

**COPE PROPERTY
ECOLOGICAL ASSESSMENT REPORT
PASCO COUNTY, FLORIDA**

Prepared for:

Ms. Louise C. Moorhead
3816 Northwestern Street
Houston, Texas 77005

Prepared by:



Christopher T. Leek
Ecologist

William B. Carey, PWS
Senior Vice President/Senior Ecologist

INTRODUCTION

Biological Research Associates (BRA) was retained by the Cope family to complete an ecological assessment of a ±686 acre parcel located in Sections 15, 22, 23 and 26 of Township 26 North, Range 19 East, in south central Pasco County, Florida. The property is located in the northwest quadrant of the intersection of State Road 56 (SR 56) and Interstate 75 (I-75) (See attached location map).

The property is irregularly shaped and is bordered on two sides by large state and federal roadways. Interstate 75 forms the east boundary of the property containing approximately 8,100 linear feet of Interstate frontage. The western property line borders State Road 54 (SR 54) with approximately 6,700 linear feet of roadway frontage. Of this frontage approximately 5,200 linear feet is upland. The property to the south is currently in agricultural use but is under review as a regional mall site (Cypress Creek Town Center). Property to the north is a mix of commercial, residential and raw land uses.

The subject property contains a mix of uplands and wetlands and is currently in agricultural use, primarily cattle grazing. In September and October 2005 the property was inspected to evaluate existing conditions and make preliminary determinations of the location and quantity of jurisdictional wetlands on the property. Preliminary surveys for listed species were also conducted. This report presents the results of the ecological assessment performed on the property. Review of existing database resources provided preliminary information on soils, landuse, elevations, drainage basins and floodplains (See attached figures).

SOILS

The Pasco County Soils Survey and electronic databases were reviewed to determine mapped soil types on the property. The table below is split into wetland (hydric) and upland soil types. Acreages listed should not be used for estimates of usable uplands as several of the upland soil types listed can be hydric depending on their location in the landscape or hydric inclusions. Acreages are provided as very preliminary summaries by mapped soil type.

Table of existing NRCS soils in the project boundary.

NRCS Designation	Soil Type	Acreage (Approx.)
Uplands		
035	Eaugallie Fine Sand	121.1
040	Paisley Fine Sand	98.7
002	Pomona Fine Sand	33.3
010	Vero Fine Sand	24.4
059	Newnan Fine Sand/0 to 5 Percent Slopes	12.9
026	Narcoosee Fine Sand	6.6
001	Wauchula Fine Sand/0 to 5 percent slopes	3.6
042	Pomello Fine Sand/ 0 to 5 Percent Slopes	3.3
005	Myakka Fine Sand	1.4
Subtotal		305.3
Wetlands		
004	Felda Fine Sand	164.4
039	Chobee Soils/Frequently Flooded	125.9
016	Zephyr Muck	72.7
028	Pits	12.4
030	Okeelanta-Terra Ceia Association	2.8
099	Water	2.3
021	Smyrna Fine Sand	0.4
Subtotal		380.9
Total		686.2

The following are descriptions of the expected water table locations and natural vegetation communities for each of the soils present within the project boundary. An assessment of soil types is useful in assessing estimated wetland delineation boundaries and habitat types for listed species transects.

The following descriptions are taken from the “Soil Survey of Pasco County, Florida” by Daniel L. Stankey, Soil Conservation Service, issued June 1982. Please see the enclosed NRCS Soils Map for location reference on the following soil types.

UPLAND SOILS

The following soil types are typically associated with upland habitats although localized anomalies are often found when setting jurisdictional wetland boundaries.

035--Eaugallie Fine Sand (121.1 Acres)

In most years, under natural conditions, the water table is within a depth of 10 inches for one to four months and within a depth of 40 inches for more than six months. Expected natural vegetation is longleaf pine,

slash pine, and an understory of saw palmetto, gallberry, wax myrtle, and pineland three awn.

040--Paisley Fine Sand (98.7 Acres)

The water table is at a depth of less than 10 inches for two to six months during most years and above the surface for less than one month in wet seasons. Expected natural vegetation is slash pine, longleaf pine, live oak, sweetgum, and an understory of gallberry, pineland three awn, cabbage palm, *Panicum*, grapevine, and sedges.

002--Pomona Fine Sand (33.3 Acres)

In most years, under natural conditions, the water table is within a depth of 10 inches for one to three months and is at a depth of 10 to 40 inches for 6 months or more. Expected natural vegetation is longleaf pine, slash pine, and an understory of saw palmetto, gallberry, wax myrtle, creeping bluestem, chalky bluestem, Indian grass, and pineland three awn.

010--Vero Fine Sand (24.4 Acres)

In most years, the water table is at a depth of 10 to 40 inches for more than six months if this soil is in an unaltered natural state. It is at a depth of less than 10 inches for one to four months in wet seasons and at a depth of more than 40 inches during very dry seasons. Expected natural vegetation is longleaf pine, slash pine, cabbage palm, a few scattered live oak, and an understory of saw palmetto, laurel oak, wax myrtle, and pineland three awn.

059--Newnan Fine Sand/0 to 5 Percent Slopes (12.9 Acres)

The water table is at a depth of about 24 to 40 inches for about two to four months during most years and recedes to a depth of more than 60 inches during drier periods. Expected vegetation is slash pine, longleaf pine, live oak, laurel oak, turkey oak, and an understory of greenbrier, saw palmetto, pineland three awn, and creeping bluestem, lovegrass, and lopsided Indian grass.

026--Narcoosee Fine Sand (6.6 Acres)

In most years, under natural conditions, the water table is at a depth of two to three and a half feet for four to six months. During extended dry periods, the water table recedes to a depth of more than 60 inches. Expected natural vegetation is slash pine, longleaf pine, live oak, laurel oak, willow oak, water oak, and an understory of greenbrier, saw palmetto, pineland three awn, creeping bluestem, lovegrass, and lopsided Indian grass.

001--Wauchula Fine Sand/0 to 5 Percent Slopes (3.6 Acres)

In most years, under natural conditions, the water table is at a depth of less than 10 inches for about one to four months. It is at a depth of 10 to 40 inches for as long as six months, except during very dry periods, when it drops below a depth of 40 inches. Expected natural vegetation is longleaf pine, slash pine, and an understory of saw palmetto, gallberry, wax myrtle, creeping bluestem, Indian grass, little bluestem, Florida paspalum, pineland three awn, torpedo grass, deer tongue, grassleaf, goldenaster, huckleberry, and running oak.

042--Pomello Fine Sand/ 0 to 5 Percent Slopes (3.3 Acres)

The water table is at a depth of 24 to 40 inches for one to four months and at a depth of 40 to 60 inches for eight months during most years. Expected vegetation is dwarf live oak, sand live oak, saw palmetto, longleaf pine, slash pine, pineland three awn, gallberry, wax myrtle, running oak, fetterbush, creeping bluestem, broomsedge bluestem, split beard bluestem, lopsided Indian grass, switchgrass, Panicum, and Paspalum.

005--Myakka Fine Sand (1.4 Acres)

In most years, the water table is at a depth of less than 10 inches for one to four months and recedes to a depth of more than 40 inches during very dry seasons. Expected natural vegetation is longleaf pine, slash pine, and an undergrowth of saw palmetto, running oak, gallberry, wax myrtle, huckleberry, pineland three awn, and scattered fetterbushes. Most areas are in native forest.

WETLAND SOILS

The following soils are considered hydric in Pasco County as described in the Florida Hydric Soils Handbook (Florida Association of Environmental Soil Scientists, April 1995).

004--Felda Fine Sand (164.4 Acres)

In most years, under natural conditions, the water table is within 10 inches of the surface for two to six months each year. Expected natural vegetation is scattered longleaf pine, slash pine, and cabbage palms, and bluestem, maidencane, pineland three awn, as well as other grasses, vines and shrubs.

039--Chobee Soils/Frequently Flooded (125.9 Acres)

Under natural conditions, the water table of the Chobee soils is within 10 inches of the surface for more than six months in most years. Flooding occurs frequently during the rainy season. The duration and extent of flooding are variable and are related directly to the intensity and frequency of rainfall. In most years, the lowest lying area and the areas along the streams are flooded during the rainy season. During periods of intense, long-lasting rainfall, nearly all of the area of these soils may be flooded. Flooding normally lasts from one to four months. Runoff and internal drainage are slow. The available water capacity is medium, and natural fertility is low. Permeability is moderately rapid in the surface layer and slow to very slow in the subsoil. Expected vegetation is water oak, cypress, elm, ash, hickory, red maple, and sweetgum. The understory vegetation is water-tolerant plants such as maidencane, sawgrass, swamp primrose, buttonbush, smartweed, and sedges.

016--Zephyr Muck (72.7 Acres)

This soil is ponded for more than six months in most years. The surface layer is black muck, typically about 13 inches thick. Expected natural vegetation is cypress, cattails, and dense stands of maidencane and sawgrass.

028--Pits (12.4 Acres)

The existing ± 12 acre borrow pit in the northeast portion of the property adjacent to Interstate I-75 was most likely cut in 035 – Eaugallie Fine Sand (see above). Although this area appears to be excavated in upland

soils to the point of inundation, the majority of the area is not currently a jurisdictional wetland. Areas depicted on the enclosed Estimated Wetland Lines Map as jurisdictional are relegated to the eastern, southern, and northern “edges” of the excavated area that seem to correspond to an historic “rim ditch” that was used to dewater the pit area during excavation. Observed vegetation in the wetland portions of the pit include smartweed, various sedges and beak-rushes, and other primarily opportunistic species.

030--Okeelanta-Terra Ceia Association (2.8 Acres)

This soil has a water table that, in most years, is at or above the surface except during extended dry periods. Expected vegetation is sweetbay, sweetgum, cypress, longleaf pine, cabbage palm, water oak, and an understory of maidencane, sawgrass, royal fern, cinnamon fern, and various aquatic plants.

099--Water (2.3 Acres)

Several areas of the property have been mapped as open water by the soil survey and are best generalized as excavated livestock watering areas with little or no vegetation. An exception to this would be the largest area mapped as 099 along the north property line. That area has very little open water land and is dominated by wetland trees and herbaceous vegetation.

021--Smyrna Fine Sand (0.4 Acres)

The water table is at a depth of less than 10 inches for a period of one to four months in most years and between 10 and 40 inches for more than six months. In rainy seasons or after heavy rains, the water table may rise above the surface briefly. Expected natural vegetation is longleaf pine, slash pine, and an undergrowth of saw palmetto, running oak, gallberry, wax myrtle, huckleberry, pineland three awn, and scattered fetterbush. Most areas remain in native forest.

WETLANDS

Wetlands that exist on the subject property are a part of Cabbage Swamp, which is a tributary to Cypress Creek. During the wet season the swamp flows in a southeasterly direction. The majority of flow entering the property is from a wetland system located northwest of the property line via a culverted crossing under SR 54 immediately north of the SR 54 access gate. The majority of flow exiting the property seems to be directed under I-75 through two culverted crossings in the southeast portion of the property. A triple box culvert system is located immediately north of the power line corridor bisecting the southeast portion of the property as well as a double culverted crossing approximately 1,500 feet north of the triple box. Preliminary assessments suggest that historic flows could have been altered by the addition of the two roadways (SR54 and I-75) that border the property. This phenomenon is best evidenced through the elevated hydrologic indicators on vegetation in the southeastern corner of the site. These elevated hydrologic indicators suggest that impoundment of water occurs in this portion of the site in the rainy season and after large rain events and is unable to leave the site as quickly as was possible in its natural state.

The enclosed FEMA 100-year Floodplain Map better illustrates the orientation of the lower elevations on the property. Surveying and engineering calculations will be necessary to accurately delineate the extent of the floodplain area. It is possible that the wetland delineation line in these areas could be waterward of the 100-year floodplain line. The floodplain, if impacted, will require mitigation in the same watershed/basin as

the proposed impact.

No wetlands on site are classified as Outstanding Florida Waters (OFW); therefore, no additional permitting concerns exist in that regard.

The major type of wetland present on-site is designated by the Florida Land Use Cover and Forms Classification System (FLUCFCS) as Map Unit #615 – Stream and Lake Swamps (Bottomland) (288.0 acres). This classification is the predominant wetland type mapped on the property. This type of wetland is best described as being associated with river, creek and lake floodplain and overflow areas. Typical vegetation observed in the surveyed areas include cypress, oak, sweetgum, red maple, tupelo, hickory, various palms, buttonbush, sawgrass, lizards tail and various other aquatic plants.

This predominant wetland system is supplemented by other wetlands including: Wetland Forested Mix (Map Unit #630, 33 acres), Cypress Swamps (Map Unit #621, 87.3 acres), and Freshwater Herbaceous Marsh (Map Unit #641, 7.7 acres). The vegetation transitions into a more upland composition of cabbage palm, laurel oak, live oak, persimmon, saw palmetto, beauty berry, and bahia grass as the wetland transitions into the surrounding pasture and other land uses. By SWFWMD habitat type there are approximately 420.40 acres of wetland habitat on the property. The preliminary approximate wetland boundaries can be found on the enclosed aerial exhibit.

UPLANDS

The majority of the uplands on the property are designated as pasture (Map Unit #210, 189.5 acres). The area is dominated by bahia grass and scattered live oaks. An area of planted pine plantation (Map Unit #440, 49.9 acres) is also present along the SR 54 frontage. By the SWFWMD mapped habitat type there are approximately 266.3 acres of upland habitat on the property.

LISTED SPECIES

Plants

No listed species of plants were noted in this preliminary vegetation survey of the wetland communities on-site. None of the FLUCFCS codes on-site observed on the assessment dates constituted a unique or rare ecosystem in Pasco County, Florida.

Animals

Random vehicular and pedestrian transects were conducted on the assessment area to achieve a preliminary overview of the possible listed species issues that may occur on the property. No listed species or their signs (tracks/scat/burrows/nests) were observed onsite. No listed wading birds were seen during these informal wildlife surveys; however, when the appropriate conditions exist, freshwater wading birds likely use the wetlands to forage. No evidence of communal nesting wading birds was observed during the assessment. No gopher tortoises (*Gopherus polyphemus*) were observed in the pastures located in the central and

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northern portions of the property. However, more detailed surveys need to be conducted to confirm the presence or absence of listed species by formal censusing via state methodologies. No bald eagles were observed on the property and the closest mapped nest is located approximately 6.25 miles to the southwest of the property. No southeastern American kestrels were observed on site although appropriate habitat exists.

SUMMARY

The subject property is located in south central Pasco County and is bordered on two sides by a major state road and an interstate highway. Preliminary assessment of the wetlands on the property indicates that approximately 351 acres (51 percent) of the site is jurisdictional. This leaves approximately 335 acres (49 percent) of the site as uplands. The site contains sizable areas (410.9 acres) mapped within the 100 year floodplain, which will need to be properly assessed by a qualified drainage engineer. No listed species of animals were observed during the preliminary reviews of the property. The property lies within a highly desirable portion of Pasco County, especially in regards to highway frontage and interstate interchanges.