

The background of the cover is a photograph of a prescribed fire in a forest. Bright orange and yellow flames are visible, rising from the ground and consuming dry brush and small trees. The scene is dark, with the fire providing the primary light source, creating a dramatic and somewhat somber atmosphere. The text is overlaid on this image.

LOUISIANA
Conservationist

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**Cover Story:
Prescribed
Burning**

**Inside:
What is a
Water Moccasin?**

**F.U.N. for
Families**

Dedicated to the conservation and restoration of Louisiana's natural resources.
Published by the Louisiana Department of Wildlife and Fisheries

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Comments

Bryant O. Hammett, Jr., Secretary

My abbreviated term as secretary has provided the opportunity to work with the agency's dedicated fish and game biologists, enforcement personnel, and a wide assortment of support personnel who direct the mission charged to the Department of Wildlife and Fisheries.

I have been most impressed with the effort expended by LDWF personnel to carry on the mandated responsibilities of resource management, while shouldering the detailed hurricane recovery duties that have become an additional priority since 2005.

The Office of Fisheries' Marine and Inland Divisions continue to work closely with the fishing industry on hurricane recovery efforts including implementing resource rehabilitation and industry assistance programs that utilize the \$94 million in federal recovery funds funneled through the Gulf States Marine Fisheries Commission. Fisheries' efforts also contributed to a Louisiana Recovery Authority allocation of \$19 million for the state's fisheries infrastructure needs within coastal parishes affected by Katrina and Rita.

The Enforcement Division now shoulders the responsibility of lead agency for all search and rescue efforts (SAR) staged in response to future disaster recovery scenarios. The Governor's Office of Homeland Security and Emergency Preparedness will look to Enforcement to coordinate the SAR plan meshing the resources of the Louisiana National Guard, the U. S. Coast Guard, additionally assigned Dept. of Defense agencies, as well as other state and local responders.

LDWF's funding challenges are nothing new and will remain until a sustainable, dedicated source of revenue is in place. The department supports the state by managing natural resources that generate an estimated \$7 billion annually and that effort should be properly funded. A viable option for LDWF to provide for long term planning is to dedicate a percentage of the state's sales tax to the Conservation Fund.

Legislators in 2007 did provide for short-term budget shortfall relief through passage of House Bill 919, which will direct additional mineral revenue to the Conservation Fund from the Attakapas Wildlife Management Area. Beginning in fiscal year 2008-09, an additional \$12 million (projected) will be directed to the fund. Those funds will offset rising departmental expenses that include the expanding invasive aquatic weed program, increasing equipment and supply costs, as well as salaries and benefits. The revenue projections from this source, beyond FY 2008-09, should maintain department funding needs through the next two years at a minimum.

A portion of those new funds will also be used for programs designed to recruit new users into the dwindling ranks of outdoorsmen and outdoorswomen reflected in recreational license sales. To that end, developing a marketing strategy to better promote the resources we have to offer non-consumptive users, as well as hunters and anglers, is essential. And those increased promotional efforts need to be directed to both citizens and visitors seeking Louisiana outdoor experiences.

It has been a fast paced year and a year that gave me a different perspective on state government operations. After 14 years of state service as an elected official, I sat on the other side of the table from many officials who were once legislative colleagues. Progress was made in many areas, but the never ending list of items that need attention will, as always, await the next secretary.

On a personal note, serving as secretary certainly ranks near the top of the list of unique, rewarding and exciting life experiences for me. Surely my actions have been reflective of my passion for the outdoors and my sincere interest and concern for the department. I thank the entire Wildlife and Fisheries staff for their efforts and wish them well in the years ahead.



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Sandy Hollow Burn LDWF File Photo
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just DOCTOR What the ORDERED

Prescribing Fire to Cure a Habitat's Ills

Story by
Fred KIMMEL

Smokey Bear may be one of the most successful advertising campaigns ever devised. Who doesn't remember Smokey, an early master of the modern sound bite, telling us, "only you can prevent forest fires." Generations of Americans learned that forest fires are bad and should be prevented. It may shock you to learn that Smokey was not telling the whole truth. In 2001, when Smokey was finally called on this, he changed his message to "only you can prevent *wildfires*." However, the damage had been done. Millions of Americans considered fire in the forest to be bad. Thus, the absence of fire was good. Nothing could be further from the truth.

Fire is no stranger to the Louisiana landscape. Prior to European settlement, fires periodically burned across its prairies, marshes and pine forests. In fact, fire was probably one of the two most important factors in determining which plants were most common in the Louisiana landscape (flooding was the other). The pine forests and savannahs that were once found across the upland regions of the state existed because of periodic fires. The tall grass prairie that once covered much of south-western Louisiana existed because of fire. Even the coastal marshes were shaped by fire.

Fire shaped the landscape by eliminating plants that could not withstand periodic burning. Thus, the plants that were adapted to fire dominated and flourished. Trees with thick bark such as longleaf, shortleaf and loblolly pine, blackjack oak and post oak can withstand ground fires. Many of the native grasses such as wiregrass, little bluestem, and big bluestem are fire-adapted, so they dominated sites that were periodically burned.

Prior to European settlement, fires were started by lightning strikes and native people. Lightning fires were most common during the spring and summer months, and because there were no roads or other man-made barriers, these fires could burn extensive areas. Native inhabitants used burns to facilitate hunting. They probably did most of their burning in the fall. They were quite skilled at burning and knew that wild animals were attracted to the new vegetation that follows a burn.

When settlers arrived, they too periodically burned. No doubt they learned from the native inhabitants about burning to improve hunting. They also knew that burning enhanced grazing conditions for cattle. Until recently, much of Louisiana was "open range," meaning people could allow their cattle to roam and graze on land they did not own. This led to periodic burning of large areas of open rangeland.

During the late 1800s and early 1900s most of the virgin timber in Louisiana had been cut. Commonly referred to as the "cut out and get out" period, most loggers of this time did not practice conservation. No effort was made to replant cut areas or retain trees for reseedling. They simply cut the trees and moved on to other areas. It was during this period of time that fire got a bad name.

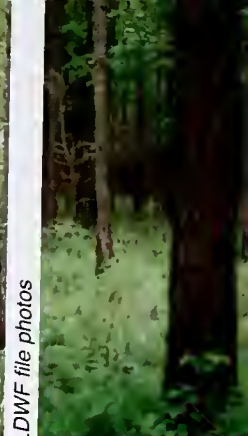
While the burning conducted by the native people and later by settlers did not harm the land, fires that followed the "cut out and get out" logging had a different impact. The logging activity resulted in large amounts of debris left behind to fuel fires. Thus, fires that burned through these areas were unusually intense. The intense fires coupled with the lack of seed trees resulted in very little forest regeneration. Unfortunately, it was fire that was blamed for this situation, rather than the poor logging practices. Fire became known as the "red scourge" of the South.

The modern day conservation movement was in its earliest stages during this period and a crusade against fire was a cause government agencies and private conservation organizations could rally behind. The result was a decades-long campaign against forest fires that took off with the creation of Smokey Bear in 1944. Regrettably, Smokey and the anti-forest fire campaign did not differentiate between good fire and bad fire.

Few would argue that fire can be a dangerous and destructive force. Out-of-control fires can damage timber, cause soil erosion and destroy property. On the other hand, when used properly, fire is an effective tool for managing and restoring native ecosystems, enhancing long-term timber growth, improving wildlife habitat, and protecting property. Unfortunately, many people do not understand this distinction and this has contributed to a significant decline in the responsible use of fire.

Prescribed burning, or controlled burning, has been practiced for many years and involves setting fires under prescribed or controlled conditions to get certain results. Among the factors considered by experienced and responsible practitioners of prescribed burning are wind speed and direction, relative humidity, fuel moisture, smoke dispersal, and proximity of smoke-sensitive areas. When conditions are favorable, experts can conduct prescribed burns in a safe manner.

Prescribed burning has numerous benefits. One of the most significant is fuel reduction. Over time, an upland forest or grassland that is not burned builds up high levels of fuel in the form of pine needles, fallen branches or trees, and dead and dried vegetation. A lightning strike, a spark from an ATV, or an arsonist's match can then start a destructive fire that will damage the



LDWF file photos

Above left, Sandy Hollow WMA immediately after a prescribed burn; center, Ben's Creek WMA two weeks after a prescribed burn; right, Ben's Creek two months after a prescribed burn.


forest and destroy property. Unlike a prescribed burn practitioner, lightning and arsonists don't wait for wind conditions, humidity and fuel moisture to be ideal before striking. Thus, wildfires tend to be much more intense than prescribed fires. Periodic prescribed burns keep fuel at manageable levels so if a wild fire does start, it will do less damage and will be much easier to control. Prescribed fire is a key component in maintaining many of the native plant communities of Louisiana. Although not readily apparent, plant communities are in a state of constant change. This change, which land management professionals refer to as "succession," is slow, but if left unchecked, a longleaf pine forest will eventually become a hardwood-dominated forest and a prairie will eventually become a forest. Fire is the natural process that halts succession and maintains our native longleaf pine forests, mixed hardwood – loblolly pine forests and prairies.

Additionally, in longleaf pine stands, prescribed fire helps control a fungal disease that affects longleaf pine seedlings and slows their growth. It also enhances longleaf regeneration by creating patches of bare ground for seeds to fall upon and germinate. In prairies, prescribed fire encourages seed production in many native grasses and wild flowers and removes accumulated plant litter that prevents seeds from sprouting and growing. Even though it seems like one of the biggest threats to wildlife, prescribed fire can benefit them. It is very important to keep in mind that wild animals are products of their surroundings and they cannot exist without the proper habitat. For most wild

animals, habitat is simply the species of plants and structure of the vegetation that occurs on a site. Prescribed fire is an important tool for managing some plant communities. Some species such as bobwhite quail and gopher tortoises depend heavily on certain plant communities. Without fire to maintain these plant communities, bobwhites and gopher tortoises will disappear from forested habitats. Others, such as white-tailed deer and wild turkeys, can exist in a broader variety of habitats and are less dependent on prescribed fire, but still benefit from periodic prescribed burns.

Take for example a prescribed burn in a forest that is predominately pine (loblolly, shortleaf, or longleaf). A prescribed burn will impede growth of invading trees such as sweet gum and shrubby vegetation such as yaupon. Provided the overhead pine canopy is not too dense, reduction of these invading trees and shrubs allows more sunlight to reach the forest floor and encourages the growth of grasses and other herbaceous vegetation which, unlike woody plants and trees, provide the structure, food, and cover required by wild turkeys, bobwhite quail and other birds that live in grassland habitat. White-tailed deer find new food resources among the leafy plants and young woody growth that follows a prescribed fire.

Many of the declining species of wildlife that are listed as species of "conservation concern" in Louisiana's Comprehensive Wildlife Conservation Strategy (available at wlf.louisiana.gov) live in habitats that depend on periodic fires. Scores of species of birds, mammals, amphibians, reptiles and even butterflies require habitat that is maintained by fire. Increasing the use of prescribed burning is


Prescribed fire is a key component in maintaining many of the native plant communities of Louisiana.



critical to restoring the habitats that these species depend upon.

While prescribed burns have many benefits, only experienced and properly trained land managers should conduct them. In addition

to safety issues, there are important resource issues that need to be considered before applying prescribed fire. For instance, the time of year, the amount of time since the last burn and the size of the area to be burned will affect the result. Landowners interested in prescribed burning should contact a consultant forester, the Louisiana Department of Agriculture and Forestry or the Louisiana Department of Wildlife and Fisheries for more information. Despite the benefits of prescribed burning, use of the practice has decreased due in part to liability concerns, increased cost and declining public acceptance and understanding. In order to address these and other issues, the Louisiana Prescribed Fire Council (LPFC) was created under the auspices of the Louisiana Department of Agriculture and Forestry. The LPFC is composed of natural resource professionals, land managers and interested citizens

from various backgrounds who have taken on the task of promoting the benefits and increasing the application of prescribed burning. The LPFC had its first meeting in October 2007, and is beginning to address some of the obstacles to prescribed burning.

The next time you hear Smokey Bear talk about preventing wildfires, remember that one of the best ways to prevent wildfires is through the responsible use of prescribed burning. Also, keep in mind that fire is a natural process that has shaped Louisiana's landscape for ages. Prescribed fire is an essential tool for restoring and maintaining many of the plant communities that provide habitat for Louisiana's wildlife. Without the continued and increased use of prescribed fire many of the unique and familiar components of our natural landscape will disappear.



Fred Kimmel is an upland game biologist with the Louisiana Department of Wildlife and Fisheries and is a regular contributor to Louisiana Conservationist.

Damaging wildfire caused by failure to administer a prescribed burn at Sandy Hollow WMA.

LDWF file photo



The Fine Art of Jug Fishin'

Old Ways Meet New in Commercial Gar Fishing

Story and photographs by
Wendy WILSON BILLIOT

Gone are the days when his ancestors stalked buffalo on the Louisiana prairies. Gone also are the days they used tomahawks to slay their supper. But Native American, Rickey Verrett still stalks his prey and wields a hatchet on a regular basis.

With a whoop and the stunning blow of a hammer, reminiscent of his ancestors attacking their prey, this fisherman brings a sudden halt to the noisy thrashing of his own prey – an alligator garfish—before hoisting it into his crudely equipped Carolina skiff.

Down in the depths of the Terrebonne Basin, Verrett continues to rely on the rich produce of this fishery to sustain his livelihood. Alligator gar is the fish of the day about 180 days of the year.

Alligator gar (*Atractosteus spatula*) is the largest of the gar family and is pursued by commercial and sport fishermen alike. While encyclopedic information states that these fish prefer freshwater, Verrett harvests them regularly from the saltwater estuary of Terrebonne Parish. He has earned a reputation as one of the most productive gar fishermen in the area, according to Nicholls State University (NSU) marine biology professor Dr. Allyse Ferrar. “Rickey sets out about one fourth the gear of other gar fishermen

in the same area but consistently harvests the same amount of fish they harvest. He understands the movement of the gar and how factors such as wind, temperature, and tides can impact his catch.”

Ferrar fishes with Verrett as often as she can. “Rickey has allowed NSU and Louisiana State University (LSU) biologists to tap into his knowledge and expertise. We could never catch as many fish as he catches, so he lets us collect data from the fish he harvests. He is a valuable resource to the garfish research we do at the Bayousphere Research Lab at Nicholls.”

At first glance, the meager wharf where Verrett docks his boat looks more like a recycle station than a landing. Old ice chests sit around displaying empty plastic two-liter soda bottles. Some appear old and dented, a faded orange color, apparently having served their purpose. Others lie in the boxes, clear and transparent. The bottles that really catch the eye are painted bright fluorescent orange.

With bare feet and hair down to his shoulders, Verrett sits atop a chest-type freezer turned old-fashioned “ice-box.” With a can of spray paint in one hand and an empty 12-ounce soda bottle in the other, he explains that the two-liter bottles function as floats or buoys for his gar fishing lines, called jug lines.

Verrett is a very patient man. Deeming it too wasteful to spray paint the jugs, he sprays the paint into the empty soda bottle, and then uses a brush to paint the now-liquid paint onto the two-liter jugs.

"See this one right here?" he asks as he holds up a faded orange jug with puncture marks in it. "These are teeth marks—alligator teeth. The alligator comes and tries to bite the jug and puts holes in it. Then the jug sinks and I lose the fish, too. But I took care of the problem."

Proudly he displays his latest innovation—a plastic bottle filled with polystyrene. "I had the idea that this would work. The first thing I used was those Styrofoam peanuts, but the gators could still bite the jugs. Then I tried the spray foam from a can, but that costs too much. Then I heard about this stuff you buy in big cans and mix together to make Styrofoam. You have to mix it real fast, but it works real good. See?" Verrett squeezes the bottle to show its durability and states with a victorious smile, "Now the gators can't bite my jugs!"

The jug floats on top of the water, with a fishing rig suspended below it. The rig is made up of an 18-inch length of nylon twine tied to a shorter length of 18-gauge wire twisted onto a No. 9 stainless steel hook—a simple rig, but effective. A clothespin holds the bait in such a position that prevents sharks from cutting the twine with their sharp teeth.

Unlike other commercial fishermen who purchase bait for their lines, Verrett is a frugal purist, still practicing the old ways. In the afternoon, he heads out with his cast net in search of striped mullet. Verrett returns to his dock where he baits the hooks with the fresh mullet, stacks them in an old ice chest, loads up the boat and heads south.

At today's destination, Verrett drops the jugs strategically in shallow bays and out-of-the-way bayous. He

looks for places to drop the lines that will allow for the least possible escape route for the fish, because once the fish takes the bait and is hooked, it can continue to swim until retrieved. Making sure of the final count released, Verrett heads home to rest for the early morning trip.

Before sunrise the next morning, Verrett once again heads south, racing the sunrise to the fishing hole. As soon as he enters the first bay he shouts with the excitement of a child, "We got a fish!" As the boat nears the buoy, he slams the throttle into neutral, catapulting his lean, muscular frame toward the front port gunwale where he reaches down quickly and snatches up the buoy in one fell swoop.

He grabs the hammer, which waits at the ready in a wooden tool

Verrett readies his plastic jugs and lines.



rack bolted to the gunwale. In one well-choreographed move he pulls the unsuspecting garfish to the side of the boat and strikes it firmly on the head, rendering it comatose before he heaves it into the boat, landing it in the huge ice chest. "That's a nice one!" he brags as though this fish is the first one he's ever caught.

The next jug is stationary. "Musta been a shark," Verrett observes, dropping the empty line onto the pile of jugs. Of the 20 jug lines Verrett put out the night before, 15 produced alligator gar of substantial size, two held red fish, and three were lost. Verrett makes a verbal and mental note of how many lines are missing in order to look for them next time out. He relates a miraculous story of how he recently found a line that had been missing for two weeks and the gar was alive and still swimming.

After only a couple of hours, we return to the crude landing, where a rickety table lies in wait for the first gar to be offered like a sacrifice. The largest fish of the day is about four feet long and about 30 pounds. Verrett treats the

fish with respect and makes short work of the cleaning.

A cane knife, hatchet, and kitchen knife, freshly sharpened, wait like surgeon's tools on the side of the cleaning table. A bucket of bayou water used for rinsing hands and tools sits below the table. Alligator garfish have an armor of thick overlapping scales, so the tools must be sharp. Many sport fishermen throw back the incidental garfish simply because they do not know how to clean them.

After securing the fish to the table with a screwdriver, Verrett chops off the anal and pectoral fins with a cane knife. He flips the fish, making quick work of removing the dorsal fin. With pliers in his right hand and cane knife in his left, he slices through the tail while pulling upward on the armored skin. Verrett continues the chopping and lifting down the entire length of the backbone toward the head. The two-foot length of skin is tossed on the side to be dealt with later.

With a sharp knife, he then slices the side skins away from the flesh, making it easier to pull off the side

Verrett and Dr. Allyse Ferrar measure and weigh an alligator gar (*Atractosteus spatula*).



panels or armor. They too are tossed aside. In the final steps, the fish is beheaded and gutted.

Verrett immediately puts the slabs of white meat in his icebox, layered generously with fresh ice. Verrett sells his catch twice a week to the highest-paying buyer, who may come from as far west as Opelousas.

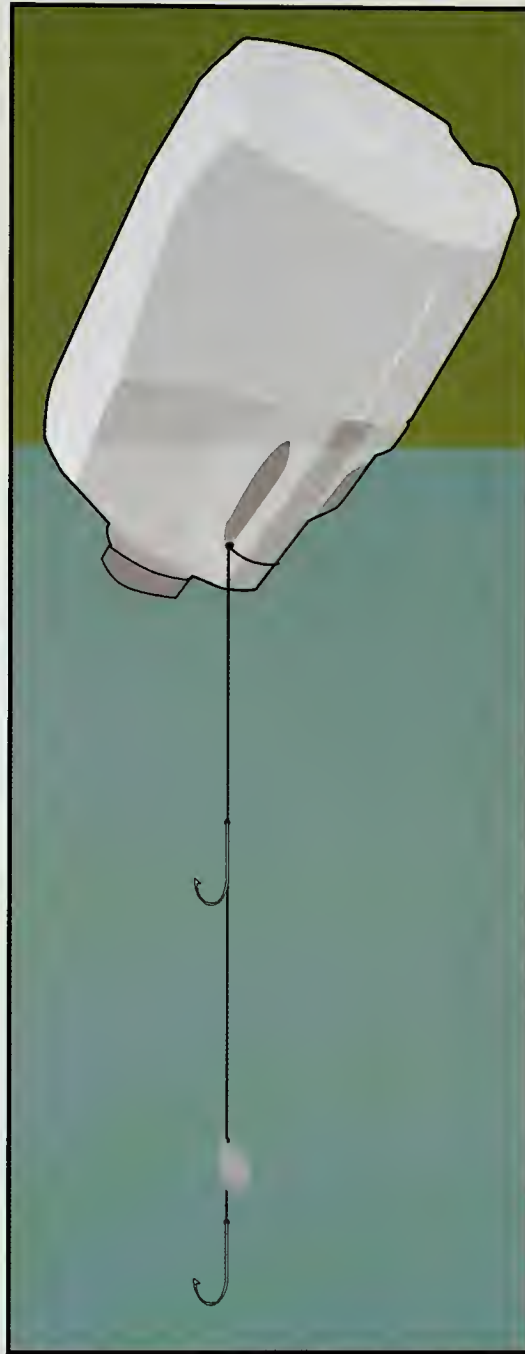
Buyers, in turn, sell the meat to restaurants and seafood markets as far north as Shreveport. "I could sell all the garfish I could get my hands on," says Danny Dupont of Dupont's Seafood in Shreveport. "We just can't get enough of it."

Jeremy Landry, owner of B&C Seafood Market and Cajun Restaurant in Vacherie buys garfish from local fishermen. "I'm actually smoking some right now. We have garfish burgers on the menu, but it is mostly a local food. We serve lots of tourists here, and they are just not aware that garfish is a good fish to eat."

What about those skins, you may ask. Verrett layers the skins in 55-gallon drums where natural agents of decay strip the scales clean for later use by local Native-American artists who make jewelry and flowers with the garfish scales. Nothing goes to waste.

In a time when our society thrives on consumerism and everything seems disposable, Verrett steps back in time and reminds us of the old adage, "waste not—want not." He reminds us not by word, but by action. He lives a simple life, works hard, is easily amused, and would not have it any other way. We could all take a life lesson from this resourceful man. 🐟

*Wendy Wilson Billiot is a native Louisianian and longtime resident of South Louisiana. She is a U.S. Coast Guard licensed tour captain, fishing charter captain, and wetlands educator and advocate. Billiot is the author of Before the Saltwater Came. This article is Billiot's first contribution to **Louisiana Conservationist**.*



If jug fishing for gar seems a little too adventurous, try setting out lines for catfish. A catfish jug rig is simple. A floatation device (plastic jugs work well), several feet of braided line, a sinker, a couple of hooks and some bait are all you need. Check your regulations pamphlet, or with a local law enforcement agency or wildlife agent for rules in your area.

**GETTING
OUTDOORS**



**HAV
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PLAYING



BONDING



**MAJ
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**TRYING
SOMETHING
NEW**



F.U.N. Camps are Just That

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SHARING
STORIES



LEARNING



LDWF file photos

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Story by _____
BeckyCHAPMAN



.FUN!

Families Understanding Nature, or F.U.N. Camp, is a program offered by the Louisiana Department of Wildlife and Fisheries (LDWF) Education Center. The program offers parents and their children an opportunity to spend a weekend in the outdoors, re-establishing bonds and learning outdoor skills.

F.U.N. Camps started about ten years ago and were originally geared toward single parents and their children. Because of popular demand, LDWF has since moved away from the single parent concept to include all families.

At F.U.N. Camp, parents and children participate in a variety of activities, which include rifle shooting, shotgun shooting, archery, canoeing, fishing, compass reading and a nature study hike. From this list, participants may choose four activities to learn throughout the weekend. Knowledgeable instructors head each activity, giving valuable information about each subject and hands-on guidance. All gear is provided for each of the activities.

One activity in which everyone participates is a camp-out on Saturday night. This includes cooking supper and breakfast on a campfire, sharing stories and bonding with the group. Instructors show participants how to set up a camp, build a fire, cook and clean up. It's a fun night for parents and children alike.

There are two F.U.N. Camps offered each year, a "father-child" session usually held in May and a "mother-child" session usually held in October. The age limit for children is between 10 and 13

years old. Each session is limited to 15 parent-child pairs. This small number helps to provide very personal instruction for each activity.

The program is held at Woodworth Education Center near Alexandria, which offers overnight accommodations and full bath facilities. F.U.N. Camp starts on Friday at noon and ends on Sunday at noon, giving participants a full weekend to enjoy the outdoor activities. (Note: Parents and boys will be in one barracks wing, while parents and girls will be in another wing.)

This year the father-child session will be held May 2-4, 2008 and the mother-child session will be held Oct. 10-12, 2008. The cost is \$50 per parent-child pair and \$25 for an additional child. Registration forms are online at www.wlf.louisiana.gov under the Education/Research heading. Sessions fill up fast due to the limited space, so register early.

For more information contact Mike Burns, Woodworth Outdoor Education Center manager, at 318-484-2212. 🐾

Becky Chapman is the publications officer for LDWF and a frequent contributor to Louisiana Conservationist.

Activities to choose from include:

Rifle Shooting:

Firearm safety and marksmanship are reviewed, and shooting .22 caliber rifles is conducted.

Shotgun Shooting:

Firearm safety and marksmanship are reviewed, and shooting 20 gauge shotguns is conducted.

Archery:

Basic archery fundamentals are reviewed. Participants practice what they learn by shooting bows and arrows.

Canoeing:

Participants learn the basics of canoe handling and safety, then take a canoe trip around beautiful Indian Creek Reservoir.

Fishing:

The basics of fishing, such as rods and reels, baits, tackle and accessories are covered. Tips on casting and where to find fish are provided. There is plenty of time for participants to practice these skills.

Compass Reading:

Participants learn how to use a compass and try to navigate a simple compass course. Parents and children work together to learn basic orienting skills.

Nature Study Hike:

Participants follow the instructor on a nature hike, where they identify plants and animals, collect and identify aquatic organisms, and learn how to improve their observation skills. Tips are given on how to have a safe and enjoyable hike, and ideas are given on activities to do during the hike.

**Each activity is conducted under an instructor's supervision.*

Moccasins

no such thing

"I have a moccasin problem!"... someone on the other end of my phone seems distressed. I ask "What do these snakes look like?" "Moccasins", the caller explains. I try again: "What does a moccasin look like?" "My neighbor is 42 and has been in the woods all his life, and he says they're moccasins." Another step back: "I'm 48, and I, too, have been in the woods all my life, but have yet to see a moccasin. What do these particular snakes look like?" The caller skips ahead - "They're all over my pond."

I skip further ahead: "There is no such thing as a 'moccasin' snake, and I ask that the word never be spoken again." The "m" word is usually assigned to snakes that live in or near water, which, in Louisiana, means water snakes, crawfish snakes and the cottonmouth. The first two are harmless, the last is venomous, so getting the species correct makes a big difference.

"But how do I know which ones I have?" asks the caller. Those snakes that rest on brush and tree limbs over the water are water snakes. Those that dash off into the water from the lakeshore are water snakes. If it's in your goldfish pond, it's usually a water snake. Cottonmouths tend to prefer shaded areas - swamps or canopied sloughs in the forest - and they are inclined not to move when encountered.

"Yeah, they're !*^&% aggressive, aren't they!" Nope. Cottonmouths, like most other pitvipers, are ambush predators. They lie motionless and camouflaged at a place where prey is likely to pass, such as along a stream or beside a

log. They also lie motionless at the approach of danger, hoping that the potential predator will not see them. That is why we can walk right up to them without the snake moving. However, once they feel they have been discovered (your foot is about to land on them), their only option is to go on the defense - pulling into a strike-ready coil and opening their mouth. In contrast, water snakes are active foragers, swimming along lakeshores, and diving to the bottom in pursuit of prey. They rely on their ability to swim to avoid danger, and are often in the water before you can get to them.

"I guess I don't have to worry about seeing a cottonmouth unless I'm in the swamp." Not exactly. Cottonmouths wander and can turn up anywhere: subdivisions, ridgetops, and open marsh. There is almost nowhere in Louisiana where you'd be guaranteed never to see a cottonmouth.

"I wish my boat was a moccasin-free zone." There's that word again. Was it a cottonmouth or water snake? "It dropped off a limb." Then it was probably a water snake. They have a habit of bask-

Story and photos by
Jeff BOUNDY, PhD

**Top, cottonmouth (*Agkistrodon piscivorus*);
bottom, diamond backed water snake (*Nerodia rhombifer*)**



ing over water. And, lucky you - it's not often that one gets to see wildlife close-up. "I like to do my snake viewing looking over my shoulder. That one I shot!" You shot a hole in your boat? "Yep, what if it had bitten me?" If it was a water snake, as I've predicted, you would have gotten a bunch of tiny punctures and scratches. Water snakes have three pairs of tooth rows, each with about 25 teeth. The teeth are very short, so they just break the skin. The problem is that I have a tendency to jerk my hand away when something is about to bite, and that leads to shallow, but bloody, lacerations. A cottonmouth bite is different. Aside from the small teeth are two fangs, which can penetrate a quarter of an inch. If the snake injects venom, there is immediate pain that becomes excruciating within minutes.

"What about the one that was in my carport? How do I know whether it was a cottonmouth or water snake?" Cottonmouths are very stout snakes, and are usually dark brown with wide, darker brown or black crossbands down the body. Very rarely do they appear all-black. They have a "chunky" head with a rounded snout. Their belly is usually dark, especially towards the tail. In contrast, water snakes are less stout and have a narrower snout. They can be colored just like a cottonmouth, or can be plain dark gray on top. The belly can be dark, spotted or yellow. "That's not much help." I'm sorry to say that these are relative characteristics, and that the unambiguous differences require closer examination. Cottonmouths have vertical pupils, whereas those of water snakes are round. The scales under the tail of cottonmouths are in a single row, just like on the belly, but with water snakes the scales are paired.

"I'm not getting down on my belly at midnight to see if the thing coiled on my doorstep has paired scales under its tail!" When in doubt, shoot. Safety comes first in your own yard, and there are plenty of cottonmouths and water snakes.

"But why are they staying at my

pond?" Water snakes feed primarily on fish, secondarily on frogs and crawfish. Our largest species, the diamondback water snake, feeds almost exclusively on catfish as adults, whereas the crawfish snakes feed on soft-bodied crawfish. But don't worry - they won't put a dent in your fish population. In fact, water snakes are beneficial to your pond. They eat the fish that are easiest to catch, which are often those that are sick or diseased. Along with other predators, they help thin the fish population and prevent the dwarfism that comes with overcrowding.

"I guess I don't mind a few at my pond, but I don't want them nesting." What folks consider a "nest" of snakes is usually just an aggregation of water snakes that are in proximity due to some resource - food, shelter or mates. For example, water snakes may pile atop each other in a patch of sun on a cool day, or, several males may be lingering around a female during breeding season. Water snakes and cottonmouths don't make nests, but give birth to live young. The birth site is usually just a sheltered spot that the mother selects immediately prior to the event. The babies are then on their own, and will shortly disperse to their surroundings.

"Wow! How can I help water snakes?" Teach folks that all those snakes swimming and sunning along the lake are harmless water snakes. Most years I get a call from the State Capital to do something about all the deadly "moccasins" in Capital Lake. So far the tally is water snakes 343, cottonmouths 0. If people would realize that all of those snakes are nothing to worry about, we could work on real problems. Consider that five water snakes swimming in your pond are no more dangerous than a dozen robins pulling worms from your lawn. "Thanks, it's lesson time for my know-it-all neighbor." 🐍

Jeff Boundy is the staff herpetologist for the Louisiana Department of Wildlife and Fisheries and a frequent contributor to Louisiana Conservationist.



The Lighter Side of Nuisance Wildlife Complaints

The definition of nuisance wildlife is similar to the one for weeds. It is simply something showing up in a place where you don't want it to be. An oak seedling rising up from the ground in the rose bed is a weed to the person trying to grow roses. Likewise the majestic white-tail is a wonderful game animal in the forest but when it is eating the roses in the flower bed (deer do love roses), it is nothing but a nuisance animal that needs to be removed.

All across Louisiana our rural landscape is slowly dwindling and is being replaced with human developments. An example of this is the growth and expansion occurring throughout the Florida Parishes just north of Lake Pontchartrain. Hurricane Katrina did much to speed the process up. All the rural property within an hour's drive of our major cities, Baton Rouge, Shreveport, Monroe, Alexandria, Lake

Charles and Lafayette is quickly being developed.

When wildlife habitat is replaced with human development, the wildlife either adapts or disappears. Wildlife has learned to adapt and make use of small woodlots, parks, fields and drainage ditches in cities and suburbs. While most people enjoy seeing wildlife, they generally don't want it eating their pet's food, knocking over garbage cans, climbing into attics, getting into swimming pools or eating their flowers and shrubbery.

Those who have problems look to the Department of Wildlife and Fisheries for help with resolving their nuisance wildlife complaints. Unfortunately, the management techniques used by biologists to manage wildlife, hunting and trapping for instance, are difficult to apply to the city or suburban environment. While a per-

son with deer eating his roses wants something done about it, he often does not want it killed. Trapping and relocating animals are time consuming activities. Wildlife veterinarians do not recommend relocating animals to wild habitat because of disease concerns. Habitat is usually well stocked with native wildlife species and zoos have no need for these common animals.

Nuisance wildlife complaints utilize agency conservation funds that are needed for established projects. Most persons who have complaints are usually individuals who do not hunt or fish or are not buying sporting goods equipment associated with these activities. Consequently they are not supporting the agency monetarily, yet they expect the agency to solve their problems.

When they are advised that the department cannot send someone out, they generally mention their tax dollars. Those tax dollars go to the state's general fund, of which LDWF receives very little. Hunters and fishermen, whose contributions make up the bulk of LDWF's operating expenses, generally have basic wildlife knowledge and often resolve their own problems — as do those who live in the rural areas.

Biologists do provide information to the public regarding programs, regulations and permits that enable the public to solve their own problems. There are also licensed contractors that the public can hire to resolve a problem. Biologists do respond to complaints concerning endangered species or wildlife disease issues. Other agencies such as the Louisiana Department of Agriculture and Forestry (LAF) or the USDA Animal Damage Control can also assist with complaints, especially those that are impacting farmers. LDWF has a nuisance alligator program to address complaints concerning alligators.

Still, biologists will go out and

address problems if time permits. The worst nightmare of a biologist is to have a nuisance complaint go bad. Remember the "Three Stooges" episode when they were cavemen and Moe tried to catch a duck for supper? Wild animals and birds can be unpredictable, but the biologist is supposed to be the expert. Unfortunately animals do elude traps and nets, the biologist zigs and the animal zags. Tranquilizer darts and drugs designed to sedate animals can also kill the animal, which is the worst-case scenario for a biologist.

Over my 31-year career with the agency I worked my fair share of nuisance complaints. Alligators in ponds, raccoons in attics, squirrels eating tomatoes, the list goes on and on. Some of these complaints were somewhat amusing and the following are a few of the ones that I remember.

To Kill a Mockingbird

Early in my career I received a call from a frantic young woman who was eight months pregnant. She had to navigate a set of steps to go in and out of her house and whenever she did, a mockingbird would swoop down at her. She was afraid the bird would cause her to fall one day. I went and investigated the situation and advised her the bird may be defending a feeding or nesting area. I then removed every bird nest that I could find around the area of the house where her steps were with the hope that this would solve the problem. A few days later she called back and said the bird was still attacking her. I proceeded to the Hunter Safety Office, checked out a BB gun and drove to the house. No sooner had I gotten out of the truck when a mockingbird flew directly up into the tree over my head. The lady never called me back after that. She probably has grandchildren by now.

Attack of the Killer Blue Jay

Another bird complaint came in from an irate mother who advised me that a blue jay had attacked and pecked her boy on the top of his head. She wanted something done about it now. I advised her that the blue jay may be defending a nest or some young and the boy should not play in that area for a while. She did not like my answer and advised me she was calling the governor's office and the news stations (these are statements state employees don't like to hear, especially biologists). "Okay, I will be over there shortly," I told her and headed to the Hunter Safety Office. When I arrived at the house the mother quickly showed me her son's head and asked what I was going to do. She pointed me in the direction where the attack had occurred and, sure enough, there was an adult blue jay with three young hopping around in the shrubbery. I went and got the mother and in Clint Eastwood fashion told her I would kill all the birds if that was what she wanted, or perhaps her son could play elsewhere. She gave the birds a reprieve and on the way back to the office I reflected on how I had just spent several hours of my day developing my conflict resolution skills.

An Opossum Runs a Bluff

You can bet that a call coming in at 4:30 p.m. on a Friday is a person with a nuisance animal problem. I received such a call one Friday and spent an hour in Baton Rouge traffic going to the complaint. An opossum was stuck in a fence and couldn't get out and the man was afraid it was going to bite him. The animal indeed had its head stuck in a wire fence. A wire fence and a wooden fence were built side-by-side separating the two yards and the opos-

sum had decided to travel between the fences, and when the going got tough, tried to go through the wire fence. The two guys who met me, both could play defensive end on any football team, said they were going to get it out, but the animal opened its mouth and hissed at them. The excessive saliva of the animal also helped to seal the bluff, hence a call to Wildlife and Fisheries. Now an opossum has 50 teeth in its mouth but it is not aggressive. According to the book, The Wild Mammals of Missouri, when frightened they expose their teeth and drip saliva from the mouth. I asked them for a pair of wire cutters and put my gloves on. I closed the mouth of the opossum and held the animal's head with one hand, cut the fence and boxed the dangerous creature.

I could tell more stories about my many episodes of nuisance complaints, a dead owl wrapped in kite string in the top of a tree that came to life when I went up to get it, a wayward owl in the governor's office in the mansion, squirrels in fireplaces, ducks with plastic six-pack rings around their necks, a Canada goose that would honk outside the bedroom window throughout the night, a deer that went for a swim in a pool, the stories are endless. A really funny story, that I fortunately was not involved with, concerned a bear in a tree that could not get down. Seems someone saw this bear and believed it could not get down. Everyone at the scene also agreed the bear was not coming down on its own and so it was finally shot with a tranquilizer dart. The rescuers went up the tree to complete the rescue, and to much surprise and embarrassment, it was discovered that the bear was a black plastic trash bag that would occasionally move with the wind. As I said, a nuisance complaint can be a biologist's worst nightmare! 🐾

David Moreland is a former biologist and administrator with LDWF.

Outdoor Roots is his regular column in Louisiana Conservationist.

on COLD times and RED fish

Just because it's a bit chilly outside doesn't mean the redfish won't bite.

Story by
Pete COOPER JR.

Talk about some apprehension. It was 32 degrees that late-January morning when I left my home in Buras for a fly-fishing trip with an old friend turned guide, Capt. Barrett Brown – definitely not the kind of weather one would normally associate with decent fishing for reds, with flies or otherwise. I was to meet him at Hopedale – a place where I had never been, much less fished – in order to access the marshes in and near the Biloxi Wildlife Management Area (WMA). As we crossed the Mississippi River Gulf Outlet (MRGO) and headed out Bayou la Loutre, it didn't take long for me to begin wondering if my nose was about to freeze and break off. Folks, it was cold.

Now, that really didn't bother me much about how it would affect the fishing. I have caught reds conventionally when skim-ice blanketed the shoreline shallows, and I've caught them on flies on days almost as cold as those. Reds are bullet-proof when it comes to temperature extremes, though it can kill them when it gets really low, like during the infamous "Christmas freezes" of 1983 and 1989. The chill this morning was not even close to what we experienced on those

frigid days, and with the low tide, clear water and calm airs, I figured we'd catch a few. If I could only keep from getting frost-bite before we started fishing.

Barrett finally idled down off a point where a protected shoreline began. It was a promising spot, but after sneaking along it for a couple of hundred yards, we saw no sign of prey or predator. I suggested we idle high along the bank a little farther to try and blow some out – a good winter technique but inadvisable during warmer times. Still nothing! Finally, where the bank ended at the mouth of a large tidal cut, we tried less-obtrusive tactics again, and as we moved across the cut and onto a broad and very shallow flat along opposite shoreline, we blew out a school of very nice reds.

As is usually the case during winter, the fish did not go far. Barrett, up for the first shot soon spotted a good one, with his cast was on target, and I netted a 12-pounder not long thereafter. And do you know what? Although the temperature hadn't risen, we were both suddenly much warmer.

We swapped positions on the bow and stern platforms off and on until the sky clouded over around noon and we

could no longer see the fish. By then the tide had also come up considerably, scattering them deeper into the marsh. But no matter, we had caught six more including another double-digit fish, and my nose was still attached to my face when we got back to the marina

Winter redfishing can be quite frustrating for many anglers. For years they have been force-fed erroneous data from various media about how reds head for deep water during this time, and in order to catch them that's where you must fish. Forty winters of fishing for them, along with timely observations of the results of the gill-netters of yesteryear, have proven quite plainly that's not the case. I have regularly come upon reds in water a foot or so deep immediately after the winds of the most recent January cold front had calmed. Timing your trip to coincide with light winds rather than comfortable temperatures is the first step to success.

Very often reds "lay up" in small schools in the deeper water near a presently dry tidal cut or an almost-exposed flat. These fish are usually not active but are simply waiting for the tide to rise again so that they can regain feeding areas in the marsh that were drained by the offshore winds. However, they will bite. A few casts around the edges of that deeper water will often locate these frequently ignored fish.

On that note, reds will occasionally feed in areas that are normally too deep for their liking but have become shallow because of the offshore winds and high barometric pressure. Benthic structure like low-relief humps and gullies, grass and shells attract various prey, and those attract fish, as do dilapidated fishing camps and derelict oil-field structures. Fact is, some of my sweetest winter spots were built around such junk and remained productive for many, many years. Take heed concerning that low tide, during winter, I have *always* caught more reds on the bottom half of the rising tide,

and that includes the final minutes of the slack low, than at any other time. That's the second step to success.

The clarity of the water in many areas free from river-discharge is normally at its best during winter. Within the occasional all-too-brief but regularly occurring times after the most recent norther has blown itself out and before the impending southerlies begin to build, sight-fishing can be a very viable option. You can see for yourself that reds can inhabit some very skinny water during some very chilly times, especially when the sun is bright. Once the tide comes up, or once you lose good sunlight due to building clouds, forget it. If you simply must keep fishing, revert to blind-casting, targeting the slightly deeper edges of the shallowest water. Bright sunlight no matter how cold it may be is the third step to success.

No matter whether you fish with lures or with flies, smaller is frequently better during winter. Slow-sinkers like 1/8-ounce spinnerbaits, un-weighted Clouser Minnows, and spoon-flies are good choices. Be sure to carry along some in dark colors, solid purple and solid black being proven producers now. Yeah, solid purple. That's the fourth step.

Besides producing good catches of regular reds during the cold months, the marsh north of the MRGO has given up some real brutes lately. Fact is, that was the main intention of the trip with Barrett. Unfortunately, we didn't cross tracks with any bulls that morning, but they do provide a fine opportunity throughout winter. You can encounter one any time you are slipping along a shallow bank in search of another regular-sized target. The present state record fly-caught fish of 41.62 pounds was taken in this area in January 2004. Meeting a fish like that in





Photo by Soc Clay

Perseverance on the part of a winter angler will help him reap ample rewards.

clear water less than two feet deep ought to knock the chill off your hide in a hurry.

There are apparently two primary reasons for their growing presence in these and other inland areas across our coast. The first is a result of the eroding marshes which allow the fish easy access into waters where historically they have been rare at best. The second is the fact that, thanks to stringent regulations imposed on them by the Department of Wildlife and Fisheries as well as the Federal government, their numbers are much greater than they were a short time ago. It is therefore a distinct possibility that some of these fish are seeking feeding areas with less competition than what is present in the often huge schools of offshore fish. It's no secret that there are

plenty of prime bull-red groceries in our interior waters.

Whatever the case, there are scads of regular reds and enough big bulls to warrant keeping a watchful eye out for them inhabiting the waters of St. Bernard Parish around the Biloxi WMA. Give 'em a try, especially during cold, reasonably calm weather on the low tide. Your attitude towards winter redfishing might receive a serious adjustment, for the better of course. Just be sure to bundle up, and that includes covering your nose. 🦋

Pete Cooper Jr. is the author of Flyfishing the Louisiana Coast. He is a member of the Louisiana Sportsman's Hall of fame and is a regular contributor to Louisiana Conservationist.

UNINVITED GUESTS

LDWF Takes Action Against Aquatic Invasive Weeds

Louisiana offers an abundance of diverse animal and plant species that contribute to the enjoyment of this Sportsman's Paradise. Whether you are an avid deer or duck hunter, bird watcher, fresh or saltwater angler, boater, hiker or outdoor photographer, Louisiana can satisfy all of these outdoor pursuits and more.

However, there are a few species that can subtract from Louisiana's beautiful landscape and make the outdoor experience less than pleasurable. Those include mostly foreign invasive species brought to Louisiana within the last 100 years or so, such as nutria, fire ants and some of the state's nuisance aquatic invasive weeds.

Like any plant, aquatic plants become nuisance weeds once they begin to negatively affect human activities on the water such as boating, swimming, fishing or skiing. These weeds can also affect property and aesthetic values, pose health risks by clogging water intake lines to drinking water and impact commercial navigation on the waterways. The total water area infested with weeds is estimated to be 600,000 acres in Louisiana.

The four non-native invasive aquatic weeds that are currently giving Louisiana the biggest problems are

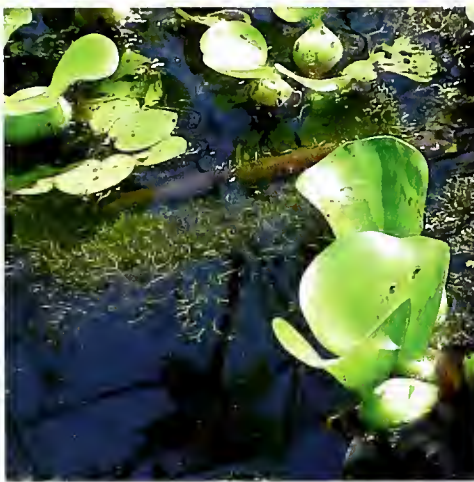
common and giant salvinia, hydrilla and water hyacinth.

According to the U.S. Geological Survey (USGS): Water hyacinth (*Eichhornia crassipes*) came from South America and was first introduced to the United States in the 1880s. Water hyacinth is known for its beautiful flowers, which aided its spread across Louisiana. The Louisiana Department of Wildlife and Fisheries (LDWF) treat more acres of water hyacinth than any other invasive weed in the state.

Hydrilla (*Hydrilla verticillata*) is originally from Asia and it came to Louisiana in the 1980s. Hydrilla is a rooted weed that forms thick mats and canopies on top of the water and is found statewide. Expensive to treat with herbicide because the entire water column must be treated to kill the weed.

Common salvinia (*Salvinia minima*) came from Central and South America and was first recorded in Louisiana in 1980. It prefers slow moving and stagnant waters such as bayous, cypress swamps, marshes, ponds and lakes. Common salvinia was first introduced to Florida in 1928 by either an intentional release from an aquarium into a water body or flooding of a water garden.

Story by _____
AdamEINCK



Above (top to bottom) hydrilla, giant salvinia and water hyacinth.

Giant salvinia (*Salvinia molesta*) was probably intentionally introduced to the United States as an aquarium plant. It first appeared in Louisiana in 1998 in Toledo Bend. Giant salvinia spreads quickly and can double every seven to 10 days.

Most of these four invasive weeds were introduced into America via the horticultural or aquarium trade because of ornamental value.

"The reason why these plants were chosen for the aquarium and ornamental trade was because they look nice and are easy to take care of," said Rachel Walley, LDWF Nuisance Aquatic Weed Manager. "The problems start when people get tired of their aquariums and then dump the contents into their local waterbody."

Once these plants are introduced to a waterbody, they spread rapidly, because many do not have natural predators and can reproduce quickly. Hydrilla, for instance, can reproduce by fragmentation, which means each new section of the weed that gets chopped

up by a boat motor can possibly make an entire new plant. On the other hand, giant salvinia has buds and reproduces vegetatively.

"We think that giant salvinia is doubling every 10 to 14 days on Lake Bisteneau," said Gary Tilyou, LDWF Inland Fisheries Administrator. "So if you had 2,000 acres of giant salvinia one week, you might have 4,000 acres in two weeks minus the few hundred acres that were treated. This is why it is

so hard to control once it's introduced to a waterbody."

Walley added, "Once these plants are introduced to a new waterbody, they become a lifelong management problem and very expensive for the state to contend with as eradication is almost impossible. Preventing these weeds from getting into a new waterbody is far easier than trying to deal with them afterwards."

All of these non-native species can clog boat lanes and bayous making waterbodies unnavigable, render docks useless for fishing or launching boats, and makes skiing or swimming near impossible.

Since Louisiana can't afford to treat all 600,000 acres of these weeds, LDWF is forced to prioritize the areas that will be treated.

"What we try to do is control where the plants are growing," said Tilyou. "We try to keep them out of boat lanes, away from people's docks and public and private boat launches, and out of open areas on the water that people use the most for fishing and skiing."

These weeds build a canopy on top of the water that degrades water quality and clarity affecting fish and other lifeforms in the water. The canopies of weeds block sunlight from reaching any other plants that live in the water. Photosynthetic algae, which is one of the main oxygen producers for the water column, will begin dying and decaying from the lack of sunlight and will use up oxygen instead.

"For fish and invertebrate life to go on they need oxygen or they become starved and that is when you get fish kills," said Walley. "The weeds also put a lot of organic matter into the system because these plants produce so fast that they are dying all the time. So you have all this decaying organic matter that also consumes a lot of oxygen."

LDWF utilizes several methods to control invasive weeds. Most of the time these methods are combined to improve weed control efficiency. The two most common control methods

What You Can Do

- Check boats and trailers for any grasses, plants or weeds immediately after loading a boat onto a trailer. Also, check boat and trailer before putting them in any new waterbody. "Trailers and boats spread these weeds the most," says Tilyou. "Small plants get caught in between the boat and trailer and then when you launch the boat into a different waterbody, the plant falls off."
- Clean out bilge and livewell areas of the boat.
- Don't throw away aquarium or water garden plants into any waterbody.
- Please visit the following Web sites for help with plant identification and information: <http://plants.ifas.ufl.edu/welcome.html>
<http://plants.usda.gov/index.html>

are drawdowns and herbicides.

Drawdowns - This method involves the partial draining of a waterbody. They are usually performed from the day after Labor Day until the end of January with the hopes that a strong freeze snap will kill the exposed weeds.

Herbicides - This method involves the use of a herbicide spray or granule that kills a specific type of invasive weed. Herbicide treatments are usually done in the warmer months when photosynthetic behavior is at a peak and the weeds are more active. For a floating weed like water hyacinth or salvinia, either a herbicide spray or granule broadcasted on top of the weed is used. For a submergent weed that is connected to the waterbed like hydrilla, a spray is injected into the entire water column until a specific concentration is met that is deemed necessary to kill the hydrilla. Injecting a herbicide into the water uses up more of the chemical and thus is a more expensive treatment method.

With the recent giant salvinia problem in the northern part of the state,

LDWF has increased their budget for treating invasive weeds from \$2.2 million to \$5.8 million a year. This budget increase has made it possible to treat over 36,000 acres of weeds with herbicides across Louisiana in 2007. That is almost the amount of weeds that were sprayed in 2005 and 2006 combined.

"Giant salvinia was in the southern

Giant salvinia covers this portion of Caddo Lake.

Photo by Rachel Walley



Below are before and after photos depicting untreated and treated water hyacinth.



part of the state in areas such as the Atchafalaya basin, but it pretty much stayed under control for the most part," said Tilyou. "Then in 2006, it just took off, especially in the northern part of the state, by spreading to eight new waterbodies and causing some major problems in Lake Bisteneau and Caddo Lake."

Lake Bisteneau, located about 25 miles west of Shreveport, received the most attention in 2007 with 4,500 acres of mostly giant salvinia treated with little to no impact. Caddo Lake in Caddo Parish had a little over 1,000 acres of mostly giant salvinia treated.

"We have learned how to treat water hyacinth over the years. Water hyacinth is, for the most part under control, in Louisiana," said Tilyou. "When treating any new weed, such as giant salvinia, a learning curve is involved. You have to understand what herbicide will work the best in what conditions. How to mix and spray the herbicide correctly, and the speed of the boat all factor into the efficiency of the treatment. With giant salvinia we are not there yet."

LDWF, working with the Louisiana State AgCenter is currently using weevils that eat giant salvinia as another type of control

method. These weevils are host specific and only eat giant salvinia without harming other species. Weevils have been introduced into Lake Bisteneau and other select waterbodies infested with giant salvinia in the past year and are being monitored to see if they can help control the weeds and survive a northern Louisiana winter.

These weevils spend their entire lifespan on salvinia. Therefore, the best method to introduce the weevils into a new waterbody is to transplant the entire salvinia plant with a reproducing population of weevils on it.

"The hope is that once they eat the plant they were brought in on, they will then move onto adjacent plants and just keep eating," said Walley. "Weevils have been very successful all over the world controlling common and giant salvinia and I haven't seen anything yet that would be problematic for other species because they are so host specific."

According to Tilyou and Walley, traditionally nature has been a major controlling mechanism. "Cold winters limited the northern boundary of most exotic plants," said Tilyou. "This has changed in the past couple of years, and we are now experiencing exotic plant problems in many northern parishes."

LDWF is taking the problem of giant salvinia and other known aquatic weeds very seriously and plans to increase the number of herbicide sprayings and giant salvinia weevil stocking and may implement mechanical harvesting in the near future.

Adam Einck is the media relations officer for LDWF. He is a regular contributor to Louisiana Conservationist.

Photos by Rachel Walley

THE REBUILD

Where Are We Now?

Rebuilding is no simple task, regardless of the situation. Rebuilding in the aftermath of one of the most destructive natural disasters to befall the United States takes the cake in terms of challenges. Hurricanes Katrina and Rita are long gone, but the impacts of their passing will stay with the Louisiana Department of Wildlife and Fisheries (LDWF) for many years. Beyond the obvious destruction caused to Louisiana's coastal habitat and wildlife, the Department suffered another loss, often overshadowed. A significant number of LDWF offices and facilities within the coastal portion of the state sustained significant damage from both storms. The efforts needed to recover and rebuild are as extreme as the storms' devastation.

Hurricanes Katrina and Rita caused LDWF unprecedented and extensive damage to property owned by the state of Louisiana totaling over \$1.5 billion. Approximately 1,500 state buildings were affected by the storms. The Federal Emergency Management Agency (FEMA) is the organization charged with the financial responsibility of funding all necessary repairs through their Public Assistance Grant Program. While many people think of FEMA as an agency that mainly helps individuals, historically its greatest single disaster expense is to reimburse state and local governments for their losses and emergency costs.

Nearly two years have passed since the storms, yet there is little visible progress in terms of construction of new department facilities to replace those damaged. There are many rea-

sons for the slow pace of rebuilding, many of which stem from the structure of the funding process for the repairs.

Stringent rules are attached to federal funds distributed by FEMA. Their reimbursement process does not provide funding until projects are complete. FEMA officials say the strict rules guard the misuse of federal money. To remedy the dilemma of state agencies lacking sufficient funds to begin work on costly repairs, the Office of Facility Planning and Control assumed ownership of all state buildings and implemented a prioritization system with which to rank state buildings' repair projects and provide money up front. "LDWF did not have any part in determining the order of work on state buildings," said Dennis Kropog, facilities maintenance manager "The state buildings were separated into one of

Story by
Ashley WETHEY

This outbuilding at State Wildlife Refuge illustrates the damage caused to the property by Hurricane Rita.

LDWF File Photo





**Rockefeller
Refuge suffered
over \$13 million
in storm damage.**

four priorities; we were included in the fourth."

The Office of Risk Management in conjunction with Facility Planning and Control, FEMA and LDWF then reviewed each claim for damage and determined the best approach to making repairs. "The level of cooperation between these agencies was excellent," Kropog stated. "However, the unique locations and functions of our facilities hampered rapid restoration."

In addition, the sheer magnitude of damage and costs associated with rebuilding has also slowed many projects. FEMA has prepared a collection of more than 17,000 project worksheets for long-term recovery projects since the hurricanes hit. A "normal" disaster according to the agency, involves about 1,000 worksheets.

FEMA has estimated the department's damages to total more than \$27 million, but the final figure is likely to be much larger. State and local officials contend that FEMA has routinely underestimated the amount of damage and the costs of repairing and rebuilding, and many estimates have been millions of dollars below the actual cost of work. Kropog admits FEMA's estimate is a low figure, "Our repairs will likely end up being much greater than \$27 million. Although nearly two years have passed since the storms, construction costs are still much higher than before, with the remoteness of our sites driving the costs even higher."

Reconstruction and repair work has been bid out to contractors, but members

of department staff have also taken part in this crucial process. LDWF's mobile crew, accompanied by department equipment, was initially sent out to make immediate repairs. One of the department's main priorities following the storms was to have facilities back open to the public as soon as possible. (All LDWF facilities affected by the storms are currently open). "Staff returned to damaged sites as soon as they could, even before making repairs and tending to their own homes, many of which were completely destroyed," said Kropog. "This behavior exemplifies the dedication our staff has for their jobs and the work they do."

With the coming of the new year, the process of rebuilding is now gaining momentum and the department is currently amidst the design or reconstruction phase on all of its projects. "FEMA has been very willing to go out numerous times to reevaluate sites to ensure the department gets adequate funding for each project," said Kropog.

FEMA's 50-percent rule is used in determining whether each facility will be rebuilt or repaired. A facility is considered repairable when disaster damages do not exceed 50 percent of the cost of replacing a facility to its pre-disaster condition, and it is feasible to repair the facility so that it can perform the function for which it was being used as well as it did immediately prior to the disaster. If the above cannot be accomplished, the facility is demolished and rebuilt.

LDWF's new facilities are being con-

structed with special design considerations including building elevation and wind resistance to prevent future damage. "Water is the real culprit when a hurricane hits," explained Kropog. "Flood waters were responsible for a majority of our destruction, especially at Rockefeller Wildlife Refuge. Elevating our facilities will prevent future flood damage."

In addition to building elevation,

newly constructed facilities will also be able to withstand 160 mph wind loads.

Success will not come cheap or easy, but the upcoming year promises to be a busy one as the department embarks on numerous projects and the rebuilding process kicks into high gear. ❧

Ashley Wethey is the special events and public relations officer for LDWF. This article is Wethey's first contribution to Louisiana Conservationist.

Damaged Infrastructure and Scheduled Repair Work

Pass a Loutre WMA

- This wildlife management area (WMA), located on the farthest southeastern tip of Louisiana's coast received some of the strongest east winds of Katrina.
- Repairs: replace headquarters/dorm, elevate shop and shed, replace and elevate boat shed, replace front dock and seaplane dock
- Estimated cost of repairs: \$3.5 million

Pointe-aux-Chenes WMA

- Facilities received extensive rain and wind damage from Hurricane Katrina. Hurricane Rita further compounded the flooding problem.
- Estimated cost of repairs: \$169,000 contents and \$15,127 buildings

White Lake Wetlands Conservation Area

- Considerable water over the marsh but structures intact and suffered only minor damage.
- Breach in the levee rebuilt.
- Estimated cost of repairs: \$25,266 buildings and content and \$250,000 levees

Marsh Island Refuge

- Damage to approximately 10 miles of the levee due to constant wind and wave action from hurricanes.
- Repairs conducted by LDWF
- Estimated cost of repairs: \$160,447 structural damages and \$987,009 levees

State Wildlife Refuge

- Approximately 75 percent of buildings were lost.
- Headquarters was completely gutted and the building will be destroyed.
- Duplex camp was damaged but has been repaired.
- FEMA funds from damage will be used to build a new headquarters/living quarters at Marsh Island.
- Estimated cost of repairs: \$847,037

Rockefeller Refuge

- The refuge office and dormitory complex sustained severe damage from ground level to the beams supporting the main building.
- Numerous structures were entirely washed away including the field laboratory.
- Repair work will be conducted in four separate phases. Phase 1 should be complete by mid-January 2008.
 - Phase 1: Shop/boathouse, lumber shed, airboat shed, tractor shed, and generator shed

- Phase 2: Four residences, general quarters and office
- Phase 3: Laboratory, alligator incubator sheds, lake 14 bridge, pump house, and west end quarters
- Phase 4: Construction of a new office and interpretive center in conjunction with the interpretive drive.
- Estimated cost of repairs: \$13,501,735

Sister Lake Facility

- The field facility at Sister Lake was damaged by Rita.
- Damage to the boathouse and levee.
- The headquarters building was not damaged in either storm but was destroyed by a fire in March of 2007.
- No decision has been made regarding the reconstruction of this facility.

Grand Terre Facility

- Most of the buildings at the marine laboratory on Grand Terre Island were severely damaged. However, plans for a new laboratory at Grand Isle were already in the works, pre-storm.
- Temporary repairs were made until the new facility can be complete in the spring of 2009. Repair work was completed in the summer of 2007.
- The remaining repair funds will be transferred to the construction of the new building.
- The new facility will contain laboratory and office space for department and other researchers as well as conference and overnight facilities.

Pearl River WMA

- Extensive damage to the environment, but minor damage to the facilities.
- Estimated cost of repairs: \$48,925

Lacombe Fish Hatchery

- Minor damage to facilities.
- Estimated cost of repairs: \$60,380

Lake Salvador Facility

- Estimated cost of repairs: \$158,143

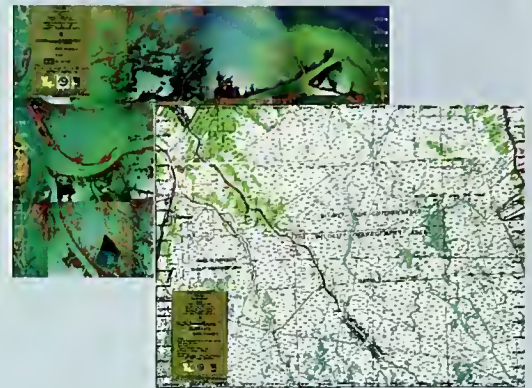
Manchac WMA

- Destroyed boathouse. Mud and silt filled this facility.
- Estimated cost of repairs: \$125,436

Lake Charles Office

- Completely destroyed boathouse and wharf.
- Boatshed completely destroyed.
- Estimated cost of repairs: \$364,257

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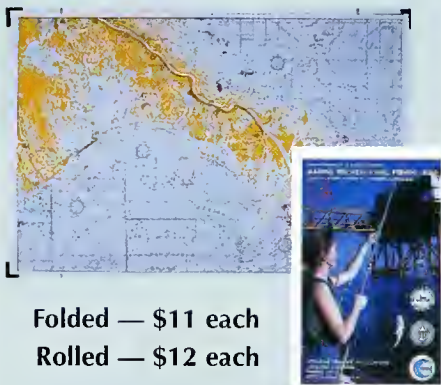
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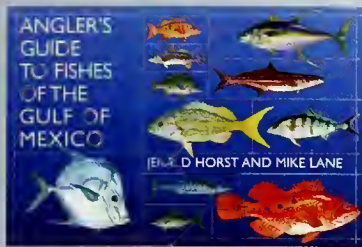
- #1-Venice to Fourchon
- #2-Fourchon to Point Au Fer
- #3-Lake Pontchartrain to Chandeleur Sound
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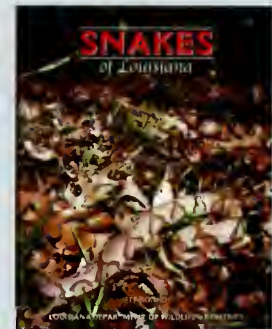
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L.D.W.F. BREAKS GROUND ON NEW MINDEN REGIONAL OFFICE

The Louisiana Department of Wildlife and Fisheries (LDWF) officially broke ground Dec. 14 on a new \$3.5 million regional office in Minden that will house the agency's Enforcement, Inland Fisheries and Wildlife Divisions.

"Our customer service capabilities will be greatly increased for walk-in customers, group meetings and classroom needs," said LDWF Secretary Bryant Hammett. "Staff needs for additional office space will also be accommodated."

The 15,000 square-foot facility will replace a 6,000-square-foot building that has housed LDWF regional office since 1963. Located southwest of Minden off U.S. Hwy. 80, the multi-purpose building will provide office, laboratory and meeting room space for Wildlife Division and Inland Fisheries Division biologists, Enforcement Division agents and administrative staff serving LDWF Region 1 in northwest Louisiana.

"Louisiana is the Sportsman's Paradise and convenient access to department personnel in the region is critical to the Wildlife and Fisheries mission that supports recreational and commercial outdoor activities in the state," said Sen. Robert Adley

(Dist. 36, Benton). "Add to that the support LDWF personnel provide landowners needing assistance with habitat management and the funding for this project is certainly a smart investment for the state."

The new facility will serve as the focal point for developing educational opportunities with regional universities, schools, other governmental agencies and sportsmen organizations. It will also provide a convenient location for conducting Hunter and Aquatic Education classes as well as Boater Safety Courses.

The Louisiana National Guard (LANG) worked cooperatively with LDWF to provide approximately 30 acres of state property managed by LANG in exchange for 30 acres of LDWF property in Webster Parish. The new LDWF Region 1 office, just east of LANG's Camp Minden on U.S. Hwy. 80, will be easily accessible via Interstate 20.

"This project is a good example of government entities working together to satisfy mutual needs and better serve the public as an end result," said Col. R.D. Stuckey, Camp Minden commander.

The projected opening date is set for December 2008.

L.D.W.F. AND LSU DEER TELEMETRY STUDY UPDATE

The Louisiana deer telemetry study that started in the fall of 2006 has yielded some preliminary findings. The study's primary objectives are to assess range and movements of male and female white-tailed deer, evaluate age and sex-specific harvest rates of white-tailed deer and evaluate survival and causes of death among male and female white-tailed deer.

The Louisiana Department of Wildlife and Fisheries (LDWF) and Louisiana State University have spearheaded the study entitled "Population Characteristics of a White-tailed Deer Herd in a Bottomland Hardwood Forest of South-central Louisiana."

"The deer telemetry study is proceeding well and some important information is being accumulated," said LDWF Deer Study Leader Scott Durham.

According to Durham, of the 24 collared deer, two bucks have slipped their collars (one in a cutover and one collar malfunction), one adult doe died from pneumonia and two adult does were harvested by hunters. That leaves 19 deer still being monitored of which five are does and 14 are bucks. Another 16 deer are ear marked only.

"All summer long the deer showed little movement, other than one 1.5-year-old-buck that traveled over eight miles one way, two months after being collared," Durham said. One collared doe had a core (50 percent of the locations) home range of only 14 acres. Durham said that this is a very small home range and smaller than most previous home ranges found in past studies in other places.

Durham also remarked that two adult bucks have finally begun to show increased movement, with one making about a two-mile trek and then returning.

The deer study site is in the state's latest breeding area, and deer movement likely will continue to increase into January and February.

Trapping deer for the study is scheduled to begin for the second season in early February and deer movement will continue to be monitored. Trapping efforts will be expanded to the north side of Interstate 10 and on the west side of Choctaw Bayou.

A camera survey will also be conducted in February, as well as the second herd health collection. A browse survey will be conducted in the spring.

RETIRED L.D.W.F. WILDLIFE ADMINISTRATOR RECEIVES THE DUNBAR AWARD

Former LDWF Wildlife Administrator, Dave Moreland, will receive the 2007 Charles Dunbar Award for his exemplary work in state government. Moreland retired September 2007 after 31 years of service with LDWF.

Moreland began his career with Wildlife and Fisheries in 1976 as a biologist and progressed in his career to wildlife division administrator before retiring. However, he is best known for his work with deer and deer habitat, and is considered the foremost authority on the subject in the southeastern United States. He raised the bar for Louisiana's statewide deer program work through many publications and applied research. He published dozens of articles and scientific papers throughout his career. His last publication, Checklist of Woody and Herbaceous

Deer Food Plants of Louisiana documents his life's work in deer foods.

Moreland has been active in the Wildlife Society in local symposiums and meetings, a life long wildlife photographer, and regular contributor to local magazines and newsletters.

The Dunbar Award is the highest honor classified Louisiana state employees can receive. The Civil Service League bestows the award on local, state and municipal civil service employees who distinguish themselves through unselfish service to the citizens of Louisiana. Nominees are judged on commitment to the classified service, contributions toward workplace improvement, personal initiative, and volunteer community service.

The award is named after the founder of the league, Charles E. Dunbar, Jr., who is responsible for spearheading the effort to establish a classified workforce that would be governed through merit system principles. Moreland is among 12 recipients receiving the award in February 2008.



LDWF File Photo

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- Thomas Gresham,
Executive Editor

AGENTS in Charge

the evolving role of wildlife and fisheries enforcement agents

BECOMING A WILDLIFE ENFORCEMENT AGENT

By Lt. Brian Theriot
and Senior Agent Spencer Cole

The Enforcement Division of the Louisiana Department of Wildlife and Fisheries has 261 total employees, including 241 wildlife enforcement agents. LDWF enforcement agents are unique and versatile assets to the professional law enforcement community protecting and preserving Louisiana's wildlife resources. While a wildlife agent's general duties are enforcing state and federal wildlife and fisheries laws, wildlife agents are often called to assist other law enforcement agencies with the apprehension of criminals, stemming the flow of illegal drugs into our state, as well as securing our borders, ports and vital infrastructure. On a state level, wildlife agents are the most mobile agency due to the equipment possessed and knowledge of the various types of terrain of the state. Additionally, the wildlife enforcement agency is the lead enforcement agency for the waterways of the state as well as the lead agency in search and rescue operations. This requires an enforcement agent to possess many skills enabling him or her to meet the versatile requirements of the profession. These skills are acquired at the Wildlife and Fisheries Enforcement Division Training Academy.

Selection for the training academy is an intense and thorough process. Candidates for the academy must have 60 semester hours from an accredited college, two years as a Peace Officer Standards and Testing (POST) certified law enforcement officer, four years of active military service, or a combination of the three. Once qualified, a candidate must achieve a passing grade on the civil service exam (Level 5000/Wildlife Enforcement Cadet). After meeting

these requirements, selected candidates are graded through a two-part interview process, physical fitness test and drug screen. Potential candidates are notified of employment opportunities and upon acceptance into the program, begin their training as wildlife enforcement cadets.

The Wildlife Enforcement Training Academy is located on the east half of the 80-acre Waddill Wildlife Refuge in north-central Baton Rouge. The length of the academy averages between 21 and 26 weeks. Cadets are tested mentally and physically throughout the duration of the academy.

As mentioned earlier, the versatility of a wildlife enforcement agent's profession requires extensive training received from the training academy. Initially, cadets are POST certified, a requirement of all state law enforcement officers. POST certification consists of physical fitness, defensive tactics, firearms, state and federal laws, proper law enforcement and arrest procedures, DWI detection and apprehension, standard first aid, and various other areas of law enforcement. Upon completion of the POST certification, cadets then receive specialized training in areas that are more consistent with that of a wildlife agent. These areas include but are not limited to, more intense and extensive physical fitness training, defensive tactics, firearms training, ATV operator certification, waterfowl detection, violator apprehension, wildlife forensics, wildlife and fish identification, land and water navigation, extensive boat handling, enforcement of state and federal wildlife and fisheries laws, water survival, marine theft identification, and hunter education instructor certification.

Enforcement cadets are held to a strict academic standard throughout the training process. Cadets are given weekly tests throughout the course of the academy on which they must score a minimum of 80 percent. Failing to meet this academic stan-

dard results in dismissal from the training academy.

Most law enforcement officers receive physical fitness training to prepare them for a confrontation. Wildlife agents are no different, but are dependent on good physical condition in order to meet the rugged requirements of the occupation. Quite often, for a wildlife agent to get to a location to initiate the apprehension of a violator, the agent has to be in very good physical condition. An agent may have to drag a pirogue, travel by boat in rough seas, ride an ATV over rough terrain, or run a mile or more through the muddy swamps. This type of versatility is often required of wildlife agents. The defensive tactics and firearms portion of the academy are expanded to include those possibilities that are consistent with a wildlife agent's job duties. These areas include but are not limited to marine environments, rural night operations, and boat operations.

Upon graduating from the wildlife enforcement-training academy, cadets are assigned to a designated parish for a supervised field training officer program. After successful completion of the field training program, they are promoted to wildlife enforcement agents.

Louisiana wildlife enforcement agent—the title evokes an iconic image of a Louisiana peace officer ready for anything. On the rutted mud tracks of the south Louisiana swamps, on the storm-tossed coastal waters, in hunting camps deep in the piney woods, in every parish across this great state, Louisiana wildlife agents stand ready to protect our natural resources 24 hours a day, seven days a week. They teach. They inspire. They promote a culture of conservation that benefits all within our state. It is a tough title to earn. It is a title synonymous with words like duty, passion, dedication, courage, integrity, and service. That is a Louisiana wildlife enforcement agent.



Venison Roast

- 8 -10 pound venison roast
- 1/2 pound salt pork, cut into strips
- 1 cup red currant jelly
- 1 tablespoon brandy
- flour for gravy

Marinade

- | | |
|---------------------------|-------------------------|
| 1 quart vinegar | 3 cloves garlic, minced |
| 1 quart water | 3 bay leaves |
| 1 tablespoon salt | 1 teaspoon cloves |
| 1 tablespoon red pepper | 1 teaspoon thyme |
| 1 tablespoon black pepper | 1 teaspoon allspice |

Mix marinade ingredients and pour over roast. Let it soak at least 6 to 8 hours, turning several times. Before roasting punch several holes in the roast with a sharp knife. Insert the salt pork with additional garlic cloves.

Cook at 325 to 350 degrees, approximately 20 to 25 minutes to the pound. Baste frequently with the dripping and the marinade. When the meat is tender, remove from the roasting pan and keep warm while making the gravy.

In the roasting pan slowly melt 1 cup red currant jelly with the drippings and marinade. Add flour mixed with water to thicken. When gravy is the desired consistency, add 1 tablespoon brandy, stir well and serve.

Louisiana Conservationist Nov./Dec. 1981

Shrimp Bisque

- | | |
|---------------------------------------|--|
| 3-1/2 pounds uncooked heads-on shrimp | 1 medium onion, chopped |
| 2 carrots, chopped | 1/2 lb. mushrooms, sliced |
| 3 celery stalks, chopped | 1 bay leaf |
| 1 (3 oz.) pkg. crab and shrimp boil | 3/4 cup all-purpose flour |
| 2 onions, stuck with 6 whole cloves | 1-1/2 cup whipping cream |
| 1/2 cup unsalted butter | 1/4 teaspoon freshly ground black pepper |
| 5 green onions, chopped fine | 1/4 cup dry sherry |
| 1/4 cup minced parsley, flat-leaf | red (cayenne) pepper & salt to taste |
| 2 medium garlic cloves, minced | chopped chives, if desired |

Peel shrimp, reserving shells and heads. Cover and refrigerate shrimp until ready to use. Place reserved shrimp heads and shells in a heavy 6 – quart soup pot. Add carrots, celery, crab and shrimp boil and onions stuck with cloves. Add enough cold water to cover shells and vegetables by 5 inches. Bring shell mixture to a boil; skim foam from surface. Reduce heat to low; simmer, uncovered, 3 hours. Strain stock through a fine strainer; discard shells and vegetables. Reserve 2 quarts for bisque. Freeze extra stock for another use.

Melt butter in soup pot over medium heat. Add green onions, parsley, garlic, chopped onion, mushrooms and bay leaf. Sauté until vegetables are wilted, about 5 minutes. Do not brown. Stir in flour; cook 3 to 4 minutes, stirring. Slowly whisk in reserved shrimp stock. Bring to a boil to thicken; stir in refrigerated shrimp. Reduce heat; simmer 15 minutes. Discard bay leaf.

Puree soup in small batches in a blender or food processor fitted with the steel blade. When all soup has been pureed, return to soup pot; reheat over low heat. Stir in cream. Add black pepper, cayenne, salt and sherry; heat through. Do not boil. Ladle soup into soup bowls and; garnish with chives. Serve hot. Serves 8.

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