LOUISIANA NATURAL AREAS REGISTRY
Quarterly Newsletter

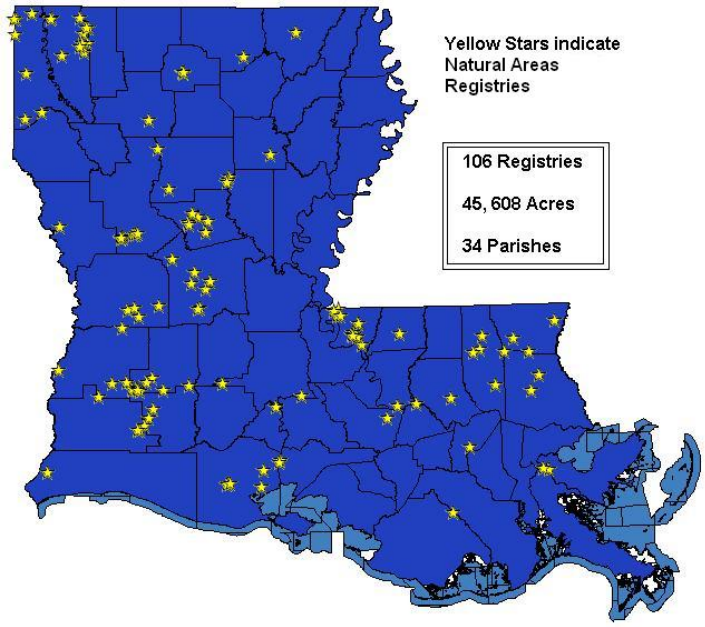
September 2007

Volume 5 Number 1 of 4

Working with landowners towards conservation of Louisiana's ecologically sensitive lands

Can you name the animal above photo?
See back page for information

Natural Areas Registry Update



This quarter, we recognized landowners of one new Natural Area for protecting their ecologically important property. ***Service Sandy Woodland Natural Area*** is an 88-acre site owned by Bill and Beth Service in northern Caddo Parish. It contains two rare plant communities: western xeric sandhill woodland and forested seep. The site is occurs on ridges and sloughs adjacent to Flat Creek. The upland areas of Service Sandy Woodlands Natural Area is part of the Upper Wilcox and Claiborne group formations, a deltaic deposition comprised of mostly siliceous sands and lesser amounts of clays and glauconite sands that formed 55 to 60 million years ago. Flat Creek contains Darden soils that formed in Pleistocene terrace deposits. Understories of forested seeps are typically covered with ferns and sphagnum moss is often abundant. Several large blue jack oaks (*Quercus incana*) occur on the ridge tops that are interspersed with shortleaf pine (*Pinus echinata*). Many state rare herbaceous species are indigenous to western xeric sandhill woodlands and three state rare plant species have been confirmed on the site including pale umbrella-wort (*Mirabilis albida*), southern jointweed (*Polygonella americana*), and Louisiana squarehead (*Tetragonetheca ludoviciana*).


Southern Jointweed
(*Polygonella Americana*)


Pale Umbrella-Wort
(*Mirabilis albida*)


Louisiana Squarehead
(*Tetragonetheca ludoviciana*)

Previous Newsletter, June 2007, Vol. 4, No. 4 of 4
We recognized five new Natural Areas Registries that encompassed 1,801.1 acres. Total Registry acreage was 45,886 for 105 Registries in 34 of 64 parishes. We covered LNHP Special Projects and the Peregrine Falcon.

Barrier Island Live Oak Forest

Rarity Rank: S1/G1

Synonyms: Maritime Forest

Ecological Systems: Mississippi Delta Maritime Forest

General Description: This community is currently restricted to Grand Isle in Jefferson Parish, Louisiana, where it occupies a small area (less than 1,000 acres). All known occurrences are impacted by development, exotic species, clearing of understory vegetation, and habitat fragmentation. The community appears to be distinct from other *Quercus virginiana* (live oak) communities occurring to the east and west, but little is known about this habitat type. It is dominated by *Quercus virginiana* (live oak), with a minor component of *Celtis laevigata* (hackberry). *Zanthoxylum clava-herculis* (toothache tree), *Diospyros virginiana* (persimmon), *Gleditsia triancanthos* (honeylocust), and *Morella cerifera* (waxmyrtle) are typical associates (LNHP 1986-2004, West 1938, Brown 1930). Trees in this habitat type can exhibit the effects of saltwater spray and wind, having a stunted appearance and leaning away from the prevailing wind (West 1938, Brown 1930).

Current Extent and Status: There is no complete information regarding the presettlement extent of this natural community type on Louisiana's barrier islands. The last remaining barrier island live oak forest in Louisiana occurs on Grand Isle. The Nature Conservancy's (TNC) Lafitte Woods Preserve protects 13 acres of this forest and TNC helped restore 30 acres by planting live oak and hackberry trees on property owned by Exxon Mobil. The Orleans Chapter of the Audubon Society (OAS) has proposed a bird sanctuary on an additional 17 acres (the Sureway Woods) and is currently raising funds to purchase this property.

Sources of Threats include 1) commercial / industrial development 2) development/maintenance of pipelines, roads, or utilities 3) Invasive / alien species 4) Recreational use / vehicles 5) residential development and 6) shoreline erosion.

Threats to the barrier island live oak forest from these sources include 1) altered composition / structure 2) habitat destruction or conversion 3) habitat disturbance and 4) habitat fragmentation.

References:

BROWN, C. A. 1930. Plants observed on an excursion to Grand Isle, Louisiana. Bulletin of the Torrey Club 57:509-513.

LNHP. 1986-2004. The natural communities of Louisiana. Louisiana Natural Heritage Program, Louisiana Department of Wildlife and Fisheries, Baton Rouge, LA.

NATURESERVE. 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.2. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: June 8, 2005).

SMITH, L. M. 1993. Estimated presettlement and current acres of natural plant communities in Louisiana. Louisiana Natural Heritage Program, Louisiana Department of Wildlife and Fisheries, Baton Rouge, LA.

WEST, E. M. 1938. The vegetation of Grand Isle. The Louisiana Academy of Sciences 4:214-217.

BARRIER ISLAND LIVE OAK FOREST SPECIES OF CONSERVATION CONCERN (4)	
BIRDS	**REPTILES**
Yellow-billed Cuckoo	Eastern Glass Lizard
Painted Bunting	
Orchard Oriole	

Eastern Glass Lizard

Ophisaurus ventralis

What are glass or joint snakes? Glass "snakes" are a type of limbless lizard. The body may be 4-12 inches long, whereas the tail is twice that length. As with most lizard species, the tail can be broken off or broken into numerous pieces. The fractured pieces wriggle by nerve action for several minutes to draw the attention of potential predators

away from the glass lizard's head and body. (Photo by J.D. Willson)

Ophisaurus means, "snake lizard" but they are easily identified as lizards by the presence of external ear openings, moveable eyelids, small scales (rather than large, transverse scutes) on the belly, and a distinct groove or fold along the lower side of the body.

Glass lizards earned their name by their propensity to "shatter" by breaking their tail, often in several pieces. A popular myth maintains that if this "snake" is cut into pieces, the pieces will reunite, hence the local name "joint snake." The only grain of truth in this story is that the lizard, if it survives, will eventually regenerate its tail, although the new tail will be much shorter and lighter in color than the original. This short, regenerated tail, present in most adult lizards, has given rise to such names as "horn snake" or "stinging snake" by people who mistake the pointed, regenerated tail tip for a poisonous stinger. This same myth is also applied to some snakes, especially the mud snake (*Farancia abacura*), which has a stout spine at the tip of its tail. Despite the persistence of this myth in rural folklore, no reptile has a stinger in its tail, and few animals are more harmless to humans that mud snakes and glass lizards.

***Description*:** The average length of an eastern glass lizard is 18 to 42 inches, most of which is tail. Their total body length is a maximum of 12 inches. This species is best distinguished from other glass lizards by the absence of a dark dorsal stripe or dark markings below the lateral groove and the presence of several vertical whitish bars just behind the head. It is the only limbless lizard in the United States with a deep groove along the sides. This glass lizard is quite variable in color and pattern, but most juveniles and young adults are shiny bronze, khaki, olive or brownish with one or more dark longitudinal stripes down each side of the back, and several white vertical bars along the sides of the head and neck. The belly may be white or yellow. Adult females often retain this pattern, but old adult males usually become greenish with a uniform speckling of light and dark spots, no trace of stripes, a yellow belly and an ochre-colored regenerated tail tip. Photo of adult by J D Willson and Michael Dorcas.

A glass lizard's scales are supported internally by bony plates known as osteoderms. Its body feels stiff and brittle to the touch, unlike the flexible body of a snake.

***Habitat and Habits*:** This lizard prefers pine flatwoods, maritime forests and other sandy habitats, and it is especially common in the open, grassy areas behind dunes on some beaches where it is often found under trash or other sheltering objects. Eastern glass lizards are most active by day. Specimens are sometimes found abroad at night and especially at dusk.

Glass lizards feed on nearly any small animal they can catch and subdue with their strong jaws, but the mainstay of their diet is probably large insects. They hunt largely by sight, responding to moving prey, but may also use their tongue to identify dead or otherwise motionless food items at close range, in much the same fashion as a snake uses its tongue to detect prey.

Predators of eastern glass lizards include snakes, hawks, and carnivorous mammals.

***Reproduction and Life Span*:** Most mating takes place in spring. Females lay a single clutch of five to 17 white, leathery-shelled eggs in late spring or early summer under a log, pile of vegetation or other damp, sheltered spot. The female will often remain with the eggs until they hatch a couple of months later in late summer or early fall. The young are independent at birth, seven to eight inches long, and khaki colored with one or more dark stripes along each side. Life span in captivity has been reported at 15 years.

***Range and Distribution*:** The eastern glass lizard ranges over most of the southeastern Coastal Plain, from extreme southeastern Virginia to south Florida, westward to southeastern Louisiana.

***People Interactions*:** Glass lizards seldom interact with people. Infrequently encountered, they quickly retreat when disturbed and are often difficult to capture, especially without breaking the tail. Most persons who harbor an irrational fear of snakes also fear these completely harmless lizards, and a few persons who still believe in the "joint snake" or "stinging snake" myths regard them as very dangerous. Some glass lizards may attempt to bite if handled, and large specimens may inflict a pinch that could be considered painful, though unlikely to break the skin. From an economic standpoint they are probably entirely beneficial, as they consume large numbers of insects.

These lizards tolerate some human activity, and may be common around rural dwellings, but they usually disappear from urban, suburban and other severely altered areas.

References:

Beane, Jeff. 1995. Eastern Glass Lizard *Ophisaurus ventralis.* Division of Conservation Education, N.C. Wildlife Resources Commission.

Boundy, Jeff. 2006. Snakes of Louisiana. Louisiana Department of Wildlife and Fisheries, Baton Rouge, LA.
www.bio.davidson.edu/projects/herpcons/herps_of_NC/lizards/Oph_ven.html. August 2007. Eastern Glass Lizard.
www.uga.edu/srelherp/lizards/ophven.htm. August 2007. Lizards of Georgia and South Carolina.

Live Oak (*Quercus virginiana*)

Report by: K. Hill, Smithsonian Marine Station

Leaf detail of *Quercus virginiana*, live oak. Photo courtesy of K. Hill, Smithsonian Marine Station.

TAXONOMY

Kingdom: Plantae
Phylum / Division: Tracheophyta
Class: Magnoliopsida
Order: Fagales
Family: Fagaceae
Genus: Quercus

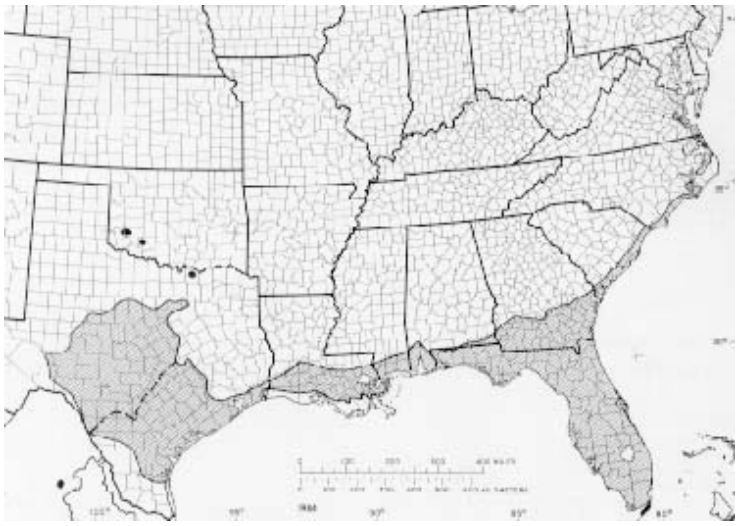
COMMON NAMES: Live Oak, Virginia oak, southern live oak, sand live oak, scrub live oak, Texas live oak.

Description: Live oak is variable in its morphology depending on its location in the coastal strand. Those closest to scrub areas tend to be low-growing shrubs, while those further upland grow as large, spreading, long-lived trees that dominate the canopy. Trees growing in the open reach 15 m (approximately 50 feet) in height, with trunks of approximately 200 cm (79 inches). Crowns of these trees may reach a span of 46 m (150 feet) or more (Harlow et al. 1070; Harms 1990). Bark is longitudinally furrowed. Acorns are small and tapered in shape. Live oak limbs have a growth habit of first sweeping close to the ground, and later growing upward.

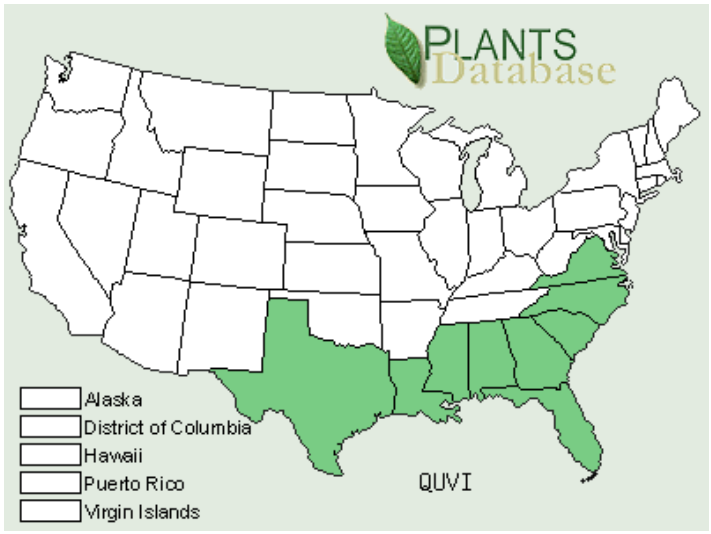
Live oak hybridizes with dwarf live oak, swamp live oak, and other species (Little 1979). They remain foliated nearly year-round,, dropping its leaves and regenerating new growth within a few weeks during spring.

No consensus has been agreed upon regarding the taxonomic status *Quercus virginiana*. Some researchers recognize 3 separate species, while others recognize varieties rather than distinct species (Vines 1960; Little 1979; Harms 1990).

HABITAT AND DISTRIBUTION:



Live Oak Native Range



Current Live Oak Distribution by State

Regional Occurrence: Live oak is an important component of maritime hammocks and scrublands throughout its range from Virginia to Florida, including the Florida Keys. Westward, it ranges into Texas, where it is found to the east end of the Brazos River. West of the Brazos, Texas live oak (*Quervus virginiana variable fusiformis*) dominates (Simpson 1988).

The range of live oak corresponds to southeastern maritime strand communities (Oosting 1954) which lie southward of the 5.5° C (41.9° F) isotherm for average daily minimum

temperatures in the coldest month of the year, typically January (Johnson and Barbour 1990).

LIFE HISTORY AND POPULATION BIOLOGY

Age, Size, Lifespan: Live oak is fast growing under optimal conditions. Seedlings may reach 1.2 m, (4 feet) in height within the first year, but growth rates taper off as age of the tree increases (Harlow et al 1979; Haller 1992). 70-year-old trees may have trunks that measure as much as 54 inches in diameter (Van Dersal 1938).

Abundance: Live oak is generally abundant throughout its range, and is often the dominant species in maritime hammocks. In Louisiana, live oak is the dominant tree species in coastal cheniers, natural levee live oak forests, and barrier island live oak forests.

Reproduction: *Quercus virginiana* is monoecious (plants having unisexual flowers with the separate male and female flowers occurring on the same plant). Small flowers are produced in spring during the growth period for new leaves. Pollen is dispersed by winds, generally during early April. Acorns are produced in abundance the following September (Harms 1990). Acorns generally fall to the ground during December, and are dispersed by animals.

Live oak sprouts from root collars and from roots. Dense clonal colonies sometimes result from this mode of reproduction, and have been observed up to 20 m (66 feet) in diameter.

Embryology: Germination occurs shortly after seedfall in warm, moist soils.

PHYSICAL TOLERANCES

Temperature: Live oak is extremely susceptible to freeze damage (Harms 1990). Its range thus corresponds to the 5.5° C isotherm along the east coast of the southern U.S.

Salinity: Live oak is highly tolerant to salt spray conditions and often can be found growing where its roots are inundated with sea water at high tides. However, it does not withstand prolonged periods of saturation (Vince et al. 1989).

Physical Tolerances: Live oak is able to withstand hurricane force winds and heavy rains and short periods of flooding, though not prolonged inundation (Vince et al. 1989). It is also tolerant of salt spray and high soil salinity.

Diseases: Diseases of live oak include live oak decline, a wilt disease caused by fungus that is a serious problem in Texas live oak, and perhaps other species as well. A defoliating disease called leaf blister, is also a problem for live oak species. Heartwood decay is able to infect trees, but typically, the sapwood in live oak is so strong that infected trees often remain standing (Harms 1990). Additionally, gall wasps may also colonize live oak, but apparently have little effect upon health of colonized trees (Haller 1992).

COMMUNITY ECOLOGY

Trophic Mode: Autotrophic (an organism capable of synthesizing its own food from inorganic substances, using light or chemical energy)

Competitors: Live oak is the dominant plant climax species in coastal forests in the northern portion of its range (Helm et al. 1991). It withstands competition due to its extreme salt tolerance and tolerance to shade.

Habitats: Live oak grows well in moist to dry sites in scrub and maritime hammocks of the southeastern United States. It also shows good growth in clay and alluvial soils (Harms 1990).

Associated Species: Live oak provides cover and shade for a wide variety of coastal species of birds and mammals. Acorns of live oak are an important food source for the Florida scrub jay, mallards, sapsuckers, wild turkey, black bear, squirrels, and white-tail deer. Scrub jays, a threatened species, nest in live oak (Woolfenden 1973).

Epiphytes of live oak include mistletoe (*Phoradendron* spp.), ball moss and Spanish moss (Tillandsia usneoides). Spanish moss can be especially populous in live oak (Haller 1992).

SPECIAL STATUS

Special Status: **None**

Benefit in Louisiana: Live oak is beneficial as habitat and for providing shade to many birds and small mammals. It is especially important in Louisiana as a stop over habitat for neotropical migratory birds.

Economic Importance: Live oak wood is strong and heavy, and has previously been used in ship building. However, it is now seldom utilized commercially (Harms 1990).

REFERENCES

Haller, J.M. 1992. *Quercus virginiana*: the southern live oak. Arbor Age 12 (5): 30

Harlow, W.M., E.S. Harrar, and F.M. White. 1979. Textbook of dendrology. 6th ed. McGraw-Hill, Inc. New York, NY. 510 pp.

Harms, W.R. 1990. *Quercus virginiana* Mill. Live Oak. In: Burns, R.M., and B.H. Honkala, technical coordinators. Silvics of North America. Vol. 2 Hardwoods. Agric. Handb. 654. U.S. Department of Agriculture, Forest Service. Washington, D.C. pp. 751-754.

Helm, A.C., N.S. Nicholas, S.M. Zedaker, S.T. Young. 1991. Maritime forests on Bull Island, Cape Romain, South Carolina. Bulletin of the Torrey Botanical Club. 118(2): 170-175.

Johnson, A.F. and M.G. Barbour. 1990. Dunes and maritime forests. In: Myers, R. L. and J.J. Ewel, eds. Ecosystems of Florida. University of Central Florida Press. Orlando, FL. Pp. 430-480.

Little, E.L. 1979. Checklist of the United States trees (native and naturalized). Agric. Handb. 541. U.S. Department of Agriculture, Forest Service. Washington, D.C. 375 pp.

Simpson, B.J. 1988. A field guide to Texas trees. Texas Monthly Press, Austin, TX 372 pp.

Oosting, H.J. 1954. Ecological processes and vegetation of the maritime strand in the southeastern United States. Botanical Review. 20:226-262.

Van Dersal, W.R. 1938. Native woody plants of the United States, their erosion-control and wildlife values. U.S. Department of Agriculture, Washington, D.C. 362 pp.

Vince, S.W., S.R. Humphrey, R.W. Simons. 1989. The ecology of hydric hammocks: a community profile. Biiological Rep. 85(7.26). U.S. Department of the Interior Fish and Wildlife Service Research and Development. Washington, D.C. 82 pp.

Vines, R.A. 1960. Trees, shrubs and woody vines of the southwest. University of Texas Press, Austin, TX. 1104 pp.

Woolfenden, R.P. 1982. Nesting and survival in a population of Florida scrub jays. Living Bird. 12:25-49.

Feral Hogs in Louisiana

By Emile P. LeBlanc, DMAP Coordinator

Since attending last May's Feral Hog Conference in Mobile Alabama, I polled each regional manager for a relative population estimate of feral hogs in their respective regions by parish. Lafayette Parish was the only parish believed to have no feral hogs. The fact that this parish is surrounded by parishes with moderate hog populations suggests that it won't be long before they are there too. Highest numbers generally occur across extreme southeast Louisiana. It should be noted that regardless of hog population size, hogs are not evenly distributed across most parishes.

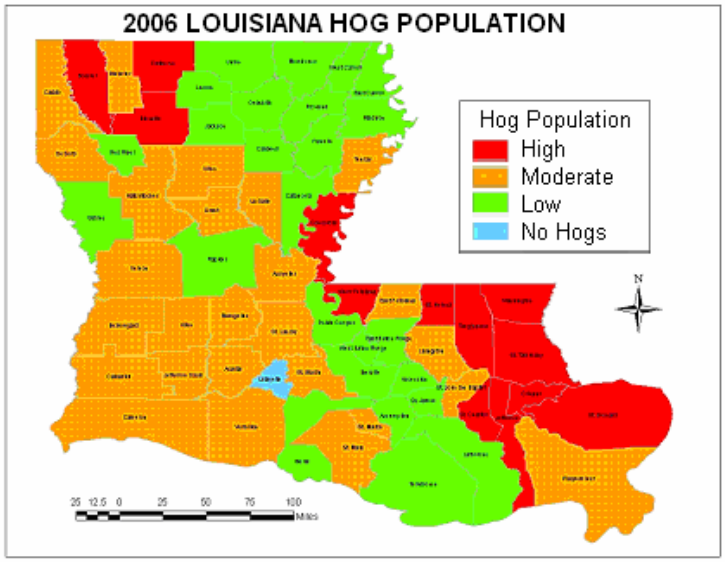
Some people consider feral hogs as excellent table fare and regard them as a challenging game species to pursue with weapon or dog. Individuals who enjoy running hogs with dogs can be found throughout the state. Hog hunting is gaining popularity in Louisiana with a number of game- farm operations offering wild hog hunts to the public. Occasionally, hogs escape from these facilities and become established on adjoining lands. Some individuals even have taken it upon themselves to catch and relocate hogs where they have not previously been introduced. This practice is strongly discouraged by LDWF as well as the Department of Agriculture. Additionally, some people would like to see legislation making this practice illegal.

Considering their reproductive capacity and the damage that they can cause, hogs will, if not already, become more problematic over time and ecological problems. Many landowners object to hogs causing problems such as rooting up crop fields, degrading water quality, and endangering livestock through disease transmission. Hogs compete with native species such as white-tailed deer and turkey for mast. That competition can become especially serious during poor mast production years. Boar hogs can become aggressive during periods of mating activity and a number of human attacks are documented.

These are very intelligent and powerful animals and keeping them confined and controlled can be a significant challenge. Once daytime hunting pressure is placed on them, they will quickly become nocturnal. In order to control hog populations, landowners must be relentless in their efforts.

Several types of control methods can be employed to keep hog populations in check:

- Trapping: should be a year round effort to remove as well as monitor hog populations throughout an area. Research on trap design and efficiency showed that larger tear drop-shaped corral traps work best because they don't confine hogs as much as the smaller and more mobile box-type traps. It also noted that the lower portion of the traps should have meshed wire small enough to keep small pigs from escaping. Elimination of small piglets as well as larger hogs has been identified as a key to controlling the population.
- Year-round hunting: a tactic used by many landowners with a shoot-on-sight philosophy. In some of the lower coastal parishes, airboats can be used, especially during periods of flooding or extra high tides, to locate and kill hogs that become concentrated on higher ground. Some hunters will also use dogs to run hogs from thick cover where they are generally found.



There are a couple of methods that are illegal to use for hog control in Louisiana: night-time hunting and poisoning. The night-hunting restriction takes away a poacher's "I am hog hunting" excuse when out at night with a high-powered rifle, shotgun, or bow. Poisons are non-specific and result in many non-target species being killed. Secondary poisoning also occurs when scavengers, such as vultures or even bald eagles, feed on the carcass of a poisoned animal.

Research and experience is giving us a better understanding of the influence of feral hogs on wildlife and ecosystems. We know feral hogs can harbor and transmit some diseases and parasites to livestock and humans. We know feral hogs can have a significant negative impact on some livestock operations through depredation and damage to facilities and fences. We know farmers experience a significant amount of damage from hogs rooting in fields and depredation of crops. We know that they directly compete with many species of native wildlife for food throughout the year. Hopefully this cumulative knowledge will be sufficient for hunters and landowners to keep hog populations in check on their properties.

This article is part of Louisiana Department of Wildlife and Fisheries DMAP Newsletter Volume 9, Issue 1 May 2007.

Feral Hog Impact on Natural Areas

Some of our Natural Areas Registries are experiencing habitat damage from feral hogs. Landowners that have reported feral hog damage are located in Bossier, Natchitoches, Orleans, Rapides, Vernon, and Webster parishes. Feral hog damage reported includes habitat alteration from rooting in forests and open areas, and destruction of forest understory where pigs create mud wallowing areas that may not regenerate vegetation for many years. We encourage Natural Areas Registry members to actively control feral hogs to keep habitat impact to a minimum.

Louisiana Natural Heritage Program Staff

Program Coordinator - Gary Lester
(225) 765-2823, glester@wlf.louisiana.gov

Administrative Assistant - Connie Dunn
(225) 765-2811, cdunn@wlf.louisiana.gov

Zoologist - Beau Gregory
(225) 765-2820, bgregory@wlf.louisiana.gov

Plant Community Ecologist - Patti Faulkner
(225) 765-2975, pfaulkner@wlf.louisiana.gov

Botanist - Chris Reid
(225) 765-2828, creid@wlf.louisiana.gov

Data Manager - Nicole Lorenz
(225) 765-2643, nlorenz@wlf.louisiana.gov

Assistant Data Manager - Carolyn Martin
(225) 765-2357, cmartin@wlf.louisiana.gov

Field Biologist – Aran Meyer
(225) 765-2522, ameyer@wlf.louisiana.gov

Natural Areas Registry Coordinator Judy Jones
(Contractor), (225) 765-2822, jjones@wlf.louisiana.gov
Newsletter editor / publisher

Picture on front page is a **Hummingbird Clearwing Moth**, *Hemaris thysbe*, visiting flowers in the home garden of Open and Jim Banks. These moths are common in the eastern half of the United States and Canada. It is not difficult to see why many gardeners would mistaken the *Hemaris thysbe* moth for a small hummingbird as it hovers, sipping nectar from flowers through a long feeding tube. The moth hovers briefly, sipping for only a few seconds before darting off to another flower. Green body "fur" and burgundy wing scales suggest a small ruby throated hummingbird.
For more information see web sites:
http://www.whatsthatbug.com/clearwing_moth.html and
http://www.whatsthatbug.com/clearwing_moth.html.

Judy Jones – Natural Areas
Louisiana Dept. of Wildlife & Fisheries
P. O. Box 98000
Baton Rouge, LA 70898-9000