

Louisiana Natural Areas Registry Newsletter

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We would like to thank all of our Natural Areas Registry members for participating in our program for 2003. We hope that the year 2004 brings you happiness and prosperity. Our January newsletter includes: an update on the Natural Areas Registry, Tunica Hills natural community (combination of different plants growing together having a unique appearance that is characterized by the presence of certain dominant species), an associated Tunica Hills plant species – Pyramid Magnolia, and two Tunica Hills animal species – Long-tailed Weasel and Webster’s Salamander.

Louisiana Natural Areas Registry Mission

The mission of the Louisiana Natural Areas Registry Program is to work with landowners toward the conservation of ecologically sensitive lands in Louisiana.

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LNHP botanist, Chris Reid, meeting with landowner to discuss management options for longleaf pine.

Natural Areas Registry Update

by Judy Jones, contract biologist for Natural Areas Registry
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Today, we have 56 Natural Areas Registries located in 23 of 64 parishes that contain over 33,000 acres that are being conserved as part of Louisiana’s Natural heritage. The Louisiana Natural Areas Program approved five natural areas since the last newsletter in October 2003.

Allen Acres Natural Area is owned by Dr. Charles Allen and Susan Allen. It consists of approximately 26 acres and is located in Vernon Parish. The area consists of an upland western longleaf pine forest and sandy woodland. More than 350 plant species have been recorded on the site by Charles and Susan Allen.

Eunice Prairie Natural Area is owned by Cajun Prairie Habitat Preservation Society and is located within the city of Eunice in St. Landry Parish. Eunice Prairie consists of a 15-acre coastal prairie restoration project that harbors a valuable gene pool from plants representative of the highly threatened coastal prairie ecosystem. The coastal prairie was established in 1988 though the society when it was leased by the City of Eunice, who originally registered the prairie with the Louisiana Natural Areas Registry in 1994. Cajun Prairie Habitat Preservation Society bought the prairie from the Union Pacific Railroad this year and added 5 acres to the original 10 acres registered with our program.

Jackson Forest Natural Area is owned by Plaquemine Parish and is located next to Fort Jackson. It consists of a 71.5-acre primary

forest type classified as Live Oak Natural Levee Forest. This forest type occurs principally in southeastern Louisiana on natural levees or frontlands and on islands within marshes and swamps. It is dominated by many old-growth live oaks. The forest midstory in some areas contains diversity in both plant species and age classes of trees. This natural community type is rare in Louisiana due to factors making it vulnerable to extirpation. It functions as an important wildlife habitat and serves as vital resting habitat for Neotropical migratory birds. Hundreds of different species of birds use these forests as a stopover on their way north during spring migration.

Live Oak Garden Natural Area is owned by Live Oak Garden LTD and is located on a hill called Jefferson Island in New Iberia Parish. This 350-acre area is one of 300 salt domes in Louisiana, Texas and Mississippi. Because this salt dome is located relatively close to the surface, it has raised a bump in the land that is surrounded by marshes. The forested area of the island is a unique hardwood forest that is most similar to Southern mesophytic (land plants in an environment having moderate amount of water) forest community of Tunica hills, but is different because live oak is dominant and beech is completely lacking. Other natural communities include a hardwood slope forest, marsh, swamp, and lakes. Black bears are present and the area is an important habitat for migrant birds. Live Oak Garden Natural Area was originally registered in 1992 and the new owner agreed to register their natural area a few months ago.

Outside Island Natural Area is owned by the Vermilion Parish School Board and is located in Vermilion Parish. Outside Island is a good example of a live oak forest, and is mostly old-growth (greater than 80 years old) natural levee live oak and hardwood forest. It is located on the westerly abandoned channel of the precursor Mississippi River.

Louisiana Community Information The Tunica Hills of Louisiana

by Patti Faulkner

Tunica Hills is an area of deeply dissected hills in West Feliciana Parish, Louisiana and adjacent Wilkinson County, Mississippi. The forest is classified as Southern Mesophytic and is dominated by a climax community of Southern magnolia (*Magnolia grandiflora*), American beech (*Fagus grandifolia*), and American holly (*Ilex opaca*). It is the southern most extension of what is called the "loess bluffs" that formed on the escarpment east of the Mississippi River. The bluffs extend in a 10 to 25 mile wide band from the confluence of the Ohio and Mississippi rivers in southern Illinois, southward into Louisiana. Loess, wind-blown silt, was deposited on previously dissected uplands east of the river between periods of glaciation from 80,000 to 10,000 years before the present time. The loess deposits vary in thickness from 2 to 200 feet deep, and are thickest on the western edge of the bluffs adjacent to the Mississippi River floodplain in Tennessee, Mississippi, and Louisiana.



During continental glaciation, the bluffs served as a migration route for plants associated with cool temperate southern mesophytic forests. It is theorized that cold glacial meltwater and accompanying cool air masses moving down the river combined with warmer



Sicily Island Hills Waterfall

southern air to produce persistent or recurring fogs, which supplied moisture and maintained cooler temperatures in areas near the river. Also, erosion of the loess deposits formed narrow ridges and deep vertical ravines, providing a continuum of relatively cool, moist, shaded habitat capable of supporting species intolerant of hotter and drier climates. Relic populations of numerous species more common in the Appalachian Mountains, Ozarks, and areas northward still occur today in the Tunica Hills, with many at the southern-most extension of their range. At least 19 state-rare plant species occur in the Tunica Hills, including the only known Louisiana locations of Wild Ginseng (*Panax quinquefolius*) and Canada Wild Ginger (*Asarum canadense*).

This inter-mingling of cool temperate floras of the north with warm temperate floras of the south has produced one of the most species-rich upland hardwood forests in the entire continental United States. While there are a few other areas in the southeast where a similar co-mingling of northern and southern species occurs (e.g. the Apalachicola River Bluffs in Florida and Flint River floodplain in Georgia), the loess bluffs of the Tunica Hills is the largest of such areas, and provides a greater variety of micro-habitats.

In addition to vegetational diversity, the Tunica Hills is rich in fauna as well. There are greater than 10 state-rare animals known to occur in the area, including the globally-rare Webster's salamander (*Plethodon websteri*). The eastern chipmunk (*Tamias striatus*) and timber rattlesnake (*Crotalus horridus*) are additional uncommon species present. Animals commonly observed include white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), wild turkey (*Meleagris* sp.), and gray squirrel (*Sciurus griseus*).

Associated Tunica Hills Plant Pyramid magnolia in Louisiana

by Chris Reid

One of our rarest tree species is pyramid magnolia (*Magnolia pyramidata*). It is a small tree that grows in rich hardwood dominated upland forests and in mixed pine-hardwood forests of small stream floodplains. Pyramid magnolia ranges from east Texas to South Carolina and is known to occur in one county in southeast Kentucky. It is generally rare throughout its range but there are some strongholds. One such stronghold for pyramid magnolia is the Tunica Hills of West Feliciana Parish. The Tunica Hills are known for harboring a number of rare plant species. Pyramid magnolia is also recorded for Sabine and Washington Parishes with a single location in each.

Pyramid magnolia is a small tree that grows to 30 or 40 feet tall. The leaves are quite uniquely shaped in that they are obovate (widest above the middle) and the leaf bases usually have conspicuous "ear lobes". The leaves have been described in some references as being kite-shaped. Leaves are variable in size but



generally are 8 or 10 inches long and 3 or 4 inches wide. Leaves of seedlings on the forest floor can be much smaller. The flowers appear in March and April. They are creamy white in color and are about 3 or 4 inches broad.

Pyramid magnolia is known to occur on the Tunica Hills Wildlife Management Area. A map of this WMA is available from LDWF at www.state.la.us. I suggest walking along streambeds and searching the slopes above. There are a number of trails on the WMA, which usually follow ridges. Following these trails and periodically getting off to explore adjacent ravines and streams is a good strategy as well. When I encounter pyramid magnolia it is frequently as single occurrences of seedlings or saplings. It is quite a treat to find a small grove of mature trees. With some careful searching it should not take you long to discover this unique tree.

Associated Tunica Hills Animals Long-tailed Weasel and Webster's Salamander

by Ines Maxit

Long-tailed weasel - *Mustela frenata*. The early French settlers called this weasel *fouine*, meaning sneak, a noun applied to the animal because of its skulking, stealthy habits. It is smaller than the mink (*M. vison*), with a total length of 1.14-1.8 feet compared with 1.6-2.4 feet for the mink. The elongate body has short legs, a long neck, and a triangular head with rounded ears. The upper parts are uniformly brown, the underparts yellowish or yellowish white except for the white chin. Its long tail is 44-70% of the length of head and body and it has a distinctive, bushy, black tip. It can



hardly be confused with any other mammal except with other weasel species, but none of them occur in our state.

The long-tailed weasel occurs from southern Canada to Peru. In Louisiana it appears to be highly local in its occurrence. The Louisiana Natural Heritage Program (LNHP) considers this species as rare and has records of its occurrence from north Louisiana (Bossier, Lincoln, Union and Ouachita Parishes), central Louisiana (Vernon, Rapides, and Allen Parishes) and the Florida Parishes.

This little animal prefers habitats where dens of burrowing rodents are numerous and close to cover, supporting large populations of small mammals and birds. It appears to be at least partially restricted to habitats in close proximity to standing water. Waterways provide access to suitable habitat and are a natural avenue for dispersal.

The long-tailed weasel is active out of the den day and night, primarily for foraging and feeding. It runs in a series of bounds with the back bent during each bound. The tail is elevated during running either parallel to or at an angle of up to 45 degrees from the ground. The senses of smell and hearing are all well developed. Although vision appears to be relatively poor, it has an excellent ability to detect moving objects. It detects its prey primarily by scent and hearing prior to locating it visually.

The long-tailed weasel actively hunts its territory in search of prey, searching underground, on the ground and arboreally. It is a generalist predator, feeding upon a wide variety of prey, and is able to switch to alternative prey when normal prey numbers are low. It concentrates on rodents and rabbits of small to medium size and has a particular affinity for birds' eggs and commonly will raid nests. Foxes and raptors are the primarily predators of long-tailed weasels but dogs and coyotes are said to catch a few.

The average gestation period is 279 days, with a range of 205-337 days. This extended period is the result of the fertilized eggs' remaining in a state of prolonged quiescence in the uterus before implantation takes place. Once the embryo begins its development it comes to full term in 27 days or less. It gives birth to one litter of 4-5 young annually, with a maximum of nine young, between mid-April and early May. The young are born blind and have only a few long, white hairs. At 3 weeks, the young are well-furred dorsally with the pelage becoming gray. At 5 weeks, the young begin opening the eyes, females first, followed by males. The young began eating meat and weaning take place.

Adult long-tailed weasels normally lead a solitary life except during the breeding season and while rearing young. The home ranges of males average larger than those of females and may include home ranges of more than one female.

The den is usually in a rotten log, hollow stump, or in a hole in the ground or under rocks or brush piles. The nest is lined with dried grass and the fur of the prey. Several burrows usually radiate from the nest and may be used as latrines or food caches.

The long-tailed weasel often has been considered an agricultural pest due to its predation on poultry. However, its positive role as a predator of rodent species far outweighs the occasional killing of domestic and game species. Threats to this species include monoculture, clean farming practices, and drainage of wetlands. Perhaps it is also affected directly and indirectly by pesticide use (effects on reproduction, habitat, and/or food supply).

If you see the long-tailed weasel please contact Inés E. Maxit at 225-765-2820.

References:

Lowery, G.H. 1974. The Mammals of Louisiana and its Adjacent Waters. Kingsport Press, Inc. Tennessee. 565 pp.

Sheffield, S. R. and H.H. Thomas. 1997. *Mustela frenata*. Mammalian Species No. 570, pp. 1-9

Webster's salamander - *Plethodon websteri*. Webster's salamanders are found in five states: South Carolina, Georgia, Alabama, Mississippi and Louisiana. The most extensive area where these salamanders live is

west central Georgia and east central Alabama.

In Louisiana, it occupies less than 10 acres in Tunica Hills Nature Preserve. Webster's salamanders are restricted to woodlands where they hide beneath rocks, logs, and leaves. Photo taken by Suzanne L. Collins with Center for North American Herpetology in Wilkinson County, Mississippi.



Suzanne L. Collins with Center for North American Herpetology in Wilkinson County, Mississippi.

Webster's salamander is a small animal that can grow to slightly over three inches long. Its dorsum (back) has red, orange or yellow with a wavy-edged middorsal stripe; the sides are dark gray to brown and the ventral (belly) is mottled and with some orange pigment. One of their favorite foods appears to be termites. In South Carolina, courtship and insemination probably occur between January and March, egg deposition occurs during June or July, and the eggs hatch during August and September. Hatchlings emerge in October and November.

The best time to find a Webster's salamander is in cold weather during the fall, winter and early spring beneath objects on the surface. From June to September they apparently remain underground where temperatures are cooler.

References:

Dundee, H. A. and D.A. Rossman. 1989. The amphibians and reptiles of Louisiana. Louisiana State University Press, Baton Rouge.

NatureServe. 2003. NatureServe Explorer: An online encyclopedia of life [web application]. Version 1.8. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: January 9, 2004).

Forest Lands Enhancement Program (FLEP) to provide cost-share funds

There is a new program administered by the LA Dept. of Agriculture & Forestry (LDAF) to help landowners defray the costs of managing their forested lands. The purpose of the program is to promote sustainable forest management practices on non-industrial private forestlands in Louisiana. To be eligible for FLEP, a person must own at least 10 contiguous acres or more of land located in Louisiana suitable for growing a commercial timber species, and agree to maintain the property in forests for a period of 10 years. In return, the Office of Forestry provides cost-share payments based on 75 % of the actual cost of management actions not to exceed stated cost-share payment rates. The forest management practices that are covered by FLEP include: non-commercial thinning, pine beetle control (cut & leave), invasive species control (aerial, ground or injection), fuel break installation, prescribed burning, mechanical fuel reduction, and rehabilitation (tree planting & related activities) following catastrophic fire or events (tornado, hurricane). Applications for FLEP cost-share are taken on a first-come, first-serve continuous basis until all funds per fiscal year are obligated. If interested in the program, Natural Area Registry landowners can contact LA Natural Heritage Program Ecologist, Patti Faulkner at (225) 765-2975. She can provide more information on the application procedure and contact information for LDAF Parish Foresters.