

Louisiana Natural Areas Registry Newsletter

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

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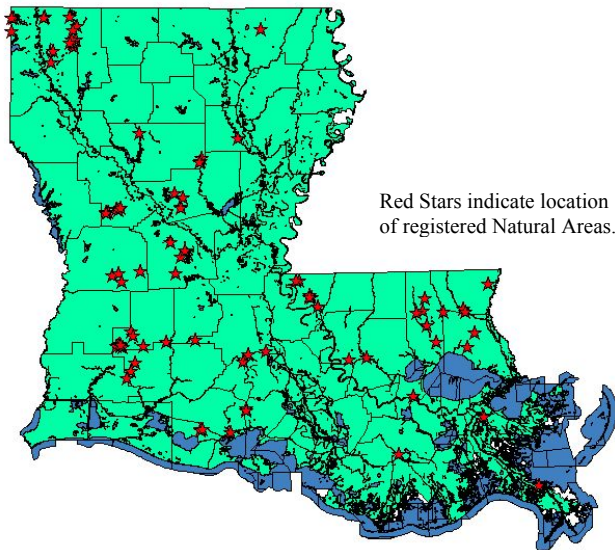


Mark Shirley, LSU Ag Wildlife Biologist and manager for Live Oak Plantation Natural Area, owned by the Godchaux family in Vermilion Parish. Mark is standing in middle of 5 live oak trees that were damaged by Hurricane Lily in 2002.

NATURAL AREAS REGISTRY UPDATE

by Judy Jones, Natural Areas Registry Coordinator
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I would like to congratulate and acknowledge our Natural Areas Registry members for protecting their natural areas for future generations. It has been my pleasure to speak to and meet many of the wonderful landowners in our program. I am looking forward to working with all of you over this year. 2004 was a good year for making new contacts with interested landowners. 15 landowners have registered approximately 1,052-acres of property in 10 parishes in 2004. We now have 71 Natural Areas Registries with 34,425 acres in 25 parishes (See map).



Red Stars indicate location of registered Natural Areas.

We are acknowledging 4 new Natural Areas Registries this quarter totaling approximately 36 acres. We contacted Joyce McNeal about surveying her portion of Bayou Clear for Pearlshell mussels and she was delighted to register her property. Deb Burst approached us about registering her property during the Hummingbird Festival near Folsom where we had our display set up for the day, and she expressed an

interest in sharing news about Louisiana's Natural Areas Registry. Deb wrote an article "Louisiana's Natural Areas Registry: Residents Can Now Take Charge of Their Beloved Forest" and it will appear in the January 2005 issue of "Louisiana Homes and Gardens". The Gray and Smith families (sisters) contacted us after reading the Louisiana Natural Areas Registry article written by Patti Faulkner in the July/August issue of "Louisiana Conservationist". Their families are actively involved in a local organization, "Friends of Lower Coast" (FOLC), whose mission is to conserve wild areas.



Adeline Brown Bayou Clear Natural Area is an 8.7-acre old-growth small stream forest that is located in Rapides Parish and owned by Joyce McNeal of Adeline Brown Estate. This habitat contains tree species like Southern Magnolia and American Beech. Adeline Brown Estate property is important because one of the largest known populations of the endemic state-endangered, federally threatened Louisiana Pearlshell mussel (*Margaritifera hembeli*) occurs upstream in Rapides Parish.



Burst's Hardwood - Loblolly Forest Natural Area, a 6-acre hardwood – loblolly forest with a small stream flowing through, is located in St. Tammany Parish and owned by Deb Burst. An interesting shrub, Buttonbush (*Cephalanthus occidentalis*) can be found along the stream (flower shown above). A state-rare plant, Bird-bill Spikegrass (*Chasmanthium ornithorhynchum*) also occurs on Deb's property.



Two new natural areas consisting of approximately 6-acres each lie adjacent to one another and are owned by 2 sisters and their families in Orleans Parish. They are **Gray's Delacroix Hardwood Preserve Natural Area**, owned by Jo Ann and Houston Gray, and **Smith's Bottomland Treasure Natural Area**, owned by Patricia and Michael



Smith. Their natural areas consist of a large pond and bottomland forest with live oak ridges that function as important wildlife habitat. These forests serve as vital resting habitat for neotropical migratory birds because hundreds of different species of birds use these forests as a stop-over on their way north during Spring migration.



The owners remarked that an osprey (*Pandion haliaetus carolinensis*) visits their pond area regularly.

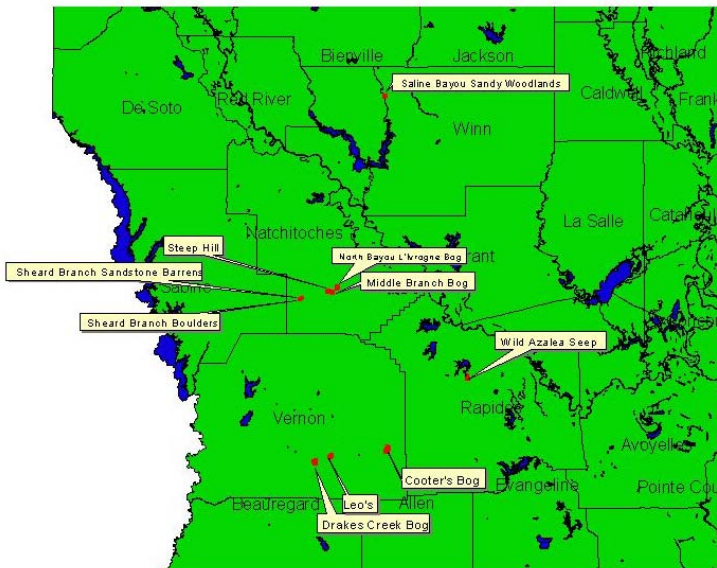
KISATCHIE NATIONAL FOREST NATURAL AREAS

by Judy Jones and community information from LNHP publication, *Natural Communities of Louisiana*



Kisatchie National Forest (KNF) has 10 registered areas that encompass 1,151 acres located in four parishes (Natchitoches, Rapides, Vernon, and Winn) of central Louisiana (see picture below). KNF registries are unlike other privately owned registries because they are publicly accessible. This was part of the discussion during a meeting that Patti Faulkner and I recently attended with the KNF staff in December 2004 to discuss their 10 registered natural areas: Cooter's Bog, Drakes Creek, Leo's, Middle Branch Bog, North Bayou L'Ivrogne, Saline Bayou Sandy Woodlands, Sheard Branch Sandstone Barrens, Sheard Branch Boulders, Steep Hill, and Wild Azalea Seep. KNF staff plan to add the registries to their web site and are delighted that we are sharing this information with members in our newsletter. Pictured above from left to right are: Shannon Sharp - botanist, Steve Shively - wildlife biologist, Converse Griffith - botanist, Jason Garrett - wildlife biologist, Peter Nilles - botanist, Judy Jones, and Bradley Kohls - wildlife biologist.

Location of 10 KNF Natural Areas located in 4 Louisiana parishes.



There are 10 different community types within KNF registered Natural Areas. These include: Hillside Bogs, Forested Seeps, Bayhead Swamps, Small Stream Forests, Western Upland Longleaf Pine Forests, Western Longleaf Pine Savannahs, Western Xeric Sandhill Woodlands,

Bottomland Hardwood Forests, Bald Cypress Swamps, and Sandstone Glades / Barrens. A brief description, pictures of associated plants, and name of KNF registered area are given below. Most of KNF Natural Areas also have one or more colonies of the federally endangered Red-cockaded Woodpeckers (*Picoides borealis*) and the Wild Azalea Seep Natural Area contains a population of the Louisiana Pearlshell mussel (*Margaritifera hembeli*).

HILLSIDE SEEPAGE BOGS or pitcher plant bogs are considered imperiled in Louisiana. These communities are open, continually moist, floristically diverse habitats occurring along slopes of ravines and hills in upland pine forests, primarily in central and western Louisiana, but present sporadically in the eastern Florida Parishes. Individual occurrences are usually limited in aerial extent, ranging from much less than one acre up to several acres. Frequent fire is essential to preclude invasion and site dominance by woody species. Peat build-up may be considerable to several inches. Soils are typically quite sandy and very acidic (pH 4.5-5.0). They are underlain by impervious sandstone or a clay layer that, when conditions are right, causes ground water to constantly seep to the soil surface. Recent studies show more than 100 plant species may be present in a bog. Vegetation is dominated by bluestems (*Andropogon* spp.) and three awn grasses (*Aristida* spp.).



Yellow trumpets (*Sarracenia alata*, shown left) are insectivorous plants common in these bogs. **Cooter's Bog Natural Area** is in Vernon Parish along the western banks of Big Brushy Creek. **Drakes Creek Natural Area** also is in Vernon Parish, as well as, **Leo's Natural Area** found along the western banks of Whisky Chitto Creek. **Middle Branch Bog Natural Area, North Bayou L'Ivrogne Natural Area, and Steep Hill Natural Area** are all located in Natchitoches Parish.

FORESTED SEEPS, considered rare in Louisiana, occur in central, western, and southeastern Louisiana, typically in mixed pine-hardwood forests, on hillsides, at the base of slopes, and in the narrow bottoms of small perennial or intermittent streams. They are usually very limited in size, seldom larger than a few acres, and often much smaller. Forested seeps on slopes are continually moist due to constant seepage forced to the surface by an underlying impervious layer. Soils are characteristically quite sandy and acidic. Sweet bay (*Magnolia virginiana*), black gum (*Nyssa sylvatica*), and red maple (*Acer rubrum*) usually dominate the overstory. The understorey is typically covered with ferns like cinnamon fern (*Osmunda cinnamomea*) shown above. Forested seeps may be found at **Cooter's Bog Natural Area** in Vernon Parish along the western banks of Big Brushy Creek, and **Middle Branch Bog Natural Area** in Natchitoches Parish.



BAYHEAD SWAMPS (baygalls), also rare communities in LA, are extremely variable ranging from a shrub dominated swamp to a mature swamp forest with evergreen shrubs forming the primary understory and midstory. Although very similar to forested seeps, the community is well developed and swamp-like, and occurrences are relatively sizable (typically at least a few acres). Bayhead swamps occur in the heads of creeks or branches, at the base of slopes, in acid depressions in pine flatwoods, and borders of swamps in north, central, western, and southeastern Louisiana. Soils are usually very acid, sandy in texture, and saturated, inundated, or at least moist throughout the growing season. Sweet bay (*Magnolia virginiana*, often dominant, and black gum (*Nyssa sylvatica*) are the common overstory trees. A diversity of shrubs or small trees, primarily evergreen, are prevalent in



the community like American Snowbell (*Styrax americana*) shown previous page. The herbaceous flora is usually sparse, but may include ferns and a few orchids. Sphagnum moss may be abundant and some bog-associated species. **Drakes Creek Natural Area** in Vernon Parish and **Wild Azalea Seep Natural Area** in Rapides Parish along Lamotte Creek contain bayhead swamps.

SMALL STREAM FORESTS, rare communities in Louisiana, are relatively narrow wetland forests occurring along small rivers and large creeks in central, western, southeastern, and northern Louisiana. They are seasonally flooded for brief periods. The percentage of sand, silt, calcareous clay, acidic clay, and organic material in the soil is highly variable, depending on local geology, and has a significant effect on species composition. Soils are typically classified as silt loams. Common trees include southern magnolia (*Magnolia grandiflora*) and beech (*Fagus grandifolia*) in southeastern and central Louisiana. Spruce pine (*Pinus glabra*) is a common associate in the Florida parishes of East Baton Rouge, East



Feliciana, West Feliciana, Livingston, St. Helena, St. Tammany, Tangipahoa, and Washington. Bald cypress (*Taxodium distichum*) and loblolly (*Pinus taeda*) are occasional associates statewide. Primary midstory and understory associates include Silverbell (*Halesia diptera*), and Wild Azalea (*Rhododendron canescens*), and in the Florida parishes, the dominant shrub, Starbush (*Illicium floridanum*) shown above. **Leo's Natural Area** in Vernon Parish has small stream forests within its boundaries.

WESTERN UPLAND LONGLEAF PINE FORESTS are imperiled communities in LA, occurring in the hilly uplands of western and central Louisiana on acidic loamy sands to acid clays associated with Pleistocene or Tertiary formations. This community is characteristically dissected by small to large branches or creek bottoms. Longleaf pine (*Pinus palustris*) is the dominant overstory species, and in locations where fire has frequently occurred, it is often the only canopy species. Where fire is less frequent or suppressed, a number of overstory associates may occur, including shortleaf (*Pinus echinata*), loblolly (*Pinus taeda*), and black gum (*Nyssa sylvatica*). The herbaceous flora may be very diverse if fire has frequently occurred and considered to be the most biologically diverse community in Louisiana. Grasses like piney woods dropseed (*Sporobolus junceus*), composites like sunflowers (*Helianthus* spp.), and legumes like Baptisia spp. (shown right) are predominant in the ground layer. **Cooter's Bog Natural Area** and **Leo's Natural Area** both in Vernon Parish, occur within upland longleaf pine forests. **Sheard Branch Boulders** and **Sheard Branch Sandstone Barrens Natural Area** in Natchitoches Parish are surrounded by longleaf pine forests.



WESTERN LONGLEAF PINE SAVANNAHS, considered critically imperiled in LA, are floristically rich, herb-dominated wetlands that are naturally sparsely stocked with longleaf pine (*Pinus palustris*). They historically dominated the Gulf Coastal Plain flatwood regions of southeast and southwest Louisiana. The term "savannah" is classically used to describe expansive herb-dominated areas with scattered trees. Wet savannahs occupy the poorly drained and seasonally saturated/flooded depressional areas and low flats, while the non-wetland flatwoods occupy the better drained slight ridges, and "pimple mounds" (only southwest LA). Pine savannahs are subject to a highly fluctuating water table, from surface saturation/ shallow flooding in late fall/winter/early spring to growing-season droughtiness. Soils are hydric, very strongly acidic, nutrient poor, fine sandy and silt loam, and are low in organic matter. Soils may be underlain by an impeding layer so that they are only slowly permeable and water runs off the surface gradually. Herbaceous vegetation of pine savannahs is very diverse



and dominated by graminoids like bluestems (*Schizachyrium* spp.), beak-rushes (*Rhynchospora* spp.) and similar to that occurring in hillside bogs. Forbs common in the community are gerardias (*Agalinis* spp., shown left) and meadow beauties (*Rhexia* spp.). Fire frequency is a major factor controlling species occurrence and community structure. Without frequent fire (preferably growing season burns which mimic historic fire regimes), shrubs, and eventually trees, especially hardwoods, would gain dominance and eliminate most of the herbaceous flora. **Drakes Creek Natural Area** in Vernon Parish. **Middle Branch Bog Natural Area**, **North Bayou L'Ivrogne**, and **Steep Hill Natural Area** in Natchitoches Parish.

WESTERN XERIC SANDHILL WOODLANDS, rare to imperiled in Louisiana, occur principally in the uplands of central and northwestern Louisiana, but are found very infrequently in the eastern



Florida Parishes. They develop on deep, sandy soils associated with Tertiary formations in central and northwestern Louisiana (particularly the Sparta formation), and Pleistocene intermediate terraces in southeastern Louisiana. Trees are often stunted because of extreme site conditions.

The community may have the appearance of a scrubby shrub-woodland. Small, natural openings may be scattered. Overstory trees may include sand post oak (*Quercus stellata* var. *margaretta*), and shrub species may include fringe-tree (*Asimina parviflora*). The herbaceous layer is sparsely developed and there are many state-rare species indigenous to this habitat like scarlet catchfly (*Silene subciliata*) shown above). **Saline Bayou Sandy Woodlands** in Winn Parish along scenic Saline Bayou is an example of this community type.

BOTTOMLAND HARDWOOD FORESTS, a relatively common natural community in LA, are forested, alluvial wetlands occupying broad floodplain areas that flank large river systems. They are predominantly associated with the Mississippi, Red, Ouachita, Pearl, Tensas, Calcasieu, Sabine, and Atchafalaya River floodplains. Bottomland forests contain a number of species which can be aggregated into specific associations or communities based on environmental factors such as physiography, topography, soils, and moisture regime. Natural communities currently recognized by the Heritage program in Bottomland Forests are: 1) Overcup Oak-Water Hickory Forest 2) Hackberry-American Elm-Green Ash Forest 3) Batture (Cottonwood-Willow) 4) Sweetgum-Water Oak Forest and 5) Live Oak Forest. Bottomland hardwood forests are important natural communities for maintenance of water quality, providing a very productive habitat for a variety of fish and wildlife, and are important in regulation of



flooding and stream recharge. Relatively extensive stands of giant cane (*Arundinaria gigantea*) may occur sporadically in some bottomland forests. It is not the availability of water that regulates plant distributions, but the availability of oxygen, or lack thereof, due to the presence of water. Green ash (*Fraxinus pennsylvanica*), fruit shown above) is a common overstory tree to all of the forest types and many vines like trumpet-creeper (*Campsis radicans*) are prevalent. **Saline Bayou Sandy Woodlands** in Winn Parish along scenic Saline Bayou contains some bottomland hardwoods.

BALDCYPRESS SWAMPS, also a prevalent natural community type in LA, are forested, alluvial swamps growing on intermittently exposed soils. The soils are inundated or saturated by surface water or groundwater on a nearly permanent basis throughout the growing season except during periods of extreme drought. Bayous commonly intersect these wetlands and there is relatively low floristic diversity. Baldcypress (*Taxodium distichum*) is the dominant overstory species. Baldcypress seeds cannot germinate underwater nor can young



seedlings survive a long submergence. Establishment of young trees can only occur during periods of exceptionally long drought. This probably explains why baldcypress tends to occur in even-aged stands, -- the environmental conditions favorable for germination and establishment of saplings occur very infrequently. Swamps in Louisiana, and elsewhere in the U.S., have been shown to be important nutrient and sediment sinks, improving the quality of water that flows through them. Many aquatic food webs depend on the input of

allochthonous material in the form of leaf litter or other organic debris that the wetland forest provides. Decomposition of litter occurs so rapidly that very little buildup of organic matter occurs on the forest floor. *Procambarus spp.* (crawfish) amphipods, and aquatic insect larvae are probably the most important detritivores in the community. Bald eagles (*Haliaeetus leucocephalus*) and other birds use swamps as nesting, roosting, and feeding grounds (see Roseate Spoonbills, *Ajaja ajaja*, pictured above, photo taken by Charles Bush at Lake Martin). Reptiles and amphibians are especially abundant in this community. Heavy cutting of this forest often causes a reversion to almost pure tupelo gum. Baldcypress swamp may increase in area by encroaching into adjacent freshwater marshes undergoing sediment build-up. **Saline Bayou Sandy Woodlands** in Winn Parish has a baldcypress forest within its boundaries.

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SANDSTONE GLADE / BARRENS are imperiled to critically imperiled in Louisiana. This natural community develops on outcropping sandstone in pine forests, chiefly in a belt running from northeast to southwest across central Louisiana, and is primarily associated with the Catahoula formation. The community appears as a complex of sandstone boulders, intermixed with shrubs and trees occurring as individuals or in patches. Associated soils are characteristically acidic and are highly erodible, often eroding to form an irregular, sandstone-studded landscape of gullies, bluffs, and miniature gorges and buttes. Much of the soil and rock is unvegetated. Many indigenous plants grow in sandstone barrens like Nuttall's rayless goldenrod (*Bigelovia nuttallii*), shown above among mosses and lichens that blanket the ground. **Sheard Branch Sandstone Barrens and Sheard Branch Boulders Natural Areas** in Natchitoches Parish contain sandstone glades/barrens.



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