



Louisiana Natural Areas Registry Quarterly Newsletter

January 2011
Volume 8 Number 2 of 4

Working with landowners towards conservation of
Louisiana's native habitats

<http://www.Louisiana.gov/experience/naturalheritage/naturalareasregistry/>

Louisiana Conserva

Can you name the plant inside the dashed area?
Look on the last page for the answer.

[rchive.org/details/louisianaconserv1649depa](http://www.Louisiana.gov/experience/naturalheritage/naturalareasregistry/archive.org/details/louisianaconserv1649depa)



NATURAL AREAS UPDATE

We are recognizing one new Natural Area this quarter. This addition brings our Natural Areas to 114, capturing 36,726 acres in 36 of 64 parishes. **FLEETA SPRINGS NATURAL**

AREA is a 27 acre site owned by James and Meriget Turner in Vernon Parish. It supports four plant communities that include Mixed Hardwood Loblolly Pine Forest, Forested Seep (shown at right), Shortleaf Pine/Oak-Hickory Forest, and Western Hillside Seepage Bog. Fleeta Springs, a sandy perennial stream, flows through the property and promotes the formation of forested seeps and a hillside



seepage bog as it passes from east to west until it meets the banks of Anacoco Lake. Shortleaf pine/oak-hickory forests occur on the ridge tops and transition into mixed hardwood loblolly pine forests as the hillsides

slope into the stream bottoms. Many older (100 plus years) longleaf pine trees, with characteristic flat tops, occur on the ridge tops. Eastern Purple Coneflower (*Echinacea purpurea*) shown above, a state rare plant species, has been recorded here along with an extensive plant species list totaling 177 native species.

RANDY WIGGINS has joined the Louisiana Natural Heritage Program staff as our new field biologist. He is a

native of Shreveport, Louisiana. Randy received his Bachelors degree in wildlife biology from Louisiana Technical College (LA TECH) in Ruston in August 2008. He completed an internship conducting white-tailed deer surveys that involved capturing and fitting fawns with radio collars for telemetry at Barksdale Air Force Base. He was hired in May 2010 by Louisiana Department of Wildlife and Fisheries to capture oiled birds at Grand Isle. Randy



Randy Wiggins with
white tail fawn

joined LNHP in January 2011 and will be working on endangered and threatened species projects.

UPDATE OF LNHP PROJECTS

The Louisiana Natural Heritage Program (LNHP) staff works on many biological projects throughout the year. Each staff member has their own duties, and assists fellow staff members with their projects.

BOTANICAL: Amity Bass and Chris Reid are working on a project to determine the status of longleaf pine savannahs in the state. They are also targeting upland longleaf, sandhills, sandbars, batture, bottomland hardwoods, and mesic hardwood flatwoods habitats for a natural community enhancement project. Chris Reid is working on botanical surveys statewide on selected species and will focus more time on inventory work of our Wildlife Management Areas (WMAs). Amity Bass is working on a project for the protection/restoration of Louisiana's only endemic plant species. *Iris nelsonii*, which is found only in the Turkey Island swamp of Vermillion parish, entirely on private land. LDWF is partnering with Louisiana State Parks to develop an exhibit of *Iris nelsonii* that will be accessible to the public at Palmetto Island State Park in Vermillion Parish. Surveys will be conducted on private land to determine the status of this species. A cooperative stewardship effort is underway involving Louisiana Department of Wildlife and Fisheries, Acadia RC&D Council, USGS, The Nature Conservancy, NRCS, and private landowners to restore the Midland Prairie located in Acadia Parish. Chris Reid is currently preparing four papers for publication in peer-reviewed journals that pertain to Louisiana floristics and regional phytogeography.

NONGAME: Beau Gregory and Keri Landry's projects include Gopher tortoise habitat improvement and determination of burrow occupancy rate in Louisiana, and surveys for ringed map turtles located in Pearl River. Beau Gregory is working with multiple partners on a Louisiana pine snake reintroduction project, a project dealing with surveillance for White Nose Syndrome in bats, and oil spill damage assessment.

Jeff Boundy is working on Louisiana herpetofaunal surveys to obtain new baseline data, re-survey, and establishment of permanent monitoring sites. The objective of this study is to conduct replicable surveys to gather catch-per-unit-effort data on amphibian and reptile species by habitat and season.

Beau Gregory and Michael Seymour are planning for shrike surveys, winter bird atlas, and winter plover census that will occur later this year. Michael's projects include the Rusty Blackbird Blitz, International Piping Plover Census, Loggerhead Shrike banding and color-marking for winter site fidelity (return to site in consecutive years), Mid-winter eagle surveys, and Monitoring Avian Productivity and Survivorship Study (MAPS) season 2011. MAPS studies the effects of

LDWF's silviculture practices (i.e., shelterwood harvest, group/individual selection harvest, and no-harvest) on nongame land bird populations in a bottomland hardwood ecosystem. MAPS results will help guide LDWF forest management decisions.

DATABASE: Nicole Lorenz is working on an EPA project to document the types of species located in 7.5 square mile quads using GIS software. She is also working on a dual State Wildlife Grant project with the Scenic Rivers Program that will inventory all species and habitats of conservation concern known to occur on or adjacent to state designated natural and scenic rivers. Data collected will be used to update management plans for the 80 scenic streams or stream segments located throughout Louisiana. The data will also be used to develop a list of unique habitats and species that will be organized by each stream, giving regulatory and commenting agencies easily accessible data to aid in determining whether a proposed activity impacting a System River should be authorized. The inventory will be made available online. Carolyn Michon is working on projects that map LNHP project reviews. Carolyn makes comments after determining if rare, threatened, or endangered species/communities occur in the project sites. Blaine Cerame is inputting data into the LNHP database concerning: 2010 piping plover surveys, Louisiana pine snake, paddlefish, pallid sturgeon, gulf sturgeon, and waterbird nest colonies on Lacassine National Wildlife Refuge.

NATURAL AREAS: Judy Jones is in the process of adding 12 properties totaling 9,176 acres to the Natural Areas Registry Program. She is working with seven landowners to arrange visits to their properties for consideration as future Natural Areas. Wafer Creek Ranch Natural Area is in the process of becoming the first permanent servitude.

MAP TURTLE SURVEYS

By Keri Landry and Beau Gregory, Edited by Judy Jones

INTRODUCTION: The ringed map turtle, *Graptemys oculifera*, and Pascagoula map turtle, *Graptemys gibbonsi*, occur in the Pearl River and one of its tributaries, the Bogue Chitto River, in Louisiana and Mississippi. *G. oculifera* is endemic to this drainage and recent molecular work has indicated that *G. gibbonsi* within this river system is genetically distinct and has been renamed *G. pearlensis* (Jones and Selman 2009). We chose to retain *G. gibbonsi* for this report for comparative purposes. The Bogue Chitto River is a major tributary in the lower reaches of the Pearl River System in Washington and St. Tammany parishes and contains suitable habitat for *G. oculifera* and *G. gibbonsi*.

Both species prefer stretches with moderate current, sand beaches for nesting, and an abundance of logs for basking. In 1999, the Louisiana Natural Heritage Program (LNHP) conducted basking surveys along an approximate eighty-five

km stretch of the Bogue Chitto River in Louisiana to assess population status. Periodic surveys within this river system are necessary to evaluate population trends. For the current project, we replicated the 1999 surveys along the Bogue Chitto River and present the 2009-2010 survey data and trends. In his 1999 article published in Biological Conservation, Peter Lindeman stated the importance of these surveys for map turtles with the statement, "Basking density should serve as a useful indicator of population stability or increase, especially if counts are replicated to dampen variation and if methodology is consistently applied, particularly with regard to time of the year and climatic conditions."

GOALS: There are two goals for these surveys that include the replication of the 1999 survey in the Bogue Chitto River and to update LNHP database with current locality data for both species.

Survey Methodology: Surveys were last conducted by the LNHP on the Bogue Chitto River in Louisiana in 1999 to assess population status and to compare with data from the Pearl River. Surveys were re-initiated in 2009 to assess current status of *G. oculifera* and *G. gibbonsi* populations within this tributary and to compare with data from previous surveys. Survey methodology used during previous surveys (Shively, 1999) was replicated in 2009-2010 under similar conditions to facilitate a comparison of local population levels. Data analysis used during 2009-2010 is similar to the 1999 report to facilitate data comparison.

Various stretches of the Bogue Chitto River from LA 438 in Warnerton, LA near the Louisiana-Mississippi State line to LA Highway 21 in Sun, LA just west of the Pearl River were surveyed for basking turtles (**Table 1 and Figure 1**). The entire project area was divided into smaller survey sites, as described below, with start and end points consistent with access to bridge or ramp locations for a canoe and equipment. For the purpose of data comparison, survey section descriptions are



Adult female *Graptemys oculifera* basking on a log in the Pearl River in Mississippi. Photo by Robert L. Jones

consistent with the 1999 surveys.

Table 1. Description and survey dates for sections of Bogue Chitto River that were surveyed for map turtles.

Section	Description	Survey Dates
1'	Warnerton, LA to Clifton, LA	June 29 & 30, 2009
2	Clifton, LA to Franklinton, LA	May 19, 20, & 21, 2010
3	Franklinton, LA to Enon, LA	July 20 & 23, 2009
4	Enon, LA to Isabel, LA	June 7, 8, & 10, 2010
5a'	Isabel, LA to 5 Lakes Campground	July 14, 15, & 21, 2009
5b	5 Lakes Campground to Sun, LA	June 24, 2010

A canoe with oars was used to float downstream along each survey site while stopping at the upstream end of each sandbar to search for basking turtles. A pair of 10x40 binoculars was used initially from the start of the site to locate basking turtles and to minimize the chance for turtles to become wary and escape to the water. A spotting scope with 20-60x zoom eyepiece and mounted on a tripod was then used from somewhat concealed locations along the sandbar for identifying all turtle species along each survey site. Several locations along each survey site were used to search for turtles basking on partially submerged woody debris located around the entire length of the sandbar. The end of each site was determined by the extent at which turtles could be viewed on logs downstream.

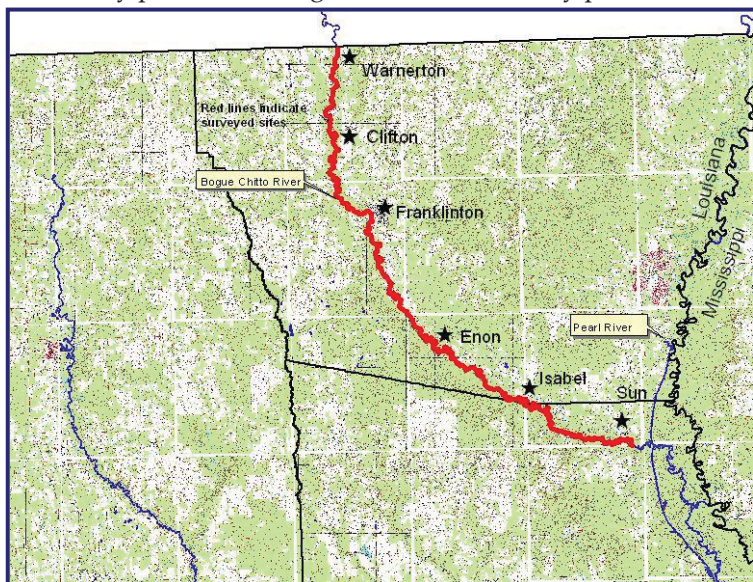
Survey dates for 2009-2010 closely coincide with the 1999 survey dates. Shively (1999) recommended that surveys not be conducted during late summer because basking rates are expected to decrease when water temperatures rise too high; therefore, surveys in 2009-2010 ceased during mid-July. GPS points were taken at the start and end of the viewing range for each survey site. Data collection included turtle species, number of individuals, age class and sex of *G. oculifera* and *G. gibbonsi*, number and size of available basking sites, and approximate percentage of habitat types (cut bank, sandbars, forested) for both the left and right descending banks of the



Adult female *Graptemys oculifera* basking on a log in the Pearl River in Mississippi. Photos by Robert L. Jones

river. Any disturbances or changes to the flow of the river since the 1999 surveys were noted on datasheets.

Figure 1. Red line indicates surveyed areas on the Bogue Chitto River from Warnerton to Sun, LA in Washington and St. Tammany parishes during the 2009-2010 survey periods.



RESULTS: A total of 808 turtles were counted during this survey effort. The most common species observed basking were *G. oculifera* (ringed-map turtle), *G. gibbonsi* (Pascagoula map turtle), and *Pseudemys* sp. (cooters and red-bellied turtles) which are consistent with the 1999 surveys (Table 2). *G. oculifera*, *G. gibbonsi*, and *Pseudemys* sp. frequently shared logs and debris while basking. A total of 208 *G. oculifera*, 257 *G. gibbonsi*, and 215 *Pseudemys* sp. were observed within the surveyed sites which is consistently lower than compared to the 1999 surveys (Table 3).

Table 2. Total number of individuals and percentage per species observed during the 1999 and 2009-2010 survey periods. *Graptemys oculifera* and *G. gibbonsi* were identified to species while others were identified to Genera or were Unidentified.

1999			2009-2010		
Species	Total	% of Total	Species	Total	% of Total
<i>Pseudemys</i>	655	39	<i>Pseudemys</i>	215	27
<i>G. oculifera</i>	513	30	<i>G. oculifera</i>	208	26
<i>G. gibbonsi</i>	370	22	<i>G. gibbonsi</i>	257	32
Unidentified	76	4	Unidentified	51	6
<i>Apalone</i>	44	3	<i>Apalone</i>	4	<1
<i>Graptemys</i>	15	1	<i>Graptemys</i>	69	8
<i>Sternotherus</i>	13	1	<i>Sternotherus</i>	1	<1

Unidentified *Graptemys* consisted of approximately 8 percent (69 individuals) of the total count of turtles with 6 percent of unidentified turtles (51 individuals) observed during this survey effort. Other species included 3 *Trachemys scripta* (sliders), 1 *Sternotherus* sp. (musk turtles), 4 *Apalone* sp.

(softshell turtle) and 51 unidentified turtles. One *Terrapene carolina* (eastern box turtle) was spotted walking out of the river onto a sandbar during surveys along Section 5a' (Isabel to 5 Lakes).

The total length surveyed for basking turtles is 43.99 km. The total number of basking *G. gibbonsi* per total survey length (km) was slightly higher than *G. oculifera*. A consistently higher number of *G. oculifera* was observed along all survey sections during the 1999 survey effort. *G. gibbonsi* numbers were higher during the 1999 survey along Sections 2, 3, and 5b and nearly stable for the remaining sections. *Pseudemys* sp. appeared significantly higher in the upstream reaches of the river (Sections 1, 2, 3).

Table 3. Comparison of individual numbers of the three most common turtle species and unidentified turtles (UID) observed per survey section on the Bogue Chitto River in Louisiana during the 1999 and 2009-2010 survey periods.

	1999				2009-2010			
	<i>G. oculifera</i>	<i>G. gibbonsi</i>	<i>Pseudemys</i>	UID	<i>G. oculifera</i>	<i>G. gibbonsi</i>	<i>Pseudemys</i>	UID
1'	18	9	60	1	7	9	9	2
2	66	48	175	3	41	22	45	3
3	187	138	278	1	61	99	65	31
4	120	74	58	6	50	70	58	18
5a'	66	57	23	2	35	47	36	14
5b	46	39	27	2	14	10	2	1
Total	513	370	655	15	208	257	215	69

DISCUSSION: Possible reasons for lower turtle numbers during the 2009-2010 survey effort include fewer individual turtles present, fewer available basking sites, or increased wariness of turtles to disturbance during surveys. Basking turtles farther upstream (Sections 1', 2, 3) seemed more wary and were quicker to escape to the water when startled than those encountered downstream (Sections 4, 5a', 5b). There are 2 canoe outposts along the downstream sections with many canoeists/tubers using the river during the peak of surveys. Turtles were observed remaining perched on logs with tubers traveling approximately 8-10 feet from their basking area. Turtles observed farther downstream appear to be more habituated to humans than those observed farther upstream where there is not as much disturbance. Although consistent with the previous survey data (Shively 1999), the higher number of turtles counted along the downstream reaches of the Bogue Chitto River during the recent survey may have been one result of turtle acclimation to human disturbance (Jones and Hartfield 1995).

A slightly higher number of unidentified *Graptemys* sp. (69 vs. 15 turtles) was observed during the recent survey and may be a result of observer experience and wary turtles. Although there was a lower number of unidentified turtles during the recent survey compared to the 1999 data (51 vs. 76 turtles).

Total number of *G. gibbonsi* observed during this survey effort was slightly higher than *G. oculifera* although total numbers per section varied.

No evidence of reproduction was observed during the 2009-2010 surveys, although with time constraints, not much time was given to nest searching. Nest surveys would provide vital information which would be beneficial in protecting these map turtles.

Environmental and habitat data was collected during the 2009-2010 surveys and should be analyzed in the future to examine possible causes of the current decline in turtle numbers along the Bogue Chitto River in Louisiana.

RECOMMENDATIONS:

- The Bogue Chitto River is designated as a Natural and Scenic River under the LDWF Scenic Rivers Program; therefore, it is protected from clearing or snagging. Continue to use Best Management Practices for Streamside Management Zones to protect exposed sandbars and maintain deadwood for basking sites.
- As required by the ringed map turtle recovery plan for delisting, there should be evidence of increasing populations within the Pearl River System and its tributaries over a 10 year period. Conduct periodic surveys to monitor population trends.
- Minimize anthropogenic (resulting from the influence of humans) changes in river hydrology, which limits the availability of exposed sandbars, and causes decreased water quality to prevent further declines in current populations. Conduct all work as necessary to minimize impacts such as heavy runoff and siltation.
- Future projects should include a comprehensive analysis of habitat data collected during the 2009-2010 surveys. Results of analysis would provide valuable information to address potential reasons for the declines illustrated in the results of this survey effort.

ACKNOWLEDGEMENTS: The U.S. Fish and Wildlife Service provided Section 6 funding in support of this survey effort. We thank Nicole Lorenz and Blain Cerame (LDWF-LNHP), Steve Shively (USFS-Kisatchie National Forest), Seth Shively, Rob Smith (USFWS), and Matt Weigel (LDWF- Scenic Rivers Program) for assisting with surveys. We are grateful to the LDWF Scenic Rivers Program staff and Andre LaFosse with LDWF Inland Fisheries for use of their canoes. We also thank Wayne's World and Bogue Chitto Tubing Centers and 5 Lakes Campground owner for river access.

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MYSTERY PLANT

The mystery plant in the photo on the first page is **PURPLEHEADED SNEEZEWEED** (*Helenium flexuosum*), shown above. This photo was taken by LNHP



staff in May 2009. Flowering typically peaks in May. Sneezeweeds got their name because the dried powdered leaves and flower heads cause violent sneezing. Purpleheaded sneezeweed occurs in a number of habitats including pond margins, stream banks, ditches, wet depressions of prairies, pastures, and moist areas of glades. They and other species in the genus *Helenium*

contain a lactone known as Helenalin, a compound that is poisonous to various animals. This species is often found standing alone in pastures as cows will not eat it. In the



photo on the first page, Purpleheaded sneezeweed is surrounded by tanzy dogshade (*Limnoscium pinnatum*) shown above. Tanzy dogshade is the white flowering plant carpeting the saline prairie that is registered as Dickson Nature Preserve Natural Area in DeSoto Parish.

REFERENCES:

USDA Plants Database at <http://plants.usda.gov/java/>

Lady Bird Johnson Wildflower Center with University of Texas at Austin. http://www.wildflower.org/plants/result.php?id_plant=HEFL

Helenium flexuosum page at http://www.missouriplants.com/Yellowalt/Helenium_flexuosum_page.html

PREVIOUS NEWSLETTER, OCTOBER 2010, VOL. 8, NO. 1 OF 4. We gave an update on the total number of registered areas and introduced one new Natural Area. An article was presented on Coastal Prairies. A progress report for the Midland Prairie restoration project and information on the Cajun Prairie Habitat Preservation Society were provided. The mystery photo was a close up of a wing of the pipevine swallowtail.

LOUISIANA NATURAL HERITAGE PROGRAM (LNHP)

Louisiana Department of Wildlife and Fisheries
2000 Quail Drive; P.O. Box 98000; Baton Rouge, LA
70898-9000

AMITY BASS - Biologist Manager/Community Ecologist
(225) 765-2975, abass@wlf.la.gov

JEFF BOUNDY - Herpetologist
(225) 765-2815, jboundy@wlf.la.gov

DALE BREITHAUP - Student Worker
dbreithaupt@wlf.la.gov

BLAIN CERAME - Technician
bcerame@wlf.la.gov

CONNIE DUNN - Administrative Assistant
(225) 765-2811, cdunn@wlf.la.gov

BEAU GREGORY - Zoologist
(225) 765-2820, bgregory@wlf.la.gov

JUDY JONES - Natural Areas Registry Coordinator
(225) 765-2822, jjones@wlf.la.gov

KERI LANDRY - Field Biologist
(225) 765-2809, klandry@wlf.la.gov

NICOLE LORENZ - Data Manager
(225) 765-2643, nlorenz@wlf.la.gov

TRACY MANCUSO - Administrative Program Specialist
(225) 765-2812, tmancuso@wlf.la.gov

CAROLYN MICHON - Assistant Data Manager
(225) 765-2357, cmichon@wlf.la.gov

CHRIS REID - Botanist
(225) 765-2828, creid@wlf.la.gov

MICHAEL SEYMOUR - Nongame Avian Biologist
(225) 763-3554, mseymour@wlf.la.gov

RANDY WIGGINS - Field Biologist
(225) 765-2823, rwiggins@wlf.la.gov