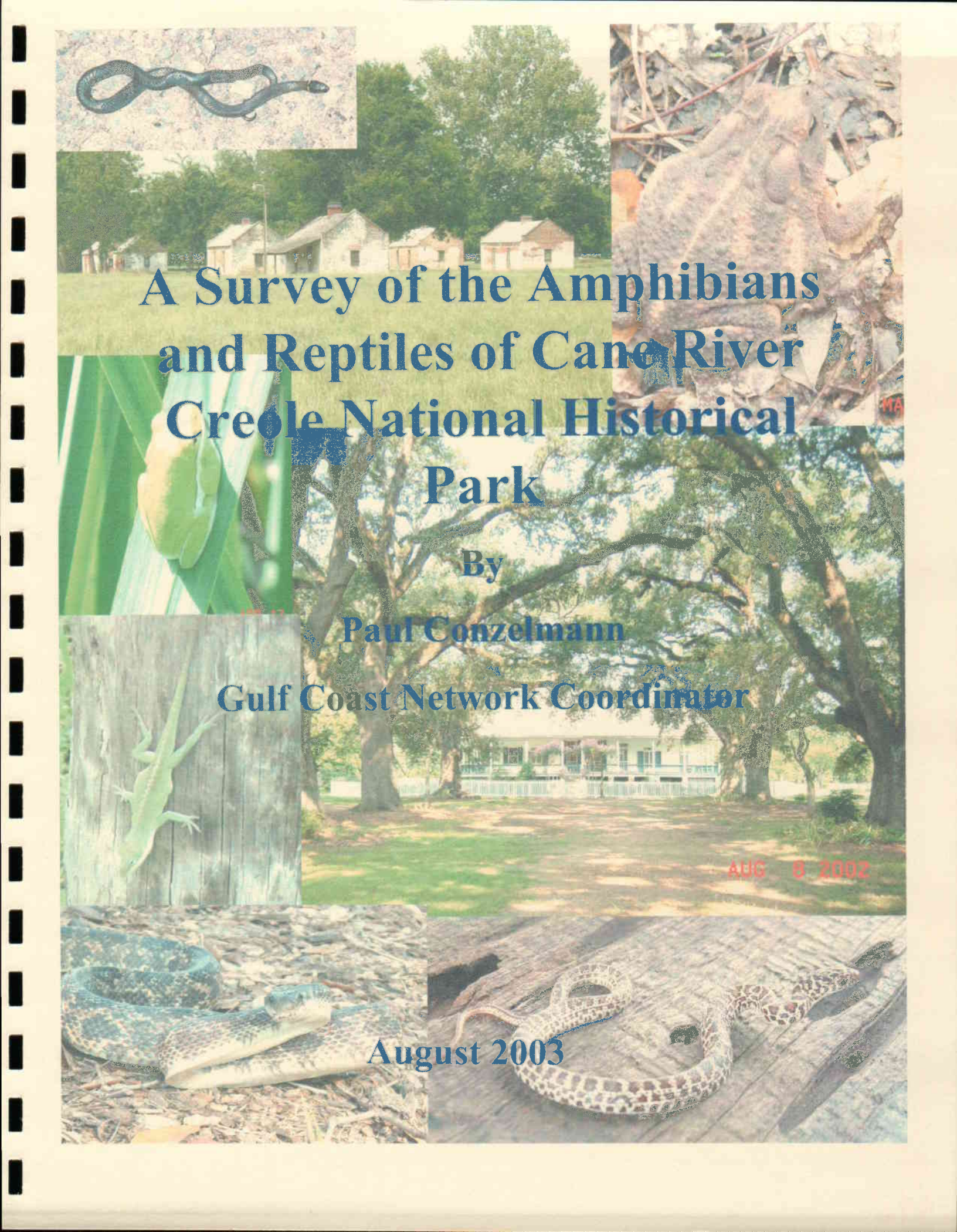




A Survey of the Amphibians and Reptiles of Cane River Creole National Historical Park

By

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Gulf Coast Network Coordinator

August 2003

**A SURVEY OF THE
AMPHIBIANS AND REPTILES
OF CANE RIVER CREOLE
NATIONAL HISTORICAL PARK**

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Survey of the Amphibians and Reptiles of Cane River Creole National Historical Park

ABSTRACT: This is a survey of the amphibians and reptiles of the Magnolia and Oakland Plantation Units of Cane River Creole National Historical Park. The field sampling for this amphibian and reptile survey was conducted biweekly for the most part, beginning on December 4, 2001 and terminating on March 13, 2003. The fieldwork recorded thirteen herpetozoan species at or near the Magnolia Plantation Unit: three frogs/one toad, three turtle, four lizard, and two snake species and seventeen species at or near the Oakland Plantation Unit: four frog/one toad, four turtle, four lizard, and four snake species. No federal or state threatened or endangered species were found within the park. Voucher specimens were collected if possible of all species encountered for both the Magnolia and Oakland Units. Those vouchers will be housed at the Louisiana State University's Museum of Zoology in Baton Rouge, Louisiana.

INTRODUCTION

This report summarizes the results of an amphibian and reptile survey of the Magnolia and Oakland Plantation Units of the Cane River Creole National Historical Park. Fieldwork to locate species within the park boundaries began on December 4, 2001 and terminated on March 13, 2003. The survey inventoried and assessed the herpetofauna found within or immediately adjacent to the Magnolia and Oakland Park boundaries. A single voucher specimen for each park unit was collected and appropriate data recorded for most species (i.e., those that could be captured during the field survey). Thus, vouchers now exist for most species recorded, while exceptions are detailed in the individual species accounts.

PARK BACKGROUND

The United States Congress established this National Park Service unit as Cane River Creole National Historical Park (CARI) in November 1994. Areas protected by the National Park Service include Oakland Plantation and Magnolia Plantation located along the Cane River in Natchitoches Parish, Louisiana (Figures 1 and 2). The Oakland Plantation (Headquarters) Unit is located on LA Highway 494, just 10 miles south of the city of Natchitoches, Louisiana and is nearest to Natchez, Louisiana. The Magnolia Plantation Park Unit is located on LA Highway 119, just 14 miles south of Oakland Plantation, near Derry Louisiana.

As a new unit within the National Park System, these plantation sites demonstrate the history of colonization, frontier influences, French and Creole architecture, cotton agriculture, slavery and tenancy labor systems, changing technologies, and evolving social practices over two hundred years. The park's physical resources consist of over 63 cultural resources, 41 of which are historic



Figure 1. Cane River Creole National Historical Park's Oakland Plantation Unit, Natchitoches Parish, Louisiana

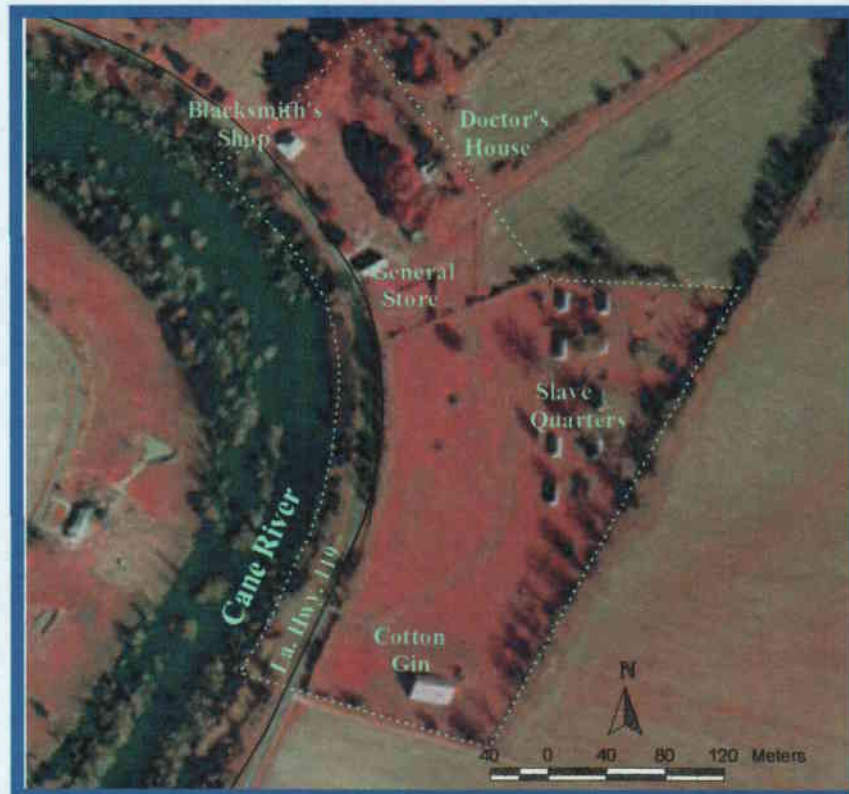


Figure 2. Cane River Creole National Historical Park's Magnolia Unit, Natchitoches Parish, Louisiana.

vernacular buildings of the antebellum period; an impressive cultural plantation landscapes; family and plantation records; and an extensive collection of farming tools, equipment, historic furniture, and Family personal items estimated at about 250,000 total objects.

Natchitoches Parish, Louisiana sits about 130 feet (~40 meters) above sea level, while both Oakland and Magnolia Plantations lie just above the 100 foot contour line (31-33 meters above sea level). The area enjoys a semi-tropical climate with a complete seasonal cycle. Winter months are usually mild with cold spells of short duration that move in from the west and northwest, with temperatures only rarely going below freezing. Summer months can be quite hot and humid mainly caused by moist air moving inland from the Gulf of Mexico. The average annual temperature ranges between 65-70°F (18-21°C) and the mean annual precipitation varies from about 84-102 inches (213-259 cm). Summer temperatures are high and average between 80-85°F (27-29°C) in July and August. Winter temperatures are moderate and average between 45-50°F (7-10°C) in January. Precipitation averages between 7-8.5 inches (18-21.5 cm) per month (National Climatic Data Center 2003).

Both of CARI's Magnolia and Oakland Units are located on soils classified as Roxana very fine sandy loam. This type of soil is described as level and well drained in high positions on natural levees of the Red River; it covers areas ranging from 30 to several hundred acres, with slopes typically less than one percent. Roxana is typically a yellowish-red neutral very fine sandy loam in the surface six inches (15 cm). The Oakland Unit, while almost entirely Roxana, borders on and may include Moreland silt loam in the extreme western portion of the property. Moreland silt loam is a level, somewhat poorly drained soil. It is found in low positions on natural levees of the Red River alluvial plain, coverage is long and narrow in 10 to 300 acre areas, with slopes less than one percent. This soil is typically a reddish brown, mildly alkaline silt loam in the surface eight inches (20 cm) (U.S. Dept. of Agriculture 1990).

Both units of the park are situated on the banks of the Cane River, basically a small bayou. Both have numerous historical structures, i.e., 30 on Oakland and 18 on Magnolia (Figures 3 and 4), scattered within mostly open grassy areas surrounded or interspersed by narrow vegetated strips or fencerows. Aquatic habitat on the park proper is lacking except for a small man-made pond on the Oakland Unit. Adjacent aquatic habitat is basically the Cane River. The river's bank at Magnolia (i.e., the strip between the La. Highway 119 and the bayou's waterline) is fairly wide, very steep, and vegetated mainly with **sugarberry** (*Celtis laevigata*), **swamp privet** (*Forestiera acuminata*), **Chinese bamboo**, and vines of **poison ivy** (*Toxicodendron radicans*), **Virginia creeper** (*Parthenocissus quinquefolia*), and **smilax** (*Smilax sp.*). The bayou's bank at Oakland was cleared in the recent past and is now covered with low scrubby herbaceous vegetation and grasses.

The open grassy areas on the Oakland unit contain a scattering of mature trees, mostly **pecans** (*Carya illinoensis*), **live oaks** (*Quercus virginiana*), and a smattering of **Catalpa** (*Catalpa bignonioides*), **chinaberry** (*Melia azedarach*), and **southern magnolia** (*Magnolia grandiflora*).

Those mature trees of the open-areas had large **poison ivy**, **Virginia creeper**, and **wild grapevines**



Figure 3. Layout of Man-Made Structures at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



Figure 4. Layout of Man-Made Structures on the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

(*Vitis* sp.) growing into their crowns prior to establishment of the park, when they were cut to reduce the hazard of **poison ivy** to park personnel and visitors (Figure 5).

Smaller ornamental-fruit-type trees scattered about near the residential structures include **American holly** (*Ilex opaca*), **common fig** (*Ficus carica*), **common jujube** (*Ziziphus jujuba*), and **common crapemyrtle** (*Lagerstroemia indica*).

The vegetated strips and fence rows at Oakland Plantation are composed mainly of **sugarberry**, **common honey locust**, (*Gleditsia triacanthos*), **toothache tree** (*Zanthoxylum clava-herculis*), **trifoliate orange** (*Citrus trifoliata*), and **osage orange** (*Maclura pomifera*), with a fair representation of **red cedar** (*Juniperus virginiana*), **black cherry** (*Prunus serotina*), **Chinese tallow** (*Sapium sebiferum*), **persimmon** (*Diospyros virginiana*), **honey suckle** (*Lonicera japonica*), **rattan vine** (*Berchemia scandens*), **smilax vines** (*Smilax* sp.), **poison ivy**, and **Virginia creeper**. Other notable Oakland vegetation includes **yellow flag** (*Iris pseudacorus*) in the man-made pond and **resurrection fern** (*Polypodium polypodiodes*) and **mistletoe** (*Phoradendron serotinum*) in the crowns of many trees.



The open grassy areas on Magnolia Plantation contained several mature trees, mostly **pecans**, **sycamore** (*Platanus occidentalis*), and **live oaks** with abundant **resurrection fern** in the crowns of the latter. Magnolia's vegetated fencerows are composed mainly of **sugarberry** with a fair representation of **chinaberry**, **black willow** (*Salix niger*), **honey suckle**, **smilax**, **wild grape**, **Virginia creeper**, and **poison ivy**.

Most of the mature trees until recently had some fairly large lianas [e.g., **Virginia creeper**, **poison ivy**, and **wild grape**] growing into their crowns. As on Oakland Plantation, many of those vines were cut when the park was established to reduce the **poison ivy** hazard. However, this practice will be reduced in the future as a result of discussions concerning the negative effects it can have on wildlife (see: Appendix I). In that CARI is a cultural/historical park, most of the grounds are mowed regularly with some maintained as well manicured lawns. Modifications to the ground's maintenance will also be implemented in the future to provide a more conducive habitat for wildlife; especially birds and small mammals that prefer open grassy habitat.

Relevant Park Issues

The location, size, landscape, and operation of CARI and the uses of the land surrounding the park can all have a bearing on the success and outcome of a natural resource survey. While this may not be significant for the birds and fishes, it is relevant for other vertebrates (i.e., amphibians, reptiles, and mammals) and many invertebrates. The park units, except for the boundary abutting

the Cane River, are for the most part completely surrounded by agriculture. The woody vegetation present is very limited and for the most part, the park's herpetofauna is relatively isolated from nearby populations, and corridors for population exchanges are limited. The



Figure 6. Oakland Plantation's Man-Made Pond on February 20, 2002.

historical clearing for agriculture and home construction apparently has reduced, limited, or eliminated most of the local populations of amphibians and reptiles that would have been historically expected to occur in the area.

The lack of aquatic habitat is a major factor in the herpetofauna's absence, especially for the amphibians. Oakland's man-made pond, while the only "aquatic habitat" on the park's proper, was dry most of the time, except for the February 20, 2002 survey (Figure 6). That pond lacked standing water even after the heavy downpour of August

21, 2002 when the frontage road ditches had substantial standing water from which several anuran species were calling. Never was standing water observed on Magnolia Plantation during the 2002 surveys, however, on the January 29, 2003 visit puddles were present throughout most of Magnolia's low lying areas (Figure 7) following heavy rains, while on that same date Oakland Plantation's man-made pond remained without standing water.

Lack of vegetation and appropriate cover material was also a deterrent to the habitation of park property by the local herpetofauna. As indicated previously in the discussion of the park's vegetation, the wooded habitat



Figure 8.

Log on May 16, 2002.

Removed by June 13, 2002.

consisted of narrow strips along fencerows or what were previously fencerows. The Park Service's effort to recreate the two

plantations historical landscape has resulted in the removal of cover material (e.g., rotting logs, dead tree trunks, stumps, boards, roofing tin, old lumber, bark, etc.) that provides vital habitat for many of the areas herpetozoans. For example, the log under which the survey's first herpetozoan was found (i.e., a green treefrog on February 8, 2002) was removed by the June 13, 2002 visit (Figure 8) and the tree trunk on which several lined skinks were observed during the late winter and early spring was

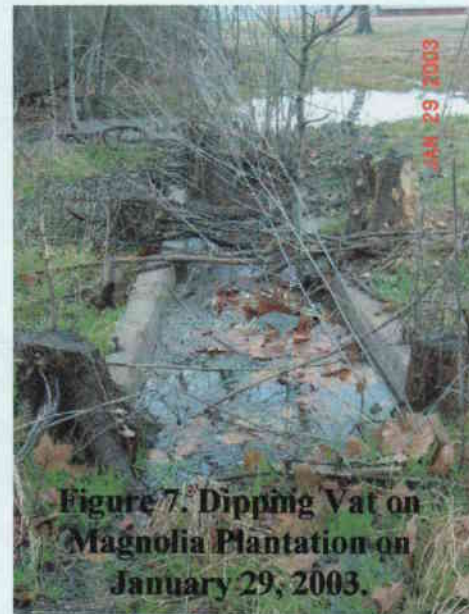


Figure 7. Dipping Vat on Magnolia Plantation on January 29, 2003.

stripped of its beneficial cover and vegetation by summer (Figure 9).

METHODS

Between December 2001 and March 13, 2003, 29 field days were devoted to surveying the two park units. Those days included the following: December 4, 2001, January 22, February 8 and 20, March 6 and 20, April 4 and 17, May 1, 2, 15, 16, 29 and 30, June 12 and 13, July 10, 11, 24 and 25, August 7, 8, 21, and 22, September 11 and 12, 2002 and January 29 and March 13, 2003.



Figure 9: Stump on May 16, then again on May 30, 2002.

On each visit to the park, both Magnolia and Oakland Plantations were walked in their entirety and a visual encounter survey was conducted of any and all available habitat in an attempt to locate salamander, frog/toad, alligator, turtle, lizard, and snake species under the various conditions encountered. Herpetozoan searches were designed so as to uncover eggs, larvae, juveniles, subadults, adults, and other evidence of herpetozoans presence. During the surveys, all cover material (i.e., rocks, brick piles, boards, logs, roofing tin, etc.) that was encountered in the course of searching was turned to locate any herpetozoan present and that cover material (whatever it may have been) was replaced as nearly as possible in its original position. This was done to preserve the microhabitat existing under the objects turned so that on the next visit to the park the chance of locating herpetozoan under those objects was improved and more likely. When a species was encountered for the first time, it was caught (if at all possible), subsequently humanely euthanized, preserved with 10 percent buffered formalin, and eventually stored in 40 percent isopropyl alcohol as a voucher specimen. Each voucher specimen was stored in a separate glass jar that contained a waterproof museum tag containing all pertinent collection/locality data inscribed in India ink.

As indicated previously, the park for the most part lacks habitat that would be attractive to herpetozoans. Therefore, cover boards were utilized to provide additional cover material in the hopes of enhancing the possibility of addition species being discovered. Those coverboards were 4 x 4 foot square sheets of $\frac{3}{4}$ inch plywood that were randomly scattered throughout the two parks open grassy areas, with 8 placed at Magnolia Plantation and 12 at Oakland Plantation. They were initially placed out in the open grassy areas on January 22, 2002, where they remained until the July 10-11 surveys. While the coverboards in open, grassy areas were heavily utilized by small mammals (mainly shrews), no herpetozoan was ever found under them during that period. Thus after checking each coverboard during the July 10-11 surveys; it was decided to relocate them in and along the shady treelines, where they remained until the project's conclusion. For Oakland Plantation, Figure 10 illustrates both the original coverboard configuration (yellow squares) and the relocated coverboard configuration (white squares). For Magnolia Plantation, the original and relocated coverboard configurations are illustrated in a similar fashion in Figure 11.

Park personnel were encouraged to record and report their observations on living and dead species they might encounter during their normal workday. Collection containers were provided to them for specimens they might capture during my absence from the park. Ron Bolton was particularly helpful in this regard.

Each morning the frontage roads at Magnolia and Oakland were driven in search of any amphibians or reptiles that might have been run over during the previous night. Each unit was also walked on several evenings listening for calling anurans, in a general search, and making several laps cruising the frontage road for herpetozoans. Turtle nets (Tarred Nylon Twine, three foot diameter, one-inch mesh square webbing), one at each unit were place along the Cane River's bank to sample the river's turtles. These proved to be of limited value in that they were removed shortly after deployment, assumedly by the locals.

Turtle nets (Tarred Nylon Twine, three foot diameter, one-inch mesh square webbing), one at each unit were deployed on March 6, 2002. The turtle nets were place along the Cane River's

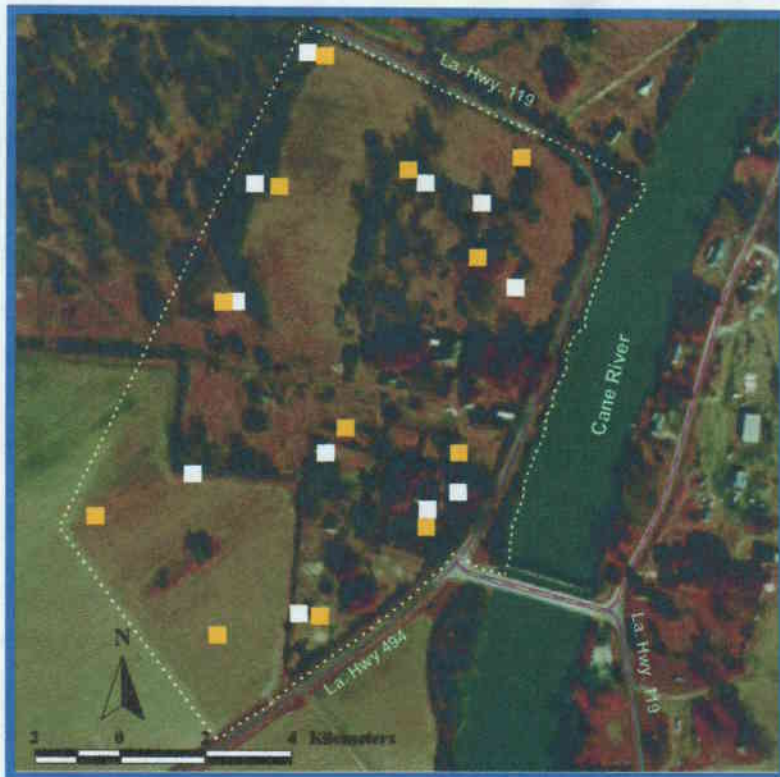


Figure 10. Coverboard Locations at the Cane River Creole National Historical Park's Oakland Unit, Natchitoches Parish, La.; yellow indicates coverboards configuration as originally laid out, white indicates configuration following the July 10-11, 2002 relocation.

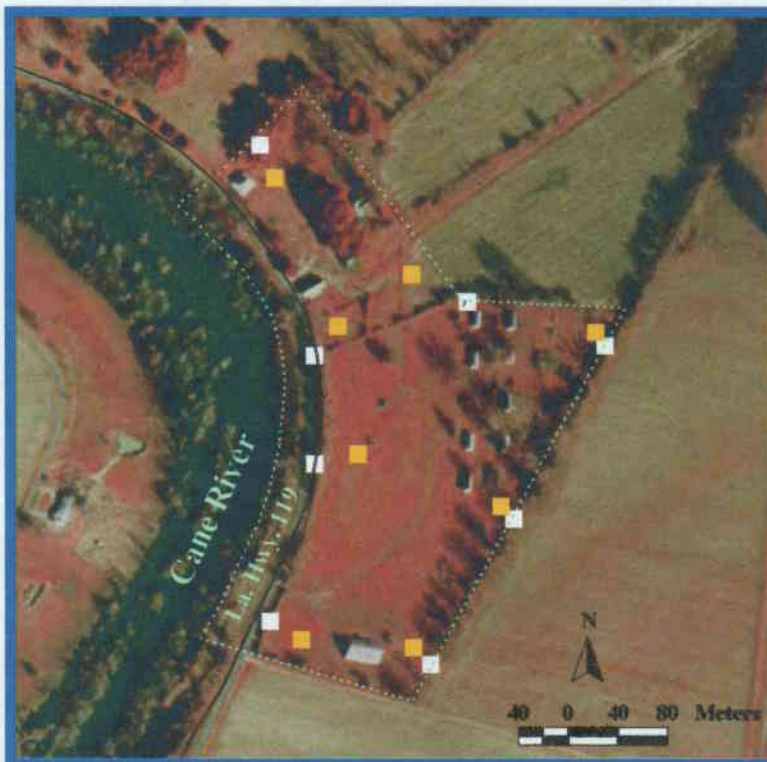


Figure 11. Coverboard Locations at the Cane River Creole National Historical Park's Magnolia Unit, Natchitoches Parish, La.; yellow indicates configuration as originally laid out, white the configuration following the July 10-11, 2002 relocation.

bank; however, the one at Magnolia had disappeared by March 20, 2002. A second turtle net at Magnolia was deployed that day. That net was no longer present when checked on April 17, 2002. Also on April 17, the net at Oakland was no longer present. During this time frame only one turtle was caught, the **Red-Eared Slider** of March 20, 2002. The determination was then made that it would not be feasible to continue to provide the locals with turtle nets. From then on, all turtle observations were made either from the Cane River-La. Hwy. 119 bridge located just south of the Magnolia Unit or from along the Oakland frontage road of turtles basking on logs along the river's edge. The river's edge was also searched for turtle shells

A Garmin GPS 12XL was used to record the location of each herpetozoan collected or observed and those geographic positions were entered into ArcView for mapping purposes. GPS readings were also taken to record the locations of all man-made structures and where the coverboards were placed. Photos were taken of voucher specimens either in the field, if possible, or later after they were anesthetized. Some of those photos are presented in the species discussions. Cameras used including either a Sony 3.3 Megapixel CyberShot DSC-P1 digital camera or a Sony Model MVC-FD95 Mavica 2.1 Megapixel 20X Precision Digital Zoom Steady Shot. Field notes were recorded on a Palm m505 Handheld PC and that data was later transferred to a hard copy form, an example of which is in Appendix II. Herpetozoan collection/observation data for Oakland are presented in Appendix III and that data for Magnolia Plantation are presented in Appendix IV.

During the herpetozoan visual encounter surveys, any birds and/or mammals observed were noted and for the latter a GPS location was recorded. Those bird/mammal observations were strictly incidental and ancillary to the visual encounter surveys for herpetozoans. Those observations are listed in Appendices V (Oakland's birds), VI (Oakland's mammals), VII (Magnolia's birds), and VIII (Magnolia's mammals). On occasion it was possible to catch a small mammal that were discovered under cover material. Those small mammals were mounted as museum specimens (skin and skull) and will eventually be turned over to LSU as voucher specimens. In addition, bird observations made by Mr. David Muth, Chief of Natural Resources at Jean Lafite National Preserve, during his visits to CARI over the past several years are included in Appendix IX.

The Center for North American Herpetology (CNAH, <http://www.naherpetology.org>) and the Integrated Taxonomic Information System (ITIS, <http://www.itis.usda.gov>) were consulted for the scientific and common names of CARI amphibians and reptiles. The primary nomenclature used in this report closely follows that of the CNAH in that theirs appears to be more current; however, where disparities exist the ITIS classification is indicated.

There is no relevant literature specific to the amphibians and reptiles of CARI that this author is aware of. In this regards, the author sent out letters (see Appendix X) to several university museums in Louisiana inquiring as to specimens in their care that were collected on the park's property. Those letters failed to turn up any previously collected specimens. The 1989 benchmark reference by Dundee and Rossman (i.e., "*The Amphibians and Reptiles of Louisiana.*") was relied upon extensively regarding herpetofaunal distribution in Louisiana, Natchitoches Parish, and the surrounding Parishes (i.e., Bienville, Desoto, Grant, Rapides, Sabine, Vernon, and Winn Parishes). Other references consulted included Behler and King (1979), Conant and Collins (1998), Cochran and Goin (1970), Ernst et al. (1994), and Petranka (1998).

Threatened and/or Endangered Species

There is only a single herpetozoan in CARI vicinity that is considered threatened or endangered (T&E), and that is the **American alligator**. In June of 1987, the **alligator** was designated in its entire range as a delisted species, recovered, and was to be monitored for five years. The alligator retains the threatened designation due to similarity of appearance. Similarity of appearance authorizes the treatment of a species as a T&E species even though it is not considered endangered or threatened if it is found "that the species so closely resembles in appearance an endangered or threatened species that enforcement personnel would have substantial difficulty in differentiating between listed and unlisted species, that the effect of this substantial difficulty is an additional threat to other endangered or threatened species, and that such treatment of an unlisted species will substantially facilitate the enforcement and further the policy of the act" (USFWS 2003a). There is a good probability that the **American alligator** is present in the adjacent Cane River.

While not a listed T&E species, the **Louisiana Pine Snake** is rare and is currently listed by the U.S. Fish and Wildlife Service as a candidate species for possible future listing. The species is either extremely rare or has been extirpated from its former range. Its preferred habitat is "longleaf pine Savannah with sandy, well-drained soils and substantial herbaceous ground cover; and the **pocket gopher** (*Geomys breviceps*), which is a key component of the species diet, is an essential component of its habitat" (USFWS 2003b). Based on the pine snake's habitat and dietary requirements, it is highly improbable that the species will ever be found on CARI.

Voucher Specimens

To the author's knowledge, there have been no prior herpetofaunal surveys conducted on what is currently the CARI property. In that the two units of the Park together comprise but 63 acres (approximately 45 at Oakland and 18 at Magnolia) and that the landscape is not conducive to herpetological collecting, it is unlikely that any voucher specimens exist. However, several letters of inquiry were sent out to local museums and this has failed to turn up any CARI vouchers in those collections. Voucher specimens that now exist as a result of this survey are indicated in the species account section's narrative for each species and listed in Appendices XI (herpetozoans) and XII (mammals).

The Amphibians - Class Amphibia

The Salamanders, Frogs, and Toads

Species Accounts:

The Salamanders

Order Caudata

General Comments: Salamander field techniques involved day and night searches within aquatic and terrestrial habitats for eggs, larvae, and adults. Dip netting, night lighting, as well as searching in and along aquatic situations, under natural cover objects (e.g., tin, logs, rock, etc.), under researcher-placed cover boards, and riding the park's frontage roads.

Salamanders Recorded: No salamanders were observed on or adjacent to CARI.

Salamanders Potentially Occurring: Salamanders potentially occurring in CARI, but were not collected or observed as part of this survey are listed in the table below with the probability of their occurrence indicated.

Vernacular/Common Name	Technical/Scientific Name	Occurrence Potential ¹
Lesser siren	<i>Siren intermedia</i>	M
Three-toed amphiuma	<i>Amphiuma tridactylum</i>	M
Gulf Coast waterdog*	<i>Necturus beyeri</i>	VL
Central newt	<i>Notophthalmus viridescens</i>	M
Mole salamander	<i>Ambystoma talpoideum</i>	VL
Smallmouth salamander	<i>Ambystoma texanum</i>	VL
Spotted salamander	<i>Ambystoma maculatum</i>	VL
Marbled salamander	<i>Ambystoma opacum</i>	VL
Spotted dusky salamander*	<i>Desmognathus fuscus</i>	VL
Southern dusky salamander*	<i>Desmognathus auriculatus</i>	VL
Louisiana slimy salamander*	<i>Plethodon kisatchie</i>	VL
Dwarf Salamander	<i>Eurycea quadridigitata</i>	L

¹H = High probability; M = moderate probability; L = low probability;

VL = very low (highly improbable although possible).

*CARI is on the edge or possibly outside of the species known range.

It is unlikely that most salamanders (especially those indicated with a very low probability of occurrence) will eventually be observed on CARI. This is in that the habitat necessary for salamander survival does not currently exist or is extremely limited. Also, since CARI is a small park and was established for its cultural/historical aspects, the maintenance required to sustain that cultural setting in all probability precludes re-inhabitation by salamanders. However, if (as part of some future land acquisition) a portion of the property acquired were allowed to revert to a wild state, then salamanders could possibly re-inhabit the park.

Records for salamanders currently known from the adjacent area (i.e., Natchitoches and surrounding Parishes) are discussed below.

☼ **Family Sirenidae**

Vernacular: The Sirens

Common Name: **Lesser Siren**

Scientific Name: *Siren intermedia* [Barnes 1826]

Subspecies: None currently recognized by the CNAH, however, the ITIS recognizes the subspecies *Siren intermedia intermedia* [Barnes 1826], the **Eastern Lesser Siren**.

Local Distribution: There are two Natchitoches Parish records for this species, ~2 mi. (5 km) NE of Oakland and several records ~20 mi. (33 km) E of Oakland in Grant Parish. This is an aquatic salamander for which there is a fair possibility of its occurrence on CARI in the future. It could move in by way of the drainage ditches from the surrounding area during heavy rainfall events.

Habitat: Most quiet shallow waters with a mucky, muddy, debris-strewn bottom and abundant aquatic vegetation (i.e., ponds, ditches, swamps, etc.).

☼ **Family Amphiumidae**

Vernacular: The Amphiumas

Common Name: **Three-Toed Amphiuma** (a.k.a. Eels or Congo Eel)

Scientific Name: *Amphiuma tridactylum* [Cuvier 1827]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: There are two records for this species in Natchitoches Parish, the closest ~10 mi. (16 km) NNE of Oakland and several records ~12 mi. (19 km) to the SE of Magnolia in Rapides Parish.

Habitat: This is another aquatic/semiaquatic salamander that is expected to be found on CARI in the future. It, like the **Siren**, has small legs but all four are present. It could make its way onto CARI by way of the drainage ditches from the surrounding area during heavy rainfall events and it possibly inhabits Cane River. Unlike the **Siren**, it will occasionally abandon its aquatic environs and move overland similar to a serpent in search of adjacent aquatic habitat such as ditches, swamps, lakes, streams, etc.

☼ **Family Proteidae**

Vernacular: The Mudpuppies

Common Name: **Gulf Coast Waterdog**

Scientific Name: *Necturus beyeri* [Viosca 1937]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: This is an aquatic/neotenic salamander (a.k.a. **Gulf Coast Mudpuppy**) whose presence in the area is confined to the Sabine/Calcasieu drainages, thus its occurrence on or immediately adjacent to CARI is doubtful; however, it is included herein based on its close proximity to CARI. There are no records for Natchitoches Parish. The nearest occurrence is approximately ~23 mi. (37 km) SE of Magnolia in Vernon Parish. It is included here, however, based on its close proximity to CARI.

Habitat: Larger, sandy-bottom, unpolluted streams with ample vegetation and leaf litter as cover material.

✿ **Family Salamandridae**

Vernacular: The Newts

Common Name: **Newt** (a.k.a. **Eastern Newt** by the ITIS)

Scientific Name: *Notophthalmus viridescens* [Rafinesque 1820]

Subspecies: The **Central Newt** (*Notophthalmus viridescens louisianensis*) [Wolterstorff 1914] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and possibly on CARI.

Local Distribution: There are several records from Natchitoches Parish, the closest ~6 mi. (10 km) E of Magnolia. Like the **Amphiuma**, this species will probably be found on CARI in the future.

Habitat: Following its larval development, the **Central Newt** can enter an intermediate, terrestrial, immature life stage (i.e., the **Eft**) before transforming into the breeding adult aquatic stage. Or it may remain aquatic into the mature adult breeding life stage (i.e., the **Newt**), while possibly retaining some of its larval characteristics (e.g., external gills). **Newts** occupy reasonably permanent ponds or marshes. **Efts** can be found in moist to dry situation under debris (e.g., logs, boards, roofing tin, old lumber, etc.) in most woodlands.

✿ **Family Ambystomatidae**

Vernacular: The Mole Salamanders

Common Name: **Spotted Salamander**

Scientific Name: *Ambystoma maculatum* [Shaw 1802]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: There are records for the northern part of Natchitoches Parish, as well as several for adjoining parishes. Those in adjoining parishes are to the E in Grant Parish, to the SE in Rapides Parish, and to the SW in Vernon Parish, all ~3 mi. (5 km) from Magnolia Plantation. While there are several nearby records for this species, it is doubtful it will occur on CARI unless the park's acreage grows and that some part of the expansion is allowed revert to woodlands.

Habitat: Under debris such as logs, roofing tin, old lumber, etc. in mixed hardwood forest that are moist, have semi-permanent pools/ponds, but generally are not prone to flooding. Individuals tend to move underground during the drier times of the year and outside of the breeding season can be difficult to locate. During the winter wet season they will migrate to temporary aquatic situations where they generally remain for short periods of mating and egg deposition, after which they return to their secretive haunts.

Common Name: **Marbled Salamander**

Scientific Name: *Ambystoma opacum* [Gravenhorst 1807]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: **Marbled salamanders** have been collected from many locations in Natchitoches Parish as well as from all the surrounding parishes. The nearest locations are a mile or two west of both Oakland and Magnolia. This could be a good candidate for reintroduction onto CARI should a heavily wooded habitat ever be provided in the future.

Habitat: Under debris (e.g., logs, boards, roofing tin, old lumber, etc.) in moist bottomland hardwoods not subject to flooding. Like the spotted salamander, they tend to move underground during the drier times of the year, but can be found year round. While similar in habits to the other **mole salamanders**, the **marbled salamander** differs in that it deposits its eggs in low-lying spots under logs in autumn, the location of which will become inundated with the onset of the winter wet season.

Common Name: **Mole Salamander** - the group to which this species belongs is also *talpoideum*'s common name.

Scientific Name: *Ambystoma talpoideum* [Holbrook 1838]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: **Mole salamander** occurrence in the area is sparse, however, two have been recorded within Natchitoches Parish [~15 mi. (24 km) SE of Magnolia and ~7 mi. (11 km) WNW of Oakland]. This would be another good candidate for reintroduction onto CARI should a heavily wooded habitat be provided in the future.

Habitat: Under debris (e.g., logs, boards, roofing tin, old lumber, etc.) and in burrows in moist bottomland forests with semi-permanent aquatic situations present. As with most members of this group, they tend to move underground during the drier times of the year.

Common Name: **Smallmouth Salamander**

Scientific Name: *Ambystoma texanum* [Matthes 1855]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: This is a fairly common salamander in the area and throughout Louisiana. It has been found at numerous locations within Natchitoches Parish and in most of the adjacent parishes. The nearest record is ~5 mi. (8 km) west of Oakland Plantation.

Habitat: Under debris (e.g., logs, boards, roofing tin, old lumber, etc.) in moist bottomland hardwood forest with semi-permanent aquatic situations present. During the drier times of the year, they can on rare occasions be found under cover material, but for the most part they tend to disappear underground.

● **Family Plethodontidae**

Vernacular: The Lungless Salamanders

Common Name: **Northern Dusky Salamander**

Scientific Name: *Desmognathus fuscus* [Green 1818]

Subspecies: There are no subspecies recognized by the CNAH. The ITIS indicates only two valid dusky salamander subspecies, the **Northern Dusky Salamander** (*Desmognathus fuscus fuscus*) [Green 1818] and the **Spotted Dusky Salamander** (*Desmognathus fuscus conanti*) [Rossman 1958]. Dundee and Rossman (1989), however, indicate the **Spotted Dusky** and/or **Southern Dusky Salamanders** (*Desmognathus fuscus fuscus* & *Desmognathus fuscus auriculatus*, respectively) occur and intergrade in NW Louisiana.

In Louisiana, the species/subspecies status of these two salamanders is unclear. Conant and Collins (1998) illustrates the **Spotted Dusky** in SE and NW Louisiana and the **Southern Dusky** throughout central Louisiana. Dundee and Rossman (1989:47) question the two species' status in Louisiana and "see contrasting interpretations based perhaps on variability of valid characteristics, use of the wrong criteria, careless geographical mapping, or the problem of how a particular author interprets pattern, tail form and so forth," as the dilemma as to whether these are true species or a single variable species. They state (page 47) that in northwest Louisiana, "*auriculatus*, *fuscus*, and intermediate types occur near Minden in Webster Parish, and in the Fishville-Pollock area in Grant Parish." The author has always had difficulty sorting dusky salamanders by species, thus for the time being opts for the more conservative interpretation (i.e., no subspecies).

Local Distribution: Whatever the final determination on the status of Louisiana's **Dusky Salamanders**, *Desmognathus fuscus* ssp., it has been recorded ~5 mi. (8 km) NW of Oakland and ~11 mi. (18 km) SE of Magnolia and could possibly be found someday on CARI.

Habitat: Under debris (e.g., logs, leaves, boards, roofing tin, old lumber, etc.) and rocks (if present) in and along permanently moist runoff areas and the margins of streams, and creeks, mainly in bottomland hardwoods.

Common Name: **Louisiana Slimy Salamander**

Scientific Name: *Plethodon kisatchie* [Highton 1989] - Dundee and Rossman (1989) treat the **Slimy Salamander** in Louisiana as a single species, *Plethodon glutinosus*. Conant and Collins (1998) has the "*Plethodon glutinosus* complex" separated into several species with *P. kisatchie* occurring in the NW Louisiana and *P. mississippi* in the Florida Parishes.

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: While the **Louisiana Slimy Salamander** has not been recorded from Natchitoches Parish, there are locality records for the adjacent Red River, Winn, and Grant Parishes, none of which is within ~25 mi. (40 km) of either the Oakland or Magnolia Plantations.

Habitat: Dundee and Rossman (1989) states the "preferred habitat seem to be areas where hardwoods are common; most specimens are found under hardwood logs, even if pine logs are common in the vicinity." The author has collected what is now *P. mississippi* in piney woods and from under well-aged pine logs. The probability of its occurrence on CARI is remote based on its habitat preference.

Common Name: **Dwarf Salamander**

Scientific Name: *Eurycea quadridigitata* [Holbrook 1842]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: Dundee and Rossman (1989) mapped **Dwarf Salamander** occurrences in all but a dozen of Louisiana's 64 parishes. This widely distributed Louisiana salamander was once believed, prior to initiation of this survey, to be likely found on CARI, at least on Oakland Plantation. There are numerous occurrences of this species in Natchitoches Parish, with two to three of those localities within a mile or two of Oakland.

Habitat: The habitat requirements for the **Dwarf Salamander** are probably more diverse than any other salamander in Louisiana. The author has found specimens under every imaginable type of debris in most any moist wooded area and in some situations that were not so wooded. This, or possibly the **Central Newt's Eft**, will be the first terrestrial salamander recorded from CARI should the habitat conditions improve.

Species Accounts:

Order Anura

The Frogs and Toads

General Comments: Anuran field techniques involved day and night searches within aquatic and terrestrial habitats for eggs, larvae, and adults. The methods utilized included dip netting, night lighting, as well as searching in and along aquatic situations, under natural cover objects (e.g., tin, logs, rock, etc.), under researcher-placed cover boards, riding the parks frontage roads, and listening for frog/toad vocalizations at night (or day).

Anurans Occurring on CARI: The following anurans were observed or collected on or immediately adjacent to CARI's property during the survey. An occurrence is defined to include frog/toad vocalizations. All anuran observations were of adults. No egg masses or larvae were observed in any of the aquatic areas on the park property. This is mainly because the depressions and low-lying areas on the park's property were dry almost throughout the field investigations. Anuran species recorded were:

Fowler's Toad (*Bufo fowleri*)
Eastern Narrowmouth Toad (*Gastrophryne carolinensis*)
Northern Cricket Frog (*Acris crepitans*)
Green Treefrog (*Hyla cinerea*)
Upland Chorus Frog (*Pseudacris feriarum*)
Southern Leopard Frog (*Rana sphenoccephala*)

✱ Family Bufonidae

Vernacular: The True Toads

Common Name: Fowler's Toad

Scientific Name: *Bufo fowleri* [Girard 1854]

Subspecies at CARI: This is another species whose taxonomy is in flux. To which species/subspecies the CARI toads represent is subject to some conjecture. **Woodhouse's Toad** (*Bufo woodhousii woodhousii*) is that currently recognized by both the CNAH and the ITIS. Keiser and Wilson (1979) considered this to be *Bufo woodhousii velatus* west of the Mississippi River. Dundee and Rossman (1989) basically left the issue unresolved with the whole of Louisiana as an area of intergradation between *woodhousii* and *fowleri*. Conant and Collins (1998) indicates that Louisiana is an area of intergradation between **Fowler's** (*Bufo fowleri* to the east) and **Woodhouse's Toads** (*B. w. woodhousii* to the west). However, the technical name is used herein (i.e., *fowleri*) is based on the recent findings of Masta et al. (2002) which used mitochondrial sequencing to sort out the phylogenetic relationship between species of the *Bufo americanus* complex (i.e., *Bufo americanus*, *fowleri*, *hemiohryns*, *microscaphus*, *terrestris*, and *woodhousii*) and thus supposedly takes precedence over the CNAH, the ITIS, and other's nomenclature.

Local Distribution: This is a ubiquitous Louisiana toad (whether *fowleri* or *woodhousii* are considered) having been recorded from every parish in the state. It was originally felt the **Fowler's Toad** would be an often-encountered anuran on both park sites. However, while it was observed on both the Magnolia and Oakland Units, there were only four observations (i.e., on July 10 and 24, 2002 at Oakland and on March 20 and April 2, 2002 at Magnolia). The voucher specimen collected at Oakland on July 10 is pictured herein (Figure 12). The locations where **Fowler's Toad** was observed on the Oakland unit is presented in Figure 13 and those locations on the Magnolia unit in Figure 14.



Figure 12. Fowler's Toad Voucher Specimen, Oakland Plantation.

Habitat: **Fowler's Toad** is found in a wide variety of habitat types, but open or sparsely wooded country is preferred, where it breeds in shallow waters of ponds, lakes, and bayous.



Figure 13. Fowler's Toad (*Bufo fowleri*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



Figure 14. Fowler's Toad (*Bufo fowleri*) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

● **Family Microhylidae**

Vernacular: The Narrowmouth Frogs

Common Name: **Eastern Narrowmouth Toad**

Scientific Name: *Gastrophryne carolinensis* [Holbrook 1836]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: This is another common species in Louisiana in that it has been recorded from all but three parishes, Red River Parish and East and West Carroll Parishes (Dundee and Rossman 1989). It was thought prior to initiation of this survey to be a toad species that would be encountered on both the Magnolia and Oakland Units and at greater frequency than that which occurred. However, while there have been numerous observations of **Narrowmouth Toads** in Natchitoches Parish, it was only observed on Oakland Plantation the evening of August 21, 2002. At that time a few individuals were calling in the roadside ditch along La. Hwy. 119 (the frontage road) after a heavy rain. The voucher specimen collected at



Figure 15. Eastern Narrowmouth Toad Voucher Specimen, Oakland Plantation

Oakland at that time is pictured herein (Figure 15). The location where the **Narrowmouth Toad** was observed on the Oakland unit is presented in Figure 16.

Habitat: In damp environs under debris (e.g., logs, boards, roofing tin, old lumber, etc.) and rocks (if present) in both woodlands and in close association with human habitation. Breeds in grassy puddles, ponds, wet meadows, and ditches.



Figure 16. Eastern Narrowmouth Toad (*Gastrophyrne carolinensis*)
Observed at the Oakland Unit of the Cane River Creole
National Historical Park, Natchitoches Parish, Louisiana.

● Family Hylidae

Vernacular: The Treefrogs

Common Name: Cricket Frog

Scientific Name: *Acris crepitans* [Baird 1854]

Subspecies: The **Northern Cricket Frog** (*Acris crepitans crepitans*) [Baird 1854] is recognized by both the CNAH and the ITIS and occurs at CARI.

Local Distribution: Like **Fowler's Toad**, this species is found in all parishes and throughout Louisiana (Dundee and Rossman 1989). The **Cricket Frog** was never observed within the park's boundary, however, its numerous vocalizations were heard on the evening of July 10, 2002 at the Magnolia unit. The calls were coming from the west, either from along or across Cane River. It is very surprising that it wasn't actually found on both of the Magnolia and Oakland Units.

Habitat: **Cricket Frogs** can be found in both open and wooded situations in association with well vegetated ponds with muddy banks, semi-permanent shallow pools near larger bodies of water, stock ponds, lake margins, creeks, and drainage ditches.

Common Name: Green Treefrog

Scientific Name: *Hyla cinerea* [Schneider 1799]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: **Green Treefrogs** have been recorded throughout the State except for three parishes, Franklin, LaSalle, and West Carroll (Dundee and Rossman 1989). It was observed on both of the CARI Units, on February 8 and 20, April 17, and May 16, 2002 at Oakland and on March 20 and May 15, 2002 at Magnolia. On the evening of July 10 and August 8 and 21, 2002, several **Green Treefrogs** were heard calling at Oakland Plantation, on May 15 and July 10, 2002 at Magnolia Plantation. The choruses heard at Oakland Plantation were for the most part coming from across Cane River to the east and those at Magnolia Plantation were from off the property to the northeast.

A specimen observed at Oakland on April 17 is pictured herein (Figure 17). The locations where CARI **Green Treefrog** specimens were observed on the Oakland unit are presented in Figure 18 and the locations on the Magnolia unit in Figure 19.

Habitat: **Green Treefrogs** can be found amongst vegetation in a variety of aquatic habitat types ranging from moist woodlands, swamps and marshes, to urban situations near water such as cattle ponds and in backyards. The specimens at Oakland Plantation were discovered on iris foliage in the man-made pond and under logs.



Figure 17. Green Treefrog Voucher Specimen, Oakland Plantation.



Figure 18. Green Treefrog (*Hyla cinerea*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



Figure 19. Green Treefrog (*Hyla cinerea*) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

Common Name: Chorus Frog

Scientific Name: *Pseudacris feriarum* [Baird 1854]

Subspecies: No subspecies recognized by the CNAH, however, the ITIS recognizes this species/subspecies as the **Upland Chorus Frog (*Pseudacris triseriata feriarum*) [Baird 1854].**

Local Distribution: **Chorus Frogs** are present throughout the State except for three parishes, East and West Carroll and Jeff Davis Parishes and are represented by several locality records in Natchitoches Parish (Dundee and Rossman 1989). While never actually observed on CARI, its vocalizations were heard during the day at Oakland Plantation following heavy rains on the morning of January 29, 2003. There is no reason to doubt that it should eventually be observed at Magnolia Plantation. The locations (Figure 20) where **Chorus Frogs** were heard adjacent to the Oakland unit are indicated; however, none could be located and collected as a voucher specimen.

Habitat: Dense woods, bottomland hardwoods, swamps, to roadside ditches, pools, ponds, damp meadows, and marshes; at CARI in roadside ditches.

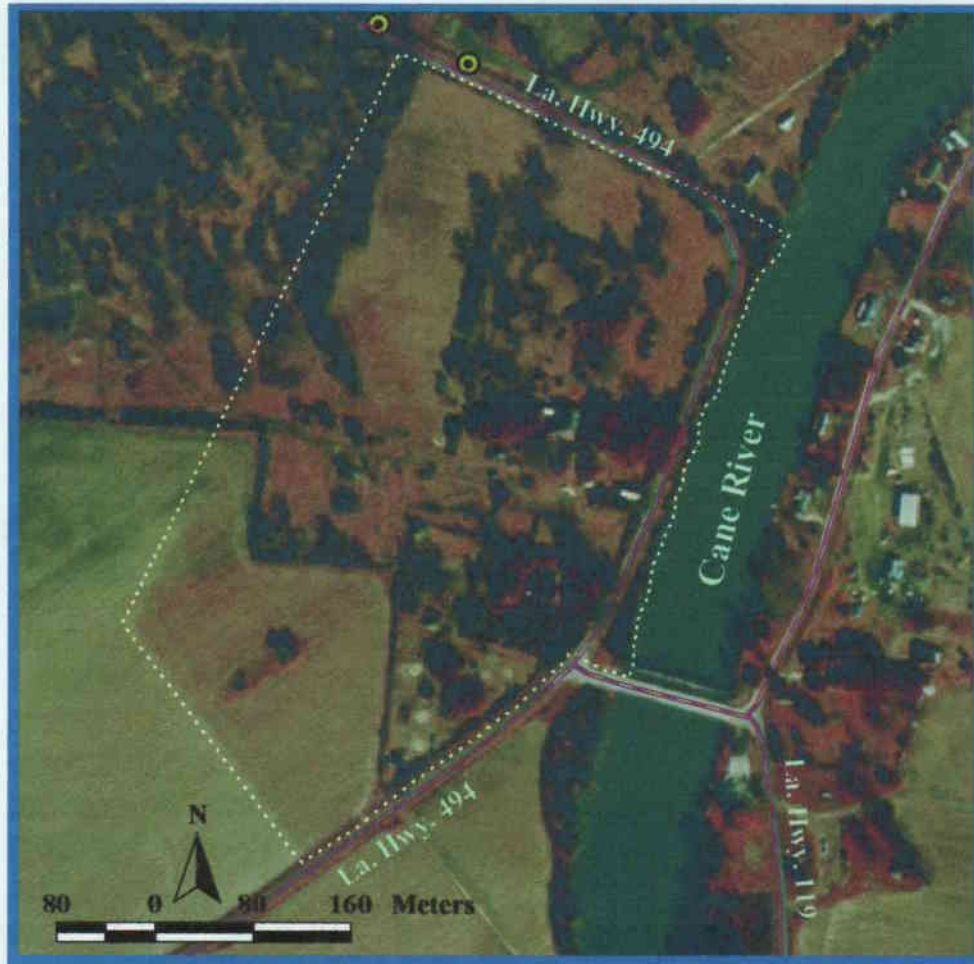


Figure 20. Upland Chorus Frog (*Pseudacris feriarum*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

● **Family Ranidae**

Vernacular: The True Frogs

Common Name: Leopard Frog

Scientific Name: *Rana sphenocephala* [Cope 1866]

Subspecies: The **Southern Leopard Frog** (*Rana sphenocephala utricularius*) [Cope 1866] is recognized by the CNAH; whereas, it is recognized as *Rana sphenocephala utricularia* [Harlan 1825] by the ITIS.

Local Distribution: The **Southern Leopard Frog** is another species that is widely distributed throughout Louisiana. It has been documented for all parishes except LaSalle and Winn Parishes, with many locations in Natchitoches Parish (Dundee and Rossman 1989). In this survey it was observed on both of the CARI Units, at Oakland on July 24 and August 21, 2002 and at

Magnolia on May 29, 2002. There were two ranids believed to be leopard frogs observed in the cistern by the seed house. However, the cistern was covered over as a safety precaution before the author could attempt to dipnet them out. It was very surprising that there were not more observations on CARI of this very common species. The voucher specimen collected at Magnolia on May 29 is pictured herein (Figure 21). The locations where CARI Leopard Frog specimens were observed on the Oakland unit are presented in Figure 22 and the locations on Magnolia Figure 23.



Figure 21. Southern Leopard Frog Voucher Specimen, Magnolia Plantation.

Habitat: Leopard Frogs could be found around just about any body of water (e.g., irrigation and drainage canals, grassy pools, swamp, damp pastures, marshes, ponds, lakes, wet meadows, flooded ditches, stream, and river edges.

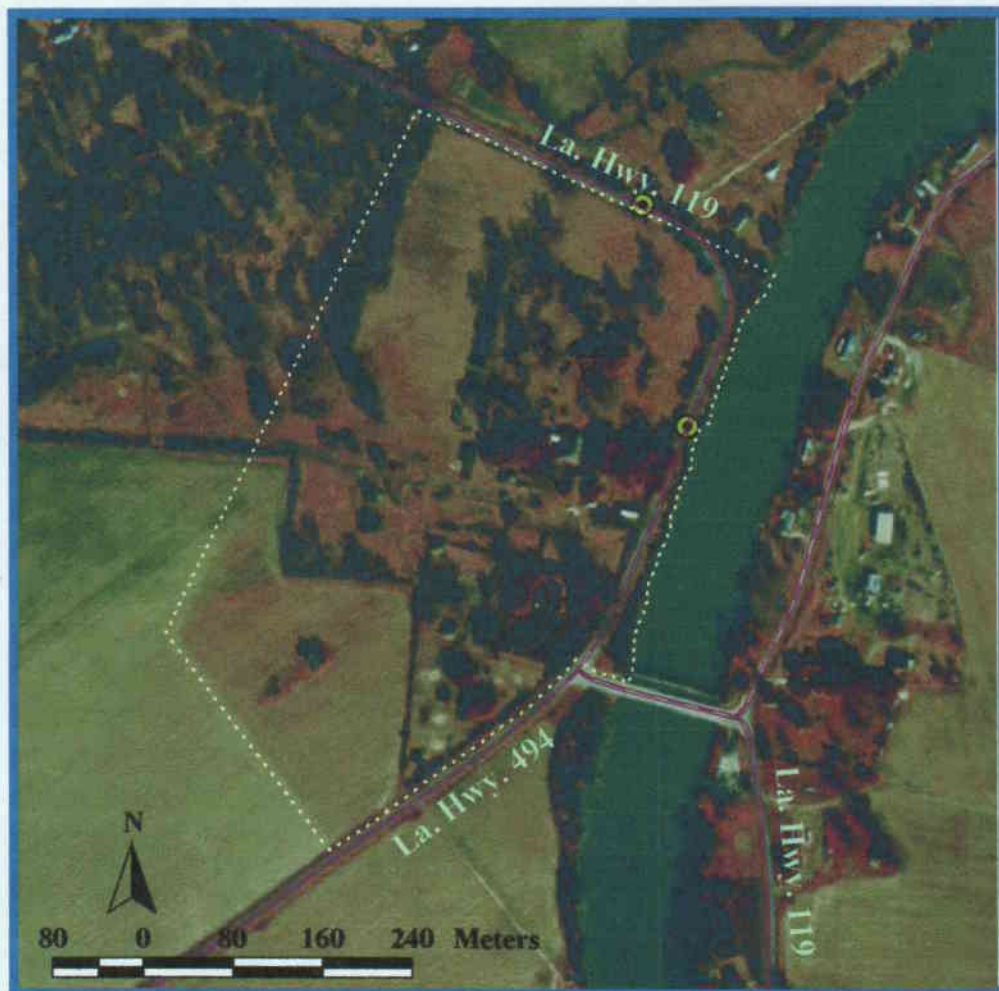


Figure 22. Southern Leopard Frog (*Rana sphenoccephala*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



Figure 23. Southern Leopard Frog (*Rana sphenoccephala*) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

Other Frogs and Toads of Possible Occurrence: Anurans potentially occurring in CARI, but were not collected or observed as part of this survey are listed in the table below with the probability of their occurrence indicated.

Vernacular/Common Name	Technical/Scientific Name	Occurrence Potential ¹
Hurter's spadefoot toad*	<i>Scaphiopus hurteri</i>	L
American toad*	<i>Bufo americanus</i>	VL
Coastal Plain toad	<i>Bufo nebulifer</i>	L
Bird-voiced treefrog*	<i>Hyla avivoca</i>	VL
Cope's gray treefrog	<i>Hyla chrysoscelis</i>	M
Gray treefrog	<i>Hyla versicolor</i>	L
Squirrel treefrog*	<i>Hyla squirella</i>	L
Spring peeper	<i>Pseudacris crucifer</i>	L
Bronze frog	<i>Rana clamitans</i>	H
Bullfrog	<i>Rana catesbeiana</i>	H
Southern crawfish frog	<i>Rana aerolata</i>	VL
Pickerel frog	<i>Rana palustris</i>	VL

¹H = High probability; M = moderate probability; L = low probability;
VL = very low (highly improbable although possible).

*CARI is on the edge or just outside of the species known range.

Unlikely the salamanders, there is a good probability that eventually several of the frogs listed in the table above will be recorded on CARI. This is because, that while the limited habitat available is only of marginal quality, there are some aquatic sites on the park's units (especially on the Oakland Plantation) that offers some possibility. The situation could be markedly improved if some portion of a future acquisition were set aside and allowed to revert to woodlands.

Records for anurans currently known from the adjacent area (i.e., Natchitoches and surrounding Parishes) and are of possible occurrence on CARI are discussed below.

☼ Family Pelobatidae

Vernacular: The Spadefoots

Common Name: **Hurter's Spadefoot Toad**

Scientific Name: *Scaphiopus hurteri* [Strecker 1910]

Subspecies: None currently recognized by the CNAH, however, the ITIS recognizes this as the species/subspecies *Scaphiopus holbrooki hurteri* [Strecker 1910].

Local Distribution: The range of **Hurter's Spadefoot** in Louisiana is mainly in the NW quadrant of the State and there are several locality records for Natchitoches Parish (Dundee and Rossman 1989). While the occurrence probability for this species is indicated as low, that is a qualified estimate. It just may some day turn up on CARI, since it has been recorded ~6 mi. (10 km) SW of Oakland and another specimen ~7 mi. (11 km) east of Magnolia.

Habitat: **Hurter's Spadefoot's** habitat requirement, as such, allows it to inhabit a variety of situations. Its environs can range from woodlands to savannas and from wet areas in bottomland hardwoods to dry upland situations. It is subterranean most of its life coming to the surface to breed only with the onset of very heavy rainfall.

☼ Family Bufonidae

Vernacular: The True Toads

Common Name: **American Toad**

Scientific Name: *Bufo americanus* [Holbrook 1836]

Subspecies: The **Dwarf American Toad** (*Bufo americanus charlesmithi*) [Bragg 1954] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and possibly on CARI.

Local Distribution: This toad's range is very limited in Louisiana. It just makes it into Louisiana east of the Mississippi River in the Florida Parishes and also into extreme NW Louisiana in Desoto and Webster Parishes. It is included here for discussion mainly because it is known from a

parish adjacent to Natchitoches Parish (i.e., Desoto Parish) and that location is ~50 mi. (80 km) NW of Oakland Plantation. Thus, while the likelihood of its occurrence at CARI is slight, the possibility does exist.

Habitat: If the **Dwarf American Toad** were to be found in the CARI area it would be in association with semi-permanent aquatic sites such as pools, flooded fields, and ditches. This could also possibly include urban or agricultural areas where waterbodies are available for reproduction. It tends to be a nocturnal species burrowing underground or hiding under debris (e.g., logs, boards, roofing tin, old lumber, etc.) and rocks (if present) in damp environs both in woodlands and possibly in close association with human habitation.

Common Name: **Coastal Plain Toad**

Scientific Name: *Bufo nebulifer* [Girard 1854]

Subspecies: None currently recognized by the CNAH, however, the ITIS recognizes this species as the **Gulf Coast Toad** (*Bufo valliceps*) [Wiegmann 1833].

Local Distribution: The **Coastal Plain Toad** as its name implies is mainly a species of the Gulf Coast region and normally would not be included in with a discussion of anurans at CARI. However, Dundee and Rossman (1989) indicate a locality record in Desoto Parish, which is ~55 mi. (89 km) NW of Oakland as well as localities in Rapides and Vernon Parishes that are ~30 mi. (28 km) SE and ~35 mi. (36 km) SW of Magnolia, respectively.

Habitat: **Coastal Plain Toads** occupy a variety of habitats ranging from coastal prairies to roadside and irrigation ditches. They are often found hopping about in backyards during the warmer months.

✻ Family Hylidae

Vernacular: The Treefrogs

Common Name: **Bird-Voiced Treefrog**

Scientific Name: *Hyla avivoca* [Viosca 1928]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: The **Bird-Voiced Treefrog** is mainly found east of the Mississippi River, but in Louisiana on the river's west side a few isolated populations exist. Those disjunct populations are on the parish line between Rapides and Evangeline Parishes, near the border with Arkansas in Union Parish, and just across the Red River from Oakland Plantation in Grant Parish (i.e., ~5 mi. (8 km) ENE of Oakland). Thus, it should be considered a possible for CARI.

Habitat: **Bird-Voiced Treefrogs** are seldom seen and are never far from water. They prefer wet brushy areas in and near baldcypress-tupelogum swamps and bottomland hardwood forests.

Common Name: **Gray Treefrog**

Scientific Name: *Hyla chrysoscelis* [Cope 1880] - *Hyla versicolor* [LeConte 1825] complex

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: *Hyla chrysoscelis/versicolor* are two sibling **Gray Treefrog** species in Louisiana that can only be distinguished by their distinct vocalizations. Dundee and Rossman (1989) suggest that *chrysoscelis* range throughout the state, while *versicolor* occurs primarily in the longleaf pine forest of west central Louisiana. The nearest locality of *versicolor* is ~35 mi. (56 km) SE of Magnolia Plantation, thus if the gray treefrog were to be found at CARI it would most probably be **Cope's Gray Treefrog** (*Hyla chrysoscelis*). **Gray Treefrogs** (presumably *chrysoscelis*) have been recorded at several locations in Natchitoches Parish and in all bordering parishes, except for Red River Parish. The closest localities are ~5 mi. (8 km) SE of Magnolia and ~5 mi. NE of Oakland.

Habitat: Prefers moist hardwood forests, wet thickets, and swamps with small permanent ponds for breeding nearby.

Common Name: **Squirrel Treefrog**

Scientific Name: *Hyla squirella* [Bosc 1800]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: **Squirrel Treefrogs** have not been recorded from Natchitoches Parish. They are listed here as a possibility for CARI in that they occur on its three sides (i.e., within ~25 mi. (40 km) to the east in Grant Parish, ~33 mi. (53 km) to the southeast in Rapides Parish, and ~31 mi. (50 km) to the south in Vernon Parish).

Habitat: The **Squirrel Treefrog** is a nocturnal anuran that hides in trees, shrubs, or bushes in open wooded areas, swamps, or often in association with human habitation. It occasionally will call during the day with appropriate climatic conditions (e.g., prior to rains and a front moving through).

Common Name: **Spring Peeper**

Scientific Name: *Pseudacris crucifer* [Wied & Newwied 1838]

Subspecies: None currently recognized by the CNAH, however, the ITIS recognizes this as the **Southern Spring Peeper** (*Pseudacris crucifer bartruniana*) [Harper 1937].

Local Distribution: Several locality records exist in Natchitoches Parish and in all parishes bordering Natchitoches Parish except for Winn Parish. It would be most surprising if **peepers** don't eventually turn up on CARI.

Habitat: Forests and woodlands near ephemeral or semi-permanent wetlands under debris such as logs, roofing tin, old lumber, etc. This is another treefrog that will call during the daylight hours if conditions are right.

✱ Family Ranidae

Vernacular: The True Frogs

Common Name: **Green Frog**

Scientific Name: *Rana clamitans* [Latreille 1801]

Subspecies: The **Bronze Frog** (*Rana clamitans clamitans*) [Latreille 1801] is recognized by both the CNAH and the ITIS and is the "**Green Frog**" that occurs in NW Louisiana and probably on CARI.

Local Distribution: Numerous locations in Natchitoches Parish and in all bordering parishes. Closest localities are within ~4-5 mi. (6-8 km) of both the Magnolia and Oakland Units.

Habitat: This is a strongly aquatic species occurring in most wet situations, including ponds, brooks, swamps, lake and bayou margins, and streams.

Common Name: **Bullfrog**

Scientific Name: *Rana catesbeiana* [Shaw 1802]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: **Bullfrogs** have been recorded from several locations in Natchitoches Parish and in all parishes bordering Natchitoches Parish, except for Red River Parish. The closest localities are ~7 mi. (11 km) to the east and west of both the Magnolia and Oakland Plantations.

Habitat: Prefers quiet waters with shallow areas; however, the tadpoles require permanent waterbodies in that the larval stage has a duration of two years.

Common Name: **Crawfish Frog**

Scientific Name: *Rana aerolata* [Baird & Girard 1852]

Subspecies: The **Southern Crawfish Frog** (*Rana aerolata aerolata*) [Baird & Girard 1852] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and possibly on CARI.

Local Distribution: The **Southern Crawfish Frog** has been recorded within ~30 mi. (48 km) of Magnolia Plantation to the east, southeast, and south in Grant, Rapides, and Vernon Parishes, respectively, with the closest location ~16 mi. (26 km) SW in Vernon Parish.

Habitat: Prefers open, grassy, damp areas (not necessarily permanent) in open woodlands with abundant crawfish burrows.

Common Name: **Pickerel Frog**

Scientific Name: *Rana palustris* [LeConte 1825]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: There are several locations from which the **Pickerel Frog** were collected in Natchitoches Parish, as well as locality records for adjoining Rapides, Sabine, and Desoto Parishes. The closest localities are ~7 mi. (11 km) S of Magnolia and ~10 mi. (16 km) NW of Oakland Plantation. Its occurrence on CARI is considered possible but unlikely.

Habitat: Along streams and ponds, breeds in grassy ponds, lakes, cool clear streams, wet meadows, and sphagnum bogs.

The Reptiles - Class Reptilia

The Crocodilians, Turtles, Lizards, and Snakes

Species Accounts:

The Crocodilians

Order Crocodylia

General Comments: No special effort was made to document the alligator's presence other than the general observations made along Cane River while at the park or while traveling along Cane River from one park unit to the other. No anecdotal information was derived from any conversations had with park personnel to the effect that alligators have ever been observed in Cane River.

Family Alligatoridae

Vernacular: The Crocodiles/Alligators

Common Name: **American Alligator**

Scientific Name: *Alligator mississippiensis* [Daudin 1803]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: While the **alligator** is mainly a coastal species, it does move inland along larger waterbodies. There are several records from along the Red and Ouachita/Black River drainages, the closest of which is ~4 mi. (6 km) NE of Magnolia and ~6 mi. (10 km) SE of Oakland Plantation. Their occurrence in Cane River would not be unexpected.

Habitat: Primarily freshwater swamps and marshes, but also in rivers, lakes and smaller bodies of water.

Species Accounts:

The Turtles

Order Chelonia

General Comments: Field techniques for turtles involved day and night searches within aquatic and terrestrial habitats and the methods used included dip netting, night lighting, as well as searching in and along aquatic situations, under natural cover objects, riding the park's frontage roads, and deploying hoop nets in the Cane River at both the Magnolia and Oakland Units.

Turtles occurring on CARI: The following turtles were observed or collected on or immediately adjacent to CARI's property during the survey. An observation is defined to include those turtles collected or seen swimming or basking on logs, snags, or other floating debris. Binoculars or spotting scope was used to identify basking turtles. Species recorded were:

Slider (*Trachemys scripta*)
 False Map Turtle (*Graptemys pseudogeographica*)
 Razorback Musk Turtle (*Sternotherus carinatus*)
 Common Musk Turtle (*Sternotherus odoratus*)
 Softshell Turtle (*Apalone sp.*)

● **Family Emydidae**

Vernacular: The Box and Water Turtles

Common Name: Slider

Scientific Name: *Trachemys scripta* [Schoepff 1792]

Subspecies: The **Red-Eared Slider** (*Trachemys scripta elegans*) [Wied & Neuwied 1838] is recognized by both the CNAH and the ITIS.

Local Distribution: This is undoubtedly the most common Louisiana turtle. In most instances, whenever turtles are seen basking on logs, the odds are that at least one is a **Red-Eared Slider** if not all of them. This was the second most observed species on Oakland and the fourth on Magnolia. The voucher specimen collected at Oakland on March 20 is pictured herein



Figure 24. Redear Slider Voucher Specimen, Oakland Plantation.



Figure 25. Red-Eared Slider (*Trachemys scripta*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

(Figure 24). The locations where CARI Red-Eared Sliders were observed on the Oakland unit are presented in Figure 25 and the locations on Magnolia unit in Figure 26.

Habitat: Most aquatic areas (i.e., swamps, pools, ditches, ponds, sloughs, rivers, shallow lakes, etc.) with abundant aquatic vegetation and logs or other floating material that can be used for basking.



Figure 26. Red-eared Slider (*Trachemys scripta*) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

Common Name: False Map Turtle

Scientific Name: *Graptemys pseudogeographica* [Gray 1831]

Subspecies: The **Mississippi Map Turtle** (*Graptemys pseudogeographica kohnii*) [Baur 1890] is the “false map turtle” recognized by the CNAH and present at CARI. The ITIS does not recognize *kohnii* and lists only the nominal subspecies, (*Graptemys pseudogeographica pseudogeographica*) [Gray 1831], the **False Map Turtle** and invalidates other false map turtle subspecies.

The taxonomy of this species in Louisiana remains in question. The **Mississippi Map Turtle** (i.e., *kohnii*), while herein listed as a subspecies of the **False Map Turtle**, may well be evolving into a new species or has already attained that status. The prominent yellow crescent just behind the eyes easily distinguishes it from the **False Map Turtle**, which has a circular spot. This characteristic (i.e., the postorbital crescent) allows identification at a distance with the aid of binoculars.

Local Distribution: The **Mississippi Map Turtle** has been recorded from several locations in Natchitoches Parish as well as from most of the surrounding parishes. While never actually collected from the park proper it was observed in the Cane River near both sites. At Oakland Plantation it was seen basking on the rivers edge just west of the main house (Figure 27) and also just south of Magnolia Plantation (Figure 28) near the bridge where the La. Hwy 119 crosses Cane River. While it was observed on several occasions at both sites, the **False Map Turtle** (the range of which overlaps the **Mississippi Map Turtle**’s) was never observed.

Habitat: This is a species of deeper, slack water areas (e.g., lakes, streams, ponds, impoundments, bayous, etc.), where floating logs and snags are available for sunning themselves.



Figure 27. Mississippi Map Turtle (*Graptemys pseudogeographica kohnii*)
Observed at the Oakland Unit of the Cane River Creole
National Historical Park, Natchitoches Parish, Louisiana.



Figure 28. Mississippi Map Turtle (*Graptemys pseudogeographica kohnii*)
Observed at the Magnolia Unit of the Cane River Creole National
Historical Park, Natchitoches Parish, Louisiana.

● **Family Kinosternidae**

Vernacular: The Mud/Musk Turtles

Common Name: Razorback Musk Turtle

Scientific Name: *Sternotherus carinatus* [Gray 1855]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: This species is known from a few locations in Natchitoches Parish and most surrounding parishes. It was observed on only one occasion basking in the Cane River in front of Oakland Plantation on July 11, 2002 (Figure 29).

Habitat: The **Razorback Musk Turtle** prefers aquatic situations with at least some moving water, dammed streams (such as Cane River), and the swamps of the larger river basins.



Figure 29. Razorback Musk Turtle (*Sternotherus carinatus*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

Common Name: Common Musk Turtle

Scientific Name: *Sternotherus odoratus* [Latreille 1801]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: Distributed and common throughout Natchitoches Parish, most of Louisiana, and it was observed on only one occasion at Oakland Plantation on August 7, 2002. That specimen (Figure 30), taken as a voucher specimen, was found on the east



Figure 30. Common Musk Turtle Voucher Specimen, Oakland Plantation.

edge of La. Hwy 494 at the junction with La. Hwy 119.

This location was adjacent to a roadside ditch recently created by the heavy rainfall that day (Figure 31).

Habitat: Quiet shallow waters, i.e., ponds, marshes, streams, drainage ditches, puddles, etc.



Figure 31. Common Musk Turtle (*Sternotherus odoratus*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

● Family Trionychidae

Vernacular: The Softshells

Common Name: Softshell

Scientific Name: *Apalone* sp. [Lesueur 1827]

Subspecies: There are two species/subspecies in NW Louisiana. The **Pallid Spiny Softshell** (*Apalone spinifera pallida*) [Webb 1962] and the **Midland Smooth Softshell** (*Apalone mutica mutica*) [LeSueur 1827], that are both recognized by the CNAH and the ITIS and possibly occur on CARI.

Local Distribution: **Softshells** are fairly common turtles in the area. There are three records for each species in Natchitoches Parish, ~2 to 4 miles (3-6 km) N to NW of Oakland, and they have also been collected from DeSoto, Sabine, Winn, Grant, Rapides, and Red River Parishes. A single softshell turtle was observed from the La. Hwy 119 bridge just south of Magnolia Plantation basking on a log in Cane River (Figure 32). It was too far away to identify the species; however, the **Spiny Softshell** is the most likely candidate in that Dundee and Rossman (1989:208) state that it “is found in a greater variety of habitats than the **Smooth Softshell** (*A. mutica*) and may be abundant in lakes, oxbows, lagoons, and borrow pits, as well as in rivers.”



Figure 32. Softshell Turtle (*Apalone* sp.) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

Habitat: The spiny, like the smooth softshell, is basically a riverine species of the larger bayous and streams, but can also be found in lakes, creeks and larger canals.

Other Turtles of Possible Occurrence: Turtles potentially occurring on CARI, but were not collected or observed as part of this survey are listed in the table below with the probability of their occurrence indicated.

Vernacular/Common Name	Technical/Scientific Name	Occurrence Potential ¹
Alligator Snapping Turtle	<i>Macrochelys temminckii</i>	L
Common Snapping Turtle	<i>Chelydra serpentina</i>	H
Eastern Mud Turtle	<i>Kinosternon subrubrum</i>	H
False Map Turtle	<i>Graptemys pseudogeographica</i>	L
Chicken Turtle	<i>Deirochelys reticularia</i>	VL
Painted Turtle	<i>Chrysemys dorsalis</i>	M
Eastern River Cooter	<i>Pseudemys concinna</i>	M
Eastern Box Turtle	<i>Terrapene carolina</i>	M
Ornate Box Turtle*	<i>Terrapene ornata</i>	VL
Smooth Softshell	<i>Apalone mutica</i>	L
Spiny Softshell	<i>Apalone spinifera</i>	H

¹H = High probability; M = moderate probability; L = low probability;

VL = very low (highly improbable although possible).

*CARI is on the edge or possibly outside of the species known range.

Records for turtles currently known from the adjacent area (i.e., Natchitoches and surrounding Parishes) are discussed below.

✱ Family Chelydridae

Vernacular: The Snapping Turtles

Common Name: Alligator Snapping Turtle

Scientific Name: *Macrochelys temminckii* [Harlan 1835] is recognized by the CNAH; however, the ITIS recognizes this species as the *Macrolemys temminckii* [Harlan 1835]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: Only one record exists for Natchitoches Parish and this is from ~11 mi. (18 km) NW of Oakland Plantation, however, **Alligator Snapping Turtles** have also been recorded from the adjacent parishes of Bienville, Grant Parish, Sabine, and Rapides.

Habitat: This species prefers deeper aquatic situations with muddy bottoms and abundant vegetation (e.g., lakes, rivers, impoundments, bayous, swamps, etc.).

Common Name: Snapping Turtle

Scientific Name: *Chelydra serpentina* [Linnaeus 1758]

Subspecies: The **Common Snapping Turtle** (*Chelydra serpentina serpentina*) [Linnaeus 1758] is recognized by both the CNAH and the ITIS and probably occurs on CARI.

Local Distribution: With the exception of Winn Parish, **common snappers** have been collected from all parishes adjacent to Natchitoches and from several locations within the parish. The nearest locations to CARI is ~7 mi. (11 km) SSE of Magnolia Plantation and ~11 mi. (18 km) NW of Oakland Plantation

Habitat: While basically an aquatic species, **common snappers** are most often seen crossing roads, which in Louisiana usually results in their winding up in someone's soup pot. Within its range it can be found in most any type of aquatic situation (i.e., lakes, rivers, streams, bayous, pools, swamps, marshes, brooks, creeks, etc.), even to the shallowest of roadside ditches.

✱ Family Kinosternidae

Vernacular: The Mud/Musk Turtles

Common Name: **Eastern Mud Turtle** - The ITIS common name for this species is the **Common Mud Turtle**

Scientific Name: *Kinosternon subrubrum* [Lacépède 1788]

Subspecies: The **Eastern Mud Turtle** (*Kinosternon subrubrum subrubrum*) [Lacépède 1788] is recognized by both the CNAH and the ITIS, occurs in NW Louisiana and it probably occurs on CARI.

Local Distribution: **Eastern Mud Turtles** are known from numerous locations within Natchitoches Parish and is a common species throughout Louisiana and will surely be recorded from CARI in the future. The nearest location is within ~1 mi. (1.5 km) north of Oakland Plantation.

Habitat: Most shallow water bodies with soft muddy bottoms such as drainage and roadside ditches or the shallows of lakes, ponds, swamps, streams, bayous, sloughs, etc.

✻ Family Emydidae

Vernacular: The Box/Water Turtles

Common Name: **False Map Turtle**

Scientific Name: *Graptemys pseudogeographica* [Gray 1831]

Subspecies: See the discussion above under the species account for the **Mississippi Map Turtle** (*Graptemys pseudogeographica kohnii*) [Baur 1890]. If there are two valid subspecies for this species, this is the nominal one, *Graptemys pseudogeographica pseudogeographica*.

Local Distribution: There is but one locality indicated in Dundee and Rossman (1989) for Natchitoches Parish and this appears to have come from the Red River several miles NW of Oakland Plantation. Most localities in the area are for the Red and Sabine Rivers. While there are several records from both Rapides Parish and Sabine Parishes, the only Natchitoches Parish record is from ~10 mi. (16 km) NW of Oakland Plantation. The nearest to Magnolia Plantation is ~14 mi. (23 km) SE in Rapides Parish.

Habitat: It is similar to the **Mississippi map turtle** in preferring large lakes and streams with abundant aquatic vegetation and sites for basking.

Common Name: **Chicken Turtle**

Scientific Name: *Deirochelys reticularia* [Latreille 1801]

Subspecies: The **Western Chicken Turtle** (*Deirochelys reticularia miaria*) [Schwartz 1956] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and possibly on CARI.

Local Distribution: **Chicken turtles** are a species not often seen. There are four records from Natchitoches Parish and only one other from adjacent Vernon Parish.

Habitat: Most fresh, shallow, slack-water situations (tends to avoid moving water) of ponds,

pools, lakes, swamps, and ditches.

Common Name: **Painted Turtle**

Scientific Name: *Chrysemys dorsalis* [Schneider 1783]

Subspecies: None recognized by the CNAH, however, the ITIS currently recognizes this species/subspecies as the **Western Painted Turtle** (*Chrysemys picta bellii*) [Gray 1831], which occurs in NW Louisiana and possibly on CARI.

Local Distribution: In the area, there are locality records from Grant and Rapides Parishes and two from Natchitoches Parish. The closest in Natchitoches is ~9 mi. (14.5 km) NW of Oakland Plantation.

Habitat: Most shallow, quiet water areas of lakes, ponds, pools, swamps, and bayous.

Common Name: **Eastern River Cooter**

Scientific Name: *Pseudemys concinna* [LeConte 1830]

Subspecies: None currently recognized by the CNAH, however, the ITIS recognizes this species as (*Pseudemys concinna concinna*) [LeConte 1830].

Local Distribution: Few locality records exist for the area. There are a couple in Natchitoches Parish from several miles north of Oakland as well as from Red River, Rapides, and Sabine Parishes.

Habitat: **Cooters** are not a very abundant species in Louisiana and (when present), like the **Red-Eared Slider**, can be found basking on exposed logs in larger streams, bayous, rivers and swamplands.

Common Name: **Eastern Box Turtle**

Scientific Name: *Terrapene carolina* [Linnaeus 1758]

Subspecies: The **Three-Toed Box Turtle** (*Terrapene carolina triunguis*) [Agassiz 1857] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and probably on CARI.

Local Distribution: In the area, there are locality records from Grant and Rapides Parishes and three from Natchitoches Parish. The closest locality record in Natchitoches is ~8 mi. (13 km) NW of Oakland Plantation. There was high expectation that this species would be one actually encountered during CARI's fieldwork, at least on the back portion of Oakland Plantation.

Habitat: This is mainly a terrestrial species of wet to moderately drained woodlands, and occasionally woody areas that may not be so wet.

Common Name: **Ornate Box Turtle**

Scientific Name: *Terrapene ornata* [Agassiz 1854]

Subspecies: The **Ornate Box Turtle** (*Terrapene ornata ornata*) [Agassiz 1854] is recognized by both the CNAH and the ITIS and while an uncommon species of western Louisiana would be the subspecies on CARI if present.

Local Distribution: While no records exist for Natchitoches Parish, this species is included in that **Ornate Box Turtles** have been found ~ 25 mi. (40 km) to the SE and SW of Magnolia in Rapides and Vernon Parishes, respectively.

Habitat: This is a terrestrial species of Nation's prairie region, thus it is found in dry, open, sandy-type environs.

Species Accounts:

The Lizards

Order Lacertilia

General Comments: On several occasions the larger skinks (*Eumeces sp.*) were observed but could not be caught for a positive species identification. In those instances, the skinks were recorded only as an unidentified lined-skink. In other instances, the lined-skink was caught but was determined to be a hybrid based on upper labial scale counts and post labial scale configurations. In those instances, the skinks were recorded as a hybrid and indicated as *Eumeces fasciatus x laticeps*.

Lizards Occurring on CARI: The following lizards were observed or collected on or immediately adjacent to CARI's property during the survey. Species recorded were:

Green Anole (*Anolis carolinensis*)
Five-Lined Skink (*Eumeces fasciatus*)
Broadhead Skink (*Eumeces laticeps*)
Ground Skink (*Scincella lateralis*)

*** Family Polychrotidae**

Vernacular: The Anoles

Common Name: **Green Anole**

Scientific Name: *Anolis carolinensis* [Voigt 1832]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: This is a very common species locally as well as statewide. It was the second most often observed species on Magnolia Plantation and the fourth on Oakland. The voucher specimen collected at Oakland on February 20 is pictured herein (Figure 33). The locations where **Green Anole** specimens were observed on the Oakland unit are presented in Figure 34 and the locations on Magnolia unit in Figure 35.



Figure 33. Green Anole Voucher Specimen, Oakland Plantation.

Habitat: This is an arboreal species of sparse woods and open areas. It was observed on CARI in trees, on fence posts and railing, in shrubs, and on buildings often sunning itself.



Figure 34. Green Anoles (*Anolis carolinensis*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



Figure 35. Green Anole (*Anolis carolinensis*) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

● **Family Scincidae**

Vernacular: The Skinks

Common Name: Five-Lined Skink

Scientific Name: *Eumeces fasciatus* [Linnaeus 1758]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: This was the most abundant species of all herpetozoans encountered on both park units (i.e., 31 on Magnolia and 39 on Oakland), not counting those seen but which avoided capture (i.e., 19 on Oakland and 14 on Magnolia) and were recorded only as “**unidentified lined-skinks**” (*Eumeces* sp.). A female **Five-Lined Skink** with her eggs was uncovered at Oakland on July 11, 2002 and is pictured herein (Figure 36). The locations where **Five-Lined Skinks** were observed on the Oakland unit are presented in Figure 37 and those on Magnolia in Figure 38.



Figure 36. Female Five-Lined Skink With Her Eggs, Oakland Plantation.

As indicated in the lizard introduction, on several occasions the larger **lined skinks** could not be caught for identification and were recorded only as an **unidentified lined-skink** and some that were caught were determined to be a hybrid based on scale counts/configurations and thus were designated as *Eumeces fasciatus x laticeps*. The locations where **unidentified lined-skinks** were observed are illustrated in Figure 39 for Oakland and in Figure 40 for Magnolia. Figures 41 and 42 present the locations of **hybrid lined-skinks** (*Eumeces fasciatus x laticeps*) on Oakland and Magnolia Plantation, respectively.

Habitat: This is an arboreal species that can be found in a variety of habitats, but prefers open wooded or cleared areas in association with scattered cover material and debris (e.g., on, under, and within rotting logs, rock piles, roofing tin, tree stumps, dead tree trunks and under their bark) and often in association with old buildings and structures.



Figure 37. Five-Lined Skink (*Eumeces fasciatus*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



Figure 38. Five-Lined Skink (*Eumeces fasciatus*) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



Figure 39. Unidentified Lined Skinks (*Eumeces* sp.) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



Figure 40. Unidentified Lined Skinks (*Eumeces* sp.) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



**Figure 41. Broadhead X Five-Lined Skinks (*Eumeces laticeps* X *fasciatus*)
Observed at the Oakland Unit of the Cane River Creole National
Historical Park, Natchitoches Parish, Louisiana.**

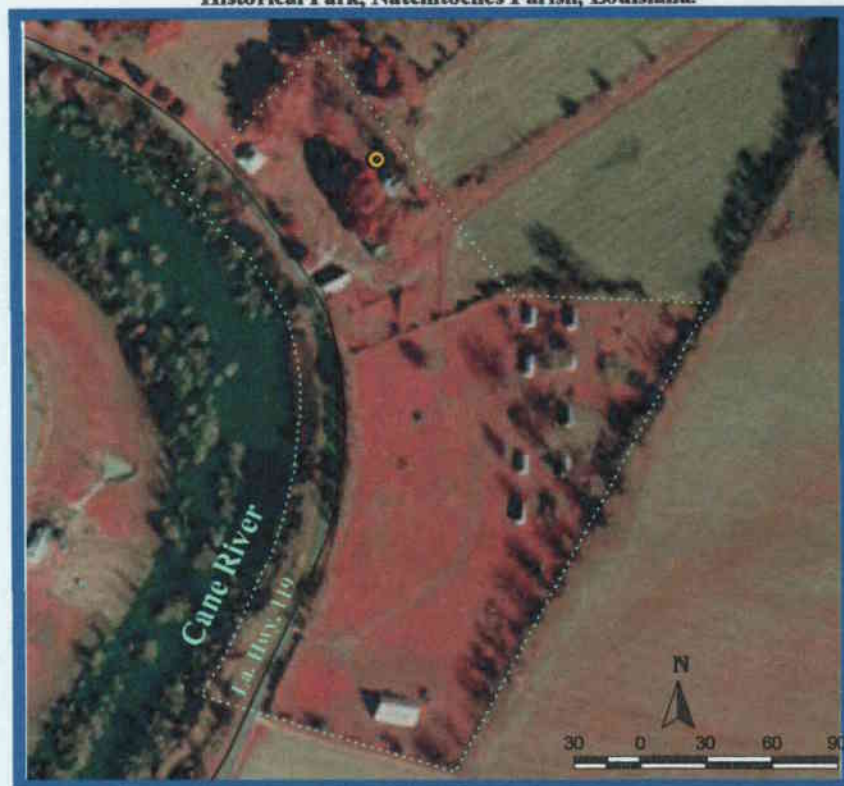


**Figure 42. Broadhead X Five-Lined Skink Hybrid (*Eumeces laticeps* X *fasciatus*)
Observed at the Magnolia Unit of the Cane River Creole National
Historical Park, Natchitoches Parish, Louisiana.**

Common Name: **Broadhead Skink**

Scientific Name: *Eumeces laticeps* [Schneider 1801]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: This was the third most observed herpetozoan on Oakland and the fourth on Magnolia. This is one of the “lined skinks,” thus their abundance could have been greater on both parks if all “unidentified lined-skinks” had been caught and identified. The **Broadhead Skink** collected at Oakland on May 2, 2002 is pictured (Figure 43). The locations where CARI **Broadhead Skink** specimens were observed on the Oakland unit are in Figure 44 and those locations on Magnolia Plantation in Figure 45.

Habitat: The habitat preference of the **Broadhead Skink** closely mirrors that of the **Five-Lined Skink** where the two often co-occur. **Broadhead skinks** probably tend to be more arboreal than **Five-Lined Skinks** and prefer slightly drier environs.



Figure 44. Broadhead Skinks (*Eumeces laticeps*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

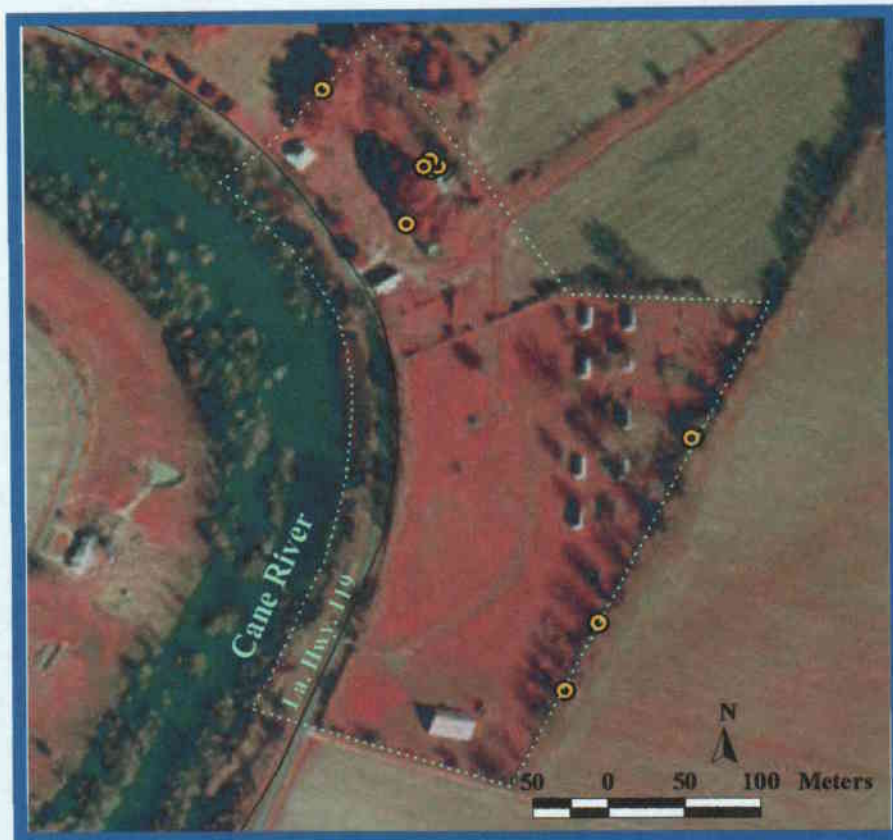


Figure 45. Broadhead Skink (*Eumeces laticeps*) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

Common Name: Ground Skink

Scientific Name: *Scincella lateralis* [Say in James 1823]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: This is another common lizard both locally and statewide.

It was well represented on Magnolia Plantation by the seven specimens observed, and it is undoubtedly more abundant on Oakland than that indicated by the three specimens seen there. A **Ground Skink** observed at Oakland on January 29, 2003 is pictured herein (Figure 46). The locations where **Ground Skinks** were observed on the Oakland unit is presented in Figure 47 and the locations on Magnolia Plantation in Figure 48.



Figure 46. Ground Skink Observed at Oakland Plantation.

Habitat: Under debris (e.g., logs, leaves, boards, roofing tin, old lumber, etc.) and rocks (if present) in well-drained sparse woods and in clear areas in association with human habitation and buildings. Occasionally, observed moving through leaf litter.



Figure 47. Ground Skink (*Scincella laterale*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



Figure 48. Ground Skink (*Scincella laterale*) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

Other Lizards of Possible Occurrence: Lizards potentially occurring in CARI, but were not collected or observed as part of this survey are listed in the table below with the probability of their occurrence indicated.

Vernacular/Common Name	Technical/Scientific Name	Occurrence Potential ¹
Mediterranean Gecko*	<i>Hemidactylus turcicus</i>	L
Fence Lizard	<i>Sceloporus undulatus</i>	VL
Coal Skink	<i>Eumeces anthracinus</i>	VL
Six-Lined Racerunner	<i>Aspidoscelis sexlineata</i>	VL
Slender Glass Lizard	<i>Ophisaurus attenuatus</i>	VL

¹H = High probability; M = moderate probability; L = low probability;
VL = very low (highly improbable although possible).

*CARI is on the edge or possibly outside of the species known range.

Records for lizards currently known from the adjacent area (i.e., Natchitoches and surrounding Parishes) are discussed below.

● Family Anguidae

Vernacular: The Glass Lizards

Common Name: **Slender Glass Lizard**

Scientific Name: *Ophisaurus attenuatus* [Cope 1880]

Subspecies: The **Western Slender Glass Lizard** (*Ophisaurus attenuatus attenuatus*) [Cope 1880] is recognized by both the CNAH and the ITIS, occurs in NW Louisiana, and possibly on CARI.

Local Distribution: While no records exist for Natchitoches Parish, this species is included in that **Glass Lizards** have been found in Rapides, Grant, and Vernon Parishes, ~34 mi. (60 km) E of Oakland and ~40 mi. (65 km) to the SE and SW of Magnolia, respectively.

Habitat: Dry, open, sandy, grassy fields and woodlands.

● Family Gekkonidae

Vernacular: The Geckoes

Common Name: **Mediterranean Gecko**

Scientific Name: *Hemidactylus turcicus* [Linnaeus 1758]

Subspecies: This species is not listed by the CNAH and the ITIS currently recognizes no subspecies.

Local Distribution: The **Mediterranean Gecko** is an exotic species that entered this country from Europe in the early 1940s on freighters docking at Gulf Coast ports. It has spread throughout the coastal region in all states bordering the Gulf of Mexico as well as in Georgia. It has not been recorded outside of southern Louisiana; however, it has extended its distribution as far north as central Oklahoma and northern Mississippi, thus the potential for its future occurrence on CARI is very probable and why it is included herein. The outside walls of most CARI buildings were searched thoroughly at night by flashlight and it can be said with fair certainty that this exotic currently does not occur on the park at this time, although it can be anticipated in the near future.

Habitat: An arboreal and nocturnal lizard usually in close association with human habitation (i.e., most any structure or building).

✻ Family Iguanidae

Vernacular: The Iguanas

Common Name: Fence Lizard

Scientific Name: *Sceloporus undulatus* [Bosc & Daudin 1801]

Subspecies: None currently recognized by the CNAH, but the ITIS recognizes the **Northern Fence Lizard** (*Sceloporus undulatus hyacinthinus*) [Green 1818] which occurs in NW Louisiana and possibly on CARI.

Local Distribution: Even if the park's habitat were to be substantially improved in the future, it is doubtful this species would ever be found on CARI since it is mainly a species of the pineywoods. It is included here because it has been collected ~5 mi. (8 km) SW of both Oakland Plantation and Magnolia Plantations, as well as in all surrounding parishes.

Habitat: Prefers dry, open, sunny, woodlands (e.g., oak-pine forest) on fallen trees, wood piles, dead tree trunks, fence railings, old structures/buildings, etc.

✻ Family Scincidae

Vernacular: The Skinks

Common Name: Coal Skink

Scientific Name: *Eumeces anthracinus* [Baird 1854]

Subspecies: The **Southern Coal Skink** (*Eumeces anthracinus pluvialis*) [Cope 1880] is recognized by both the CNAH and the ITIS, occurs in NW Louisiana, and possibly on CARI.

Local Distribution: This species has been recorded from ~7 mi. (11 km) SW of Magnolia Plantation and from a couple of locations in the northern portion of Natchitoches Parish, as well as from all the surrounding ones, except Red River and Bienville Parishes.

Habitat: On and under debris and cover material (e.g., logs, boards, roofing tin, old lumber, etc.) and rocks piles (if present) in open moist woodlands and wooded hillsides.

✱ **Family Teiidae**

Vernacular: The Whiptails & Racerunners

Common Name: **Six-Lined Racerunner**

Scientific Name: *Aspidozelis sexlineata* [Linnaeus 1766]

Subspecies: CARI is in an area of intergradation between the **Six-Lined Racerunner** (*Aspidozelis sexlineata sexlineata*) [Linnaeus 1766] and the **Prairie Racerunner** (*Aspidozelis sexlineata viridis*) [Lowe 1966], which are recognized by both the CNAH and the ITIS. It would have a low probability of occurrence on CARI.

Local Distribution: Red River Parish is the only parish in the local area lacking locality records for this species. It has been recorded ~2 mi. (3 km) W and N of Magnolia Plantation and ~5 mi. (8 km) SE of Oakland Plantation.

Habitat: Dry, open, sunny, environs with sandy, friable, soils bordering woodlands are the preferred habitat.

Species Accounts:

The Snakes

Order Squamata/Suborder Serpentes

General Comments: Field techniques for surveying the snakes involved visual encounter surveys in both aquatic and terrestrial habitats during the daylight hours and night lighting after dark. Visual encounters during the day was mainly by turning natural cover objects (e.g., tin, logs, rock, etc.) and checking under researcher-placed cover boards, while at night by riding the park's frontage roads and spot lighting along aquatic sites.

Snakes occurring on CARI: The following snakes were observed or collected on or immediately adjacent to CARI's property during the survey.

Eastern Racer (*Coluber constrictor*)

Western Rat Snake (*Pantherophis obsoletus*)

Ribbon Snake (*Thamnophis proximus*)

Copperhead (*Agkistrodon contortrix*)

● **Family Colubridae**

Vernacular: Harmless Egg-Laying Snakes

Common Name: **Eastern Racer**

Scientific Name: *Coluber constrictor* [Linnaeus 1758]

Subspecies: The **Buttermilk Racer** (*Coluber constrictor anthicus*) [Cope 1862] is recognized by both the CNAH and the ITIS, occurs in NW Louisiana, and on CARI.

Local Distribution: The location where the **Buttermilk Racer** was observed on the Oakland unit is presented in Figure 49. The specimen found was the anterior half of a young (i.e., small) specimen that apparently had been run over by a lawnmower, severely mangled, and was in an advance state of decay, thus not collected and no voucher specimen exists.

Habitat: This is a species of open woodlands and fields and those environs associated thickets, bordering undergrowth, natural clearings, and occasionally in urban areas (e.g., unmowed grassy situations and lawns).



Figure 49. Buttermilk Racer (*Coluber constrictor*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

Common Name: Western Rat Snake

Scientific Name: *Pantherophis obsoletus* [Say 1823]

Subspecies: None recognized by the CNAH; however, the ITIS currently recognizes the local rat snake population as the **Texas rat snake** (*Elaphe obsoleta lindheimerii*) [Baird & Girard 1853]. The **New World rat snakes** (genus *Elaphe*) was recently reassigned to the revalidated genus *Pantherophis* (Utiger et al. 2002) on the basis mtDNA analysis that indicates the **North American rat snakes** (i.e., *guttatus*, *bairdi*, *obsoletus*, and *vulpinus*) are monophyletic lineage different for the Old World members of *Elaphe*.

Local Distribution: The **Western Rat Snake** is one of the more commonly encountered serpents throughout Louisiana. It is known from numerous locations in Natchitoches Parish and has been recorded from all the surrounding parishes. It was the most often encountered snake in this survey. The voucher specimen collected at Oakland on April 17, 2002 is pictured herein (Figure 50). The locations where CARI's western rat snakes were observed on the Oakland unit are presented in Figure 51 and the locations for Magnolia Plantation in Figure 52.

Habitat: Highly variable: upland forests, bottomland hardwoods and their edge community, river swamps, thickets, farmlands, agricultural fields, and often in urban areas where it arboreal ability takes it high up into trees and into purple martin houses in search of their eggs and young.



Figure 50. Western Rat Snake Voucher Specimen, Oakland Plantation.



Figure 51. Western Rat Snake (*Pantherophis obsoletus*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



Figure 52. Western Rat Snake (*Pantherophis obsoletus*) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

● **Family Natricidae**

Vernacular: Harmless Live-Bearing Snakes

Common Name: Ribbon Snake

Scientific Name: *Thamnophis proximus* [Say 1823]

Subspecies: The **Western Ribbon Snake** (*Thamnophis proximus proximus*) [Say 1823] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and on CARI.

Local Distribution: This species is widely distributed throughout Louisiana. It is represented by the more coastal subspecies, the **Gulf Coast Ribbon Snake** (*Thamnophis proximus orarius*) and the northern subspecies, the **Western Ribbon Snake**, which occurs on CARI. The western ribbon snake was observed (and collected) but once on both the Oakland and Magnolia Plantations. The voucher specimen collected at Oakland on April 17, 2002 is pictured herein (Figure 53) and its site



Figure 53. Western Ribbon Snake Voucher Specimen, Oakland Plantation.

of collection is presented in Figure 54. The location where the Magnolia Plantation specimen was collected is indicated in Figure 55.

Habitat: The **Ribbon Snake** is a semi-aquatic species found in association with lakes, ponds, bayous, streams, swamps and marshes, etc. However, it can be also be found well removed from wet situations as was the Oakland voucher specimen which was caught entering a burrow under one of the large live oak trees lining the entrance path to the main house.



Figure 54. Western Ribbon Snake (*Thamnophis proximus*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.



Figure 55. Western Ribbon Snake (*Thamnophis proximus*) Observed at the Magnolia Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

● **Family Viperidae**

Vernacular: The Pitvipers

Common Name: **Copperhead**

Scientific Name: *Agkistrodon contortrix* [Linnaeus 1766]

Subspecies: The **Southern Copperhead** (*Agkistrodon contortrix contortrix*) [Linnaeus 1766] is recognized by both the CNAH and the ITIS and it occurs in NW Louisiana and on CARI.

Local Distribution: The **Southern Copperhead** is a fairly common species throughout Louisiana and has been recorded from Natchitoches Parish on numerous occasions as well as all surrounding parishes. The locations where CARI **Copperheads** were observed on the Oakland unit are presented in Figure 56, however, there is no voucher specimen in that these are reliable historic observations reported by Ron Bolton, a grounds maintenance employee. None were encountered on Magnolia Plantation. At Oakland Plantation, one was curled up at the base of an old dead tree along the frontage highway and another under the steps at the overseer's house.

Habitat: **Copperheads** are found primarily in woodlands that can range from dry uplands to low fairly wet environs.



Figure 56. Copperhead (*Agkistrodon contortrix*) Observed at the Oakland Unit of the Cane River Creole National Historical Park, Natchitoches Parish, Louisiana.

Other Snakes of Possible Occurrence: Snakes potentially occurring in CARI, but were not collected or observed as part of this survey are listed in the table below with the probability of their occurrence indicated.

Vernacular/Common Name	Technical/Scientific Name	Occurrence Potential ¹
Southern Water Snake	<i>Nerodia fasciata</i>	M
Plainbelly Water Snake	<i>Nerodia erythrogaster</i>	H
Diamondback Water Snake	<i>Nerodia rhombifera</i>	H
Mississippi Green Water Snake	<i>Nerodia cyclopion</i>	M
Glossy Crayfish Snake *	<i>Regina rigida</i>	L
Graham's Crayfish Snake	<i>Regina grahamii</i>	L
Common Garter Snake*	<i>Thamnophis sirtalis</i>	VL
Brown Snake	<i>Storeria dekayi</i>	M
Redbelly Snake	<i>Storeria occipitomaculata</i>	L
Rough Earth Snake	<i>Virginia striatula</i>	M
Smooth Earth Snake*	<i>Virginia valeriae</i>	VL
Ringneck Snake	<i>Diadophis punctatus</i>	VL
Eastern Hognose Snake	<i>Heterodon platirhinos</i>	M
Scarlet Snake	<i>Cemophora coccinea</i>	VL
Rough Green Snake	<i>Opheodrys aestivus</i>	M
Mud Snake	<i>Farancia abacura</i>	M
Coachwhip	<i>Masticophis flagellum</i>	L
Louisiana Pine Snake	<i>Pituophis ruthveni</i>	VL
Slowinski's Cornsnake	<i>Pantherophis slowinskii</i>	M
Milk Snake	<i>Lampropeltis triangulum</i>	L
Prairie Kingsnake	<i>Lampropeltis calligaster</i>	L
Common Kingsnake	<i>Lampropeltis getula</i>	H
Flathead Snake*	<i>Tantilla gracilis</i>	VL
Cottonmouth	<i>Agkistrodon piscivorus</i>	H
Texas Coral Snake	<i>Micrurus tener</i>	L
Pygmy Rattlesnake	<i>Sistrurus miliarius</i>	L
Timber Rattlesnake	<i>Crotalus horridus</i>	VL

¹H = High probability; M = moderate probability; L = low probability;

VL = very low (highly improbable although possible).

*CARI is on the edge or possibly outside of the species known range.

Records for snakes currently known from the adjacent area (i.e., Natchitoches and surrounding Parishes) are discussed below.

✱ Family Colubridae

Vernacular: Harmless Egg-Laying Snakes

Common Name: Scarlet Snake

Scientific Name: *Cemophora coccinea* [Blumenbach 1788]

Subspecies: The **Northern Scarlet Snake** (*Cemophora coccinea copei*) [Jan 1663] is recognized by both the CNAH and the ITIS, occurs in NW Louisiana, and remotely possible on CARI.

Local Distribution: This species occurrence is areawide in northwest Louisiana in that only Red River and DeSoto Parishes lack locality records of those parishes bordering on Natchitoches. In addition it has been recorded from several locations within Natchitoches Parish, the closest of which is ~7 mi. (11 km) NW of Oakland Plantation and ~9 mi. (14.5 km) S of Magnolia Plantation.

Habitat: Prefers sandy, friable, damp soils for burrowing under debris (e.g., logs, shingles, boards, roofing tin, old lumber, bark, etc.) and rocks and stones (if present). Also found under tree bark and in rotting logs, tree trunks, and stumps.

Common Name: **Slowinski's Cornsnake**

Scientific Name: *Pantherophis slowinskii* [Burbrink 2002]

Subspecies: This is a newly described species i.e., *Elaphe slowinskii* by Burbrink (2002) that has yet to be included in either the CNAH or the ITIS listings, thus no subspecies are recognized. Burbrink (2002) reassigned the formerly **Great Plains Rat Snake** (*Elaphe guttata emoryi*) to *slowinskii*. See the **Western Rat Snake** discussion above concerning the suppression of the genus *Elaphe* for the **New World Rat Snakes** and revalidation to the genus *Pantherophis* for those species (Utiger 2002).

Local Distribution: Burbrink (2002) indicates **Slowinski's Cornsnake** is found throughout the pine/oak upland habitat of western and northwestern Louisiana and eastern Texas. This distribution includes all the specimens formerly considered the **Great Plains Rat Snake** (*Elaphe guttata emoryi*, now *Pantherophis guttatus*). Thus, the four locality records in Dundee and Rossman (1989) of *E. g. emoryi* for southeast Natchitoches Parish, and all those from surrounding parishes supposedly can now be considered **Slowinski's Cornsnake**. The type locality for the species is the "longleaf pine highway, 0.5 miles west of Hwy 119, Natchitoches Parish, Louisiana" (Burbrink 2002).

Habitat: Mainly pine/oak upland woodlands and forests, but also can be found in fields, thickets, and old barns.

Common Name: **Prairie Kingsnake**

Scientific Name: *Lampropeltis calligaster* [Harlan 1827]

Subspecies: The **Prairie Kingsnake** (*Lampropeltis calligaster calligaster*) [Harlan 1827] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and possibly on CARI.

Local Distribution: Specimens exist for all area parishes except Winn and Grant Parishes. One specimen is from ~10 mi. (16 km) SW and another ~10 mi. (16 km) NW of Oakland Plantation. A third specimen is ~10 mi. (16 km) S of Magnolia Plantation

Habitat: This is a species of open habitat (e.g., prairie, farmland, pasture, grassy fields, etc.), but is also found on occasion in mixed pine-hardwoods or bottomland hardwoods.

Common Name: **Common Kingsnake**

Scientific Name: *Lampropeltis getula* [Linnaeus 1766]

Subspecies: The **Speckled Kingsnake** (*Lampropeltis getula holbrooki*) [Stejneger 1902] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and almost assuredly on CARI.

Local Distribution: This **Kingsnake** occurs statewide and there are several locality records for Natchitoches Parish, one of which is ~8mi. (13 km) SW of Oakland Plantation and ~10 mi. (13 km) W of Magnolia Plantation.

Habitat: The **Speckled Kingsnake** occupies a variety of moist environs ranging from the not-so-wet uplands to damp bottomland hardwoods, but especially in open woodlands and their edge community, uncultivated cropland, grassy overgrown fields, etc. It is often found in association with human habitation, especially in and around buildings that might harbor rodents.

Common Name: **Milk Snake**

Scientific Name: *Lampropeltis triangulum* [Lacépède 1789]

Subspecies: The **Louisiana Milk Snake** (*Lampropeltis triangulum amaura*) [Cope 1861] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and possibly on CARI.

Local Distribution: This is the local version of the coral snake mimic. There are a couple of localities in Natchitoches Parish, one of which is ~5 mi. (8 km) NW of Oakland Plantation. Another specimen from Grant Parish was collected just across the Red River from Magnolia Plantation (i.e., ~10 mi. (16 km) ENE of Magnolia).

Habitat: **Milksnakes** are secretive and remain hidden for the most part under debris or cover material (e.g., rotting logs, leaves, shingles, boards, roofing tin, old lumber, etc.) and rocks and stones (if present) in moist situations. In the author's experience, the milk snake was often discovered in standing dead tree trunks and stumps after stripping off the bark.

Common Name: **Coachwhip**

Scientific Name: *Masticophis flagellum* [Shaw 1802]

Subspecies: The **Eastern Coachwhip** (*Masticophis flagellum flagellum*) [Shaw 1802] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and possibly on CARI.

Local Distribution: This species is confined to the more northern portion of the state. Several records exist for Natchitoches Parish with the closest ~4 mi. (6.5 km) SW of Magnolia Plantation and ~8 mi. (13 km) WNW of Oakland Plantation.

Habitat: Habitat variable, ranging from dry, sandy, open woods and agricultural settings (e.g., farmlands and pastures) to abandoned fields, grasslands, and woodland margins.

Common Name: **Rough Green Snake**

Scientific Name: *Opheodrys aestivus* [Linnaeus 1766]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: This is a very slender arboreal snake of likely occurrence on CARI, that is seldom seen and difficult to locate in vegetation. It is known from four localities in Natchitoches Parish, the closest to Oakland Plantation ~ 9 mi. (14.5 km) to the NW and ~10 mi. (16 km) to the SSW of Magnolia Plantation

Habitat: Arboreal in shrubs, low trees, vines, thickets, green briar, etc. in dry, sparse, open woodlands and in vegetation overhanging aquatic environs.

Common Name: **Louisiana Pine Snake**

Scientific Name: *Pituophis ruthveni* [Stull 1929]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: The **Louisiana Pine Snake** is a close cousin of the more western **Bull Snake** and it inhabits the piney woods of north central Louisiana and eastern Texas. It may be the rarest serpent in Louisiana and is an U.S. Fish and Wildlife Service, Candidate Taxon, Ready for Proposal as a T&E species. There are five Natchitoches Parish records, one ~ 9 mi. (14.5 km) NW of Oakland Plantation and another ~ 6 mi. (10 km) SW of Magnolia Plantation. The chance of this species ever occurring on CARI is extremely rare and it is included here only because of its close proximity in the piney woods to the west of the park.

Habitat: The dry, well-drained sandy soils of Louisiana's western longleaf piney woods.

Common Name: Flathead Snake

Scientific Name: *Tantilla gracilis* [Baird & Girard 1853]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: The **Flathead Snake** is a diminutive species found in northwestern Louisiana, but not likely on CARI. In Natchitoches Parish this species is known from several specimens and mainly to the west of CARI (the nearest is ~8 mi. (13 km) SW of Magnolia Plantation) on the steep slopes and rock outcrops of Kisatchie National Forest's piney woods, i.e., Kisatchie Hills Wilderness Area's (a.k.a. Red Dirt National Refuge/Longleaf Vista Recreation Area).

Habitat: Under debris or cover material on well drained hillsides (e.g., rocks, stones, rotting logs, boards, roofing tin, old lumber, etc.).

✿ **Family Elapidae**

Vernacular: Coral Snakes

Common Name: Texas Coral Snake

Scientific Name: *Micrurus tener* [Baird & Girard 1853]

Subspecies: None currently recognized by the CNAH, however, the ITIS recognizes the local **Coral Snake** population as (*Micrurus fulvius tener*) [Baird & Girard 1853].

Local Distribution: The **Coral Snake** is the only Louisiana poisonous snake that is highly neurotoxic. It is known from several localities in Natchitoches Parish and from all the surrounding parishes except Red River and DeSoto Parishes.

Habitat: Dry to moist sandy soil situations under debris or cover material (e.g., rotting logs, leaves, shingles, boards, roofing tin, old lumber, bark, etc.), rocks and stones (if present), and in burrows.

✿ **Family Natricidae**

Vernacular: Harmless Live-Bearing Snakes

Common Name: Mississippi Green Water Snake

Scientific Name: *Nerodia cyclopion* [Duméril, Bibron & Duméril 1854]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: This species is more prevalent in the southern half of Louisiana, but can be found statewide. There are 5 records for Natchitoches Parish with the closest about midway between the Magnolia and Oakland Plantations.

Habitat: This is a fairly common water snake, and like the **Diamondback Water Snake**, can be found in most quiet, slack-water situations (e.g., streams, lakes, bayous, canals, sloughs, ponds, roadside ditches, river swamps, rice fields, marshes, etc.).

Common Name: **Plainbelly Water Snake**

Scientific Name: *Nerodia erythrogaster* [Forster 1771]

Subspecies: The **Yellowbelly Water Snake** (*Nerodia erythrogaster flavigaster*) [Conant 1949] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and almost assuredly on CARI.

Local Distribution: The species occurs statewide; there are 4 locality records for Natchitoches Parish, one of which is ~9 mi. (14.5 km) NW of Oakland Plantation and another ~13 mi. (21 km) SW of Magnolia Plantation. However, on July 25, 2002 the author observed a specimen found dead on La. Hwy. 494, ~2.5 miles SW of Oakland Plantation.

Habitat: This is a common species found in most permanent aquatic environs throughout its range (e.g., streams, lakes, bayous, canals, ponds, roadside ditches, river swamps, rice fields, marshes, etc.)

Common Name: **Southern Water Snake**

Scientific Name: *Nerodia fasciata* [Linnaeus 1766]

Subspecies: The **Broad-Banded Water Snake** (*Nerodia fasciata confluens*) [Blanchard 1923] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and probably on CARI.

Local Distribution: This species can be found most anywhere in Louisiana. It is known from several localities in Natchitoches Parish of which the nearest is ~5 mi. (8 km) NW of Oakland Plantation and another ~5 mi. (8 km) ESE of Magnolia Plantation. There is a good chance the **Broad-Banded Water Snake** will eventually be discovered on CARI.

Habitat: This is a very common denizen of most shallow water environs throughout its range (e.g., streams, lakes, ponds, river swamps, marshes, wet meadows, etc.)

Common Name: **Diamondback Water Snake**

Scientific Name: *Nerodia rhombifera* [Hallowell 1852]

Subspecies: The **Diamondback Water Snake** (*Nerodia rhombifera rhombifera*) [Hallowell 1852] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and probably on CARI.

Local Distribution: This species is found throughout the state, all parishes surrounding Natchitoches, and there are several locality records within Natchitoches Parish with the closest ~5 mi. (8 km) NW of Oakland Plantation. The author is confident it will eventually turn up on CARI.

Habitat: This is a very common species found in most quiet, shallow, slack-water situations of streams, lakes, bayous, canals, sloughs, ponds, roadside ditches, river swamps, rice fields, marshes, etc.

Common Name: **Graham's Crayfish Snake**

Scientific Name: *Regina grahamii* [Baird & Girard 1853]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: **Graham's Crayfish Snake**, an uncommon and secretive water snake, can be found throughout most of the state. Locally, there have been a few specimens recorded for Natchitoches Parish, and only one for an adjacent parish, (i.e., Rapides Parish). One of the Natchitoches Parish specimens was collected approximately equidistant between Oakland Plantation and Magnolia Plantation.

Habitat: Most often found hidden in debris along the edge of streams, lakes, sloughs, ponds, drainage ditches, swamps, etc. and is suspected of probing crawfish burrows for its more favored prey.

Common Name: **Glossy Crayfish Snake**

Scientific Name: *Regina rigida* [Say 1825]

Subspecies: The **Gulf Crayfish Snake** (*Regina rigida sinicola*) [Huheey 1959] is recognized by both the CNAH and the ITIS, occurs in NW Louisiana, and possibly on CARI.

Local Distribution: This species, like the **Green Water Snake**, tends to be a more coastal watersnake in Louisiana, but it still can be found most anywhere in the state. There are 5 records for Natchitoches Parish with the closest about midway between Magnolia and Oakland Plantations. Locally, it has also been recorded from Sabine, Grant, and Rapides Parishes.

Habitat: This is a not so common species that exhibits a high fidelity to water. It is often found burrowed in the mud of quiet, shallow, slack-water situations along streams, lakes, sloughs,

ponds, drainage ditches, and swamps.

Common Name: **Brown Snake**

Scientific Name: *Storeria dekayi* [Holbrook 1836]

Subspecies: The **Midland Brown Snake** (*Storeria dekayi wrightorum*) [Trapido 1944] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and probably on CARI.

Local Distribution: This species can be found throughout most all of Louisiana and is well represented in Natchitoches Parish. One of those specimens was taken ~5 mi. (8 km) SSW of Oakland Plantation and another ~3 mi. (5 km) SW of Magnolia Plantation.

Habitat: This is a very secretive snake adaptable to a wide variety of moist habitat types; usually found under some type of debris or cover material (e.g., logs, leaves, boards, roofing tin, old lumber, etc.)

Common Name: **Redbelly Snake**

Scientific Name: *Storeria occipitomaculata* [Storer 1839]

Subspecies: The **Florida Redbelly Snake** (*Storeria occipitomaculata obscura*) [Trapido 1944] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and possibly on CARI.

Local Distribution: This close cousin to the **Brown Snake** is represented by several specimens in Natchitoches Parish, the closest of which is ~10 mi. (16 km) NW of Oakland Plantation and ~8 mi. (13 km) S of Magnolia Plantation.

Habitat: Like the **Brown Snake**, it is very secretive and can be found in varying habitats, but under cover of some kind (e.g., logs, leaves, boards, roofing tin, old lumber, etc.) in or near wooded areas. "Probably more specimens have been taken on blacktop roads on warm summer nights than in any other situation" (Dundee and Rossman 1989).

Common Name: **Common Garter Snake**

Scientific Name: *Thamnophis sirtalis* [Linnaeus 1758]

Subspecies: The **Eastern Garter Snake** (*Thamnophis sirtalis sirtalis*) [Linnaeus 1758] is recognized by the CNAH; however, the ITIS refers to this subspecies as the **Common Garter Snake** rather than the Eastern. This is the subspecies that occurs in NW Louisiana and possibly on CARI.

Local Distribution: There are no records for the **Eastern Garter Snake** in most of north central Louisiana including Natchitoches Parish. While it is highly unlikely there are **Garter Snakes** on CARI, it is included herein because of records just to the east in Grant, Rapides, and Winn Parishes. The nearest locality is in the NE corner of Grant Parish, ~30 mi. (48.5 km) ENE of Magnolia Plantation.

Habitat: Prefers moist, shallow, open, grassy aquatic situations (e.g., marsh, wet meadows, and margins of lakes, ponds, streams, bayous, and sloughs) in and near to woods.

Common Name: **Rough Earth Snake**

Scientific Name: *Virginia striatula* [Linnaeus 1766]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: This species occurs throughout most of the state and is known from several specimens in Natchitoches Parish. The closest is ~7 mi. (11 km) SW of Magnolia Plantation and ~13 mi. (21 km) SW of Oakland Plantation. With time this species is expected to be uncovered on CARI.

Habitat: A normally secretive, somewhat subterranean but fairly common snake found in a variety of habitats, usually under debris (e.g., logs, leaves, boards, bark, roofing tin, old lumber, etc.) and rocks (if present). It is probably most often uncovered while in close association with human habitation, especially during cultivation of flower and vegetable gardens.

Common Name: **Smooth Earth Snake**

Scientific Name: *Virginia valeriae* [Baird & Girard 1853]

Subspecies: The **Eastern Smooth Earth Snake** (*Virginia valeriae valeriae*) [Baird & Girard 1853] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and possibly on CARI.

Local Distribution: This is a rarely found species restricted to northwest Louisiana and the Florida parishes within the state. While there are no records for Natchitoches Parish, the **Smooth Earth Snake** has been recorded to the east in Grant, Rapides, and Winn Parishes, as well as to the west in Sabine Parish. The nearest locality is ~27 mi. (43 km) NE of Oakland Plantation in Winn Parish. Its occurrence on CARI is considered very low.

Habitat: Under debris (e.g., logs, leaves, boards, roofing tin, old lumber, etc.) and rocks (if present) in and near drier hardwood forests.

✱ **Family Viperidae**

Vernacular: The Pitvipers

Common Name: **Cottonmouth**

Scientific Name: *Agkistrodon piscivorus* [Lacépède 1789]

Subspecies: The **Western Cottonmouth** (*Agkistrodon piscivorus leucostoma*) [Troost 1836] is recognized by both the CNAH and the ITIS, occurs in NW Louisiana and most probably on CARI.

Local Distribution: The infamous **Cottonmouth** occurs statewide and is probably the most often encountered poisonous snake in Louisiana. It has been recorded from several locations in Natchitoches Parish and in all the adjoining parishes. The nearest records to CARI was within ~5 mi. (8 km) of both Oakland Plantation to the south and Magnolia Plantation to the east. It is probably just a matter of time before the **Cottonmouth** is actually found within the park's boundary on both Oakland and Magnolia units.

Habitat: Borders of most aquatic situations (e.g., along streams, ponds, lakes, swamps, bayous, borrow pits, ricefields, drainage ditches, canals, etc.).

Common Name: **Pygmy Rattlesnake**

Scientific Name: *Sistrurus miliarius* [Linnaeus 1766]

Subspecies: The **Western Pygmy Rattlesnake** (*Sistrurus miliarius streckeri*) [Gloyd 1935] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and possibly on CARI.

Local Distribution: **Pygmy Rattlers** occur throughout the state, except for the Mississippi River's alluvial floodplain north of the Baton Rouge area. It is known from several localities in Natchitoches Parish and from all the surrounding parishes except Red River and DeSoto Parishes. It has been recorded within ~5 mi. (8 km) S of Oakland Plantation and ~2 mi. (3 km) SSW of Magnolia Plantation.

Habitat: Usually in association with nearby aquatic sites (e.g., along rivers, streams, ponds, lakes, swamps, marshes, bayous, canals, etc. or on their floodplains).

Common Name: **Timber Rattlesnake** (a.k.a. the **Canebrake Rattler**)

Scientific Name: *Crotalus horridus* [Linnaeus 1758]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: The **Timber Rattler** occurs in the eastern and northern portion of Louisiana. It is known from a few specimens from the northern part of the parish (i.e., the nearest ~20 mi.

(32 km) NE of Oakland Plantation) and from all surrounding parishes except DeSoto, Rapides, and Sabine Parishes.

Habitat: Extensive moist wooded areas (e.g., mixed woodlands and bottomland hardwood) but also cane fields as well as dry hilly situations.

✱ **Family Xenodontidae** **Vernacular: The Harmless Rear-Fanged Snakes**

Common Name: **Ringneck Snake**

Scientific Name: *Diadophis punctatus* [Linnaeus 1766]

Subspecies: The **Mississippi Ringneck Snake** (*Diadophis punctatus stictogenys*) [Cope 1860] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and possibly on CARI.

Local Distribution: Two records exist for Natchitoches Parish, one of which is ~11 mi. (18 km) NW of Oakland Plantation. Other records for the area are in Winn, Grant, and Rapides Parishes.

Habitat: This is a secretive snake (not necessarily uncommon but seldom encountered) of shady woodlands and woodland borders usually found in or under rotting logs and stumps or under cover material (e.g., boards, roofing tin, shingles, old lumber, bark, etc.) and rocks and stones (if present).

Common Name: **Mud Snake**

Scientific Name: *Farancia abacura* [Holbrook 1836]

Subspecies: The **Western Mud Snake** (*Farancia abacura reinwardtii*) [Schlegel 1837] is recognized by both the CNAH and the ITIS and occurs in NW Louisiana and probably on CARI.

Local Distribution: Three records exist for Natchitoches Parish, one of which is from ~4 mi. (6.5 km) W of Oakland Plantation and another ~13 mi. (21 km) WNW of Magnolia Plantation. Of the surrounding parishes, Winn is the only one for which a record is lacking.

Habitat: This is an aquatic, burrowing, reclusive species of the swamp/marsh habitat associated with riverine floodplains, bottomland hardwoods, and cypress-tupelogum swamps. Its diet consists almost solely of the eel-like salamanders, the **Amphiumas** and **Sirens**.

Common Name: **Eastern Hognose Snake**

Scientific Name: *Heterodon platirhinos* [Latreille 1801]

Subspecies: None currently recognized by either the CNAH or the ITIS.

Local Distribution: The **Hognose** is a common species of statewide occurrence that mimics the cobra by flattening its head and hisses when encountered, which however is all show in that it is harmless. There are 3 locality records for Natchitoches Parish, one of which is ~5 mi. (8 km) SW of Oakland Plantation and ~7 mi. (11 km) W of Magnolia Plantation. With time this species can be expected to make an appearance on CARI.

Habitat: Habitat fairly variable but seems to prefer dry, open situations (e.g., pastures, abandoned fields, old orchards, woods edge, etc.), where it can find its favored prey (i.e., toads).

Acknowledgements

The author would like to thank Ms. Laura Gates, Superintendent of Cane River Creole National Historical Park, for allowing this survey on her Park, for taking time from her busy schedule to provide an initial guided tour of the park, for the helpful discussions and Park background information provided over the course of the investigation, and for allowing her staff to assist with the field work. Those staff members that willingly, graciously, and eagerly provided assistance included Mr. Eric Ford, Mr. Ron Bolton, Mr. Greg Duggan, Mr. Ken Vancalsem, and Mr. Randy Smith. Their assistance was most valuable and a hearty thanks of appreciation goes out to each of them.

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APPENDIX I

Letter to CARI Superintendent



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

Gulf Coast Network
700 Cajandome Blvd.
EHCFC Building, Suite 171
Lafayette, Louisiana 70506
August 1, 2002

Ms. Laura Gates
Superintendent
Cane River Creole National Historical Park
400 Rapides Drive
Natchitoches, LA 71457

Dear Ms. Gates:

This is to thank you for taking the time out of your busy schedule to discuss with me the current status of the herpetofaunal survey I have been conducting on the Cane River Creole National Historical Park (CARI), the Oakland and Magnolia Plantations. Also, I appreciated the opportunity to share with you my thoughts on those plantation's maintenance operations and especially how a few minor operational modifications could improve the limited habitat available for the park's biota.

As per your request, I have detailed below the recommendations I made and have included a rationale for each as to how those maintenance modifications could improve the habitat potential for the park's native and transient natural resources. I have also included two tables that list the herpetofauna, which could potentially occur on CARI plantations, with a check mark indicating those actually observed as of this writing.

Recommendation 1. Reduction in the frequency and closeness of lawn mowing.

Rationale. "Taller" grasslands would provide habitat for numerous avian species (e.g., the eastern meadowlark, dickcissel, and Savannah, grasshopper, vesper, chipping, and field sparrows) and numerous small mammals (e.g., the shorttail shrew, eastern mole, and the house, harvest, and white-footed mice). Those small mammals in turn would attract the larger predatory birds such as hawks, falcons, and owls and predatory mammals.

In those areas not requiring frequent and close mowing, a suggested protocol would be to cut the grass only once per year in autumn (early October) and only down to a height of about one foot. This, of course, in areas where the park determines it is appropriate. In those areas where this procedure is inappropriate, if mowing were reduced to just two to three times per year leaving the grass at about six to eight inches would also provide benefits to the park's biota. Implementation of either of these protocols should result in reduced operational costs in both labor and equipment maintenance. Some of those savings could be used to promote

other natural resource benefits such as installing artificial nesting cavities (e.g. wood duck boxes) in inconspicuous locales that would not infringe on the park's cultural aspects.

Recommendation 2. Allowing the hedge and treed fence rows to remain in a "less manicured" condition.

Rationale. A brushy/shrubby tree line provides medium to larger-sized mammals a corridor for movement from one area to another, as well as provides habitat for several species of native rats and mice. The latter in turn provides a food source for larger avian species (i.e., raptors) and mammalian predators such as the raccoon, red and gray foxes, and the bobcat.

Scrubby fence/tree lines also provides habitat for various reptiles such as those that currently occupy this type of situation on the plantations (e.g., the ground, five-lined, and broad-headed skinks and the green anole), and it is desirable for numerous birds (e.g., the palm warbler, cardinal, blue grosbeak, indigo bunting, rufous-sided towhee, slate-colored junco, and the lark, field, white-crowned, white-throated, fox, Lincoln's, and song sparrows to name a few).

Recommendation 3. Allowing old dead tree trunks and stumps and their associated debris (i.e., sluffed off bark, vines, large dead branches, etc.) to remain undisturbed during the decomposition process.

Rationale. This type of habitat is very attractive to lizards (e.g., the ground skink and green anole, but especially the five-lined and broad-headed skinks). They provide hibernacula for those lizards, but also snakes, frogs, and possibly salamanders. Habitat and a food source is also provided for the myriad of invertebrates that contribute to the tree's decomposition, and those insects and bugs in turn provide a food source for the amphibians, reptiles, birds, and small mammals that frequent those locations.

Recommendation 4. Cease the cutting of vines and lianas (i.e., mainly poison ivy, Virginia creeper, and wild grape), thereby allowing their growth into the tree canopies.

Rationale. I have made several inquiries regarding the concern expressed that these vines would adversely affect the host tree. I was unable to substantiate those concerns. Response to my query was usually that a healthy tree would be for the most part unaffected, and that the wildlife benefits those vines provide, as a food source is substantial. This was corroborated by a quick perusal of the literature that indicated the fruits and berries of viney plants are important dietary item of many birds. The results of that literature review are presented in the attached table.

One species absent from that table, the Cerulean warbler, is noteworthy in that it is an insectivorous species that relies heavily on the diverse invertebrate community living in and feeding on the thick poison ivy foliage in tree canopies. Once a common sight in the forests of the eastern United States, the Cerulean warbler is vanishing at an alarming rate. Since 1966 its numbers have declined by 70 percent, due primarily to habitat fragmentation and destruction in both its breeding and winter ranges. In October 2000, the Fish and Wildlife

Service was petitioned to list this species as threatened under the Endangered Species Act. To date, no action has been taken.

While only a transient between its South American wintering range and its eastern U.S. breeding grounds, the Cerulean warbler historically was a common Louisiana visitor in April and again in August-September. Considering this species much reduced numbers, the Park Service (when/where possible) should implement management measures in its maintenance operations that could potentially promote the survival of many other species (like this declining warbler) with but a few minor adjustments.

In addition to the recommendations mentioned at our meeting, I would like to offer another that could be beneficial to the eastern bluebird. The bluebird (like the Cerulean warbler) has declined in the recent past, but appears to be on the comeback. This has been the result of numerous "bluebird boxes" erected throughout the species' range. While the park may offer only limited habitat for most species, its potential for bluebirds could be significant if nest cavities (i.e., bluebird boxes) were available. This because the bluebird is mainly a species of open spaces, such as farmlands, open woodlands, pastures, orchards, and roadsides. Nest boxes could be situated in inconspicuous locations scattered throughout the park, thus not affecting that required by the park's enabling legislation, period of significance, and/or performance goals. This recommendation could be implemented at little or no cost to the CARI by offering it as a public service project or for satisfying a Boy Scout merit badge or project.

Again I wish to thank you for letting me share my thoughts with you on improving the potential for natural resources on the parks. If I can be of any further assistance, please give me a call at (337) 266-8839.

Sincerely,

A handwritten signature in dark ink, reading "Paul Conzelmann". The signature is fluid and cursive, with a long horizontal stroke at the end.

Paul Conzelmann
Gulf Coast Network Coordinator

cc: Larry West, SERO

Avian Consumers of the Vine Produced Fruits and Berries

Common Name	Poison Ivy	Virginia Creeper	Wild Grape
Bobwhite	✓		
Doves (Mourning, Inca, White-wing)			✓
Pileated Woodpecker	✓	✓	✓
Red-bellied Woodpecker	✓	✓	✓
Red-headed Woodpecker			✓
Yellow-bellied Sapsucker	✓		✓
Hairy Woodpecker	✓	✓	
Downy Woodpecker	✓	✓	
Eastern Kingbird			✓
Great Crested Flycatcher		✓	✓
Phoebes	✓		
Tree Swallow		✓	
Bluejay			✓
Chickadees	✓	✓	
Tufted Titmouse	✓	✓	✓
White-breasted Nuthatch		✓	
Carolina Wren	✓		
Mockingbird		✓	✓
Catbird	✓	✓	✓
Brown Thrasher	✓	✓	✓
Robin		✓	✓
Wood Thrush		✓	✓
Hermit Thrush		✓	✓
Verry		✓	
Eastern Bluebird	✓	✓	✓
Cedar Waxwing			✓
White-eyed Vireo	✓	✓	
Red-eyed Vireo		✓	
Philadelphia Vireo			✓
Warbling Vireo			✓
Pine Warbler			✓
Yellow-rumped Warbler	✓		
Orioles (Baltimore, Bullock, & Orchard)			✓
Tanagers (Scarlet & Summer)			✓
Cardinal			✓
Purple Finch	✓		✓
Slate-colored Junco	✓		✓
White-crowned Sparrow	✓		
White-throated Sparrow	✓		✓
Fox Sparrow	✓	✓	✓

Source: Martin, A.C., H.S. Zim, and A. L. Nelson. 1951. American Wildlife & Plants, A Guide to Wildlife Food Habits. Dover Publications, Inc. New York. 500 pp.

**Amphibians Potentially Occurring on
Cane River Creole National Historical Parks**

	Common Name	Scientific Name	Magnolia	Oakland
L	Lesser siren	<i>Siren intermedia</i>		
M	Three-toed amphiuma	<i>Amphiuma tridactylum</i>		
VL	Gulf Coast waterdog*	<i>Necturus beyeri</i>		
L	Central newt	<i>Notophthalmus viridescens</i>		
VL	Mole salamander	<i>Ambystoma talpoideum</i>		
VL	Smallmouth salamander	<i>Ambystoma texanum</i>		
VL	Spotted salamander	<i>Ambystoma maculatum</i>		
VL	Marbled salamander	<i>Ambystoma opacum</i>		
VL	Spotted dusky salamander*	<i>Desmognathus fuscus</i>		
VL	Southern dusky salamander	<i>Desmognathus auriculatus</i>		
VL	Louisiana slimy salamander*	<i>Plethodon glutinosus</i>		
VL	Dwarf salamander	<i>Eurycea quadridigitata</i>		
VL	Hurter's spadefoot toad*	<i>Scaphiopus holbrookii</i>		
H	Eastern narrowmouth toad	<i>Gastrophryne carolinensis</i>		
H	Fowler's toad	<i>Bufo woodhousci</i>	✓	✓
H	Green treefrog	<i>Hyla cinerea</i>	✓	✓
VL	Bird-voiced treefrog	<i>Hyla avivoca</i>		
M	Squirrel treefrog	<i>Hyla squirella</i>		
L	Cope's gray treefrog	<i>Hyla chrysoscelis</i>		
L	Gray treefrog	<i>Hyla versicolor</i>		
L	Upland chorus frog	<i>Pseudacris triseriata</i>		
L	Spring peeper	<i>Pseudacris crucifer</i>		
H	Northern cricket frog	<i>Acris crepitans</i>		
H	Bronze frog	<i>Rana clamitans</i>		
H	Bullfrog	<i>Rana catesbeiana</i>		
H	Southern leopard frog	<i>Rana utricularia</i>	✓	✓
VL	Southern crawfish frog	<i>Rana aerolata</i>		
VL	Pickerel frog	<i>Rana palustris</i>		

Occurrence Potential: H = High probability; M = moderate probability; L = low probability; VL = very low (highly improbable although possible).

***CARI is on the edge or possibly outside of the species known range.**

Listing compiled July 2002 by Paul Conzelmann from various field guides.

**Reptiles Potentially Occurring on
Cane River Creole National Historical Parks**

M	American Alligator	<i>Alligator mississippiensis</i>	Magnolia	Oakland
L	Alligator Snapping Turtle	<i>Macrochelys temminckii</i>		
H	Snapping Turtle	<i>Chelydra serpentina</i>		
H	Common musk turtle	<i>Sternotherus odoratus</i>		
L	Keelback musk turtle	<i>Sternotherus carinatus</i>		✓
H	Mississippi mud turtle	<i>Kinosternon subrubrum</i>		
L	Sabine map turtle	<i>Graptemys pseudogeographica</i>		
H	Mississippi map turtle	<i>Graptemys kohni</i>		✓
VL	Western chicken turtle	<i>Deirochelys reticularia</i>		
M	Southern painted turtle	<i>Chrysemys picta</i>		
M	River cooter	<i>Chrysemys concinna</i>		
H	Red-eared slider	<i>Trachemys scripta</i>	✓	✓
M	Three-toed box turtle	<i>Terrapene carolina</i>		
VL	Ornate box turtle*	<i>Terrapene ornata</i>		
L	Midland smooth softshell turtle	<i>Apalone mutica</i>	✓?	
L	Pallid spiny softshell turtle	<i>Apalone spinifera</i>	✓?	
L	Mediterranean gecko*	<i>Hemidactylus turcicus</i>		
H	Green anole	<i>Anolis carolinensis</i>	✓	✓
VL	Northern fence lizard	<i>Sceloporus undulatus</i>		
H	Ground skink	<i>Scincella laterale</i>	✓	✓
H	Five-lined skink	<i>Eumeces fasciatus</i>	✓	✓
M	Broad-headed skink	<i>Eumeces laticeps</i>	✓	✓
VL	Southern coal skink	<i>Eumeces anthracinus</i>		
VL	Six-lined racerunner	<i>Cnemidophorus sexlineatus</i>		
VL	Western slender glass lizard	<i>Ophisaurus attenuatus</i>		
M	Broad-banded water snake	<i>Nerodia fasciata</i>		
H	Yellowbelly water snake	<i>Nerodia erythrogaster</i>		
H	Diamondback water snake	<i>Nerodia rhombifera</i>		
M	Mississippi green water snake	<i>Nerodia cyclopion</i>		
L	Gulf glossy crayfish snake*	<i>Regina rigida</i>		
L	Graham's crayfish snake	<i>Regina grahami</i>		
VL	Eastern garter snake	<i>Thamnophis sirtalis</i>		
H	Western ribbon snake	<i>Thamnophis proximus</i>	✓	✓
M	Midland brown snake	<i>Storeria dekayi</i>		
L	Florida redbelly snake	<i>Storeria occipitomaculata</i>		
M	Rough earth snake	<i>Virginia striatula</i>		
L	Smooth earth snake*	<i>Virginia valerieae</i>		
VL	Mississippi ringneck snake	<i>Diadophis punctatus</i>		
M	Eastern hognose snake	<i>Heterodon platyrhinos</i>		
VL	Northern scarlet snake	<i>Cemophora coccinea</i>		
M	Rough green snake	<i>Opheodrys aestivus</i>		
M	Western mud snake	<i>Farancia abacura</i>		

**Reptiles Potentially Occurring on
Cane River National Heritage Area (contd.)**

H	Buttermilk snake	<i>Coluber constrictor</i>		✓
L	Eastern coachwhip	<i>Masticophis flagellum</i>		
VL	Louisiana pine snake	<i>Pituophis melanoleucus</i>		
H	Texas rat snake	<i>Elaphe obsoleta</i>	✓	✓
L	Great Plains rat snake	<i>Elaphe guttata</i>		
VL	Louisiana milk snake	<i>Lampropeltis triangulum</i>		
VL	Prairie kingsnake	<i>Lampropeltis calligaster</i>		
H	Speckled kingsnake	<i>Lampropeltis getula</i>		
VL	Flathead snake*	<i>Tantilla gracilis</i>		
H	Western cottonmouth	<i>Agkistrodon piscivorus</i>		
M	Southern copperhead	<i>Agkistrodon contortrix</i>		✓
VL	Texas coral snake	<i>Micrurus fulvius</i>		
VL	Western pygmy rattlesnake	<i>Sistrurus miliaris</i>		
VL	Timber rattlesnake	<i>Crotalus horridus</i>		

Occurrence Potential: H = High probability; M = moderate probability; L = low probability; VL = very low (highly improbable although possible).

***CARI is on the edge or possibly outside of the species known range.**

Listing compiled July 2002 by Paul Conzelmann from various field guides.

APPENDIX II

Field Form

Cane River Creole National Historical Park

Park Code: CARI	Park Admin. Unit: Oakland
Scientific Name:	
Vernacular Name:	
Collector: Paul Conzelmann	
Collection Date: 2002	Collection Time:
Collection Location:	
Under Cover Board #	
Habitat:	
Weather/Air Temp: Clear Party Cloudy Overcast Windy °F	
UTM X (easting): meters	UTM Y (northing): meters
UTM Zone: 15R	UTM Datum: NAD83
Coordinate error: meters	Elevation: meters
Comments:	
Photos: Yes No Number	

Cane River Creole National Historical Park

Park Code: CARI	Park Admin. Unit: Oakland
Scientific Name:	
Vernacular Name:	
Collector: Paul Conzelmann	
Collection Date: 2002	Collection Time:
Collection Location:	
Under Cover Board #	
Habitat:	
Weather/Air Temp: Clear Party Cloudy Overcast Windy °F	
UTM X (easting): meters	UTM Y (northing): meters
UTM Zone: 15R	UTM Datum: NAD83
Coordinate error: meters	Elevation: meters
Comments:	
Photos: Yes No Number	

APPENDIX III

Oakland Herpetozoans

Appendix III. Herpetozoans observed or collected on the Oakland Plantation.

Common Name	Scientific Name	Date	Time	Eastings*	Northing*	Error	Comments
Green Treefrog	<i>Hyla cinerea</i>	Feb. 8, 2002	9:48 AM	499738	3503190	4.1	Small log
Green Anole	<i>Anolis carolinensis</i>	Feb. 20, 2002	9:38 AM	499838	3503299	3.7	Voucher; log
Green Treefrog	<i>Hyla cinerea</i>	Feb. 20, 2002	9:58 AM	499740	3503197	4.4	Voucher
Green Anole	<i>Anolis carolinensis</i>	Feb. 20, 2002	10:20 AM	499682	3503215	4.6	Bark on ground
Mississippi Map Turtle	<i>Graptemys pseudogeographica</i>	Feb. 20, 2002	12:21 PM	499847	3503272	4.4	Log; Cane River
Green Anole	<i>Anolis carolinensis</i>	Feb. 20, 2002	1:16 PM	499813	3503346	3.8	Under rock
Five-Lined Skink	<i>Eumeces fasciatus</i>	March 20, 2002	10:14 AM	499683	3503220	4.2	Voucher; bark
Red-Eared Slider	<i>Trachemys scripta</i>	March 20, 2002	12:09 PM	499847	3503253	3.7	Voucher; turtle net
Unidentified Lined Skink	<i>Eumeces sp.</i>	April 2, 2002	10:27 AM	499663	3503272	6.0	Sq. crib; board
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 2, 2002	10:33 AM	499656	3503244	3.6	board
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 2, 2002	10:35 AM	499654	3503242	3.6	Log
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 2, 2002	10:42 AM	499689	3503218	3.4	Tree trunk
Green Anole	<i>Anolis carolinensis</i>	April 2, 2002	10:44 AM	499693	3503211	4.9	Stump
Unidentified Lined Skink	<i>Eumeces sp.</i>	April 2, 2002	12:17 PM	499704	3503450	4.1	Log
Green Anole	<i>Anolis carolinensis</i>	April 2, 2002	12:41 PM	499841	3503303	4.0	Log
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	8:45 AM	499762	3503206	5.9	Dead tree
Western Rat Snake	<i>Pantherophis obsoletus</i>	April 17, 2002	8:53 AM	499730	3503199	3.5	Voucher; yard
Eastern Racer	<i>Coluber constrictor</i>	April 17, 2002	9:10 AM	499623	3503259	3.6	Grassy fence row
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	9:45 AM	499762	3503206	5.9	
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	9:47 AM	499760	3503209	5.7	Dead tree
Broadhead Skink	<i>Eumeces laticeps</i>	April 17, 2002	9:57 AM	499688	3503224	4.5	Voucher; dead tree
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	9:58 AM	499687	3503227	3.6	Dead tree
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	10:02 AM	499665	3503244	3.6	Grismill; board
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	10:06 AM	499656	3503237	3.7	Grismill; board
Unidentified Lined Skink	<i>Eumeces sp.</i>	April 17, 2002	10:10 AM	499590	3503310	3.7	Dipping vat
Unidentified Lined Skink	<i>Eumeces sp.</i>	April 17, 2002	10:13 AM	499601	3503303	3.7	Dipping vat
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	10:14 AM	499609	3503302	3.9	Dipping vat
Unidentified Lined Skink	<i>Eumeces sp.</i>	April 17, 2002	10:20 AM	499610	3503329	3.9	Tree trunk
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	10:50 AM	499626	3503617	5.1	Log
Green Treefrog	<i>Hyla cinerea</i>	April 17, 2002	11:05 AM	499804	3503497	4.1	Pond; on irises
Ribbon Snake	<i>Thamnophis proximus</i>	April 17, 2002	11:29 AM	499834	3503356	4.1	Voucher; live oak

Appendix III (contd). Herpetozoans observed or collected on the Oakland Plantation.

Common Name	Scientific Name	Date	Time	Eastings*	Northing*	Error	Comments
Green Anole	<i>Anolis carolinensis</i>	May 2, 2002	8:25 AM	499742	3503221	3.8	Fence row
Broadhead Skink	<i>Eumeces laticeps</i>	May 2, 2002	8:28 AM	499762	3503205	3.8	Under tree bark
Broadhead Skink	<i>Eumeces laticeps</i>	May 2, 2002	8:31 AM	499763	3503206	4.0	Under bark
Broadhead Skink	<i>Eumeces laticeps</i>	May 2, 2002	8:39 AM	499740	3503196	4.0	Voucher; bark
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 2, 2002	8:54 AM	499656	3503272	3.6	Log
Unidentified Lined Skink	<i>Eumeces sp.</i>	May 2, 2002	9:01 AM	499648	3503243	3.7	Board; fence row
Unidentified Lined Skink	<i>Eumeces sp.</i>	May 2, 2002	9:03 AM	499663	3503240	3.7	Board; fence row
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 2, 2002	9:10 AM	499685	3503220	3.7	Under bark
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 2, 2002	9:12 AM	499684	3503219	3.7	Under bark
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 2, 2002	9:15 AM	499672	3503225	3.7	Under board
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 2, 2002	9:27 AM	499705	3503143	3.8	In buried tank
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 2, 2002	9:56 AM	499566	3503482	4.5	Wooded strip
Unidentified Lined Skink	<i>Eumeces sp.</i>	May 2, 2002	10:06 AM	499625	3503619	5.1	Log
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 2, 2002	10:23 AM	499834	3503454	5.9	Under wood block
Mississippi Map Turtle	<i>Graptemys pseudogeographica</i>	May 2, 2002	10:45 AM	499867	3503341	4.2	Log; Cane River
Mississippi Map Turtle	<i>Graptemys pseudogeographica</i>	May 2, 2002	10:47 AM	499865	3503350	5.2	Log; Cane River
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 16, 2002	8:32 AM	499656	3503243	4.5	Board; corral
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 16, 2002	8:34 AM	499658	3503342	4.4	Board; corral
Unidentified Lined Skink	<i>Eumeces sp.</i>	May 16, 2002	9:15 AM	499597	3503333	4.0	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 16, 2002	9:33 AM	499634	3503647	4.5	Log
Green Anole	<i>Anolis carolinensis</i>	May 16, 2002	10:33 AM	499762	3503349	7.0	On main house
Green Treefrog	<i>Hyla cinerea</i>	May 16, 2002	10:33 AM	499762	3503349	7.0	On main house
Red-Eared Slider	<i>Trachemys scripta</i>	May 16, 2002	10:46 AM	499881	3503376	4.2	Log; Cane River
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 16, 2002	1:34 PM	499656	3503243	4.4	
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 30, 2002	8:31 AM	499669	3503241	4.4	Board; corral
Unidentified Lined Skink	<i>Eumeces sp.</i>	May 30, 2002	8:38 AM	499682	3503218	4.4	Tree stump
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 30, 2002	9:40 AM	499836	3503455	5.2	Cookhouse block
Five-Lined Skink	<i>Eumeces fasciatus</i>	June 13, 2002	9:38 AM	499832	3503450	4.1	Cookhouse block
Unidentified Lined Skink	<i>Eumeces sp.</i>	June 13, 2002	9:59 AM	499838	3503332	5.0	Live oak

Appendix III. Herpetozoans observed or collected on the Oakland Plantation.

Common Name	Scientific Name	Date	Time	Eastings*	Northing*	Error	Comments
Fowler's toad	<i>Bufo fowleri</i>	July 10, 2002	9:33 PM	499729	3503374	6.0	Voucher; grass
Five-Lined Skink	<i>Eumeces fasciatus</i>	July 11, 2002	8:43 AM	499685	3503211	3.8	Under bark; stump
Copperhead	<i>Agkistrodon contortrix</i>	July 11, 2002	8:49 AM	499668	3503190	4.0	Tree stump
Five-Lined Skink	<i>Eumeces fasciatus</i>	July 11, 2002	9:16 AM	499602	3503334	4.4	Tree stump
Five-Lined Skink	<i>Eumeces fasciatus</i>	July 11, 2002	9:37 AM	499618	3503642	3.7	Log
Five-Lined Skink	<i>Eumeces fasciatus</i>	July 11, 2002	9:58 AM	499828	3503457	3.8	Wood block; w eggs
Unidentified Lined Skink	<i>Eumeces sp.</i>	July 11, 2002	10:06 AM	499872	3503393	4.8	In woody debris
Copperhead	<i>Agkistrodon contortrix</i>	July 11, 2002	10:07 AM	499868	3503391	4.9	Dead pecan tree
Red-Eared Slider	<i>Trachemys scripta</i>	July 11, 2002	10:30 AM	499882	3503385	3.7	Log; Cane River
Mississippi Map Turtle	<i>Graptemys pseudogeographica</i>	July 11, 2002	10:31 AM	499880	3503379	4.1	Log; Cane River
Razorback Musk Turtle	<i>Sternotherus carinatus</i>	July 11, 2002	10:32 AM	499883	3503381	4.1	Log; Cane River
Fowler's toad	<i>Bufo fowleri</i>	July 24, 2002	9:15 PM	499699	3503651	4.6	On La. 119
Southern Leopard Frog	<i>Rana sphenocephala</i>	July 24, 2002	9:18 PM	499879	3503383	4.3	On La. 119
Broadhead Skink	<i>Eumeces laticeps</i>	July 25, 2002	8:28 AM	499707	3503147	3.6	In metal cistern
Broadhead Skink	<i>Eumeces laticeps</i>	July 25, 2002	8:31 AM	499755	3503216	3.7	Coverboard #2
Five-Lined Skink	<i>Eumeces fasciatus</i>	July 25, 2002	8:42 AM	499664	3503278	4.2	Coverboard #5
Broadhead Skink	<i>Eumeces laticeps</i>	July 25, 2002	8:55 AM	499651	3503211	3.6	Log
Ground Skink	<i>Scincella laterale</i>	July 25, 2002	9:28 AM	499566	3503419	3.5	Voucher; pallet
Broadhead Skink	<i>Eumeces laticeps</i>	July 25, 2002	9:41 AM	499642	3503648	4.1	Coverboard #9
Unidentified Lined Skink	<i>Eumeces sp.</i>	July 25, 2002	9:45 AM	499750	3503522	4.1	Coverboard
Red-Eared Slider	<i>Trachemys scripta</i>	July 25, 2002	10:26 AM	499881	3503385	3.7	Log; Cane River
Red-Eared Slider	<i>Trachemys scripta</i>	July 25, 2002	10:26 AM	499883	3503384	3.7	Log; Cane River
Red-Eared Slider	<i>Trachemys scripta</i>	July 25, 2002	10:26 AM	499879	3503386	3.7	Log; Cane River
Common Musk Turtle	<i>Sternotherus odoratus</i>	August 7, 2002	9:06 PM	499749	3503131	3.9	Voucher; on Hwy 484
Five-Lined Skink	<i>Eumeces fasciatus</i>	August 8, 2002	8:18 AM	499671	3503240	3.3	Log; Corral
Five-Lined Skink	<i>Eumeces fasciatus</i>	August 8, 2002	8:46 AM	499609	3503329	4.7	Tin; wagon shed
Five-Lined Skink	<i>Eumeces fasciatus</i>	August 8, 2002	8:57 AM	499605	3503551	4.6	Dead tree stump
Lined Skink Hybrid	<i>E. fasciatus X laticeps</i>	August 8, 2002	9:06 AM	499644	3503649	5.2	Coverboard #9
Unidentified Lined Skink	<i>Eumeces sp.</i>	August 8, 2002	9:14 AM	499793	3503511	5.7	Coverboard #12
Five-Lined Skink	<i>Eumeces fasciatus</i>	August 8, 2002	9:19 AM	499832	3503419	4.0	Coverboard #11
Red-Eared Slider	<i>Trachemys scripta</i>	August 8, 2002	9:46 AM	499881	3503383	4.1	Log; Cane River
Red-Eared Slider	<i>Trachemys scripta</i>	August 8, 2002	9:46 AM	499881	3503383	4.1	Log; Cane River
Red-Eared Slider	<i>Trachemys scripta</i>	August 8, 2002	9:46 AM	499881	3503383	4.1	Log; Cane River
Red-Eared Slider	<i>Trachemys scripta</i>	August 8, 2002	9:46 AM	499881	3503383	4.1	Log; Cane River

Appendix III. Herpetozoans observed or collected on the Oakland Plantation.

Common Name	Scientific Name	Date	Time	Eastings*	Northing*	Error	Comments
Southern Leopard Frog	<i>Rana sphenoccephala</i>	August 21, 2002	9:12 PM	499840	3503581	3.8	Voucher; CB#9
Narrowmouth Toad	<i>Gastrophryne carolinensis</i>	August 21, 2002	9:31 PM	499637	3503060	3.5	Voucher
Narrowmouth Toad	<i>Gastrophryne carolinensis</i>	August 21, 2002	9:32 PM	499657	3503075	3.5	Roadside ditch
Narrowmouth Toad	<i>Gastrophryne carolinensis</i>	August 21, 2002	9:33 PM	499707	3503113	3.5	Roadside ditch
Western Rat Snake	<i>Pantherophis obsoletus</i>	August 21, 2002	9:46 PM	499635	3503680	7.0	DOR; La. 119
Five-Lined Skink	<i>Eumeces fasciatus</i>	August 22, 2002	9:25 AM	499540	3503252	3.8	Coverboard #6
Unidentified Lined Skink	<i>Eumeces sp.</i>	August 22, 2002	9:29 AM	499599	3503293	3.8	Dipping vat; board
Broadhead Skink	<i>Eumeces laticeps</i>	August 22, 2002	9:41 AM	499580	3503429	3.1	Log
Lined Skink Hybrid	<i>E. fasciatus X laticeps</i>	August 22, 2002	9:51 AM	499594	3503526	3.7	Fence row
Lined Skink Hybrid	<i>E. fasciatus X laticeps</i>	August 22, 2002	10:03 AM	499787	3503501	3.7	Log
Five-Lined Skink	<i>Eumeces fasciatus</i>	August 22, 2002	10:15 AM	499810	3503373	3.2	Log
Five-Lined Skink	<i>Eumeces fasciatus</i>	Sept. 12, 2002	8:09 AM	499643	3503208	4.4	Log
Five-Lined Skink	<i>Eumeces fasciatus</i>	Sept. 12, 2002	8:33 AM	499595	3503294	3.3	Dipping vat
Unidentified Lined Skink	<i>Eumeces sp.</i>	Sept. 12, 2002	8:53 AM	499592	3503523	3.8	Coverboard #8
Five-Lined Skink	<i>Eumeces fasciatus</i>	Sept. 12, 2002	9:04 AM	499630	3503664	4.2	Small log
Broadhead Skink	<i>Eumeces laticeps</i>	Sept. 12, 2002	9:09 AM	499638	3503640	4.3	Coverboard #9
Unidentified Lined Skink	<i>Eumeces sp.</i>	Sept. 12, 2002	9:10 AM	499645	3503644	3.5	Coverboard #9
Unidentified Lined Skink	<i>Eumeces sp.</i>	Sept. 12, 2002	9:11 AM	499642	3503642	4.4	Coverboard #9
Unidentified Lined Skink	<i>Eumeces sp.</i>	Sept. 12, 2002	9:20 AM	499720	3503494	4.4	log
Lined Skink Hybrid	<i>E. fasciatus X laticeps</i>	Sept. 12, 2002	9:26 AM	499796	3503506	4.6	Coverboard #12
Broadhead Skink	<i>Eumeces laticeps</i>	Sept. 12, 2002	9:34 AM	499834	3503419	4.6	Coverboard #11
Red-Eared Slider	<i>Trachemys scripta</i>	Sept. 12, 2002	10:10 AM	499875	3503366	4.6	Log; Cane River
Red-Eared Slider	<i>Trachemys scripta</i>	Sept. 12, 2002	10:10 AM	499875	3503366	4.6	Log; Cane River
Red-Eared Slider	<i>Trachemys scripta</i>	Sept. 12, 2002	10:10 AM	499875	3503366	4.6	Log; Cane River
Red-Eared Slider	<i>Trachemys scripta</i>	Sept. 12, 2002	10:10 AM	499875	3503366	4.6	Log; Cane River

Appendix III (contd). Herpetozoans observed or collected on the Oakland Plantation.

Common Name	Scientific Name	Date	Time	Easting*	Northing*	Error	Comments
Green Anole	<i>Anolis carolinensis</i>	January 29, 2003	9:18 AM	499653	3503230	3.6	Board
Ground Skink	<i>Scincella laterale</i>	January 29, 2003	9:20 AM	499660	3503243	3.6	Board
Ground Skink	<i>Scincella laterale</i>	January 29, 2003	10:45 AM	499836	3503456	5.1	Lg wood block
Green Anole	<i>Anolis carolinensis</i>	January 29, 2003	11:22 AM	499841	3503300	5.4	Log
Upland Chorus Frog	<i>Pseudeacris feriarum</i>	January 29, 2003	11:26 AM	499623	3503692	4.6	Roadside ditch
Upland Chorus Frog	<i>Pseudeacris feriarum</i>	January 29, 2003	11:28 AM	499696	3503659	4.0	Roadside ditch
Unidentified Lined Skink	<i>Eumeces</i> sp.	March 13, 2003	8:49 AM	499654	3503230	3.5	Board
Ground Skink	<i>Scincella laterale</i>	March 13, 2003	9:28 AM	499658	3503237	5.5	Board

*NAD83 - Zone 15R

APPENDIX IV

Magnolia Herpetozoans

Appendix IV. Herpetozoans observed or collected on the Magnolia Plantation.

Common Name	Scientific Name	Date	Time	Easting*	Northing*	Error	Comments
Green Anole	<i>Anolis carolinensis</i>	February 20, 2002	2:59 PM	505559	3490671		Tin Pile
Green Anole	<i>Anolis carolinensis</i>	February 20, 2002	3:01 PM	505567	3490670		Tin Pile
Green Anole	<i>Anolis carolinensis</i>	March 6, 2002	1:12 PM	505569	3490671	3.9	
Green Anole	<i>Anolis carolinensis</i>	March 6, 2002	1:12 PM	505570	3490672	3.9	
Ground Skink	<i>Scincella laterale</i>	March 6, 2002	1:12 PM	505572	3490673	3.9	Voucher; board
Five-Lined Skink	<i>Eumeces fasciatus</i>	March 20, 2002	1:53 PM	505545	3490688	4.0	Voucher; under tin
Green Anole	<i>Anolis carolinensis</i>	March 20, 2002	1:56 PM	505549	3490686	4.8	
Green Anole	<i>Anolis carolinensis</i>	March 20, 2002	1:57 PM	505552	3490688	4.7	
Fowler's Toad	<i>Bufo fowleri</i>	March 20, 2002	1:59 PM	505558	3490689	5.3	Voucher; under tin
Green Anole	<i>Anolis carolinensis</i>	March 20, 2002	2:13 PM	505580	3490679	4.7	
Five-Lined Skink	<i>Eumeces fasciatus</i>	March 20, 2002	2:15 PM	505573	3490674	4.0	
Green Anole	<i>Anolis carolinensis</i>	March 20, 2002	2:16 PM	505573	3490672	4.2	
Green Anole	<i>Anolis carolinensis</i>	March 20, 2002	2:17 PM	505570	3490673	3.9	
Green Treefrog	<i>Hyla cinerea</i>	March 20, 2002	2:26 PM	505568	3490686	3.9	Voucher; in grass
Fowler's Toad	<i>Bufo fowleri</i>	April 2, 2002	2:44 PM	505547	3490625	6.1	In modern barn
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 2, 2002	2:46 PM	505547	3490621	6.4	In modern barn
Green Anole	<i>Anolis carolinensis</i>	April 2, 2002	2:52 PM	505517	3490646	5.3	Log; corn crib
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 2, 2002	2:55 PM	505501	3490648	4.7	Log; corn crib
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 2, 2002	2:57 PM	505499	3490647	3.7	Log; corn crib
Green Anole	<i>Anolis carolinensis</i>	April 2, 2002	3:00 PM	505486	3490658	3.8	Fence post
Green Anole	<i>Anolis carolinensis</i>	April 2, 2002	3:08 PM	505458	3490698	4.1	Fence post
Unidentified Lined Skink	<i>Eumeces sp.</i>	April 2, 2002	3:19 PM	505547	3490705	4.7	Tin Pile
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 2, 2002	3:22 PM	505553	3490689	4.3	Tin Pile
Green Anole	<i>Anolis carolinensis</i>	April 2, 2002	3:26 PM	505569	3490670	4.3	Tin Pile
Green Anole	<i>Anolis carolinensis</i>	April 2, 2002	3:28 PM	505563	3490673	4.4	Tin Pile
Green Anole	<i>Anolis carolinensis</i>	April 2, 2002	3:31 PM	505528	3490647	5.3	Log; corn crib
Green Anole	<i>Anolis carolinensis</i>	April 2, 2002	3:43 PM	505698	3490572	4.1	Under brick
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 2, 2002	3:54 PM	505665	3490358	3.6	Fence post
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 2, 2002	4:00 PM	505598	3490309	3.7	In cistern by gin

Appendix IV (contd). Herpetozoans observed or collected on the Magnolia Plantation.

Common Name	Scientific Name	Date	Time	Eastings*	Northing*	Error	Comments
Unidentified Lined Skink	<i>Eumeces</i> sp.	April 17, 2002	1:02 PM	505506	3490715	4.6	Live Oak; Burrow
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	1:05 PM	505532	3490746	4.7	Live Oak; Burrow
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	1:06 PM	505534	3490749	4.7	Live Oak; Burrow
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	1:11 PM	505557	3490687	4.4	Stable
Unidentified Lined Skink	<i>Eumeces</i> sp.	April 17, 2002	1:18 PM	505571	3490680	4.8	Under roofing tin
Green Anole	<i>Anolis carolinensis</i>	April 17, 2002	1:19 PM	505573	3490683	4.1	Under roofing tin
Ground Skink	<i>Scincella laterale</i>	April 17, 2002	1:22 PM	505575	3490669	4.1	Under roofing tin
Unidentified Lined Skink	<i>Eumeces</i> sp.	April 17, 2002	1:27 PM	505586	3490658	4.2	Drip tray; under tractor
Unidentified Lined Skink	<i>Eumeces</i> sp.	April 17, 2002	1:28 PM	505585	3490666	4.0	Drip tray; under tractor
Green Anole	<i>Anolis carolinensis</i>	April 17, 2002	1:37 PM	505697	3490570	4.1	Voucher; under brick
Unidentified Lined Skink	<i>Eumeces</i> sp.	April 17, 2002	1:52 PM	505665	3490362	3.6	Log; Fence row
Five-Lined Skink	<i>Eumeces fasciatus</i>	April 17, 2002	1:53 PM	505661	3490360	3.6	Log; Fence row
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 1, 2002	2:11 PM	505542	3490484	4.6	Tree; Fence row
Broadhead Skink	<i>Eumeces laticeps</i>	May 1, 2002	3:21 PM	505495	3490722	3.8	Live Oak; Burrow
Unid lined skink	<i>Eumeces</i> sp.	May 1, 2002	3:30 PM	505555	3490692	3.5	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 1, 2002	3:37 PM	505570	3490673	3.6	Under roofing tin
Ribbon Snake**	<i>Thamnophis proximus</i>	May 6, 2002	11:04 AM	505580	3490681	4.0	Voucher; in stable
Green Treefrog	<i>Hyla cinerea</i>	May 15, 2002	1:33 PM	505595	3490657	6.7	Grassy fence row
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 15, 2002	3:19 PM	505530	3490730	5.3	Live Oak; Burrow
Broadhead Skink	<i>Eumeces laticeps</i>	May 15, 2002	3:30 PM	505565	3490668	4.3	Under roofing tin
Broadhead Skink	<i>Eumeces laticeps</i>	May 15, 2002	3:31 PM	505570	3490670	4.3	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 15, 2002	3:32 PM	505571	3490668	4.3	Under roofing tin
Ground Skink	<i>Scincella laterale</i>	May 15, 2002	3:37 PM	505572	3490668	4.3	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 15, 2002	4:24 PM	505664	3490358	3.6	Brush pile; fence row
Broadhead Skink	<i>Eumeces laticeps</i>	May 15, 2002	4:27 PM	505651	3490323	3.5	Log; Fence row
Southern Leopard Frog	<i>Rana utricularia</i>	May 29, 2002	1:38 PM	505481	3490302	4.4	Voucher; on Hwy 119
Broadhead Skink	<i>Eumeces laticeps</i>	May 29, 2002	3:20 PM	505565	3490674	5.2	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	May 29, 2002	3:20 PM	505569	3490676	5.2	Under roofing tin
Broadhead Skink	<i>Eumeces laticeps</i>	May 29, 2002	3:42 PM	505737	3490490	3.5	Dipping vat
Broadhead Skink	<i>Eumeces laticeps</i>	May 29, 2002	3:51 PM	505673	3490368	3.6	Branch; fence row

** Collected by Ron Bolton.

Appendix IV (contd). Herpetozoans observed or collected on the Magnolia Plantation.

Common Name	Scientific Name	Date	Time	Eastings*	Northing*	Error	Vouchers
Five-Lined Skink	<i>Eumeces fasciatus</i>	June 12, 2002	1:29 PM	505565	3490679	4.0	Under roofing tin
Ground Skink	<i>Scincella laterale</i>	June 12, 2002	1:26 PM	505569	3490675	3.9	Under roofing tin
Softshell Turtle	<i>Apalone sp.</i>	June 12, 2002	2:35 PM	505162	3488974	4.0	Log; Cane River
Unidentified Lined Skink	<i>Eumeces sp.</i>	June 12, 2002	1:25 PM	505567	3490677	3.9	Under roofing tin
Unidentified Lined Skink	<i>Eumeces sp.</i>	June 12, 2002	1:28 PM	505564	3490678	3.9	Under roofing tin
Broadhead Skink	<i>Eumeces laticeps</i>	July 10, 2002	1:15 PM	505561	3490670	4.2	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	July 10, 2002	1:18 PM	505571	3490673	4.2	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	July 10, 2002	1:29 PM	505571	3490673	4.3	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	July 10, 2002	1:35 PM	505593	3490662	4.9	
Green Anole	<i>Anolis carolinensis</i>	July 10, 2002	1:21 PM	505569	3490667	4.2	Under roofing tin
Ground Skink	<i>Scincella laterale</i>	July 10, 2002	1:32 PM	505576	3490676	3.9	
Five-Lined Skink	<i>Eumeces fasciatus</i>	July 10, 2002	1:35 PM	505595	3490666	4.9	4x4 plywood
Ground Skink	<i>Scincella laterale</i>	July 10, 2002	1:36 PM	505595	3490667	4.9	4x4 plywood
Western Rat Snake	<i>Pantherophis obsoletus</i>	July 10, 2002	2:02 PM	505684	3490418	3.6	Voucher; in grass
Unidentified Lined Skink	<i>Eumeces sp.</i>	July 10, 2002	1:28 PM	505573	3490680	4.8	Under roofing tin
Red-Eared Slider	<i>Trachemys scripta</i>	July 10, 2002	1:45 PM	505161	3488972	5.4	Log; Cane River
Five-Lined Skink	<i>Eumeces fasciatus</i>	July 24, 2002	1:47 PM	505565	3490679	3.7	
Five-Lined Skink	<i>Eumeces fasciatus</i>	July 24, 2002	1:47 PM	505506	3490720	3.7	Live Oak; Burrow
Western Rat Snake	<i>Pantherophis obsoletus</i>	July 24, 2002	1:45 PM	505490	3490708	3.7	Live Oak; Burrow
Unidentified Lined Skink	<i>Eumeces sp.</i>	July 24, 2002	2:21 PM	505737	3490496	3.9	Dipping vat
Five-Lined Skink	<i>Eumeces fasciatus</i>	August 7, 2002	12:47 PM	505503	3490643	4.8	Corn crib
Five-Lined Skink	<i>Eumeces fasciatus</i>	August 7, 2002	1:03 PM	505556	3490697	4.2	Under roofing tin
Mississippi Map Turtle	<i>Graptemys pseudogeographica</i>	August 7, 2002	2:25 PM	505163	3488966	5.4	Log; Cane River
Red-Eared Slider	<i>Trachemys scripta</i>	August 7, 2002	2:24 PM	505164	3488973	5.4	Log; Cane River
Red-Eared Slider	<i>Trachemys scripta</i>	August 7, 2002	2:24 PM	505164	3488973	5.4	Log; Cane River
Red-Eared Slider	<i>Trachemys scripta</i>	August 7, 2002	2:24 PM	505164	3488973	5.4	Log; Cane River
Unidentified Lined Skink	<i>Eumeces sp.</i>	August 7, 2002	2:12 PM	505569	3490669	4.1	Under roofing tin

Appendix IV (contd). Herpetozoans observed or collected on the Magnolia Plantation.

Common Name	Scientific Name	Date	Time	Eastings*	Northing*	Error	Comments
Broadhead Skink	<i>Eumeces laticeps</i>	August 21, 2002	1:44 PM	505549	3490632	4.9	Voucher; log
Lined Skink Hybrid	<i>E. fasciatus X laticeps</i>	August 21, 2002	1:50 PM	505564	3490677	4.3	Board; stable
Red-Eared Slider	<i>Trachemys scripta</i>	August 21, 2002	2:58 PM	505162	3488974	3.5	2 observed
Red-Eared Slider	<i>Trachemys scripta</i>	August 21, 2002	1:01 PM	505162	3488953	5.8	6 observed
Western Rat Snake	<i>Pantherophis obsoletus</i>	August 21, 2002	1:40 PM	505556	3490650	5.2	High in live oak
Unidentified Lined Skink	<i>Eumeces sp.</i>	August 21, 2002	2:35 PM	505503	3490328	3.1	Coverboard #18
Broadhead Skink	<i>Eumeces laticeps</i>	September 11, 2002	2:04 PM	505735	3490489	3.8	Dipping vat
Five-Lined Skink	<i>Eumeces fasciatus</i>	September 11, 2002	1:37 PM	505556	3490687	3.6	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	September 11, 2002	1:40 PM	505563	3490679	4.2	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	September 11, 2002	1:45 PM	505568	3490675	4.2	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	September 11, 2002	2:21 PM	505503	3490331	4.1	Coverboard #18
Ground Skink	<i>Scincella laterale</i>	September 11, 2002	1:14 PM	505542	3490660	3.3	Under large rock
Western Rat Snake	<i>Pantherophis obsoletus</i>	September 11, 2002	1:11 PM	505552	3490647	3.6	Shed rafters
Unidentified Lined Skink	<i>Eumeces sp.</i>	September 11, 2002	1:26 PM	505560	3490754	4.2	On building
Unidentified Lined Skink	<i>Eumeces sp.</i>	September 11, 2002	1:38 PM	505554	3490690	3.9	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	January 29, 2003	12:54 PM	505562	3490679	3.2	Large wood block
Green Anole	<i>Anolis carolinensis</i>	January 29, 2003	12:59 PM	505560	3490679	3.9	Under roofing tin
Green Anole	<i>Anolis carolinensis</i>	January 29, 2003	1:00 PM	505565	3490670	3.9	Under roofing tin
Ground Skink	<i>Scincella laterale</i>	March 12, 2003	5:12 PM	505553	3490682	7.2	Under roofing tin
Five-Lined Skink	<i>Eumeces fasciatus</i>	March 12, 2003	5:14 PM	505563	3490677	4.2	Under roofing tin
Unidentified Lined Skink	<i>Eumeces sp.</i>	March 12, 2003	5:25 PM	505572	3490673	6.2	Under roofing tin

*UTM Zone 15R, NAD83.

Appendix V
Birds Observed On or Adjacent to the Cane River Creole National Historic Park's
Oakland Plantation Unit, in Conjunction with the Parks 2002-2003 Herpetofaunal Survey

Species \ Date Observed	Feb. 8, 02	Feb. 20, 02	Mar. 6, 02	Mar. 20, 02	Apr. 2, 02	Apr. 17, 02	May 2, 02	May 15, 02	May 30, 02	July 11, 02	July 24, 02	Aug. 7, 02	Aug. 21, 02	Sept. 12, 02	Jan. 29, 03	Mar. 13, 03
Pied-billed Grebe															1	
Double-crested Cormorant	42		1	1	500+										5	
Green Heron							1									
Cattle Egret										7						
Great Egret			1				1	2			1				2	
Great Blue Heron														1		
Glossy Ibis										2						
Turkey Vulture	1		1				1	3								
American Kestrel				1											1	
Bobwhite										1						
Rock Dove	8	15														
Mourning Dove	14	3	1	2	2	1	1	2	11	2	7	2	5	6	6	12
Eurasian Collared Dove		2		2	2		2	1	4		7			3		
Inca Dove					5			2								
Barred Owl									1							
Yellow-billed Cuckoo							2						1			
Chimney Swift						1					4					
Ruby-throated Hummingbird										1						
Red-bellied Woodpecker		1		2	2	3	2		2	2	1	3		1	2	2
Yellow-shafted Flicker		1						1							1	
Yellow-bellied Sapsucker		1													1	
Downy Woodpecker															1	
Eastern Phoebe														1		
Loggerhead Shrike					1		1									
Bluejay	1	2	3	3	2	1	5	8	1	2		1	2	2	3	
Common Crow	1			7	2	4		1								

Appendix V (contd).
Birds Observed On or Adjacent to the Cane River Creole National Historic Park's
Oakland Plantation Unit, in Conjunction with the Parks 2002-2003 Herpetofaunal Survey

Species \ Date Observed	Feb. 8, 02	Feb. 20, 02	Mar. 6, 02	Mar. 20, 02	Apr. 2, 02	Apr. 17, 02	May 2, 02	May 15, 02	May 30, 02	July 11, 02	July 24, 02	Aug. 7, 02	Aug. 21, 02	Sept. 12, 02	Jan. 29, 03	Mar. 13, 03
Fish Crow												1				
Purple Martin									1							
Barn Swallow					1		1	4	8	30	14					
Tufted Titmouse		2														
Carolina Chickadee														2	1	
Carolina Wren										2					1	
Blue-gray Gnatcatcher													1			
Eastern Bluebird	1		1												8	
Hermit Thrush															1	
American Robin	1				7										38	
Mockingbird	2	2	3	2	1	5		1	1	2	7	8	3	4	1	3
Brown Thrasher							2				2	1				
Starling						1				1						
Cedar Waxwing					18											
Yellow-rump Warbler															2	
Pine Warbler															3	1
Chipping Sparrow				3											1	
Song Sparrow	10	7	9	2											1	
Swamp Sparrow			1	2	1											
White-throated Sparrow		2			7										12	2
White-crowned Sparrow						2									1	
Slate-colored Junco															7	
Northern Cardinal	5	3	3	3	1		4	2	4	10		4		2	26	15
Red-winged Blackbird	32		100s	100s		1	1		2	6			1		48	7
Common Grackle	4	150													3	
American Goldfinch	20															
House Sparrow		7						6								

APPENDIX VI

Oakland Mammals

Appendix VI. Mammals Observed or Collected on the Oakland Plantation.

Common Name	Scientific Name	Date	Time	Eastings*	Northing*	Error	Comments
Fox Squirrel	<i>Sciurus niger</i>	March 20, 2002	11:09 AM	499623	3503625	3.8	
Least Shrew	<i>Cryptotis parva</i>	April 2, 2002	12:02 AM	499841	3503543	4.3	Coverboard #12
Least Shrew	<i>Cryptotis parva</i>	April 2, 2002	12:03 AM	499841	3503549	3.8	Coverboard #12
Fox Squirrel	<i>Sciurus niger</i>	April 2, 2002	10:01 AM	499771	3503170	6.4	Crossing Road
Nine-banded Armadillo	<i>Dasypus novemcinctus</i>	April 2, 2002	11:01 AM	499634	3503195	4.0	
White-footed Mouse	<i>Peromyscus sp.</i>	April 2, 2002	11:46 AM	499623	3503607	5.1	Under log
Least Shrew	<i>Cryptotis parva</i>	April 2, 2002	11:51 AM	499660	3503639	4.5	Coverboard #9
Least Shrew	<i>Cryptotis parva</i>	April 17, 2002	9:24 AM	499450	3503204	3.3	Voucher CB#6
Least Shrew	<i>Cryptotis parva</i>	April 17, 2002	10:24 AM	499564	3503421	3.8	Coverboard #7
Least Shrew	<i>Cryptotis parva</i>	April 17, 2002	10:25 AM	499567	3503419	3.9	Coverboard #7
Large Unid Rat	<i>Rattus rattus ?</i>	April 17, 2002	10:40 AM	499636	3503618	4.1	
Least Shrew	<i>Cryptotis parva</i>	April 17, 2002	10:54 AM	499658	3503648	5.1	
Fox Squirrel	<i>Sciurus niger</i>	May 2, 2002	9:24 AM	499758	3503171	5.2	
Fox Squirrel	<i>Sciurus niger</i>	May 2, 2002	10:36 AM	499847	3503361	3.7	
Bobcat	<i>Lynx rufus</i>	May 2, 2002	12:49 PM	499332	3503807	3.9	
Eastern Cottontail	<i>Sylvilagus floridanus</i>	May 30, 2002	8:56 AM	499486	3503127	4.3	
House mouse	<i>Mus musculus</i>	May 30, 2002	9:01 AM	499448	3503206	4.4	Voucher CB#6
Hispid Cotton Rat	<i>Sigmodon hispidus</i>	June 13, 2002	8:48 AM	499650	3503141	3.9	Hole
Hispid Cotton Rat	<i>Sigmodon hispidus</i>	June 13, 2002	9:05 AM	499605	3503300	3.6	Under tin
Least Shrew	<i>Cryptotis parva</i>	June 13, 2002	9:14 AM	499657	3503641	3.8	Coverboard #9
Least Shrew	<i>Cryptotis parva</i>	July 11, 2002	9:47 AM	499845	3503545	3.7	Coverboard #12
Fox Squirrel	<i>Sciurus niger</i>	July 25, 2002	8:27 AM	499757	3503269	3.5	
White-footed Mouse	<i>Peromyscus sp.</i>	July 25, 2002	8:41 AM	499664	3503280	4.3	Coverboard #5
Roof Rat	<i>Rattus rattus</i>	July 25, 2002	10:08 AM	499853	3503357	4.7	Voucher-Skull
White-footed Mouse	<i>Peromyscus sp.</i>	August 22, 2002	9:24 AM	499540	3503255	4.0	
White-footed Mouse	<i>Peromyscus sp.</i>	August 22, 2002	9:50 AM	499593	3503527	3.7	
White-footed Mouse	<i>Peromyscus sp.</i>	September 12, 2002	8:54 AM	499594	3503520	3.3	
Fox Squirrel	<i>Sciurus niger</i>	January 29, 2003	8:34 AM	499742	3503378	6.4	
Fox Squirrel	<i>Sciurus niger</i>	January 29, 2003	8:36 AM	499749	3503350	4.2	
Fox Squirrel	<i>Sciurus niger</i>	January 29, 2003	11:13 AM	499807	3503296	4.3	
Fulvous Harvest Mouse	<i>Reithrodontomys fulvescens</i>	January 29, 2003	11:24 AM	499658	3503651	3.5	Voucher CB #9
Harvest Mouse	<i>Reithrodontomys sp.</i>	March 13, 2003	9:41 AM	499639	3503130	4.4	Coverboard #4
White-footed Mouse	<i>Peromyscus leucopus</i>	March 13, 2003	10:00 AM	499592	3503520	4.3	Voucher - CB #8

*NAD 83 - Zone 15R

APPENDIX VII

Magnolia Birds

Appendix VII

Birds Observed On or Adjacent to the Cane River Creole National Historic Park's Magnolia Plantation Unit in Conjunction with the Parks 2002-2003 Herpetofaunal Survey

Species \ Observation Date	Feb. 8, 02	Feb. 20, 02	Mar. 6, 02	Mar. 20, 02	Apr. 2, 02	Apr. 17, 02	May 1, 02	May 15, 02	May 29, 02	July 10, 02	July 24, 02	Aug. 7, 02	Aug. 21, 02	Sept. 11, 02	Jan. 29, 03	Mar. 12, 03
Great Egret					25					69	32		7			
Cattle Egret										2						
White Ibis																
Black Vulture												1				
Turkey Vulture	1				6			1						1		
Mississippi Kite							2	1		1					1	
Red-tailed Hawk	1												1			
Rock Dove													1			
Mourning Dove	22		1	1			2				1	1				7
Eurasian Kingneck Dove												1				
Yellow-billed Cuckoo							1		2	2		1				
Red-bellied Woodpecker			1						1		1		1		1	
Yellow-shafted Flicker				2												
Yellow-bellied Sapsucker			1													
Pileated Woodpecker										1						
Eastern Phoebe																
Eastern Kingbird			1													
Loggerhead Shrike	1										1					
Bluejay				2	1		1									
Common Crow			3	6			1		4			3	9	4	2	
Purple Martin														3	2	
Barn Swallow												3				
Tufted Titmouse				2						9						
Carolina Wren					2						1	1				
Ruby-crowned Kinglet	1															
Eastern Bluebird																
American Robin																
Mockingbird	2			1		1	4		1				1		3	8
Brown Thrasher															1	1
White-throated Sparrow				1												
Northern Cardinal	3			2	4		2		1		3	4	2	1	1	1
Eastern Meadowlark	7	6														
Red-winged Blackbird				7		8	1		1	4					4	40
Common Grackle		500+		7					1		4				17	
House Finch											2					

APPENDIX VIII

Magnolia Mammals

Appendix VIII. Mammals Observed or Collected on the Magnolia Plantation.

Common Name	Scientific Name	Date	Time	Eastings*	Northing*	Error	Comments
Hispid Cotton Rat	<i>Sigmodon hispidus</i>	February 20, 2002	1:52 PM	505551	3490689		
Fox Squirrel	<i>Sciurus niger</i>	March 20, 2002	12:40 PM	505567	3490705	4.4	
Hispid Cotton Rat	<i>Sigmodon hispidus</i>	March 20, 2002	12:54 PM	505551	3490688	4.7	
White-footed Mouse	<i>Peromyscus sp.</i>	April 17, 2002	12:42 PM	505765	3490569	3.5	Coverboard #15
Least Shrew	<i>Cryptotis parva</i>	April 17, 2002	12:57 PM	505614	3490313	3.7	Coverboard #17
Least Shrew	<i>Cryptotis parva</i>	April 17, 2002	12:58 PM	505610	3490317	3.7	Coverboard #17
Least Shrew	<i>Cryptotis parva</i>	April 17, 2002	12:59 PM	505612	3490311	3.6	Coverboard #17
Least Shrew	<i>Cryptotis parva</i>	May 1, 2002	1:32 PM	505614	3490305	3.6	Coverboard #17
Bobcat	<i>Lynx rufus</i>	May 15, 2002	1:56 PM	505550	3490722	4.3	
Least Shrew	<i>Cryptotis parva</i>	May 15, 2002	2:23 PM	505549	3490689	4.3	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	May 15, 2002	2:23 PM	505550	3490690	4.3	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	May 15, 2002	2:23 PM	505551	3490691	4.3	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	May 15, 2002	2:23 PM	505552	3490692	4.3	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	May 15, 2002	3:20 PM	505683	3490418	4.1	Coverboard #16
Least Shrew	<i>Cryptotis parva</i>	May 15, 2002	3:20 PM	505685	3490421	4.1	Coverboard #16
Least Shrew	<i>Cryptotis parva</i>	May 15, 2002	3:20 PM	505688	3490422	4.1	Coverboard #16
Least Shrew	<i>Cryptotis parva</i>	May 15, 2002	3:20 PM	505690	3490416	4.1	Coverboard #16
Least Shrew	<i>Cryptotis parva</i>	May 15, 2002	3:31 PM	505614	3490305	4.3	Coverboard #17
Least Shrew	<i>Cryptotis parva</i>	May 15, 2002	3:31 PM	505619	3490310	4.3	Coverboard #17
Fox Squirrel	<i>Sciurus niger</i>	May 29, 2002	2:55 PM	505641	3490308	3.5	
Least Shrew	<i>Cryptotis parva</i>	June 12, 2002	1:18 PM	505551	3490692	4.0	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	June 12, 2002	1:19 PM	505549	3490692	4.1	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	June 12, 2002	1:19 PM	505552	3490693	4.0	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	June 12, 2002	1:28 PM	505573	3490673	4.1	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	June 12, 2002	1:53 PM	505618	3490302	4.1	Coverboard #17
Least Shrew	<i>Cryptotis parva</i>	June 12, 2002	1:54 PM	505622	3490303	4.1	Coverboard #17
Least Shrew	<i>Cryptotis parva</i>	June 12, 2002	1:55 PM	505620	3490300	4.1	Coverboard #17

Appendix VIII (contd). Mammals observed or collected on the Magnolia Plantation.

Common Name	Scientific Name	Date	Time	Eastings*	Northing*	Error	Comment
Armadillo	<i>Dasypus novemcinctus</i>	June 13, 2002	3:37 PM	505405	3490709	5.2	DOR
Least Shrew	<i>Cryptotis parva</i>	July 10, 2002	1:06 PM	505551	3490688	4.3	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	July 10, 2002	1:08 PM	505551	3490686	4.3	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	July 10, 2002	1:46 PM	505617	3490604	5.5	Coverboard #14
Least Shrew	<i>Cryptotis parva</i>	July 10, 2002	1:47 PM	505615	3490602	5.5	Coverboard #14
Least Shrew	<i>Cryptotis parva</i>	July 10, 2002	1:47 PM	505617	3490600	5.5	Coverboard #14
Least Shrew	<i>Cryptotis parva</i>	July 10, 2002	2:07 PM	505614	3490300	3.1	Coverboard #17
Least Shrew	<i>Cryptotis parva</i>	July 10, 2002	2:07 PM	505614	3490302	3.2	Coverboard #17
Armadillo	<i>Dasypus novemcinctus</i>	July 10, 2002	2:53 PM	505545	3490657	6.2	
Least Shrew	<i>Cryptotis parva</i>	July 24, 2002	1:54 PM	505551	3490692	3.8	Under roofing tin
White-footed Mouse	<i>Peromyscus leucopus</i>	July 24, 2002	2:02 PM	505567	3490677	3.6	Voucher - tin
Raccoon	<i>Procyon lotor</i>	July 24, 2002	3:52 PM	505490	3490311	4.4	
Least Shrew	<i>Cryptotis parva</i>	August 7, 2002	1:14 PM	505572	3490678	4.1	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	August 7, 2002	1:15 PM	505571	3490675	4.1	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	August 21, 2002	1:56 PM	505551	3490696	4.2	Voucher - tin
White-footed Mouse	<i>Peromyscus sp.</i>	August 21, 2002	2:03 PM	505597	3490661	4.0	Tractor Drip pan
House mouse	<i>Mus musculus</i>	September 11, 2002	1:36 PM	505552	3490687	3.9	Under roofing tin
House mouse	<i>Mus musculus</i>	September 11, 2002	1:46 PM	505574	3490677	3.7	Under roofing tin
White-footed Mouse	<i>Peromyscus sp.</i>	January 29, 2003	12:44 PM	505554	3490694	4.2	Under roofing tin
Least Shrew	<i>Cryptotis parva</i>	January 29, 2003	12:45 PM	505552	3490693	4.0	Under roofing tin
Fox Squirrel	<i>Sciurus niger</i>	January 29, 2003	1:21 PM	505693	3490486	3.9	
Least Shrew	<i>Cryptotis parva</i>	January 29, 2003	1:42 PM	505537	3490539	3.7	Coverboard #20
Least Shrew	<i>Cryptotis parva</i>	January 29, 2003	1:43 PM	505535	3490534	3.7	Voucher - CB #20
Least Shrew	<i>Cryptotis parva</i>	January 29, 2003	1:45 PM	505539	3490536	3.7	Voucher - CB #20
Least Shrew	<i>Cryptotis parva</i>	January 29, 2003	1:46 PM	505533	3490540	3.7	Voucher - CB #20
Marsh Rice Rat	<i>Oryzomys palustris</i>	March 12, 2003	12:27 PM	505569	3490668	4.4	Voucher
White-footed Mouse	<i>Peromyscus sp.</i>	March 12, 2003	12:39 PM	505701	3490411	4.4	
Opossum	<i>Didelphis marsupialis</i>	March 13, 2003	12:01 PM	504996	3490863	6.6	DOR

*NAD83 - Zone 15R

APPENDIX IX

Additional Bird Observations

By

Mr. David Muth

Appendix IX

Some Bird Observations for Cane River Creole National Historical Park

David P. Muth
Jean Lafitte National Historical Park and Preserve
419 Decatur Street
New Orleans, Louisiana 70130
(504) 589-3882 x 128
david_muth@nps.gov

The following chart is a compendium of bird observations made at Oakland and Magnolia plantations. It is a very preliminary checklist of the birds of the park, and can be combined with other observations to eventually prepare a reasonably complete checklist.

Each of the four dates on the chart represents the mid-point of four trips taken by the author to Cane River. None of these trips was undertaken for the purpose of surveying birds. Rather, in each case, observations were made incidentally while other work was being done, or were made during brief intentional surveys before or after other meetings. For the most part, the notes taken were not specific as to date or location--i.e., whether or not the observation was at Magnolia or Oakland, except where noted in the chart annotations.

An "x" under one of the dates should be taken to mean that the species was encountered in typical numbers for the season and habitat, and for the amount of observer effort. Exceptions are noted in the annotations.

On the June 1995 visit, a family of Lark Sparrows was noted on the edge of the cotton field next to the Seed House at Oakland. This observation of confirmed breeding of Lark Sparrow in the alluvial floodplain was unusual enough that it was reported to the *Louisiana Breeding Bird Atlas*, and is the source for the confirmed breeding noted in Natchitoches Parish on page 72 of that document. No Lark Sparrows were noted there during the May 1998 trip.

The May 1998 trip coincided with a fair movement of northbound spring migrants at Oakland Plantation. Unfortunately, no trips were made during early spring migration or during fall migration.

In addition to my sightings, Superintendent Laura Gates reported that a large flocks of white pelicans spent the winter on Cane River Lake in front of and down stream of Oakland Plantation during the winter of 2000-2001.

The breeding symbol "p" represent probable or known breeders, based upon observations in May or June, and upon the presence of appropriate habitat. Where there is a possibility

of breeding, based upon potentially suitable habitat and breeding nearby (see the *Atlas*), the symbol "?" is used. This list of potential breeders is by no means exhaustive--there are several other likely and potential breeders that were missed by these surveys. The winter list is equally incomplete, and the migration list is merely a beginning.

The status symbols are a best guess based upon known status elsewhere. They refer specifically to the two plantations, and don't include nearby or adjacent areas. Where the status is conjectural, combined symbols followed by a question mark are used. For instance, yellow-throated vireos breed nearby in the Cane River area, but breeding within the confines of the two plantations is unconfirmed, but possible. Thus, the appropriate symbol might either be 's' for 'summer visitor' or 'm' for 'migrant only.'

This list includes 85 species of birds. Paul Conzelmann has recorded a number of additional species. A relatively modest effort by birding staff or volunteers could easily put the park list near 200 species in a few short years if effort is concentrated during spring and fall migration.

Appendix IX. CARI Bird Observations by Mr. David Muth.

Species	Status*	Breeding**	6/14/1995	1/30/1996	1/15/1997	5/4/1998	Annotations
Double-crested Cormorant	w			x	x		Cane River Lake
Great Blue Heron	r		x	x	x	x	
Great Egret	r		x	x	x	x	
Snowy Egret	s		x			x	
Little Blue Heron	s		x			x	
Cattle Egret	r		x	x	x	x	
Green Heron	s	?				x	Bayou Brevelle
Wood Duck	r	?				x	Bayou Brevelle
Turkey Vulture	r		x		x		
Mississippi Kite	s	?	x				
Red-tailed Hawk	r	?	x	x	x	x	
American Kestrel	w/r?			x	x		
Killdeer	r		x	x		x	
Solitary Sandpiper	m					x	Bayou Brevelle
Rock Dove	r	p	x	x	x	x	
Mourning Dove	r	p	x	x	x	x	
Yellow-billed Cuckoo	s	p	x			x	
Chimney Swift	s	p	x			x	
Ruby-throated Hummingbird	s	p	x			x	
Red-bellied Woodpecker	r	p	x	x	x	x	
Yellow-bellied Sapsucker	w			x	x		
Downy Woodpecker	r	p	x	x	x	x	1, very vocal, Oakland
Pileated Woodpecker	r	?				x	Oakland
Eastern Wood-Pewee	m					x	Oakland
Least Flycatcher	m						
Eastern Phoebe	w			x	x		
Great-crested Flycatcher	s	p	x			x	
Eastern Kingbird	s	p	x			x	
Purple Martin	s	p	x			x	
Cliff Swallow	s	*	x			x	Breeds on Cane River bridge
Barn Swallow	s	p	x			x	
White-eyed Vireo	s	p	x			x	
Red-eyed Vireo	s/m?	?				x	Oakland

Appendix IX (contd.). CARI Bird Observations by Mr. David Muth.

Species	Status*	Breeding**	6/14/1995	1/30/1996	1/15/1997	5/4/1998	
Yellow-throated Vireo	s/m?	?					Oakland
Blue Jay	r	p	x	x	x	x	
American Crow	r	p	x	x	x	x	
Carolina Chickadee	r	p	x	x	x	x	
Carolina Wren	r	p	x	x	x	x	
House Wren	w		x	x	x		
Golden-crowned Kinglet	w			x	x		
Ruby-crowned Kinglet	w			x	x		
Eastern Bluebird	r	p		x	x	x	
American Robin	r/w?	?		x	x		
Gray Catbird	m/s?	?		x	x		Oakland
Northern Mockingbird	r	p	x	x	x	x	
Brown Thrasher	r	p	x	x	x	x	
Cedar Waxwing	w				x	x	
Eurasian Starling	r	p	x	x	x	x	Oakland
Tennessee Warbler	m						Bayou Brevelle
Prothonotary Warbler	s	p					Oakland
American Redstart	m						Oakland
Black-and-white Warbler	m						Oakland
Yellow Warbler	m						Oakland
Magnolia Warbler	m						Oakland
Yellow-rumped Warbler	w			x	x	x	Oakland
Black-throated Green Warbler	m						Oakland
Blackburnian Warbler	m						Oakland
Pine Warbler	w			x	x		Oakland
Blackpoll Warbler	m						Oakland
Cerulean Warbler	m						Oakland
Common Yellowthroat	s/r?						
Summer Tanager	s	?					
Northern Cardinal	r	p	x	x	x	x	Oakland
Blue Grosbeak	s	?					
Yellow-rumped Warbler	w			x	x	x	Oakland
Black-throated Green Warbler	m						Oakland

Appendix IX (contd.). CARI Bird Observations by Mr. David Muth.

Species	Status*	Breeding**	6/14/1995	1/30/1996	1/15/1997	5/4/1998
Blackburnian Warbler	m			x		Oakland
Pine Warbler	w			x		
Blackpoll Warbler	m				x	Oakland
Cerulean Warbler	m				x	Oakland
Common Yellowthroat	s/r?				x	
Summer Tanager	s	?			x	
Northern Cardinal	r	p	x		x	
Blue Grosbeak	s	?				Oakland
Dark-eyed Junco	w			x		
Red-winged Blackbird	r	p	x	x	x	
Eastern Meadowlark	r	p	x	x	x	
Common Grackle	r	p	x	x	x	
Brown-headed Cowbird	r?	p	x		x	
Orchard Oriole	s	p	x		x	
Baltimore Oriole	m/s?	?			x	Oakland
American Goldfinch	w			x		
House Sparrow						

*Status: r = year-round resident; w = winter visitor; s = summer visitor; m = migrant; ? = status uncertain

**Breeding: p = probable; ? = possible

APPENDIX X

Example of Museum Letter



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

Gulf Coast Network

635 Cajundome Blvd.

Abdalla Hall, Room 124

Lafayette, Louisiana 70506

February 2, 2002

Curator of Amphibians and Reptiles
Department of Biological Sciences
Northwestern State University
Natchitoches, Louisiana 71497

Dear Curator:

The National Park Service is currently conducting an inventory of the amphibians and reptiles that occur on the Cane River Creole National Historical Park, Natchez, Louisiana. This park includes the 45-acre Oakland Plantation property located at the intersection of La. Highways 119 and 494 and the 18-acre Magnolia Plantation property located on La. Hwy 119 just west of Cloutierville. As part of this inventory I am required to survey museums likely to have specimens in their collection specifically for the park, but generally from Natchitoches Parish. I am interested only in specimens that have been added to your collection since the 1989 publication of Dundee and Rossman's "The Amphibians and Reptiles of Louisiana."

This request is for Natchitoches Parish locality data that is maintained in an electronic format, that can be sorted by parish, and which can easily be provided as a printout of that data. If you should have any questions concerning this request, I can be contacted at (337) 482-0644. Your consideration in this matter is most appreciated.

Sincerely,

Paul Conzelmann

Gulf Coast Network Coordinator

APPENDIX XI

Herpetozoan Voucher Specimens

Appendix XI. Herpetozoan Voucher Specimens.

Herp #*	Common Name	Scientific Name	Date	Time	Easting**	Northing**	Error	Park Unit
CARI-H -1	Green Treefrog	<i>Hyla cinerea</i>	February 8, 2002	9:48 AM	499738	3503190	4.1	Oakland
CARI-H -2	Green Anole	<i>Anolis carolinensis</i>	February 20, 2002	9:38 AM	499838	3503299	3.7	Oakland
CARI-H -3	Green Treefrog	<i>Hyla cinerea</i>	February 20, 2002	9:58 AM	499740	3503197	4.4	Oakland
CARI-H -4	Ground Skink	<i>Scincella laterale</i>	March 6, 2002	1:12 PM	505572	3490673	3.9	Magnolia
CARI-H -5	Five-Lined Skink	<i>Eumeces fasciatus</i>	March 20, 2002	10:14 AM	499683	3503220	4.2	Oakland
CARI-H -6	Red-Eared Slider	<i>Trachemys scripta</i>	March 20, 2002	12:09 PM	499847	3503253	3.7	Oakland
CARI-H -7	Five-Lined Skink	<i>Eumeces fasciatus</i>	March 20, 2002	1:53 PM	505545	3490688	4.0	Magnolia
CARI-H -8	Fowler's Toad	<i>Bufo fowleri</i>	March 20, 2002	1:59 PM	505558	3490689	5.3	Magnolia
CARI-H -9	Green Treefrog	<i>Hyla cinerea</i>	March 20, 2002	2:26 PM	505568	3490686	3.9	Magnolia
CARI-H -10	Western Rat Snake	<i>Pantherophis obsoletus</i>	April 17, 2002	8:53 AM	499730	3503199	3.5	Oakland
CARI-H -11	Broadhead Skink	<i>Eumeces laticeps</i>	April 17, 2002	9:57 AM	499688	3503224	4.5	Oakland
CARI-H -12	Western Ribbon Snake	<i>Thamnophis proximus</i>	April 17, 2002	11:29 AM	499834	3503356	4.1	Oakland
CARI-H -13	Green Anole	<i>Anolis carolinensis</i>	April 17, 2002	1:37 PM	505697	3490570	4.1	Magnolia
CARI-H -14	Broadhead Skink	<i>Eumeces laticeps</i>	May 2, 2002	8:39 AM	499740	3503196	4.0	Oakland
CARI-H -15	Western Ribbon Snake	<i>Thamnophis proximus</i>	May 6, 2002	11:04 AM	505580	3490681	4.0	Magnolia
CARI-H -16	Southern Leopard Frog	<i>Rana sphenoccephala</i>	May 29, 2002	1:38 PM	505481	3490302	4.4	Magnolia
CARI-H -17	Western Rat Snake	<i>Pantherophis obsoletus</i>	July 10, 2002	2:02 PM	505684	3490418	3.6	Magnolia
CARI-H -18	Fowler's toad	<i>Bufo fowleri</i>	July 10, 2002	9:33 PM	499729	3503374	6.0	Oakland
CARI-H -19	Ground Skink	<i>Scincella laterale</i>	July 25, 2002	9:28 AM	499566	3503419	3.5	Oakland
CARI-H -20	Common Musk Turtle	<i>Sternotherus odoratus</i>	August 7, 2002	9:06 PM	499749	3503131	3.9	Oakland
CARI-H -21	Southern Leopard Frog	<i>Rana sphenoccephala</i>	August 21, 2002	2:12 AM	499840	3503581	3.8	Oakland
CARI-H -22	Narrowmouth Toad	<i>Gastrophryne carolinensis</i>	August 21, 2002	9:31 PM	499637	3503060	3.5	Oakland
CARI-H -23	Broadhead Skink	<i>Eumeces laticeps</i>	August 21, 2002	1:44 PM	505549	3490632	4.9	Magnolia
CARI-H -24	Southern Leopard Frog	<i>Rana sphenoccephala</i>	August 21, 2002	9:12 PM	499840	3503581	3.8	Oakland

* Specimen/CARI-H #: CARI=Cane River Creole National Historical Park; H=Herpetozoan; consecutively numbering.

**UTM Zone 15R; NAD83.

APPENDIX XII

Mammalian Voucher Specimens

Appendix XII. Mammal Voucher Specimens.

Mammal #	Common Name	Scientific Name	Date	Time	Easting**	Northing**	Error	Park Unit
CARI-M- 1	White-footed Mouse	<i>Peromyscus leucopus</i>	July 24, 2002	2:02 PM	505567	3490677	3.6	Magnolia
CARI-M- 2	Roof Rat (skull only)	<i>Rattus rattus</i>	July 25, 2002	10:08 AM	499853	3503357	4.7	Oakland
CARI-M- 3	Fulvous Harvest Mouse	<i>Reithrodontomys fulvescens</i>	January 29, 2003	11:24 AM	499658	3503651	3.5	Oakland
CARI-M- 4	Marsh Rice Rat	<i>Oryzomys palustris</i>	March 12, 2003	12:27 PM	505569	3490668	4.4	Magnolia
CARI-M- 5	White-footed Mouse	<i>Peromyscus leucopus</i>	March 13, 2003	10:00 AM	499592	3503520	4.3	Oakland
CARI-M- 6	Least Shrew (in formalin)	<i>Cryptotis parva</i>	August 21, 2002	1:56 PM	505551	3490696	4.2	Magnolia
CARI-M- 7	Least Shrew (in formalin)	<i>Cryptotis parva</i>	April 17, 2002	9:24 AM	499450	3503204	3.3	Oakland
CARI-M- 8	House mouse	<i>Mus musculus</i>	May 30, 2002	9:01 AM	499448	3503206	4.4	Oakland
CARI-M- 9	Least Shrew (skull only)	<i>Cryptotis parva</i>	January 29, 2003	1:43 PM	505535	3490534	3.7	Magnolia
CARI-M- 10	Least Shrew (skull only)	<i>Cryptotis parva</i>	January 29, 2003	1:45 PM	505539	3490536	3.7	Magnolia
CARI-M- 11	Least Shrew (skull only)	<i>Cryptotis parva</i>	January 29, 2003	1:46 PM	505533	3490540	3.7	Magnolia

* Specimen No. = CARI-M_# : CARI=Cane River National Park; M=mammal; Consecutively numbered.

**NAD83 - Zone 15R