

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

<sup>1</sup>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.

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.

## **Z 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.).

## **Z 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.

## **Z 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.

## **Z 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.

## **Z 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.

## **Z 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*)

## Z 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*, *hemiphris*, *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.

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.

## **Z 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 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.

## **Z 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.

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.

## **Z 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.

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.

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

<sup>1</sup>H = 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.

## **Z 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.

## **Z 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.

## **Z 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.

## **Z 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.