Louisiana WILDLIFE INSIDER

IN THIS ISSUE

LETTER FROM THE CHIEF

"Hello out there! Is anyone listening?"

Did I catch your attention? That is getting harder and harder to do today, as electronics and social media postings have garnered the attention market of society. So, help us out, tell us what 'grabs' your attention!

Our Office of Wildlife staff continue venturing forth with projects to improve our understanding and ability to sustain wildlife populations across the landscape of Louisiana, and beyond! Wildlife Health Program Biologist Nikki Anderson reveals a new finding in Louisiana, although one we were hoping may not show up; white-nose syndrome in bats. Then another unwelcome disease entered the state in the form of chronic wasting disease in white-tailed deer. Johnathan Bordelon will reveal our status on dealing with that disease issue moving forward into the fall season.

Now talking of grabbing your attention, how many of you have experienced an alligator up close, but not friendly? Jason Waller, Biologist in our Alligator Program will address our concern with feeding of wild alligators. A marshmallow or chicken leg today may lead to a human meal tomorrow! Come on folks, let's wake up and recognize we are dealing with wild animals, whose only concern is obtaining nutrition for survival. Cannibals referred to human carcasses as "long pig," I'm not sure alligators differentiate in nomenclature of their food, but I know they like to eat!

Our new Community Ecologist, Brian Early, takes you into the natural floristic history and impacts from recent Hurricanes on our beautiful Kisatchie National Forest, revealing plans for restoration efforts and collaboration with our partners, USDA Forest Service, in monitoring and managing this forested treasure of Louisiana. Come take a walk with Brian and you will see the passion he exudes for the natural communities represented not only in Kisatchie, but also across the Sportsman's Paradise.

Our Waterfowl Program highlights new and increased activities we are venturing into for the management of shorebirds and mottled ducks. If you're a private landowner in our Chenier Plain landscape of Louisiana, we need your help with mottled ducks, and if you're a landowner in the Mississippi Alluvial Valley portion of Louisiana, we need your help with shorebirds. Review what Owen and Ben reveal about the available programs to assist landowners with technical guidance and financial assistance in providing the types of quality habitats we need to sustain these species. Yep, we are putting our money where our mouth is as we move forward to assist these species, and you, the private landowners that are willing to provide the landscape necessary during critical periods in the lifespan of these species, can benefit along with the feathered critters.

Then back into our upland habitats, Pineville Field Office Manager Chuck Jones describes the different treasures you will find if you plan a visit to Alexander State Forest WMA, a cooperative endeavor with the Louisiana Department of Agriculture and Forestry. Outdoor recreational pursuits can be enjoyed year round on this WMA, as the Indian Creek Reservoir offers campers a wet and cooling opportunity during the hot summer months. Then Private Lands Biologist Nathan Yeldell reveals the benefits of a good prescribed burning program in your upland piney woods, including the formation of a Prescribed Burn Association with adjacent landowners. Nathan will also tell you about the opportunities for funding assistance in carrying out prescribed burning management practices.

After reviewing all these activities, we'll give you a little background on a couple of our staff; Jimmy Ernst, DMAP Coordinator and David Breithaupt, Farm Bill Coordinator. While Jimmy's work is focused on cooperators in our Deer Management Assistance Program, David's task is to ensure our biological staff have the knowledge of and appropriate training to deliver conservation assistance that is offered through our partner, USDA Natural Resources Conservation Service. Don't let that farm title disengage you, as many landowners we provide assistance to with Farm Bill programs are indeed forest landowners. Give David or one of our Private Lands staff a call to explore what management practices you can obtain assistance with through the NRCS programs. Remember, habitat is the point, so let us help you make the best for your interests on your property.

We want to hear from you; what are we doing, good or bad, that concerns you or makes you excited to put your hands in the earth and do good things for many critters. Let us know, please, 'cause that is what provides guidance in our future direction.

God bless you, your family and the lands you have come to enjoy in your lifetime. Let us help you leave them in the best shape possible for your future generations to continue their enjoyment.

Sincerely,

Kenny Ribbeck, *Chief*
Jeffrey P. Duguay, Ph.D., *Editor*
Eric Shanks, *Associate Editor*

Killer Fungus that Causes Disease in Hibernating Bats Detected in Louisiana

BY PETE PATTAVINA, Bat Biologist/Southeast White-nose Syndrome Coordinator, U.S. Fish & Wildlife Service (Athens, GA)

Throughout the winter, one can find Nikki Anderson, Wildlife Disease Biologist for Louisiana's Department of Wildlife and Fisheries, slogging through the creeks and bayous, floating through highway culverts with pool floaties or crawling through pipes as narrow as three feet wide in the search for bats.

Anderson, working under grants from the U.S. Fish and Wildlife Service's White-Nose Syndrome Program, has been monitoring the state's bat populations for the invasive, bat-killing fungus *Pseudogymnoascus destructans* for the past five years. The pathogen, which is harmless to people but attacks the skin of bats during winter hibernation, has already killed millions of bats in North America since the fungus landed on our shores around 2006.

Of particular interest to Anderson is the diminutive tri-colored bat (*Perimyotis subflavus*), a species that declined more than 90% in recent years in northerly states and is now considered for protection under the Endangered Species Act. "Little is known about tri-colored bats in the Southeast, particularly in Louisiana where the species roosts in the winter within structures like roadway culverts instead of caves. We didn't know where our bats were, what they did during the winter, but other neighboring states like Texas and Mississippi were finding tri-colored bats and other bat species in highway culverts during the winter."

Using PCR testing swabs much like ones we use for human COVID testing, Anderson went on the hunt for the bat pathogen, ducking into Louisiana's culverts…lots of culverts…and she started seeing lots of bats, especially tri-colored bats that are more solitary than other bats like Mexican free-tailed bats and southeastern myotis bats, which tend to be found in larger clusters. Although Anderson hasn't seen the disease white-nose syndrome in any of her bats, last winter she did find evidence of the fungal pathogen in Natchitoches Parish, but it wasn't the tri-colored she expected carrying the fungus, it was the Mexican free-tailed bats. "We are not exactly sure what that means yet," says Anderson. "It could be that free-tailed bats are encountering the pathogen as they migrate around the Southeast but that our climate during the winter doesn't allow the pathogen to grow and present itself as disease in our bats." Time will tell, and Anderson is back at it this winter, donning her chest waders and boots, exploring the Pelican State's darkest culverts and crevices in the pursuit of bats.

ADDITIONAL INFORMATION

For more information please call (225) 765-5030 or email Nikki Anderson at Nanderson@wlf.la.gov

Brazilian Free-tailed Bat

Biologist Nikki Anderson surveying for bats.

Photo by Terry Kreeger, Wyoming Game and Fish and Chronic Wasting Disease Alliance

Chronic Wasting Disease: *Challenges & Insights*

BY JONATHAN BORDELON, LDWF Deer Program Manager

Chronic wasting disease (CWD) remains at the forefront of challenges facing deer managers and hunters in North America. Unfortunately, in January of this year Louisiana became the 29th state to detect this transmissible and always fatal deer disease. The previous Insider issue highlighted the discovery of the disease in Tensas Parish in an 8.5 year old symptomatic buck. Disease transmission, symptoms, testing history, mitigation measures and proposed actions in response to Louisiana's detection of the disease were covered by Dr. Jim LaCour, State Wildlife Veterinarian. This article will go into more detail on best management practices, deer harvest trends, and answers to commonly asked questions. Additional insights and observations from the upcoming sampling season will be shared in future articles.

Currently, there are 30 states and four Canadian provinces that have detected CWD. Unfortunately those numbers are rapidly changing and each mention of the number of positive states becomes quickly outdated. Due to the increasing number of states with a detection, there has been additional research and collaboration across North America. Open lines of communication are important in developing strategies to combat the disease. Those open lines include wildlife agencies and researchers sharing what has been learned about the disease in recent years. It also applies to continued communication between wildlife agencies, deer hunters, and the deer hunting industry. Due to Louisiana's recent detection, education and outreach are priorities. Providing insights into disease transmission, symptoms, access to testing, and best management practices are common outreach themes.

In recent years, the Louisiana Department of Wildlife and Fisheries (LDWF) has been engaged in multi-state projects aimed at producing the latest information about the disease. The cooperative approach is important for providing thorough and consistent information about CWD. The latest messaging has been shared through digital media platforms. The most recent endeavor was pioneered by Mississippi State University through the production of short animated videos. Several states including Louisiana contributed content and messaging for this project that will be completed in the summer of 2022. The launch of those videos and similar outreach projects are aimed at providing current information about CWD in easy to access and broadly available platforms.

While it is not possible to address or debate all alternative views about CWD, it is important to promote what is known about the disease and the context of those findings. Success stories and failures are often rooted in circumstances unique to a response area. Understanding those, and applying what has worked, has been fostered by continuous communications between agencies and researchers. LDWF began a CWD surveillance program in 2002. At that time, growing detections of the disease in several states prompted testing across the country. Participating in those first years of surveillance through testing was a journey into the unknown. While we are better prepared today due to the experiences shared by others, the threat from the disease has not diminished.

The initial detection of the disease in Louisiana set into action the LDWF CWD response plan. The action items proposed include the prohibition of bait and restricted movement of high risk deer parts for an established control area. The use of bait artificially lures deer into contact with other deer and family groups they would otherwise not encounter, increasing the risk of deer to deer transmission. Similarly, the export restrictions are aimed at reducing artificial spread through the movement of high risk deer carcass parts. The results of any miti-

How to properly dispose of deer carcasses

Proper Carcass Disposal

- Burial on site
- Approved, lined landfills
- Leave in place

Improper Carcass Disposal

- Disposal in water
- Burning
- Transport to another property

gation strategy hinge upon early detection, adoption of the practices by hunters, surveillance levels that ensure the disease is detected where present, and communication between all groups involved. While proposed regulations are part of most CWD responses, there are additional actions that will collectively help reduce the potential for the disease to spread or rapidly increase. Hunters, taxidermists, and processors can take an active role in proper deer carcass disposal. This is important because prions from decomposing deer carcasses bind to soil particles and can be taken up by plants. These prions are able to persist in the environment for many years. Disposal of the carcass through burial on the property where the deer was harvested is the most preferred method. Leaving high risk parts on the same property where the deer was harvested is a good alternative when burial is not possible. Sending unused parts to a landfill is another option. The goal is to prevent the spread of potentially contaminated parts to new areas where additional infection may result. We can all play an important role in lessening disease spread by adhering to best management practices observed in the visual. It is the actions of everyone involved that will increase success, while non-compliance will void the best mitigation strategy.

Early detection, which is a product of testing and hunter vigilance, provides the best possible outcome. When identified early, disease prevalence and environmental contamination is low for the affected area. This means fewer carcasses have been unknowingly moved out of the affected area and very few people have been exposed to positive deer. This is when measures such as the prohibition of bait and deer carcass export restrictions are most effective since the disease will never have a lower prevalence and distribution than it does upon initial detection. Without early detection, the spread of CWD is amplified artificially through practices such as baiting and the movement of deer carcasses.

Unfortunately, prevalence rates of 23% or greater have occurred in adjacent states, counties, and management zones in the southeast. This is the unfortunate reality for many states. However, even in states with local prevalence rates approaching 50% the disease is typically clustered with areas of lower disease concentrations surrounding pockets of higher prevalence. Portions of the same states may not have any detections. Often under that scenario, management options are focused on keeping non-detected areas free of disease for as long as possible. In the case of the first detection in Louisiana, the disease has been detected at a very low rate based on the number and distribution of samples collected. Continued surveillance will add to the confidence in that assessment.

Photo by Mack Hopper, Kansas Department of Wildlife, Parks and Tourism

CHRONIC WASTING DISEASE SYMPTOMS

- Excessive thirst
- Excessive salivation
- Excessive urination
- Ataxia
- Grinding of teeth
- Dull mentation
- Head lowering
- Drooping ears
- Anorexia
- Weight loss
- Death

It is important to understand that deer testing positive for CWD are a sub-sample of the population. The focus should be less on the actual number of CWD positive deer, and more on what percentage of the population those deer represent. For example, in a parish with a reported harvest of 3,000 deer, a 5% prevalence rate would equal 150 potentially CWD positive deer in the harvest. This number (150) does not represent the total number of deer infected with CWD in the parish population, but only the number of harvested deer from that population that may be positive for CWD. Deer managers (and hunters) must assume that there could be at least a 5% prevalence rate for the entire population within that parish.

Most southeastern states that have found CWD have only detected the disease in a small percentage of their state. It is common to observe positive states with a large number of non-detections where impacts will be localized early on but serve as an example of what occurs after increased spread. Unfortunately, the areas of a state that are positive serve as a source for geographic spread and will experience increased prevalence within local populations. The destination in this case is clear, the disease slowly spreads over time without mitigation. Effort should not only focus on monitoring prevalence rates within areas of known infection but also identifying new areas of disease spread. Further compounding the issue is the distribution of known positives. It is not uncommon to have several positives on a property, while nearby properties that sample deer may not detect the disease. This stresses the importance of following best management practices. Improper deer carcass disposal and artificial congregation through bait has the potential to bring the disease to new properties.

Chronic wasting disease is appropriately named based on the progression of the disease. Infected deer do not display symptoms for at least 16 months or longer. That is the chronic nature of the disease. The disease affects bucks and does of all ages, including fawns. Typically, the disease is detected at a higher prevalence in adult deer. This trend results in fewer older deer in herds where the disease is well established. This is a management concern for some hunters due to the shift to older age management in recent decades. That trend is reflected in Tensas Parish. Known age data collected over the past three years from properties enrolled in DMAP reveal 80% of bucks harvested in Tensas Parish were 4.5 years or older. Chronic wasting disease left unmitigated will impact the current number of bucks reaching that age class.

Due to their proximity to the detection in Tensas Parish, both Madison and Franklin parishes were included in the proposed CWD control area. The previous article described the assignment based on distance from a known positive and the use of parishes to delineate control areas. Trends reveal increased harvest and age structure across all three parishes for the past 10 seasons. The reported harvest rates for Tensas,

Franklin and Madison are in the top five in the state when ranked by deer harvested per forested acre. The reported harvest in Franklin parish has doubled in the past 10 years, influenced by the increase in forested habitat developed through conservation programs. Harvest is also trending upwards in Tensas and Madison parishes with the 10- year high recorded this past season. All of this is occurring while the percentage of older age bucks in the harvest is increasing. Approximately two out of three bucks harvested on DMAP properties in the three parishes are 4.5 years or older. Sustaining harvest rates in these parishes will be important moving forward to maintain or reduce deer densities in order to help reduce the potential effects of CWD on these herds. Increased deer densities are associated with increased disease transmission.

Continued testing is an important surveillance tool. During the upcoming deer season hunters may submit harvested deer for CWD testing at no charge. Refrigerated containers for sample submission will be placed in Franklin, Madison and Tensas parishes with directions posted on site as well as the LDWF website. Hunters from all other parishes may contact the nearest LDWF Field Office for information on submitting samples. Deer from both public and private lands are tested along with deer that are displaying symptoms of the disease. Knowing the signs is important in identifying potentially positive deer. Alerting LDWF about symptomatic deer is one important way to assist in early detection of the disease.

White-tailed deer are the most hunted game species in Louisiana and across North America. More than $567,868,000 in retail sales alone is associated with deer hunting in Louisiana. The multiplier effect is $870,889,000 with more than 6,200 jobs and $245,787,000 of salaries and wages attributed to deer hunting in Louisiana. This does not include over $100 million in federal, state, and local taxes. Chronic wasting disease is the most serious disease threat to white-tailed deer. Left unmitigated, the long-term consequences to the wild resource would include further geographic spread, increased prevalence within positive herds, declining deer populations, reduced deer age structure, increased hunter exposure to the disease, impacts to industries associated with deer hunting, and widespread environmental contamination from the disease. We are hopeful that early detection and immediate response will provide the best long-term outcome for Louisiana's deer herd, deer hunters, and the industries tied to the pursuit of deer.

According to the Centers for Disease Control and Prevention, there is no evidence that CWD can infect humans. However, the CDC recommends caution in handling venison in the infected region and that deer be tested for CWD before consuming. CWD-positive deer should not be consumed by people.

COMING SOON!

During the upcoming deer season hunters may submit harvested deer for CWD testing at no charge. Refrigerated containers for sample submission will be placed in Franklin, Madison and Tensas parishes with directions posted on site as well as the LDWF website. Continued testing is an important surveillance tool!

Instructions for Submitting Deer for CWD Sampling

Results will be available at *www.wlf.la.gov/page/cwd-testing-results* using the Sample ID on your card.

Hunting 101: *Laying a Foundation for Success*

BY TRAVIS DUFOUR, LDWF Biologist Educator

Nationwide, state conservation agencies have been wrestling with the problem of how to address declining hunter numbers. One way LDWF is trying to help turn these declines around is through offering one day, species specific, introductory hunting courses dubbed "Hunting 101." These courses began as a pilot program in September of 2019 as a way to introduce new hunters to the world of hunting.

The first course developed was "Squirrel Hunting 101." Squirrel hunting was chosen because of its simple nature; a hunter with a little knowledge and minimal equipment will be able to go out in the woods and pursue the grey ghosts of the forest. Additionally, squirrels are plentiful and exist throughout the state, hopefully leading to increased success and opportunity for our students. Another factor we examined is the ease of finding places to hunt. On private land there are many woodlots and tree lines which offer easy hunting, and Louisiana has an abundance of Wildlife Management Areas and other public lands scattered across our landscape that are available to hunt.

Not knowing what to expect, the first class took place at the LDWF field office in Lafayette with 13 participants. The course covered:

- **Squirrel Identification and Biology** - how to differentiate the fox, grey, and Bachman's squirrels, where they are found in Louisiana, and their basic lifecycles.
- **Habitat Use and Food Habits** - the primary habitat types used by squirrels in Louisiana (bottomland hardwoods and upland pine forests) and what squirrel sign looks like in those habitats. Learning to identify squirrel food sources greatly increases a hunter's success in the field, and participants got hands-on experience identifying many different types of food items.
- **Equipment Needed** - not a lot is required, but some essential gear makes the hunt more enjoyable. We covered firearm selection, clothing, and hunting accessories to improve the hunter's success and make the hunt safe.
- **Hunting Techniques** - the different styles of squirrel hunting, from stalking to staking out a feed tree and discussion about hunting with dogs. How to handle, clean, and even cook your squirrels once you have harvested them.
- **Applicable Regulations** - season dates, bag limits, and legal firearms for squirrel hunting, as well as license requirements. Just as importantly, where to go to find the most current regulations and how to purchase a hunting license.
- **Field Time** - the last portion of the course gave the students the chance to put everything together and practice what they learned. A walk in the woods looking for squirrel sign and going over food sources, identifying tree species squirrels often frequent for food, how one might hunt the area, and a demonstration of squirrel cleaning techniques.

Based on participant surveys after the course, the first Squirrel Hunting 101 was a success! The decision was made to continue offering the course and every year we adjust the curriculum to improve the course and give the students more of what they need to succeed.

The popularity and success of Squirrel Hunting 101 led to the development of our next course, Wood Duck Hunting 101, designed to introduce new hunters to waterfowl hunting. This topic was chosen because, just like squirrel hunting, wood ducks can be hunted throughout the state with minimal equipment and provide an enjoyable hunting experience.

This class is structured very similar to the Squirrel Hunting 101 course, and covers the same major topics but specific to wood ducks. Some differences are the addition of common wood duck calls and how to use them, with the field component consisting of time on the skeet range learning and improving wing shooting techniques.

While the primary target of our Hunting 101 courses are new hunters, many of our previous participants had hunted in the past and were looking to get back into the sport. These courses offer an ideal way for anyone wanting to hunt to gain essential knowledge and skills to make them more comfortable getting into the field. The LDWF Hunter Education Program is currently working on refining our existing Hunting 101 courses, and developing new ones to assist all of these hunters with their journey in becoming safe and experienced hunters.

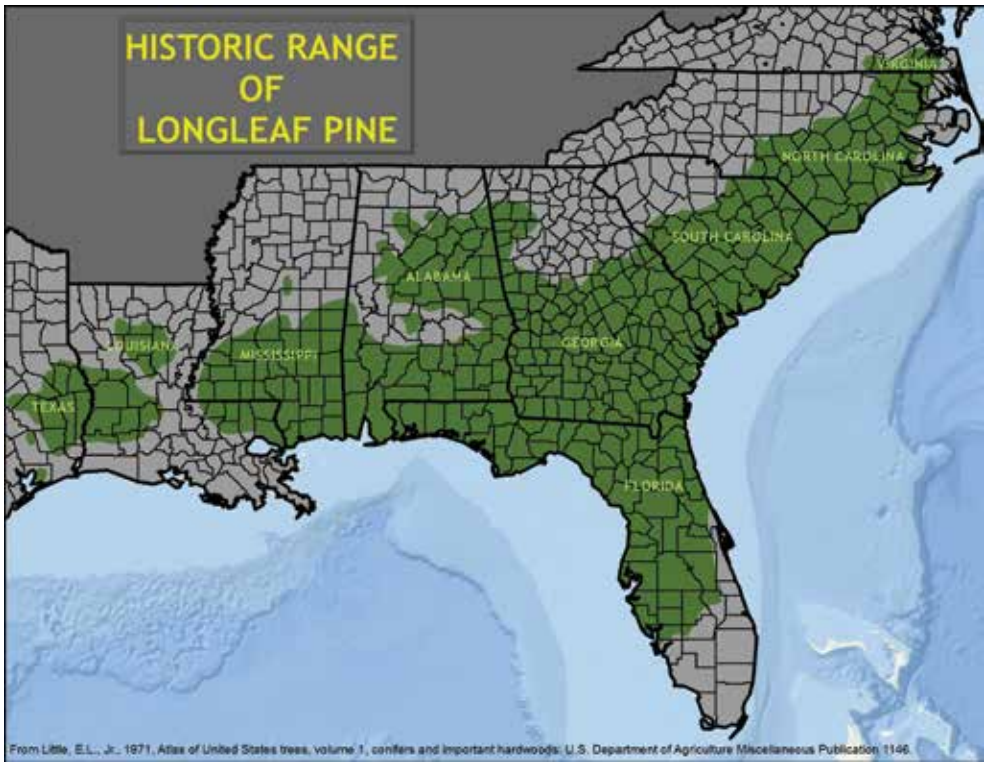
ADDITIONAL INFORMATION

If you know someone interested in pursuing this great outdoors pursuit, please let them know about these opportunities and allow us to introduce them to the Sportsman's Paradise! For more information contact Travis Dufour at 337-735-8685 or tdufour@wlf.la.gov

Return of the Longleaf:

A Unique Opportunity in Restoration and Research on Kisatchie National Forest

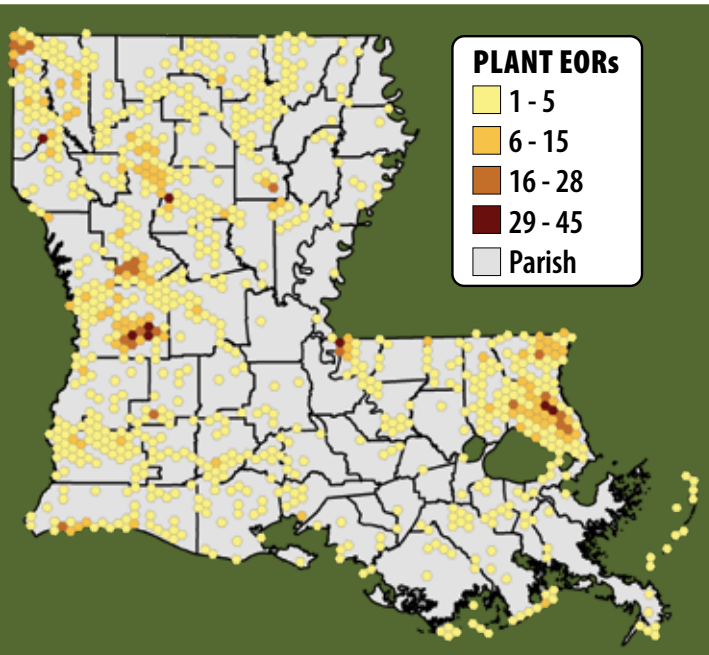
BY CSANYI MATUSICKY, WAE Biologist
BRIAN SEAN EARLY, LDWF Plant Community Ecologist, Wildlife Diversity Program



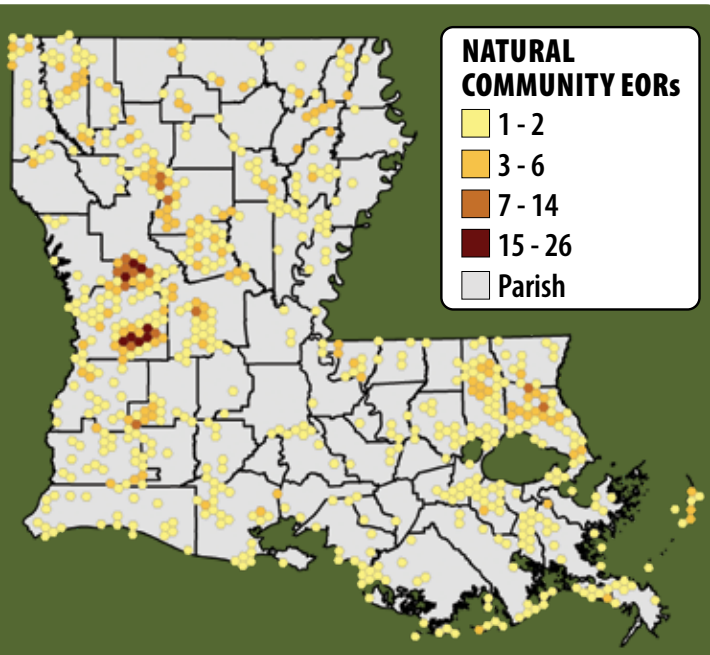
Longleaf pine range map, showing the Mississippi River segregating the Eastern and Western Gulf Coastal Plain (Source: www.nclongleaf.org/llPineForests.html).

The once expansive complex of longleaf pine (*Pinus palustris*) savannas and woodlands covered approximately 93 million acres across the majority of the Atlantic and Gulf Coastal Plains from southeast Virginia to east Texas. Longleaf pine natural communities have been reduced drastically since European colonization and only about 3-5% (3-4 million acres) remained by 2007. This precipitous decline was largely due to over harvest, incompatible silviculture practices, land use conversion, and fire suppression. Range wide other forest types, primarily slash pine (*Pinus elliottii*) and loblolly pine (*Pinus taeda*) plantations, replaced most of the longleaf pine savannas and woodlands. Like most native grasslands, longleaf pine natural communities are among the most threatened systems in the United States (McCaskill & Jose 2012, Bragg et al 2020), second only to prairies.

Despite significant losses, the longleaf pine natural communities still have high rates of species endemism and are the most diverse and species rich set of plant assemblages outside the tropics (MacRoberts et al 2002, 2007, 2014, Varner and Kush 2004, Clark et al. 2007). This diverse ecosystem occupies large portions of both the Eastern and Western Gulf Coastal Plains of Louisiana. While the longleaf pine systems on the Eastern and Western Gulf Coastal Plains share many foundational similarities, a myriad of nuanced physical and biological differences render them distinct. Most of these differences result from slightly different geological history; yielding



Density map of rare plant species occurrences per 40 square km hexagon tessellation. The highest concentrations are in longleaf pine habitat of St. Tammany and Vernon Parishes. (Source: Louisiana Wildlife Diversity Program, 2022).



Density map of rare natural community occurrences per 40 square km hexagon tessellation. The highest concentrations are in longleaf pine regions of the state. (Source: Louisiana Wildlife Diversity Program, 2022).

some differences in biota and ecology between the Eastern and Western Gulf Coastal Plains.

Many studies have examined longleaf pine and their associated natural communities. These works mainly focused on timber productivity, community structure, and habitat quality for a specific species or taxonomic group (Bragg et al 2020). The focus for much of this work has been on the Eastern Gulf Coastal Plain while the floristic significance of the longleaf pine natural communities on the Western Gulf Coastal Plain has received almost no attention in the published literature (MacRoberts et al 2002, 2014). The current literature rarely addresses interactions between management practices and longleaf pine biodiversity (MacRoberts et al 2002, 2014, Bragg et al 2020). Restoration of this ecosystem is increasingly important to avoid continued decline or complete loss of the ecosystem processes and functions on which many species depend.

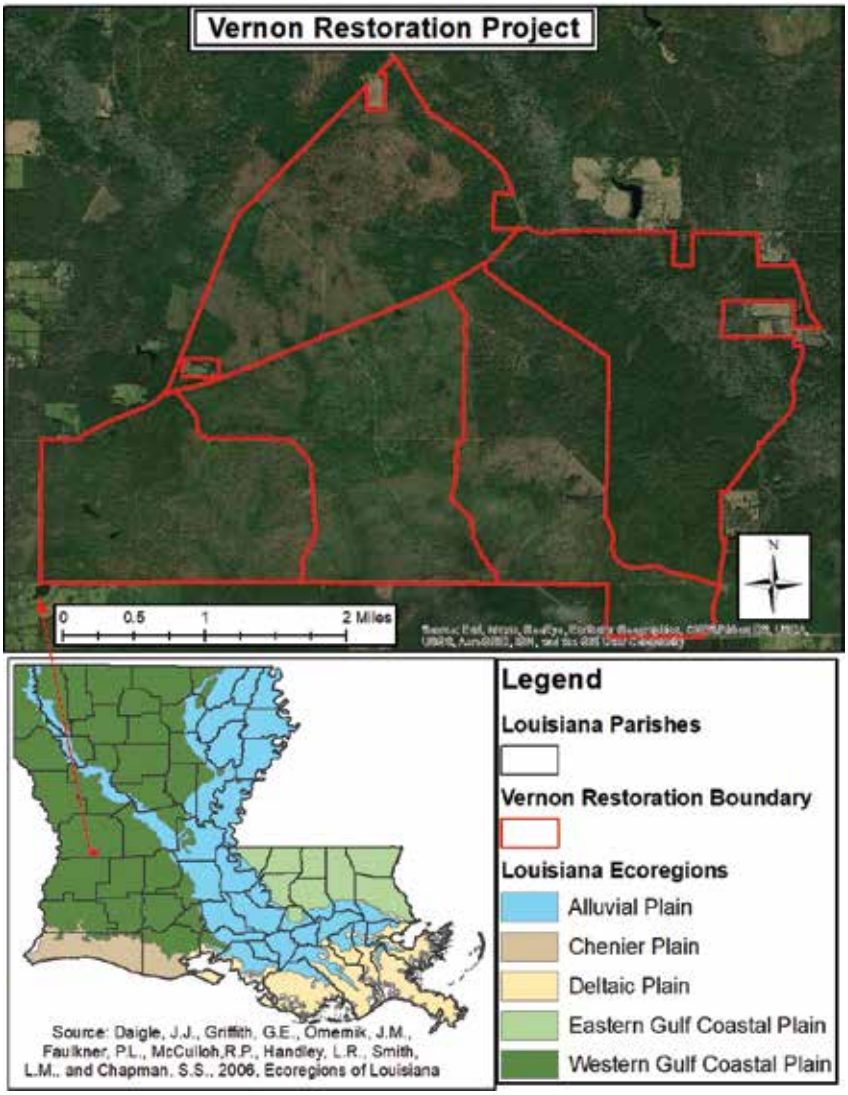
The extant longleaf pine systems in Louisiana sustained further impacts during the 2020 hurricane season. Approximately 200,000 acres on Kisatchie National Forest (KNF) received various degrees of wind damage. The Vernon Unit of the Calcasieu Ranger District suffered the most damage with more than 20,000 acres of severely damaged timber stands. The longleaf pine flatwood savannas on the southern portion of the Vernon Unit received the most extensive wind damage. Wind events from the 2020 hurricane season caused over $63 million in losses on the KNF. **Where many would see this destruction as a devastating loss to biodiversity and economic resources, the Kisatchie National Forest Supervisor saw it as an opportunity for restoration of a new kind.**

The KNF in collaboration with the Louisiana Department of Wildlife and Fisheries and other conservation partners has initiated the Longleaf Pine Flatwood Savanna and Restoration Project. Although the United States Department of Agriculture Forest Service (FS) is conducting restoration efforts throughout KNF, the flatwood savanna area has been set aside for intensive ecological restoration and research due to the distinct geology, high biodiversity, critical status, and extensive damage from past anthropogenic activities and recent severe wind events. This project encompasses approximately 8,056 acres on the southern end of Vernon Unit. Prior to FS ownership this restoration site was clear-cut in the 1930s. A natural longleaf pine seed source was no longer on site to readily reforest the area. The task of replanting was assigned to the Civilian Conservation Corps (CCC). Slash pine, non-native to the Western Gulf Coastal Plain, was used by the CCC in the reforestation efforts due to its ability to withstand the saturated soil conditions that are typical of flatwood savannas. At present, less than 70% of this restoration site has longleaf pine and virtually none of the longleaf pine on site has reached maturity (30+ years). Most of this area remained as stands of slash pine until the wind events of 2020, which caused severe timber damage. KNF has set a noble mission to restore the longleaf pine flatwood savannas. This restoration site not only represents the only longleaf pine flatwood savanna on the KNF, but also the largest tract of this ecotype under conservation management within the state of Louisiana.

LDWF biologist Csanyi Matusicky mapping damage from the 2022 hurricane season on the Kisatchie National Forest Vernon Unit.

Damage from the 2022 hurricane season on the Kisatchie National Forest Vernon Unit with a young pine stand in the background.

Google Earth true color areal image of down trees post 2022 hurricane season don the Kisatchie National Forest Vernon Unit, Compartment 104 (Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/ Airbus DS, USDA, USGS, AroGRID, IGN, and the GIS User Community)

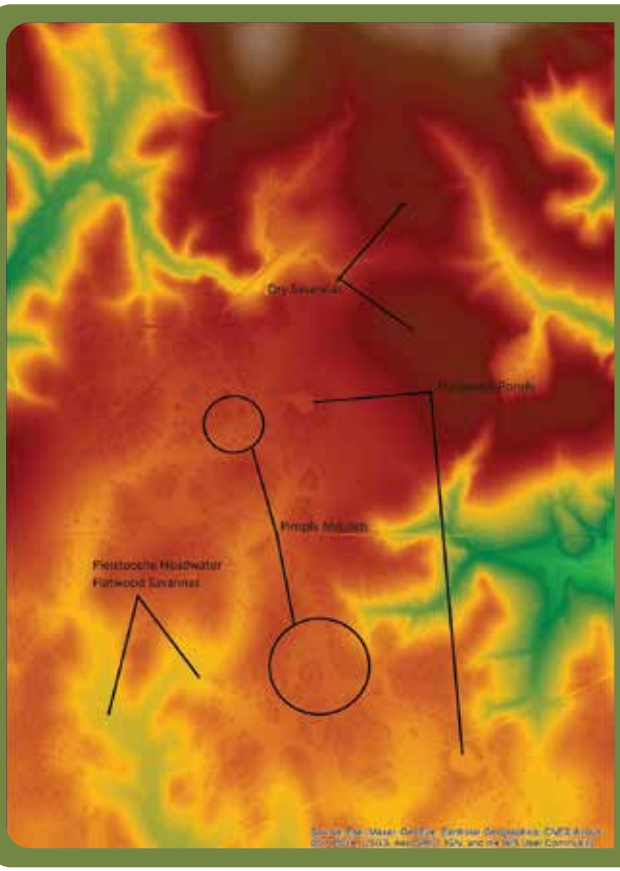


Flatwoods Savanna Restoration and Research Project location and boundary.

The longleaf pine flatwood savanna restoration is unique for many reasons, which is why this part of Vernon Parish is highlighted as a significant landscape in the America's Longleaf Restoration Initiative (America's Longleaf. 2014). This site is an ecotone incorporating the northern limit of longleaf pine flatwood savannas and the southern limit of the longleaf pine rolling dry-mesic slope savannas. Additionally, this site captures all the unique expressions of longleaf pine flatwood savannas including flatwood depression ponds, pimple mounds, intermound flats, Pleistocene hydric headwater savannas, and hillside seepage bogs. The unique geological foundation and topography of the Western Gulf Coastal Plain greatly contributes to the complexity and diversity of the restoration site as well as the longleaf pine ecosystem as a whole. Although relatively small, the topographic heterogeneity provides many environmental gradients in close proximity, which yields numerous micro habitats for plants thus bolstering one of the most diverse and species rich natural community complexes in North America.

The restoration of this unique site requires novel restoration techniques, methods, and approaches. Some of these techniques will include contour and cohort planting, both sparse (0-150 trees per acre) and dense 300-500 trees per acre) plantings, intensive annual fire, irregular shelterwood thinning and proportional basal area selection. This work will also incorporate the development of an ecoregion specific floristic quality index to monitor the quality of herbaceous diversity and richness throughout the restoration process in response to various techniques and research treatments. Information garnered from this research and restoration efforts will also guide longleaf pine restoration on private, state and federal public lands; especially reverting slash pine and other forest types back to longleaf pine savannas.

Healthy longleaf pine flatwood savanna on the Western Gulf Coastal Plain of Louisiana.



Topographic change in longleaf pine flatwood savannas of the Western Gulf Coastal Plain, are subtle but profound. The site is punctuated with micro-topographic features small circular to elliptical inflations (pimple mounds, hillocks, mima mounds) and circular or sinuous deflations (ephemeral ponds, marais, potholes). Historically numbering in millions, the pimple mounds covered large sections of southwestern Louisiana and east Texas (Bridges 1988, Seifert et al. 2009). Site preparation leveling for agriculture, pine plantations, and urban development has erased a staggering proportion of pimple mounds and flatwoods ponds from the landscape (MacRoberts et al. 2014, Bridges 1988). These ancient pimple mounds formed during an arid period when prevailing northwesterly winds shifted sediment across the landscape (Seifert et al. 2009). These winds scoured out depressions (deflations) and redeposited sediment at the base of remaining sparse clumps of vegetation forming asymmetrical mounds (Seifert et al. 2009, Bridges 1988). The mounds generally range in height from 1.5 to 6 feet and from 30 to 90 feet in diameter (Seifert et al. 2009). Depression features derived from relic sediment filled Pleistocene stream channels or aeolian deflations. The depression features range from 0.1 to 20 acres in size but the average is typically 1-5 acres. They vary from several inches to about 3-5 feet deep and fluctuate with perpetual to seasonal inundation and surface saturation. These features in tandem allowed drastically different microhabitats to occur within feet of each other; the mounds have xeric upland conditions and the depressions provide aquatic to hydric wetland conditions, while the interstitious flats provide a transitional mesic moisture regime. This diversity and richness of the Western Gulf Coastal Plain is in part due to the unique and complex topography.


Pale Coneflower

Pink Bearded Orchid

Winged Pitcher Plants

LITERATURE CITED

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Working Lands for Wildlife:

Shorebirds of Louisiana Wetlands Initiative

BY BEN DUPLECHAIN, LDWF Wetland Bird Specialist

Although Louisiana's wetlands are an important stopover for many migrating shorebird species, availability of suitable wetland habitat in the form of shallow water and mudflats during the fall migration is lacking, especially in the Mississippi Alluvial Valley (MAV). The Lower Mississippi Valley Joint Venture's Shorebird Conservation plan (2000 & 2019) shows there is a lack of available habitat during peak migration (August-October) for migrating shorebirds. Historically, there were likely substantial areas of habitat for shorebirds along the major river deltas (Mississippi, Red, and Atchafalaya). However, extensive natural and anthropogenic changes to land cover and hydrology in these systems, including reservoir and levee construction, dams, dredging, cropland expansion, tornadoes, beaver activity, and other natural causes, have altered the availability of suitable habitat, but, not all landscape changes are detrimental to shorebirds.

Today, around 75% of the former forested area has been developed for other uses, with row cropland being plentiful. Bare agricultural fields, particularly rice, have water management capabilities that can contribute to meeting habitat requirements of migrant shorebirds in spring. Because shorebirds occur primarily in shallow, freshwater wetlands, these croplands post-harvest create an opportunity for large areas of shorebird habitat to be created when the proper mixture of water depth, mud flats, and vegetation cover are present at appropriate times.

Semipalmated sandpipers (*Callidris pusilla*) have a 10,000+ mile elliptical migration route, similar to the American golden plover (*Pluvialis dominica*). Because of the high metabolic demand of these long distance migrations, shorebirds spend a large amount of time foraging. As such, it is essential for stopover points to provide the necessary habitat and forage needed to complete the journey.

Thirty-five species of shorebirds migrate annually through the interior of the state, less than the historically documented count of 45 species. For year-round shorebird viewing Louisiana is considered good to excellent. The Cajun prairie area, where rice and crawfish farms are abundant, is often a "hotspot" for viewing shorebirds. Some public land areas in the MAV, like Russell Sage and Boeuf WMA, can host large quantities of wetland birds in the spring and fall. The MAV is an important migratory corridor for many species of shorebirds, with some breeding in Louisiana, includ-

ing killdeer (*Charadrius vociferous*), black-necked stilt (*Himantipus mexicanus*), and willet (*Tringa semipalmata*). The focal species of the Working Lands for Wildlife (WLFW) Program (see below) shorebird initiative are lesser yellowlegs (*Tringa flavipes*), buff-breasted sandpiper (*Calidris subruficollis*), stilt sandpiper (*Calidris himantopus*), and short-billed dowitcher (*Limnodromus griseus*), all of which migrate through the MAV. Unfortunately, water level and vegetation densities in most croplands are not conducive to their foraging habits during southern migration.

In partnership with the Natural Resource Conservation Service (NRCS) and Manomet Inc., the Louisiana Department of Wildlife and Fisheries continues to participate in the WLFW, focused on providing technical and financial assistance to landowners willing to provide quality habitat for fall migrating wetland birds, including shorebird species. The project builds on the former Migratory Bird Habitat Initiative, a program launched after the Deepwater Horizon oil spill in 2010. LDWF, NRCS, and Manomet staff provide free technical assistance to landowners focused on restoring wetland habitat to meet production goals, mainly by holding water on their land during peak migration periods. Terms of the program range from one to three years, with the option to enroll the same land in another conservation practice or new land under the same practice at the end of three years.

The purpose of this program is the creation of fall/winter habitat for migrating shorebirds to coincide with peak migration. A few species of shorebirds winter in the MAV, some will continue migrating to coastal Louisiana, and others winter at the southern end of South America. During this migration period, unharvested rice fields are too dense for most shorebirds to use and crawfish fields are typically dry. The practices implemented for this program create mudflats to six inch deep shallow water areas for migrants to forage. Once enrolled, landowners will board up drainage structures post-harvest to hold rainfall, creating shallow water impoundments. Additional funds may be available for those landowners that mow or disk post-harvest, allowing easier access for foraging birds that may be deterred by stubble. Some landowners will take it upon themselves to actively pump into the impoundments to reach target water depth. Participants in the program also have the option to extend flooded conditions into the spring, when migrants will again pass through Louisiana during their northern migration. While this program is tailored for shorebird habitat creation the benefits can be seen for other species of wildlife including waterfowl, wading birds, and the experimental population of whooping cranes (*Grus Americana*) in Louisiana. These lands may also be used for hunting during open season.

Applications for the program are ranked based on the management activities conducted on the property, with multiple activities increasing the ranking. Applicants must meet NRCS Adjusted Gross Income (AGI) requirements and be able to hold water on at least one field. Higher ranking applications will receive priority for funding. Technical and financial assistance with this program is derived through the Environmental Quality Incentives Program (EQIP), the largest source for funding of conservation projects on private lands. As of May 2022 there are 20 contracted landowners and farmers enrolled with NRCS totaling more than 10,300 acres in Iberia, St. Mary, Acadia and Vermillion parishes, with 30 more contracts currently under review. The program will focus on enrolling more acreage in the northeast part of Louisiana in the future where fall shorebird habitat is most lacking.

ADDITIONAL INFORMATION

For more information on how landowners can enroll in the program contact Ben Duplechain at bduplechain@wlf.la.gov or 318-537-4991; or Karis Ritenour at kritenour@manomet.org or 952-297-2209.

Long-billed Dowitcher

Black-necked Stilt

Lesser (left) and Greater (right) Yellowlegs

Smoke rises through the forest canopy in a pine forest.

The LDWF Prescribed Burn Trailer and Equipment is available for the public to rent and use to conduct prescribed burns.

Prescribed Burn Associations:

Landowners' Key to Unlocking Quality Habitat

BY NATHAN YELDELL, LDWF Private Lands Biologist

Nowadays, there seems to be more discussion of private lands habitat improvement on social media platforms than ever before. People are asking about regenerative agricultural techniques for wildlife food plots, establishing native wildflower meadows, managing for turkey nesting and brooding habitat, invasive plant control, etc. One topic of growing interest is the use of prescribed fire in upland forested habitats. Wildlife biologists and land managers have been touting the benefits of prescribed fire for decades, but many landowners have an understandable apprehension about setting their woods ablaze. Admittedly, there are legitimate concerns about damaging valuable timber, fire escaping onto neighboring properties, or smoke impacting public roads and other sensitive areas. However, a group of landowners in northern Louisiana has found an avenue to safely use prescribed fire to improve wildlife habitat on their lands: a Prescribed Burn Association.

It's important to make the crucial distinction between wildfires and prescribed fires. Wildfires typically begin by lightning strike, careless human behavior, or even arson. Wildfires may be intense enough to kill large trees, destroy homes and businesses, and kill or displace wildlife. On the other hand, prescribed burners intentionally use fire to reach certain objectives, including fuel reduction to reduce wildfire risk, wildlife habitat improvement, and reduction of competing vegetation in pine timberlands. Prescribed burners carefully define boundaries, create firebreaks, ignite fires under acceptable weather conditions during specific times of the year, and have sufficient crew members and fire suppression equipment on-site to quickly extinguish any escapes.

So why should we use fire to manage our lands? Because upland forests, woodlands, savannas, and prairies of the Southeast evolved with fire as a natural disturbance for millennia. In fact, some ecosystems require periodic fire to persist. Likewise, the wildlife and plants that inhabit those ecosystems also evolved to survive, or even thrive, in landscapes shaped by fire. Unfortunately, fires became much less common during the 20th century and the result was that fire-dependent habitats and wildlife have dwindled to dismal levels. Examples of Louisiana's rare, native wildlife that benefit from fire include the red-cockaded woodpecker, prairie warbler, Bachman's sparrow, grasshopper sparrow, Louisiana pine snake, gopher tortoise, Bachman's fox squirrel, and northern bobwhite quail. For the hunter-conservationists, fire is a great tool for creating and maintaining deer fawn bedding cover and wild turkey nesting and brood-rearing habitat in forests and fields. From a financial perspective, it is more cost-effective to set back plant succession with fire than with chemical herbicide or mechanical treatment with heavy machinery.

With all the benefits that prescribed fire can bring, why don't more landowners burn? Well, not surprisingly, there are several barriers to burning on private lands (East Gulf Coastal Plain Joint Venture, 2014). Perhaps most importantly is the negative perception that many landowners have regarding fire in wildlands. People may only see fire as a potentially destructive force that could destroy their timber and kill wildlife. Without the knowledge that low-intensity, prescribed fires are a regenerative process that improves forest health it is unlikely that a landowner will be open to the idea of burning. Once informed of the benefits, there are still concerns about safety and liability for damages in the event of a fire escape. These concerns lead many to seek professional burn contractors who hold certifications and carry liability insurance. However, even hiring a professional can be challenging because 1) there are few burn contractors available, 2) contractor fees may be cost-prohibitive, and 3) it is often difficult for landowners with small acreage to secure a contractor.

Some hands-on landowners may opt to burn their own tracts, which is a legal right when performed in accordance with Louisiana Department of Agriculture and Forestry Prescribed Burning Plan. Still, landowners may have the desire to burn but lack experience, certification, necessary equipment, or crewmembers to safely burn their forest (Weir 2010). Fortunately, a Prescribed Burn Association (PBA) can address those needs and bridge the gap to quality wildlife habitat.

A PBA is a group of local landowners and other stakeholders whose goal is to help its members conduct prescribed fires (Weir et al, 2015). The association achieves this by hosting educational workshops and training events for its members, maintaining an inventory of burn equipment available for its members, and organizing crew members to help each other burn. When members lend a helping hand and pool their resources, it is much easier to piece together a full burn crew and the necessary equipment to burn. PBAs have formal by-laws, membership meetings, elected officers, and take membership dues to purchase equipment. Additionally, PBAs typically have a technical advisory group of professional fire practitioners who support the association by providing technical guidance.

In 2021, LDWF staff from the Private Lands section and Wildlife Diversity Program collaborated with biologists from the non-governmental conservation group Quail Forever (QF) to develop a PBA in northern Louisiana. By working together, LDWF combined their local landowner relationships with QF's prior experience forming PBAs in other states. In the summer of 2021, we invited all interested landowners to a meeting in Ruston, LA, to see how many folks were interested in the PBA concept. With plenty of landowner support, we scheduled the first official meeting to form the Piney Hills PBA, adopted by-laws, and elected officers. Shortly after, QF and LDWF hosted an evening workshop to educate the new members on the benefits of fire, legal considerations, burning techniques, equipment needs, and logistics of using the PBA model to conduct burns. The next step was to develop burn plans for those members who had tracts ready to burn in the upcoming dormant season.

I am proud to say that the Piney Hills PBA got off to a great start. So far, its members have helped each other to burn a total of 230 acres on six private tracts in Lincoln and Bienville Parishes. We worked in a variety of upland habitats, including shortleaf pine-oak-hickory forests, loblolly pine plantation, a native grass and wildflower pollinator planting, and horse pasture. In addition to the burns, most landowners who burned are also developing other habitat enhancement projects with the help of the LDWF and QF biologists who serve as technical advisors to the PBA.

The Piney Hills PBA currently has 52 members including landowners, habitat enthusiasts, college students, and recent college graduates in the field of natural resources management. We hope to grow membership and plan to conduct more burns in 2023. In addition to the Piney Hills PBA in north-central Louisiana, the Southwest Louisiana PBA is active in Beauregard, Vernon, Rapides, Sabine, and Calcasieu Parishes (for more information contact CC Richmond, crichmond@wlf.la.gov). We hope to establish additional PBA's in other regions of the state as opportunities become available.

If you or someone you know is interested in prescribed burning or any other habitat management techniques, contact your nearest LDWF Regional Wildlife Office to speak with one of our Private Lands Biologists or Wildlife Diversity Program staff. We are available to provide technical assistance with a wide variety of wildlife management techniques and help you develop a plan for your property.

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Jack Land ignites a dormant season fire in a native wildflower planting area that he established with assistance from the Wildlife Diversity Program staff and stewardship funds from the Louisiana Natural Areas Registry program.

Sabrina Claeys, Quail Forever Farm Bill Biologist and technical advisor to the Piney Hills PBA, ignites a prescribed fire in pine forest habitat of Lincoln Parish.

Members of the Piney Hills PBA that served as crew members to burn 67 acres for Alan and Jesse Davis in Lincoln Parish.

Promoting Mottled Duck Habitat in the Louisiana Chenier Plain

BY OWEN BEST, NAWMP Coordinator

WATERFOWL PROGRAM GOALS

The Western Gulf Coast (WGC) sub-population of mottled ducks is a valuable recreational resource and a resource of conservation concern for wildlife managers along the Louisiana-Texas coast. The population, as indexed by the mid-winter and the WGC mottled duck breeding population surveys, shows a decline of roughly 60% in the last decade. Both federal and state wildlife agencies direct wetland management actions on their respective coastal properties with the mottled duck as a focal species, yet private lands make up greater than 90% of the land base in the Louisiana portion of the Chenier Plain. Declines in wintering waterfowl habitat notwithstanding, recent evaluations indicate nesting and brood-rearing habitat are large factors influencing annual mottled duck recruitment (brood & fledgling survival). Louisiana Department of Wildlife and Fisheries (LDWF) and other partner organization efforts to increase the creation and enhancement of these habitat components include an existing and longstanding project, the Louisiana Waterfowl Project, and the creation of two new projects that will soon be available for private landowners.

LOUISIANA WATERFOWL PROJECT

Established in 1992, The Louisiana Waterfowl Project (LWP) is a partnership between LDWF, Ducks Unlimited (DU), the Natural Resource Conservation Service (NRCS), and the United States Fish and Wildlife Service (USFWS) that focuses engagement with private landowners to create, restore, and/or enhance migration and wintering habitat for waterfowl and other wetland-dependent wildlife. LWP is a private lands cost-share program, reimbursing landowners up to 75% for infrastructure development including water control structures, pumps, levee work, and/or land shaping. In addition to infrastructure work, wetland development agreements ensure a minimum of 15 years of waterfowl habitat management on the property. LWP also provides technical assistance and management plans for these projects.

Scan Here
FOR INFO ON THE LA WATERFOWL PROJECT

Mottled duck brood string.

LOUISIANA MOTTLED DUCK PROJECT

A branch off the LWP, The Louisiana Mottled Duck Project (LMP) is a partnership between LDWF and DU that aims to provide brood rearing habitat. That is, dependable, late-spring early-summer shallow water during a time when wetlands are either dry or choked with dense vegetative growth. Rather than focus on helping landowners create or repair infrastructure, LMP is a habitat-based incentive program that:

1. Pays landowners to flood and maintain water levels (6-18 inches) from Feb. 1 - July 31. The objective is to create and manage vegetative structure and invertebrate abundance to increase mottled duck recruitment. Shallow water interspersed with emergent plants (<50%) in a hemi-marsh or moist-soil type habitat is the desired condition.
2. Helps landowners manage these projects with technical assistance and cost-sharing of management activities such as roller chopping, light disking, mowing, burning and/or herbicide applications.
3. Aids landowner with installation of solar wells on smaller, depressional wetlands that cannot be flooded by mechanical means in order to provide brood rearing habitat on natural wetlands throughout the prairie.

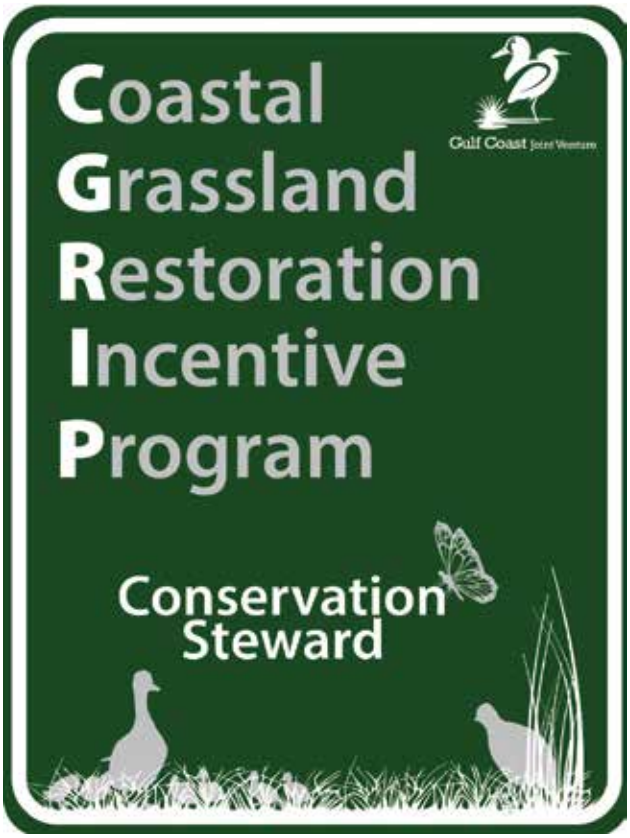
Existing wetlands, fallow rice fields, old LWP projects, and coastal prairie "potholes" are the main targets for LMP. Strategically funding projects using an existing mottled duck habitat decision support tool will provide needed brood habitats for mottled ducks in areas where they are likely to have the greatest impact, specifically in close proximity to nesting habitat.

C-GRIP: AN EXISTING PROGRAM INTEGRATED INTO LOUISIANA

In 2018, The Gulf Coast Joint Venture (GCJV) implemented the Coastal Grassland Restoration Incentive Program (C-GRIP) in Texas. LDWF is now working with the GCJV to modify and implement this program in the coastal prairie portion of the Louisiana Chenier Plain.

C-GRIP is a program that provides financial incentives to private grassland owners for treatments that address a deficiency in available mottled duck nesting habitat in the focal area, using the same decision support tool used in LMP. Target lands for restoration include overgrown pastures, hay lands, and marginal agricultural lands. C-GRIP reimburses landowners a set payment rate for identified practices that generally fall into the categories of brush management, prescribed burning, native grass reseeding, herbicide, and prescribed grazing. Complementing LWP, C-GRIP lands will be prioritized in landscapes with suitable brood rearing habitat.

Scan Here
FOR INFO ON C-GRIP



HOW TO GET INVOLVED

Each of these programs requires private landowners interested in landscape conservation. LWP covers infrastructure and design of wetland systems. LMP uses existing infrastructure to hold summer water for Mottled Ducks and help landowners pay for management of their wetlands. C-GRIP aims at restoring/reclaiming prairies that benefit grassland nesting birds.

ADDITIONAL INFORMATION

For more information about these programs, contact LDWF's North American Waterfowl Management Plan Coordinator, Owen Best. (337) 735-8691 or obest@wlf.la.gov.

VOLUNTEER PROFILE

John Lawrence

John Lawrence has been a dedicated Hunter Education volunteer for the last 12 years. John is an accomplished electrical engineer by trade also serving as a reserve deputy with Plaquemines Parish Sheriff's Office (PPSO). It was through the Sheriff's office he became introduced with the idea of volunteering with the Louisiana Department of Wildlife and Fisheries. Outside of his very demanding schedule, John enjoys hunting during deer season and flying helicopters.

Having been an avid hunter and outdoorsmen since the age of 11 becoming a hunter education instructor only made sense! His father passed down the lifestyle of being an involved outdoorsman and John wished to do the same for his community. He teaches students with great confidence using lifelong experience, as well as professional visual and hands on activities. He teaches an average of two courses per year at the PPSO shooting range, reaching hundreds of students. If he had any advice for new hunters it would be, "When you go into the woods to hunt you are bringing a lethal weapon with you to kill something. Be careful when you are out there. There are no do overs, there are no pause buttons, there are no extra lives. It is real."

LDWF is fortunate to have volunteers like John helping to make safe, responsible, and ethical hunters.

Indian Creek Reservoir

Alexander State Forest Wildlife Management Area

BY CHUCK JONES, LDWF Pineville Field Office Manager

Alexander State Forest Wildlife Management Area (ASF WMA) is truly a special place in the pineywoods region of central Louisiana. The Louisiana Department of Wildlife and Fisheries (LDWF) leases the WMA from the Louisiana Department of Agriculture and Forestry (LDAF). This property is the only state forest in Louisiana and was named in honor of M.L. Alexander, Louisiana's first Commissioner of Conservation. It is managed for multiple uses, including timber production, wildlife conservation, and outdoor recreation. This 7,875-acre WMA is located in Rapides Parish, adjacent to the town of Woodworth, approximately 15 miles south of Alexandria.

The majority of the habitat within the WMA is a mixture of uneven-aged loblolly, shortleaf, and longleaf pines. The area does have riparian (streamside) and bottomland habitat containing hardwoods such as white oak, red oak, cherrybark oak, beech, hickory, bald cypress, tupelo, magnolia, sweetgum, red maple, American elm, and green ash. Those visiting this WMA also enjoy the soft roll-

ing topography adding to the plant and tree diversity as well as the overall aesthetics. In older-aged pine stands with lower basal areas that are being actively burned, it is common to see native bluestem grasses and an abundance of wildflowers and forbs, such as gayfeather, coreopsis, partridge pea, primrose, asters, monarda, and tick trefoils.

Within the last three years, LDAF has intensified their on-the-ground habitat management within ASF WMA. In 2022, they burned in excess of 900 acres and completed thinning 1,100 acres. The emphasis of this thinning project was to improve the habitat for the endangered red-cockaded woodpecker (*Dryobates borealis*) (RCW) and to increase the amount of sunlight on the forest floor. ASF WMA contains 13 breeding RCW groups within 15 managed cluster sites. This WMA also contains the only viable RCW population found on state-owned land. LDWF biologists monitor the yearly breeding activity of the RCWs at ASF WMA and color band RCW nestlings. These banding efforts have documented the immigration of RCWs between the Kistachie National Forest and ASF WMA. The immigration between these two RCW populations help maintain the sustainability of this species at ASF WMA.

In 2021, 2,264 people utilized this WMA. In ranking order, the most popular activities on the WMA were deer hunting, scouting and sightseeing, squirrel hunting, fishing, and waterfowl hunting. Deer hunting in particular is getting better every year due to the active forest management. The increase in timber stand improvements has put food and cover back on the ground for deer. During the 2021-22 deer season, 900 people hunted deer. Other users utilized the WMA to hunt squirrels, rabbits, feral hogs, woodcocks, doves and waterfowl. Also, area trappers enjoy the opportunity to utilize this WMA during the trapping season. The WMA offers a deer hunting area for hunters that are either wheelchair bound, vision impaired, or have an upper body amputation. These hunters are allowed to hunt from LDWF ground blinds in restricted areas. For more details on rules and qualifications, contact LDWF's regional office in Pineville at 318-487-5885. LDWF's staff work diligently to maintain trails, develop handicap hunting areas, monitor deer herd densities and health, and conduct wood duck nest box research and monitoring.

Within the WMA is Indian Creek Reservoir. This 2,250-acre lake has small inlets as well as open water. The bass fishing can be excellent, as revealed this past spawning season with the catch of a 13-pound bass! The

lake is also known for big red ear bream, otherwise known as chinquapins. WMA hunters also utilize the lake for waterfowl hunting. Adjacent to the lake and the WMA is Booker Fowler Fish Hatchery. They do a fantastic job at this hatchery of producing and stocking Florida strain bass and other game and nongame species. The fish hatchery itself is located within the WMA and makes a great location to schedule a tour in March and April. Since its completion in 1996 Booker Fowler Fish Hatchery has produced over 70 million fish.

Beginning in 2020, ASF WMA is one of three sites in Louisiana that are part of a large-scale research project examining the use and effectiveness of artificial cavities (nest boxes) for wood ducks throughout the southeastern United States. Researchers with Louisiana State University, with the assistance of LDWF, are contributing to this project along with agencies in Delaware, Georgia, Florida, Maryland, Mississippi, North Carolina, and South Carolina. Additional University involvement includes Clemson and Mississippi State Universities. One of the many goals of this project is to produce a regional estimate of duckling recruitment, which is a major driver of wood duck populations. Female duckling recruitment is the proportion of female ducklings that hatch from nest boxes and survive to host a nest of their own the following year. Because many waterfowl, including wood ducks, exhibit female biased natal philopatry (the propensity to return to the same general area where they were hatched to attempt nesting as year-old birds) recruitment can be assessed through nest box monitoring. Field crews can calculate estimated hatch day, return on that day to tag day-old ducklings before they exit the box, and recapture them in nest boxes as breeding adults during subsequent years. Recruitment rate can be calculated when adult hens, marked as ducklings, return to nest during the breeding seasons of 2021-2023.

At the three study sites in Louisiana alone wood ducks attempted 856 nests during the first two field seasons and 370 hens successfully hatched at least one egg. The most common nest predators were red-bellied woodpeckers and Texas rat snakes. A total of 1,106 and 1,154 wood duck ducklings were marked in 2020 and 2021, respectively. In 2021, 20 hens marked as day-old ducklings during the previous breeding season were recaptured in nest boxes. This project will continue through the 2023 nesting season.

Also within ASF is Indian Creek Recreation area. This is an immaculately kept park with great facilities. Its primitive camping sites are excellent, putting you right next to the lake on your own peninsula. It has everything you are looking for in a park - cleanliness, safety, boat ramps, trails, swimming areas, improved campsites, laundromat, bathhouse, playground, and group shelters. Many WMA users utilize this campground which allows them to get quickly to their favorite hunting and fishing sites.

A portion of the WMA is the Woodworth Education Center, owned and operated by LDWF. At this facility you can utilize a public shooting range by simply purchasing a WMA Access Permit. The facility has a pistol, rifle, five-stand shotgun, and archery range. In fiscal year 2021 these ranges had 8,000 user visits combined. It is a great location to practice your skills or sight in your guns before hunting season. The facility also administers and hosts numerous outdoor events and trainings for enforcement, youth, and other members of the public.

Also, only minutes away is the Wild Azalea Trail which is designated as a National Recreation Trail. Found within the Kisatchie National Forest, this 31 mile long trail is beautiful, providing a route for hikers through forested rolling hills. It is accessed directly from the city of Woodworth.

ASF WMA offers a great deal to the public, within and outside its boundaries. It is becoming an exceptional outdoor enthusiast destination. Within the WMA, you can enjoy hiking, scouting, exploring, bird watching, berry picking, nature photography, hunting, trapping, and fishing. If that wasn't enough, you can also visit the Booker-Fowler Fish Hatchery, Kisatchie National Forest, shooting range, or campground/park. Go check it out, and be prepared to enjoy the great outdoors!

TOP PHOTO: RCW cavity trees marked with white paint.
BOTTOM PHOTO: Native bluestem in a pine understory.

For questions about Alexander State Forest Wildlife Management Area, please contact Cliff Dailey at (318) 487-5885.

WMA Recreational Opportunities

WMA	Primary Game											Access/Special Hunts				
	Deer	Dove	Quail	Rabbit	Raccoon	Squirrel	Turkey	Waterfowl	Woodcock	Fishing	Trapping	General Lottery Hunts	Youth Lottery Hunts	Physically Challenged Hunting Area	Physically Challenged Lottery Hunts	Camping
Acadiana Conservation Corridor																
Alexander State Forest														●		●
Atchafalaya Delta												Alligator	●			●
Attakapas																●
Bayou Macon												●				●
Bayou Pierre												●	●			
Big Colewa Bayou														●		
Big Lake												Alligator				
Biloxi																●
Bodcau																●
Boeuf												Alligator				●
Buckhorn												Alligator	●	●		
Camp Beauregard															●	
Clear Creek												●	●	●		●
Dewey W. Wills												●	●	●		●
Elbow Slough												●				
Elm Hall												Alligator				●
Floy Ward McElroy													●	●	●	
Fort Polk -Vernon													●	●		
Grassy Lake												Alligator	●			●
Hutchinson Creek																
J.C. Sonny Gilbert												●	●			●
Joyce												Alligator				
Lake Boeuf												Alligator				
Lake Ramsay																
Little River																●
Loggy Bayou																●
Manchac												Alligator				
Marsh Bayou																
Maurepas Swamp												Alligator				●
Pass-A-Loutre												Alligator				●
Pearl River												●	●			●
Peason Ridge													●			
Pointe-aux-Chenes												Alligator	●			●
Pomme De Terre													●			●
Richard K. Yancey												Alligator	●			●
Russell Sage												Alligator		●		●
Sabine												●		●	●	●
Sabine Island																
Salvador/Timken												Alligator				
Sandy Hollow														●		●
Sherburne												●	●	●	●	●
Soda Lake																
Spring Bayou												Alligator	●			●
Tangipahoa Parish School Board																
Thistlethwaite																
Tunica Hills												●	●			●
Walnut Hill																
West Bay												●	●			●

****Check hunting regulations for more specific rules/regulations, limits and hours regarding hunting and fishing on wildlife management areas.*

FEATURED BIOLOGISTS

Jimmy Ernst

LDWF DMAP Coordinator

Jimmy grew up in St. Tammany Parish, between Mandeville and Covington and from an early age was fascinated by the outdoors. This fascination began when his dad started taking him along on dove hunts, and fishing in the bayous along the Tchefuncte River. He would later begin riding his bicycle to nearby Ponchitolawa Creek carrying a fishing pole and tackle box to fish for bream, sac-a-lait, bass and catfish. During his high school years, Jimmy spent as much time as possible fishing, boating, water skiing, hunting, and camping on the Tchefuncte River or finding any other excuse to be in the woods.

After graduating Mandeville high school in 1982, Jimmy joined the United States Air Force, serving four years as a crew chief on T-38's at Columbus Air Force Base in Mississippi and F-15's at Kadena Air Base in Okinawa, Japan. After his enlistment, Jimmy began college and graduated from LSU in 1992 with a degree in Wildlife & Fisheries, concentrating on wildlife.

Jimmy has had a long and diverse career at LDWF, spanning over 30 years. In July 1992, he was hired into the Forestry Section of LDWF in Pineville, managing the forests on department owned WMA's. This included forest inventory, timber marking, developing management plans for forest compartments and monitoring timber harvests. It also included reforestation of thousands of acres of bottomland hardwood.

From there, Jimmy moved to Baton Rouge as the new LDWF urban/nuisance wildlife biologist. There he worked to promote wildlife habitat management in urban and suburban areas and assisted the public in resolving human/wildlife conflicts. He held that position for over 10 years and during that time had several Commission rules changed, making it easier for homeowners to resolve wildlife conflicts. Jimmy started the first Nuisance Wildlife Control Operator testing program and worked on developing rules regarding possession of non-human primates, all while responding to nuisance calls from the public.

In 2005, Jimmy accepted a position as a District Biologist in Opelousas, managing WMA's, DMAP clubs, and private lands in the lower Atchafalaya Basin. That same year, he and other Department personnel performed search and rescue missions in New Orleans' Ninth Ward in the aftermath of hurricane Katrina. In 2008, Jimmy transferred to serve as a private lands biologist in the Florida parishes where he grew up. As a private lands biologist, he conducted the on-the-ground field work needed for wildlife management and habitat improvement, including deer collections, wood duck banding, dove banding, hog trapping, and monitoring/maintaining wood duck boxes. Additionally, he assisted DMAP clubs with their deer management objectives and developed wildlife management plans for private landowners.

In the fall of 2015, he started his current role as the statewide DMAP Coordinator, overseeing delivery of the program to nearly 700 DMAP cooperators covering +1.5 million acres.

Jimmy currently lives in St. Amant with his wife, Darlee, and four dogs. He still enjoys hunting, fishing, camping and DIY projects around the home, and visiting national parks with his wife.

WILDLIFE MANAGEMENT CALENDAR OF EVENTS

	JANUARY	FEBRUARY	MARCH	APRIL	MAY
GENERAL	Dormant season prescribe burn.** Invasive plant control. Take soil samples for food plot preparation.		Growing season prescribe burn, invasive plant control, soil tests, prune and fertilize fruit/mast trees.	Apply herbicide to longleaf stands if necessary, growing season prescribe burn, invasive plant control, fertilize native vegetation.	Plant warm-season food plots*, perform maintenance of fire breaks, growing season prescribe burn, invasive plant control.
DOVES					
DEER	Collect harvest data.	Post-season camera survey before antlers are cast.*** Turn in DMAP records to LDWF.		Browse survey. Work on summer food plots. Fertilize natural deer browse.	
DUCKS/ MOIST-SOIL UNITS		Install new wood duck boxes and clean out existing boxes. Early draw down for moist soil units.	Begin slowly drawing down moist soil units monitor wood duck nest boxes.	Moist-soil plant management/disturbance.	
HOGS	Trap hogs****		Trap hogs		
QUAIL	Prescribe burn/fallow disk.			As needed prescribe burn woody brush areas/avoid mowing-burning all potential nesting areas (2 yr. old native grass areas).	
RABBITS	As needed prescribe burn/disk/mow transition zones.			Escape cover can be created any time during the year as needed.	
SONGBIRDS		Install new bird houses and clean out existing boxes.	Regularly clean bird feeders to reduce disease transfer, prevent nonnative, invasive birds from utilizing bird houses.		
SQUIRRELS					
TURKEY	Prescribe burn/fallow disk/mow for poult habitat.		Listen to gobbling activity prior to hunting season fallow disk/mow for poult habitat growing season burning.	Plant chufa. Growing season burning as needed to improve thick woody brush areas - avoid mowing potential nesting areas.	
WOODCOCK	Future diurnal habitat can be created any time during the year as needed using clearcuts, shelterwood, group selection.				

*always remember that planting food plots is secondary to natural habitat management; food plots benefit several species including deer, turkeys, quail, and non-game species.
**prescribed burning is beneficial to several species including turkey and quail by providing more open habitat for easy movement through the landscape, grasses and forbs for nesting, food, a
***pre-season camera survey more informative/important than post-season camera survey by visualizing buck:doe and doe:fawn ratios and aiding in harvest decisions.
****increase hog trapping effort prior to increases in food availability

David Breithaupt

LDWF Program Manager, Farm Bill & Grants Program

David is from Jena, LA, a small town in the central portion of our state where production forestry dominates the landscape and local economies. Interest in these activities led him to the Louisiana Tech University School of Forestry in 1999 to pursue a degree in Wildlife Conservation. In the years that followed he worked term positions with a local timber company assisting with boundary maintenance, site preparation for reforestation, prescribed burning, timber sale preparation, and various forest inventories. In 2004 David came onboard with Louisiana Department of Wildlife and Fisheries (LDWF) as a Biologist working on Boeuf and Sicily Island Hills Wildlife Management Areas (WMAs) and delivering the Deer Management Assistance Program in Catahoula and Caldwell parishes. Through various changes and opportunities within the agency, David ended up working projects on Big Lake, Buckhorn, Red River and Three Rivers WMAs. In 2006 David had the opportunity to spend a portion of the summer in Yorkton, Saskatchewan, banding waterfowl at the station staffed by the states in the Mississippi Flyway. In 2007 he was promoted to Biologist Supervisor for the newly created LDWF Private Lands Program. Biologists in this program deliver technical assistance to private landowners; those landowners represent 90% of the Louisiana landscape. In 2012 David accepted the statewide Private Lands Program Manager position, then moved into his current position of as the Farm Bill and Grants Program Manager, still delivering habitat management projects on private lands.

Farm Bill activities include working with partners and counterparts in approximately 30 other states to ensure that provisions within federal legislation fit the needs of Louisiana landowners and habitat managers. The Farm Bill is reauthorized with changes every five years, allowing adjustments to programs necessary to address changing landscape issues. Following reauthorization, emphasis shifts to implementation. This involves connecting landowners with the technical and financial assistance provided though the Farm Bill. This work includes working closely with many partners, but among the most important is the USDA Natural Resources Conservation Service (NRCS). LDWF enjoys a strong relationship with NRCS and one of David's duties is to fill the role of a liaison between the two agencies.

David also is charged with pursuing grant opportunities for wildlife habitat improvement statewide. Projects to date have included working with timber companies to encourage the use of prescribed fire in their operations, developing markets for the use of fiber produced as a result of bottomland hardwood restoration, and enhancing wetland habitats on Wetland Reserve Easements. Applied habitat management is the focus of his work with LDWF. He thoroughly enjoys the work of taking a well-planned design and bringing it to life on the Louisiana landscape.

David still lives in Jena with his wife and three boys. He enjoys land management as a hobby, hunting deer and waterfowl, and spending time with family.

If you have an idea of what you would like to do with your property to enhance the wildlife resources, but just aren't sure how or where to start, please give David a call at 318-473-7761 - he will put you on the right track to obtaining your objectives for wildlife on your lands.

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Growing season prescribe burn. Invasive plant control.		Invasive plant control. Bush-hog/mow roads, fields.	Mast survey. Plant cool-season food plots.* Invasive plant control.	Invasive plant control.		Dormant season prescribe burn.** Invasive plant control.
Plant brown-top millet for first season dove fields.		Manipulate dove fields for hunting plant brown-top millet for second season dove fields.				
Provide mineral supplements.		Apply for DMAP.	Pre-season camera survey.*** Begin deer stand repairs and prep for hunting season	Pre-season camera survey.***	Collect harvest data.	
Moist-soil plant management/disturbance.		Begin partial flooding for teal, begin duck blind repairs and prep for hunting season.	Manipulate moist soil if needed; mow, disc, burn, plow, herbicide.	Start main flooding of moist soil units.		
	Trap hogs****			Trap hogs		
				Fallow disk borders 50 - 100' wide around fall deer plots to improve summer quail nesting-feeding habitat.		
Escape cover can be created any time during the year as needed.				Disk near cover to improve feeding habitat.		
Regularly clean bird feeders to reduce disease transfer, prevent nonnative, invasive birds from utilizing bird houses.					Install new bird houses and clean out existing boxes.	
			Take a youth hunting during special WMA youth squirrel hunts.	Install squirrel nest boxes.		
Plant chufa.				Plant clover for spring plots.		
Future diurnal habitat can be created any time during the year as needed using clearcuts, shelterwood, group selection.				Bush-hog to a height of 12-18 inches and/or burn openings managed for nocturnal habitat.		

nd summer bedding cover for deer, etc.

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Feeding Alligators

BY JASON WALLER, LDWF Biologist Manager

ADDITIONAL INFORMATION

For more tips, as well as what to do if you experience problems with a nuisance alligator, please visit *www.wlf.la.gov/page/nuisance-alligators*.

In 2022, LDWF is supporting a bill (HB 541) aimed at stopping the intentional feeding or enticing of wild alligators. This activity is a safety concern for our citizens, as feeding alligators habituates them to people and increases the occurrence of human-alligator conflicts, because fed alligators begin recognizing humans and boats as a source of food. If passed, this legislation would make this irresponsible practice illegal.

At this time, Louisiana is the only state in the alligator's range that does not prohibit the intentional feeding of alligators. This is not the first bill that LDWF has supported to prohibit this practice. However, previous efforts were not successful. The tour boat industry is a thriving business in Louisiana and unfortunately, tour boat operators routinely feed alligators as a part of their operations. Many of them feel strongly that if this practice were illegal it would negatively impact their businesses. As a result, they have worked very hard to defeat legislation to prohibit this practice. While this industry's ecotourism provides a valuable service to members of the public that might never get a chance to see alligators in their wild habitats, the fact remains that intentionally feeding any large predatory animal is a bad idea that can have tragic consequences.

Alligators are naturally wary of humans, which helps to limit human-alligator conflicts. However, alligators readily adapt to feeding and rapidly make that association between humans and food. This is evident by the ease at which tour boat operators have acclimated alligators to their activities. For unsuspecting boaters, this can be a dangerous situation if a habituated alligator seeking food closely approaches them. For homeowners or camp owners along or near these waterways, those habituated alligators can easily make their way into their yards, exposing pets and/or children to a dangerous situation.

Louisiana has a robust wild alligator resource that contributes an estimated $250 million dollars to the state's economy annually. LDWF works diligently to maintain this valuable resource while also making public safety a paramount management consideration. To help ensure public safety, LDWF has 52 alligator hunters enrolled in the statewide nuisance alligator program. Annually, LDWF receives approximately 4,000 nuisance alligator complaints. Over the last several years this network of hunters has removed an average of 1,200 nuisance alligators per year.

It is nearly impossible to know whether someone has been feeding the nuisance alligator because the person making the complaint is typically not the person feeding the alligator; rather the person making the complaint is the person feeling threatened or is uncomfortable with the alligator's presence. Moreover, there are many instances where alligators that have not been fed by humans are involved in human-alligator conflicts. However, a recent publication in the Journal of Wildlife Management (Woodward et al. 2019) investigating alligator attacks in Florida found that a substantial amount of those incidents were associated with people feeding the alligators. That study analyzed 372 alligator bite/attack incidents and found that 1/3 of the incidents (approx. 120 bite/attack incidents) were influenced by the effects of people feeding/habituating alligators in the area where the bite/attack occurred. This study concluded that one of the principal dangers from feeding-habituated alligators occurs when they approach people who are unaware of their presence and in a vulnerable location.

Louisiana differs from Florida in that much of Louisiana's alligator population exists in remote coastal marshes. Whereas many people in Florida live and recreate in alligator habitats. As a result, Louisiana has had very few alligator attacks. Nevertheless, as more people in Louisiana build homes in areas where alligators live there will be increased human-alligator conflict. Those conflicts will be significantly minimized if people do not feed alligators. Legislation, such as the proposed HB 541 which was introduced in 2022, will be a valuable tool to help reduce or eliminate this misguided practice.

In addition to not intentionally feeding alligators there are other behaviors that can help keep people safe from alligators when frequenting Louisiana's magnificent wetlands. For instance, dispose of fish scraps in garbage cans rather than dumping them in the water near camps or boat ramps. Although it might not be intentional, alligators in the area will locate those scraps and begin to associate people in the area as a potential source of food.

Editor's Note: *HB 541 did not pass through the legislative session. Therefore, intentional feeding of wild alligators is not currently illegal. LDWF DISCOURAGES ANYONE TO PARTICIPATE IN THE FEEDING OF WILD ALLIGATORS.*

REFERENCES

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NEW RECREATIONAL LICENSE FEES

New fees started on JUNE 1, 2022

- ***Licenses are now valid for 365 days from purchase***

	Resident, Military & Student	Non-Resident	Non-Resident Native 10-Day	Non-Resident 5-Day
FISHING				
Hook & Line / Roadside Crabbing	$5.00		$5.00	
Basic Fishing (*includes all freshwater gear; required for all fishermen*)	$17.00	$68.00	$17.00	$30.00
Saltwater Fishing (*includes all saltwater gear; crab traps, shrimp trawl and oyster tong; required for all saltwater fishermen in addition to Basic Fishing*)	$15.00	$60.00	$15.00	$30.00
Charter 3-Day Saltwater (*includes NR Charter Skiff 3-Day*)	$20.00			
Charter 3-Day Freshwater	$10.00			

NOTE: ***Persons 17 and under are not required to purchase a fishing license.***

HUNTING				
Basic Hunting (*required for all hunters; additional licenses are required to hunt deer, waterfowl and turkey*)	$20.00	$200.00	$20.00	$65.00
Deer (*includes archery and primitive; includes tags; required for all deer hunters in addition to Basic Hunting*)	$15.00	$100.00	$15.00	$35.00
Waterfowl (*required for all waterfowl hunters in addition to Basic Hunting*)	$12.00	$50.00	$12.00	$35.00
Turkey (*includes tags; required for all turkey hunters in addition to Basic Hunting*)	$12.00	$50.00	$12.00	$35.00
Youth Hunting (*ages 17 and under; required for hunting deer, turkey, trapping and WMA youth lottery hunts; includes tags*)	$5.00			
Federal Electronic Duck Stamp	$27.72			
Harvest Information Program (HIP)	FREE			
Hunting Preserve (Oct. 1 - April 30)		$15.00		

NOTE: ***Youth (ages 17 and younger) who are actively harvesting deer or turkey, participating in a lottery hunt or trapping are required to have the Youth Hunting license. Youths who are spectating (not actively hunting) are not required to have a license.***

RECREATION ON LDWF ADMINISTERED LANDS				
WMA Access Annual Permit (*this permit is included in the Sportsman's Paradise License, Senior Hunt/Fish License and all lifetime licenses; not required for youths 17 and under*)	$20.00			
WMA Access 5-Day Permit (*valid for a five-consecutive-day period*)	$5.00			
WMA Camping Permit (*required for each camping party of up to five adults camping together. Youths 17 and under are not required to have a camping permit.*)	$7.00/day			

NOTE: ***Either a WMA Access Annual or 5-day Permit is required for all users of LDWF administered lands, including wildlife management areas, refuges and wetlands conservation areas. Persons 17 and under are not required to purchase WMA permits.***

COMBINATION LICENSES (all privileges above **EXCEPT** Lottery Hunts and WMA Camping Permit)				
Sportsman's Paradise	$100.00	$400.00	$100.00	$120.00
Senior Hunt/Fish (*born before June 1, 1940*)	FREE			
Senior Hunt/Fish (*born between June 1, 1940 and May 31, 1962*)	$5.00			
Senior Hunt/Fish (*65+ on or after June 1, 2027; not available until June 1, 2027*)	$20.00			
Resident or Native-Born Retired Military	$20.00			
Disabled (*blind, paraplegic, amputee, artificial limb(s), permanent brace(s), KIA surviving spouse*)	$4.00			
Disabled Veteran (*issued at no cost to the consumer; paid by LWFF*)	$4.00			
Lifetime Hunting/Fishing Combo License (*from birth to age 64; includes deer and turkey tags*)	$500.00	$4,000.00		
Senior Lifetime Hunting/Fishing Combo License (*65 and older; includes deer and turkey tags*)	$100.00	$4,000.00		

www.wlf.la.gov/page/understanding-our-license-fee-changes

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