

**Exhibit Q - Threatened and Endangered Species
Assessment Chennault Site 2-2A**

Threaten and Endangered Species Assessment


**± 185 acre B-11 Chennault Site (SW 2 & 2a)
Located along East Prien Lake Road
Lake Charles, Calcasieu Parish, Louisiana**

for

**Mr. David Conner
SWLA Economic Development Alliance
4310 Ryan Street
Lake Charles, LA 70605**

**Mr. Larry Henson
Louisiana Economic Development (LED)
1051 North Third Street
Baton Rouge, LA 70802-5239**

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QUALITY BY DESIGN

**June 2014
Ref. 11341.0**

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1.0 INTRODUCTION

1.1 GENERAL

This report details methodology and an assessment of survey results for a threatened and endangered species survey completed in May 2014 on approximately 185 acre tract of land located along E. Prien Lake Road, Lake Charles, Calcasieu Parish, Louisiana. The threatened and endangered species survey was conducted to determine the occurrence of, or potential for, animal and plant species federally listed as endangered or threatened to exist within the referenced site. Completion of this survey was directed by and complies with current state and federal regulations [Federal Endangered Species Act of 1973 (16 USC 1531-1543)].

2.0 METHODOLOGY

The following threatened and endangered species are listed by the US Fish & Wildlife Service as occurring in or potentially occurring in Louisiana.

Common Name	Scientific Name	Federal Status
PLANTS		
American Chaffseed	Schwalbea americana	E
N/A	Geocarpon minimum*	T
Louisiana Quilwort	Isoetes louisianensis	E
ANIMALS		
Louisiana Black Bear	Ursus americanus luteolus	T
Alabama Heelsplitter	Potamilus inflatus	T
West Indian Manatee	Trichechus manatus	E
Mucket, Pink*	Lampsilis abrupta	E
Louisiana Pearlshell	Margaritifera hembeli	T
Piping Plover*	Charadrius melodus	T
Smalltooth Sawfish	Pristis pectinata	E
Interior Tern*	Sterna antillarum	E
Gopher Tortoise	Gopherus polyphemus	T
Red-cockaded Woodpecker*	Picoides borealis	E

Federal Status Key

T = Threatened

E = Endangered

Rare Species found in Calcasieu Parish, Louisiana

Common Name	Scientific Name	State Rank
RARE ANIMALS		
Old Prairie Crawfish	Fallicambarus macneesei	S2
Cooper's Hawk	Accipiter cooperii	S2B, S3, N
Bachman's Sparrow	Aimophila aestivalis	S3
Red Wolf	Canis rufus	SX
Sandhill Crane	Grus canadensis	S1N
Bald Eagle	Haliaeetus leucocephalu	S2N, S3B
RARE PLANTS		
Green milkweed	Asclepias hirtella	S1
Purple False-foxglove	Agalinis filicaulis	S1
Mead's Sedge	Carex meadii	S3
Evening Rainlilly	Cooperia drummondii	S2
Green milkweed	Asclepias hirtella	S1
Coastal Plain Lobelia	Lobelia flaccidifolia	S1
Louisiana Blue Star	Amsonia ludoviciana	S3
Grapefruit Primrosewillow	Ludwigia spaerocarpa	S2
Hawkweed	Hieracium longipilum	S1
Little tooth sedge	Carex microdonta	S3
Gayfeather	Liatris punctate	S1
Ten petal Thimbleweed	Anemone berlandieri	S2

State Rank Key

S1 = ≤ 5 communities

S4 = 100 to 1000 communities

S2 = 6 to 20 communities

S5 = 1000+ communities

S3 = 21 to 100 communities

Existing data from Louisiana Department of Wildlife and Fisheries (LDWF) was reviewed to locate recorded occurrences of threatened and endangered species within or near the subject site. At the time of this report, there is no documentation of any rare, threatened or endangered species within or immediately adjacent to the referenced tract. As noted by LDWF, their records are not assumed to be complete and they should not be assumed to be comprehensive; therefore, field surveys should be conducted for thorough evaluations. Several of the species listed as potentially occurring in the site were eliminated from the survey based upon broad habitat requirements; these species have been indicated with an asterisk. The remaining species were included in the assessment.

As noted, field surveys to identify suitable habitat were initially conducted in early May of 2014. During the field surveys, plant/animal communities and habitats

were observed and noted to determine if they match habitat types where the listed species have the potential to occur. If potential habitat was identified at the site, all species observed were, at a minimum, identified to the genus taxonomic level.

3.0 HABITAT CLASSIFICATIONS

The following is a description and classification of major habitat/community types identified within the site. Also noted is an assessment of suitability for federal listed threatened and endangered species.

3.1 PALUSTRINE EMERGENT WETLAND

This wetland community is located throughout the site. A palustrine emergent wetland is a wetland that has been created in depression areas that can or cannot be isolated from other wetland areas. This habitat does not support woody vegetation and meets the following hydrological criteria: Inundated for 15 consecutive days or more during the growing season or 10 percent of the growing season, or if a pothole, playa, or pocosin is ponded for 7 or more consecutive days during the growing season and/or is saturated for 14 or more consecutive days during the growing season. The dominant plant species that occur in this area consist of broomsedge (*Andropogon virginicus*), Soft Rush (*Juncus effuses*), Bahai grass (*Paspalum notatum*), Louisiana Blackberry (*Rubus Louisianus*), Bull Thistle (*Cirsium vulgare*), Chinese Privet (*Ligustrum sinense*), Tallow Tree (*Sapium serbiferum*), and Golden Rod (*Solidago austrina*). This vegetative community does not provide suitable habitat for any of the listed species.

3.2 RANGE AND PASTURE LAND

Range and pasture lands are diverse types of land where the primary vegetation produced is herbaceous plants and shrubs. These lands provide forage for beef cattle, dairy cattle, sheep, goats, horses and other types of domestic livestock. Also many species of wildlife, ranging from big game such as elk to nesting song birds such as meadowlarks, depend on these lands for food and cover. Plant species that are commonly found in these habitats include Drummond Rattlebox (*Sesbania drummondii*), Bahia grass (*Paspalum notatum*), Tallow tree (*Triadica sebifera*), Bull Thistle (*Cirsium vulgare*), and LA Blackberry (*Rubus louisianus*). Due to frequent grazing and clearing, this vegetative community does not provide suitable habitat for any of the listed species.

4.0 LISTED SPECIES AND ACKNOWLEDGED HABITATS

4.1 LOUISIANA BLACK BEAR

The Louisiana black bear is a habitat generalist. Large tracts of diverse bottomland hardwood (BLH) forest communities can provide for the black bear's life requisites (e.g., escape cover, denning sites, and hard and soft mast). The term BLH forest means hardwood (oak, hickory) forest situated on river flood plains such as the Mississippi and the Atchafalaya. Other habitat types may be utilized, including marsh; upland forested areas; forested spoil areas along bayous, brackish marsh, freshwater marsh, salt domes, and agricultural fields. No Louisiana Black Bear s were observed during our field investigations.

4.2 GOPHER TORTOISE

Though gopher tortoises occur in many plant communities, longleaf pine ecosystems, which are divided into 2 general types—pine-oak sandhills and pine flatwoods—comprise about 80% of the habitats associated with the gopher tortoise. Gopher tortoises may occur at moderate to high densities in early-successional stages of pine plantations but tend to occur at lower densities in late stages with closed canopies. Due to the lack of any suitable habitat within the tract. No Gopher Tortoise or their habitat is present on the site.

4.3 LOUISIANA QUILWORT

The habitat for this species is found in small blackwater streams (water often tea-colored, stained with tannins released from leaf decomposition), often on sand/gravel/mud bars and stream banks. During higher water plants may be partially submersed and leaves may be seen trailing in the current. Adjacent forest type is small stream forest, with laurel oak (*Quercus laurifolia*), water oak (*Q. nigra*), loblolly pine (*Pinus taeda*), sweetbay magnolia (*Magnolia virginiana*), and swamp blackgum (*Nyssa biflora*). Coarser, more stable substrate is apparently preferred and Louisiana quillwort is not usually rooted in soft fine mucky substrate. The wetland habitat found on this tract is not suitable for this species to thrive. No Louisiana Quillwort was observed during the site investigation.

4.4 AMERICAN CHAFFSEED

American chaffseed is an upland herbaceous species that occurs in sandy (sandy peat, sandy loam), acidic, seasonally moist to dry soils. It is generally found in

habitats described as open, moist pine flatwoods, fire-maintained savannas, ecotonal areas between peaty wetlands and xeric sandy soils, and other open grass-sedge systems. Chaffseed is dependent on factors such as fire, mowing, or fluctuating water tables to maintain the crucial open to partly-open conditions that it requires. Historically, the species most likely existed on savannas and pinelands throughout the coastal plain and on sandstone knobs and plains inland where frequent, naturally occurring fires maintained these sub-climax communities. The habitat found on this tract is not suitable for this species. No American Chaffseed was observed during the site investigation.

5.0 CONCLUSION

No threatened and endangered species were observed during this survey and based on habitat and geographical location, it is unlikely that any such species nest or live within the property. It is the opinion of SJB Group, LLC that based upon the findings of this survey and report, that the proposed development plan for the referenced tract is not likely to cause an adverse impact to any threatened and endangered species.

However, it should be noted that because of the transitory nature of some of the listed threatened and endangered plants and animals, it is possible that endangered species populations and locations may change over time. Therefore, if significant time should lapse between issuance of this report and development of the property or any other type of legal reliance, it is strongly recommended that an update of this report be completed. The definition of significant time is not absolute, but would include passing of annual breeding or migratory seasons.

6.0 REFERENCES

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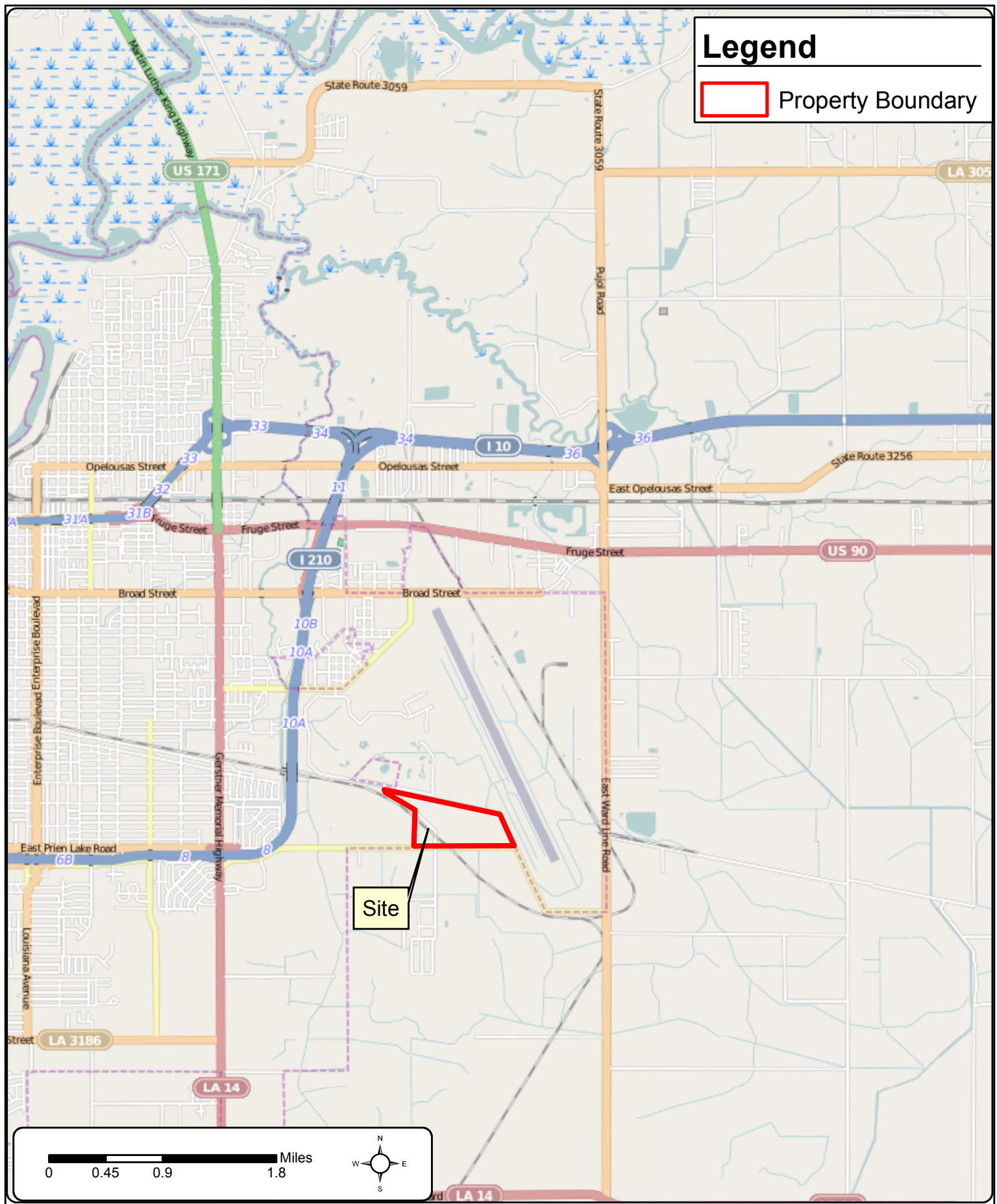
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B-11 CHENNAULT SW SITES 2&2A
(185 ACRES)

THREATENED AND ENDANGERED
SPECIES

FIGURES & SPECIES PHOTOS







PHOTOGRAPH 1: Louisiana Black Bear



PHOTOGRAPH 2: Gopher Tortoise



PHOTOGRAPH 3: Louisiana Quilwort



PHOTOGRAPH 4: American Chaffseed