area			
Lacassine Pool	Florida Largemouth Bass	Fingerlings	51,232
Mermentau River	Florida Largemouth Bass	Fingerlings	29,932
	Paddlefish	Fry	307,415
Rockefeller Refuge	Florida Largemouth Bass	Fingerlings	76,669
		Phase 2 Fingerlings	144
Vernon Lake	Florida Largemouth Bass	Fingerlings	103,874
Total			569,266
District 06 - Opelousas Area			
Chicot Lake	Florida Largemouth Bass	Fingerlings	66,940
Crooked Creek Lake	Triploid Grass Carp	1-Year-Old	1,200
Dubuisson Lake	Florida Largemouth Bass	Fingerlings	1,986
Spring Bayou	Florida Largemouth Bass	Fingerlings	16,953
	Channel Catfish	Fingerlings	27,204
Total			114,283
District 07 - Baton Rouge Area			
BREC Pond - Burbank Are	Channel Catfish	Fingerlings	460
BREC Pond - Doyles	Channel Catfish	Fingerlings	54
BREC Pond - Flanacher	Channel Catfish	Fingerlings	54
BREC Pond - Forest Park	Coppernose Bluegill	Fingerlings	1,499
	Channel Catfish	Fingerlings	76
BREC Pond - Oak Villa	Channel Catfish	Fingerlings	327
BREC Pond - Palomino	Channel Catfish	Fingerlings	54
BREC Pond - Perkins	Channel Catfish	Fingerlings	76
BREC Pond - Zachary	Coppernose Bluegill	Fingerlings	2,032
	Channel Catfish	Fingerlings	141

WATERBODY	SPECIES	SIZE	NUMBER
District 07 - Baton Rouge Area (cont.)			
Lake Killarny (Angola)	Florida Largemouth Bass	Phase 2 Fingerlings	405
Lamar Dixon 11-acre Pond	Channel Catfish	Fingerlings	108
Lamar Dixon 4-acre Pond	Channel Catfish	Fingerlings	43
Livingston Parish Pond	Florida Largemouth Bass	Phase 2 Fingerlings	125
State Police Youth Camp	Channel Catfish	Fingerlings	54
LSU AgCenter Pond (St. Francisville)	Channel Catfish	Fingerlings	100
Waddill Ponds	Coppernose Bluegill	Adults	200
	Channel Catfish	Adults	74
Total			5,882
District 08 - Slidell Area			
Lake Cataouatche	Florida Largemouth Bass	Phase 2 Fingerlings	10,345
West Pearl River	Northern Largemouth Bass	Fingerlings	65,984
West & Middle Pearl River Complex	Bluegill	Fingerlings	76,372
	Redear	Fingerlings	3,088
	Channel Catfish	Fingerlings	26,907
Total			182,696
District 09 - New Iberia Area			
No fish requested for this district			
Total			0
District 10 - Toledo Bend Area			
Toledo Bend Reservoir	Florida Largemouth Bass		911,800
			1,484,466
Grand Bayou Reservoir	Florida Largemouth Bass		83,816
Saline Lake	Channel Catfish		84,659
Total			2,564,741

FISHERIES EXTENSION

OUTREACH

The Aquatic Outreach Program is designed to inform the public about the programs and projects currently going on in the Office of Fisheries. Through outreach efforts, the Aquatic Outreach Program reached over 230,000 Louisiana citizens in fiscal year 2011-2012.

Events

Via a strong presence at youth recreational events, industry-related expos and other state-sponsored events, the department strives to align its efforts with the desires of citizens and foster a community sense of resource and habitat stewardship.

During fiscal year 2011-2012, there were 83 public appearances by the Office of Fisheries including the Louisiana Sportman's Show in Gonzales and the Bassmaster Classic in Shreveport, which together accounted for approximately 119,000 attendees.

Outreach Material and Resources

Fisheries 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 2011-2012 include:

- Waterproof/UV-coated fishing regulations
- Individual species profile brochures: red drum, spotted seatrout, largemouth bass and crappie
- Invasive plants brochure
- Grass carp brochure
- Booker Fowler Fish Hatchery brochure
- Sport Fish Restoration Projects brochure
- LDWF Directory brochure
- Fish Catch and Release brochure
- Top 10 State record posters for: largemouth bass, red drum and spotted seatrout
- Largemouth bass license plate brochure
- Fish-measuring ruler stickers
- "I'd Rather Be Fishing in Louisiana" largemouth bass decal
- "I'd Rather Be Fishing in Louisiana" fish magnets

LOUISIANA COOPERATIVE MARINE SPORT FISH TAGGING PROGRAM

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

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

Working with the angling community has proven to be an efficient and cost-effective means for collecting data. Since the program started with CCA of Louisiana in 1988, over 9,000 anglers have participated either by tagging fish themselves or reporting a recaptured tagged fish. This has resulted in over 140,000 tagged red drum and spotted seatrout and more than 4,000 recaptures reported. In fiscal year 2011-2012, 108 active anglers (active angler is defined as tagging at least one fish per year) tagged 5,641 fish and reported 330 recaptured fish. Of the 5,641 tagged fish, 4,016 were red drum, 1,393 were spotted seatrout, and 232 were non-targeted species. Of the 330 reported recaptures, 262 were red drum, 52 were spotted seatrout, and 16 were non-targeted species. The recapture rate for red drum was 7 percent and 4 percent for spotted seatrout.

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, the Office of Fisheries strives to enhance the resource while providing a competitive opportunity for avid fishermen and newcomers alike. The events are also used to encourage participation in the Louisiana Cooperative Marine Sport Fish Tagging Program. Data collected from the tournament entries serves as a valuable tool for Office of Fisheries biologist to better understand the life history and habitat of these popular sport fish.

TABLE 8. LASS red drum tagged and released during fiscal year 2011-2012.

DATE	LOCATION	FISH TAGGED	FISH RECAPTURED
7/23/2011	The Dock (Slidell)	103	11
8/20/2011	Moran's Marina (Port Fourchon)	26	1
10/7-8/2011	Delta Marina (Empire)	109	5
3/31/2012	Delta Marina (Empire)	158	9
4/28/2012	Calcasieu Point Landing (Lake Charles)	108	14
5/19/2012	SeaWay Marina (Lafitte)	148	6
5/26/2012	Myrtle Grove Marina - YOUTH	31	1
6/23/2012	Sweetwater Marina (Delacroix)	128	1
Total		811	48

TABLE 9. LASS spotted seatrout tagged and recaptured during fiscal year 2011-2012.

DATE	LOCATION	FISH TAGGED	FISH RECAPTURED
10/22/2011	The Dock/Dockside Bait & Tackle (Slidell)	78	6
5/05/2012	The Dock/Dockside Bait & Tackle (Slidell)	45	1
5/26/2012	Myrtle Grove Marina - YOUTH	2	0
6/30/2012	Elmer's Island (Shore) - YOUTH	4	0
Total		129	7

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 Aquarium of the Americas provides technical support and information to the anglers regarding best fish handling practices.

During fiscal year 2011-2012, Louisiana Saltwater Series target species included redfish and spotted seatrout. Six youth-exclusive tournaments were also added to the schedule allowing anglers to bring in a wider variety including flounder, black drum, and sheepshead (*Tables 8 and 9*).

ELMER'S ISLAND

Elmer's Island is a coastal beach refuge managed by LDWF. Originally privately owned and used as a commercial campground, Elmer's was shut down in 2001. In 2008, the land became state property under LDWF which opened Elmer's to the public, though initially only accessible by boat. By the summer of 2009, the access road from Hwy 1 was repaired, allowing for the refuge to be open to all visitors on July, 3, 2009. Since becoming public, Elmer's has become a very popular summertime destination, used by the public for fishing, bird-watching, picnics, water sports and other recreational activities.

During fiscal year 2011-2012, Office of Fisheries staff held many public events on the island. Elmer's was used for WETSHOP (a LDWF sponsored teacher workshop) sampling field trip location. A youth fishing event was also held on the island that included education activities (cast net throwing, seining, and other fishing activities). Fisheries biologist also got the public involved in several restoration activities on Elmer's in a beach sweep and dune fence installation.

CRAB TRAP REMOVAL

In January 2012 the LWFC ratified a final rule authorizing two temporary crab trap closures and derelict crab trap clean-ups. The removal of derelict crab traps from fishing grounds reduces navigational risks to boaters and threats to public safety, while reducing mortality of incidental species captured in traps and potentially increasing the number of crabs available for harvest, by preventing crab mortalities in abandoned, out-of-use traps.

Derelict crab trap clean ups were conducted in St. Bernard, Plaquemines and Terrebonne parishes in February and March. One of the Office of Fisheries partners in previous crab trap removal efforts, Louisiana SeaGrant helped spearhead the 2012 cleanups. The CCA, Louisiana Crab Task Force, Louisiana Wildlife Federation, and Nature Conservancy provided assistance with the cleanups. Together, over 66 boat and 310 man days of effort were logged during the cleanup effort, resulting in the removal of over 2,708 abandoned and derelict crab traps.

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

TABLE 10. Number of crab trap closures and numbers of trap removed annual

YEAR	AREAS	TRAPS
2004	2	6,894
2005	4	4,623
2006	1	2,935
2007	2	1,498
2008	1	1,234
2009	1	788
2010	1	477
2011	1	1,100
2012	2	2,708
Overall	15	22,257

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

INDUSTRY OVERSIGHT

One of the Office of Fisheries main objectives is to maintain the viability of Louisiana's fishing industries through programs that protect native resources and provide technical assistance to the industry, including recovery from natural and manmade 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, the Office of Fisheries is pursuing several initiatives for Louisiana's commercial fishing industry including origin and quality certification programs, a seafood technology and equipment program, and a professionalization program which aims to create a more informed and efficient industry. Programs to collect and recycle used oyster shell and concrete to create artificial oyster and fishing reefs are also being developed in coordination with the Coalition to Restore Coastal Louisiana.

VESSEL MONITORING SYSTEM (VMS)

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

In January 2012 the Notice of Intent for requiring Commercial Oyster Seed Ground Vessel Permit holders (currently 655) who intend to fish the public seed grounds to participate was presented to the LWFC and passed with no opposition. The rule was published for public comment in the February edition of the Register. It is expected to be made a final rule in August 2012.

At the end of June 2012 a bid was submitted to State Purchasing to solicit bids from vendors to provide the VMS service. It is expected that there will be enough funding to provide VMS units for every permitted vessel.

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

During fiscal year 2011-2012 the Office of Fisheries took a more proactive role in developing the basic origin certification program and began working directly with DHH, LDAF, and the commercial industry to develop the Louisiana Wild Seafood Certification Program. The goal of the Louisiana Wild Seafood Certification Program is to increase sales and market potential for wild-caught Louisiana seafood. By creating an origin based brand, LDWF, in cooperation with DHH and the Louisiana Department of Agriculture and Forestry, has the ability to communicate to the consumers that the seafood they are consuming is caught by a licensed Louisiana fisherman, landed in Louisiana, and processed by a Louisiana processor through the entire supply chain. The ability to create a national brand that can be sought out by chefs, consumers, distributors and retail chains will increase the demand and thereby prices for the Louisiana seafood fishery. Rules for the program were submitted for public comment in February 2012, and are expected to be finalized in August allowing for a program launch sometime in the fall of 2012.

While waiting for the program's rules to be finalized, the Office of Fisheries continued to work with the industry and the Louisiana Seafood Promotion and Marketing Board to promote the program, refine the application process, and develop a marketing strategy. Program logos have been finalized during this time.



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

LDWF is seeking out mainstream certifications for major fisheries, such as those offered by the Marine Stewardship Council (MSC). In March 2012 Louisiana's blue crab fishery became the first blue crab fishery in the world to receive MSC sustainability certification. The Office of Fisheries will continue the upkeep required for certification, including conducting crab trap bycatch studies, sponsoring a diamondback terrapin population assessment, and meeting the annual conditions set by the MSC standards.

In addition to MSC certification, the Office of Fisheries is also investigating development of its own sustainability certification. The Office of Fisheries has partnered with the Audubon Commission to develop a sustainability certification program specifically for Louisiana, similar to those developed for Alaska and Iceland.

Industry Professionalization

The primary goal of this program is to create a better informed and more efficient commercial fishing industry. The program will provide ongoing education opportunities for fishermen and industry participants to receive the most relevant and up-to-date information as it pertains to their industry.

The Office of Fisheries continues to work with the Louisiana SeaGrant program located at LSU to develop a curriculum for a professionalization program that covers a variety of topics including: fishing/boating regulations and requirements, food quality and safety practices, advanced gear technology, business planning and marketing, seafood industry economics, and vessel safety.

Louisiana Oyster Fisheries Training (LOFT)

As a small pilot program, the Office of Fisheries launched the LOFT series. Training meetings were held in April and June of 2012. The meetings covered the following topics:

- Vibrio control plan
- ISSC (current/future guidelines and requirements)
- Time/temperature requirements (current/future)
- DHH emergency rule
- Oyster harvesting
- Documentation/record keeping (important/required logs)
 - Oyster boat cooler log
 - Pink/fuchsia tag log
- Waste disposal
- Oyster containers (shucked pink/fuchsia tag)
- Enforcement
- LDWF's process of enforcing/checking time/temperature requirements
- LDWF's process of enforcing/checking documentation/record keeping requirements
- Refrigeration and cooler
- Refrigeration equipment
- Cooler/box equipment (fabrication)
- Refrigeration/cooler options and alternatives

LOFT Operation Outreach

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

Louisiana Oyster Harvesting Tags & Requirements Video

An informational/educational video was produced by LDWF's Joel Courtney. The video will be available in English, Spanish and Vietnamese. The video can/may be offered in DVD form as well as internet link form (i.e. LDWF website, Facebook and YouTube). It was brought to our attention that many Vietnamese fishermen utilize YouTube for information and/or instruction.

Electronic Traceability

The goal of electronic traceability focuses on the ability to trace a product from water to the plate. Creating assurances about seafood depends on the management and timely access to critical information about the product as it moves throughout the supply chain. This information can be shared electronically with buyers, consumers, and other stakeholders for the purposes of innovating marketing, providing regulatory and buyer specification compliance, communicating

safety and quality, demonstrating certifications, and improving labeling practices. Additionally, demand for seafood is partially driven by market confidence which in turn is driven by information.

During fiscal year 2011-2012, the Office of Fisheries extensively researched the capabilities of different companies and assessed the needs of Louisiana's fishing industry with respect to electronic traceability. They also have lead the way, in an advisory capacity through GSMFC, on traceability initiatives for Gulf of Mexico seafood currently funded through oil spill disaster funds available to GSMFC.

Seafood Technology and Equipment Program

Over the past few years the Office of Fisheries has been developing various forms of gear modernization programs which have culminated into a broad overarching program that assist all aspects of the commercial fishing industry, from the acquisition of new, more advanced equipment from the vessel, all the way to the processing plant.

The first phase of the program to be developed is the Oyster Refrigeration Program. Once underway, this program will offer a grant for 50 percent (maximum of \$10,000) of the cost of new or existing refrigeration equipment for white tag oysters, provided it meets the programs requirements. The funding will allow oyster vessels to obtain more advanced refrigeration equipment, assisting oystermen to meet new Food and Drug Administration refrigeration requirements. The program is expected to reach over 100 vessels and launch in fall of 2012.

The Office of Fisheries is currently working to develop additional phases of the program to assist the shrimp fishery and commercial docks.

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.

Working with the seafood board marketing team, which includes The Graham Group (GCR) and The Food Group, LSPMB continued to work diligently in fiscal year 2011-2012 to repair the brand image of our seafood post *Deepwater Horizon* Oil Spill. In addition to the work that the board does annually, they hosted new events and other marketing initiatives.



Advertising Programs

Consumer confidence surveys completed in 2011/12 showed that consumer confidence in Louisiana seafood was still down on a national level. Tracking consumer perceptions, LSPMB has concentrated its efforts to promote Louisiana seafood in major metropolitan markets across the nation.

GCR, the advertising agency hired to promote Louisiana seafood to consumers, based the "Demand It" campaign on these findings. Consumers were targeted through television and online campaigns to ask for Louisiana seafood. The ads, highlighting the fishermen and harvesters of seafood, targeted consumers to change their consumption behavior, while enticing restaurant and retail stores into making it readily available. The Food Group, the agency charged with promoting the state's seafood through the supply chain, worked on exposing seafood buyers and chefs to messaging that positions Louisiana seafood as a premium product, and as consumers "Demand It," they are equipped with access to the product itself.

Advertising campaigns through fiscal year 2011-2012 had a total of 98 million consumer impressions and 5 million impressions on members of the seafood trade industry.

Industry and Consumer Outreach

In addition to revamping the current *LouisianaSeafood.com* site, LSPMB also launched new sites this year for both consumers and trade. These sites reach an average of 50,000 visitors monthly.

LouisianaSeafoodforLife.com was launched in partnership with Blue Cross Blue Shield to encourage consumers to get healthy by enjoying Louisiana seafood.

The board also continued to inform the nation about Louisiana seafood industry news through its *LouisianaSeafood-News.com* site.

While consumers can still find Louisiana Seafood retailers on the *Louisianaseafood.com* site, LSPMB launched *Buy.Louisianaseafood.com* and *Sell.LouisianaSeafood.com* to connect buyers and sellers of Louisiana seafood. The *Sell.Louisianaseafood.com* site distributes foodservice product inquiries to Louisiana Seafood suppliers. Suppliers then login to access product inquiries submitted through the Louisiana seafood trade web portal, *Buy.LouisianaSeafood.com*, allowing suppliers to view, save, download and respond directly to inquiries. The system compiles a daily digest, emailing new leads to participating suppliers. The supplier web portal is updated continuously, providing members with timely, relevant industry news and LSPMB meeting documents. The site also affords access to sales resources including point-of-sale materials, marketing materials and information about the Louisiana Wild Seafood Certification Program and Gulf Seafood Trace.

In fiscal year 2011-2012 the board launched its E-splash newsletter, which is geared to consumers and stakeholders. The newsletter currently has more than 10,000 subscribers and engages consumers by raising awareness of various promotions and giveaways, providing Louisiana seafood recipes, healthy tips and highlighting important news and stories about the industry.

The board continues to have a strong presence on social media channels including Facebook, Twitter, Pinterest and YouTube. Louisiana Seafood is currently followed by 29,000 Facebook fans with an additional 5,000 twitter followers. During the fiscal year the social media tool delivered more than 9.3 million impressions.

Events

LSPMB participated in several events during fiscal year 2011-2012. Through these events LSPMB was able to reach more than a million consumers and trade industry members. The events included Louisiana Cookin' Chefs to Watch, Toronto Food and Wine Expo, The National Seafood Marketing Coalition, 200 Years of Louisiana Seafood Bicentennial Celebration, CIA Greystone Flavors Summit, Oysters Jubilee, International Boston Seafood Show, "Only in Louisiana" Grammy Celebration, SAVEUR Summer BBQ, National Restaurant Association Show, Aspen Food and Wine Classic, New Orleans Navy Week, Vegas Uncork'd by Bon Appetit, the Annual Louisiana Foodservice and Hospitality EXPO, Louisiana Seafood Legislative Day, and Direct to Chef New York.

TASK FORCES

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

Shrimp Task Force

During fiscal year 2011-2012 the Shrimp Task Force continued 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. In addition they worked alongside the Office of Fisheries on the creation of seafood certification programs. Several issues were discussed pertaining to the industry, including: the "inside/outside" fishing line; federal TED laws and proposed changes; NOAA observers on board; increasing the maximum size of the skimmer net to 25 feet. The Shrimp Task Force also wrote to the Congressional Delegation concerning declining shrimp prices and fair Feinberg payments.

Crab Task Force

The Crab Task Force continued to work with the Office of Fisheries in fiscal year 2011-2012 toward improving the Louisiana crab fishery. The task force worked with the Office of Fisheries to seek MSC Certification, leading to the Louisiana blue crab fishery (traps) being certified sustainable by MSC. They also supported the effort of to develop a two tier seafood certification program. The task force communicated with a desire for research to be done on adding soft shell crab production back to the trip ticket reporting program. The Task Force moved to accept HB 538, allowing the LWFC to take necessary action in regards to sustainability of the resource. The bill did not pass in the state legislature.

Oyster Task Force

In fiscal year 2011-2012 the Oyster Task Force supported amending the Seed Ground Vessel Permit law (433.1) so that permits can now be accepted until Dec. 31, 2012, the addition of Calcasieu Lake was not recommended. The Office of Fisheries was asked to develop or expand shellfish areas and shellfish initiatives, and to seek legislation to allow (give authority) to LDWF to set aside areas for aquaculture/mariculture shellfish areas and shellfish initiatives. The Oyster Task Force also supported the concept of having a bill that allows for the development of coast wide aquaculture and new techniques for oyster farming. Along with the LSPMB, they continue to create public relations and marketing opportunities to inform the public and media of the quality of Louisiana oysters post *Deepwater Horizon* 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. Members also attended the NFI and the ISSC conferences.

GULF STATES MARINE FISHERIES COMMISSION

The Gulf States Marine Fisheries Commission (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 the development of programs for the promotion and protection of these fisheries while preventing any waste of these resources.

COMMITTEE PARTICIPATION

Fisheries biologists and economists participate in a number of GSMFC programs and initiatives including Aquatic Invasive Species, Interjurisdictional Fisheries, Fisheries Information Network, economics programs, as well as providing 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. Fisheries' biologists were present at meetings and discussions pertaining to the various SEAMAP programs. Louisiana moved for the creation of a SEAMAP Vertical Line workgroup after much discussion about current protocol. The motion passed, and is currently reviewing and making recommendations to improve the Vertical Line protocol. In addition, LDWF biologist participated in the creation of fishery management plans for Gulf menhaden and blue crab.

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 the state territorial line to 200 miles offshore. The council prepares Fishery Management Plans and amendments to these plans. Methods of regulation include quotas, size limits, bag limits, seasons, trip limits and other tools that fisheries managers employ to control both recreational and commercial harvests.

LOUISIANA COUNCIL ACHIEVEMENTS

In fiscal year 2011-12 the Louisiana council proposed the creation of a Regional Management Amendment for the recreational red snapper fishery. A motion was passed allowing for recreational harvest of 1,600 tagged red snapper at fishing rodeos, out of season, around the Gulf of Mexico.

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. In addition to the Council seat, Office of Fisheries employees participate in advisory roles on various panels and committees: Outreach, Data Collection; Habitat Protection; and Scientific and Statistical Committees (SSCs) for red drum, mackerel, reef fish, shrimp, and socioeconomic. In addition, LDWF biologist are part of the SEDAR pool, a panel assigned to producing the council's stock assessments.

A list of the council's Fisheries Management Plans include: Reef Fish, Coastal Migratory 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.

Louisiana has been a leader in the fisheries management council process. In April 2012 the council supported an Exempted Fishing Permit proposed by Louisiana, allowing for recreational harvest of 1,600 tagged red snapper at fishing rodeos out of season around the Gulf of Mexico. The valuable data collected by this study will be used to look at growth and reproduction of red snapper throughout their spawning season. Additionally, Louisiana has led the council process with the creation of a Regional Management Amendment for the recreational red snapper fishery. The council is currently working on developing a scoping document with information from all of the Gulf States and their recreational fishermen to devise a regional management plan that allows more flexibility and choice for recreational fishermen.

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 2011-2012, 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 2011-2012: Clean Vessel Program; Cooperative Research Survey Program; Oil Spill Damage Assessment Program; and Gulf Seafood Processor and Dealer Economy Surveys.

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 educational activities for fiscal year 2011-2012 include the distribution of educational information at the following events:

- National Hunting and Fishing Day in Baton Rouge, La.

In addition, a clean vessel public notice was placed in the 20121 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 2011-2012, 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 2011-2012, 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. The SAS datasets were delivered to LDWF in fiscal year 2011-2012 and were processed and analyzed by LDWF economists. It is anticipated that the final reports will be completed in fiscal year 2012-2013.

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.

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 in the summer of 2011, and a mail seafood dealer survey began 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.

An Economic Survey of the Gulf of Mexico Inshore Shrimp Fishery

Gulf of Mexico shrimp are harvested commercially from “inshore” state waters (waters within the jurisdictional boundaries of the individual states) and from “offshore” federal waters. This study examines the economic performance of active commercial shrimp harvesters who primarily operated in inshore waters of western Florida, Alabama, Mississippi, Louisiana, and Texas throughout 2008. The data collection was designed by the GSMFC and LDWF to track the economic status and performance of vessels holding a state shrimp license for harvesting shrimp in the Gulf. Throughout the spring of 2009, 1,868 vessels were randomly selected, stratified by state, from a population of approximately 3,765 vessels holding a state shrimp harvesting license for the Gulf. After two mailings and a reminder postcard, 591 surveys were returned. This represented a region-wide response rate of approximately 34 percent. The data was subsequently entered and cleaned yielding a total number of 313 eligible, complete, and economically reasonable observations used in the financial analysis. Overall, the financial situation in 2008 was economically unsustainable for the average active inshore shrimp harvesting business. These results parallel similar research about the economic performance of the offshore fleet. Increasing fuel costs, increases in imported shrimp volume - which places downward pressure on domestic prices - as well as recent natural and man-made disasters continue to erode the economic vitality of the Gulf shrimp harvesting fleet.

PUBLICATIONS, REPORTS AND PRESENTATIONS

Miller, Alexander, and Jack C. Isaacs. “Additional Results from the 2008 Economic Survey of Inshore Shrimpers” Presentation at the 62nd Annual Meeting of the Gulf States Marine Fisheries Commission, Gulfport, MS, March, 2012.

Ogunyinka E. O. and David R. Lavergne: “Louisiana Shrimp and Blue Crabs: Trends in Landings and Landing Revenues per Effort, 2000-2009.” Selected Paper presented at the Fisheries Economic Workshop of the Gulf States Marine Fisheries Commission, Gulfport, Mississippi, March 06, 2012

REPRESENTATION ON TASK FORCES, STUDY GROUPS AND COMMITTEES

During fiscal year 2011-2012, 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.