

**Attachment 2**

**Florida Power Corporation d/b/a Progress Energy Florida, Inc.**

**Levy Nuclear Plant Project**

**USFWS Listed Plants and Animals and their Potential Occurrence on Mitigation Sites**

**Discussion**

Progress Energy Florida (PEF) is proposing unavoidable wetland impacts to over 700 acres of jurisdictional wetlands to construct of the Levy Nuclear Plant project (LNP). To offset these impacts, PEF has proposed wetland mitigation projects on six sites. The sites include onsite at the LNP and Goethe State Forest in Levy County, the Homosassa Tract of Withlacoochee State Forest in Citrus County, the Five Mile Creek site and Boarshead Ranch site in Pasco County and the Brooker Creek site in Pinellas County. These sites are located within the watersheds of the wetland impacts.

PEF and their contractors have spent hundreds of hours on each of these sites completing the analyses necessary to develop the wetland mitigation plan. Although formal listed species surveys have not been conducted on the mitigation sites, preliminary assessments and observations of listed plant and animal species occurrence on each site were conducted. The purpose of these assessments was to gather information regarding the existing habitat conditions on each site, and document the occurrence of listed species, if observed while on the site.

The attached Table 1 contains the federal listed plant and animal species expected to be found on the various mitigation sites. Listed plant species are those plants that are listed by the USFWS under Title 50, Part 17 of the Code of Federal Regulations (50 CFR 17) as endangered or threatened and the listed animal species are those classified as endangered, or threatened by the United States Fish and Wildlife Service (USFWS) under 50 CFR 11-12. This list was developed by reviewing the available county species lists from the USFWS, literature review, and previous field work completed by PEF. Listed species with habitats not found on the mitigation sites were eliminated including aquatic species such as the West Indian manatee, gulf sturgeon, and the four species of sea turtles. Also eliminated were the piping plover and salt marsh vole due to no suitable habitat being present on the mitigation sites. Although no longer protected by Endangered Species Act, the bald eagle remains protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act and was included in the review.

#### **LNP Site**

The vegetation on the LNP mitigation sites comprise a range of cleared and forested cover types including pine plantations intermixed with cypress, logged cypress, wet planted pine, wetland forest both logged and unlogged, mixed wetland hardwoods both logged and unlogged and a small area of freshwater marsh and wet prairie. Due to the lack of suitable scrub habitat on the LNP site, it is unlikely the scrub jay would be found on the site. Although the dominant tree species on the site is pine, the stands are not old enough to support the red cockaded woodpecker. American alligator has been observed in the open water areas on the property. One active bald eagle nest is located within the largest wetland mitigation area on the LNP site. The limited amount of freshwater marsh and wet prairie on the site reduces the opportunity for use by wood stork and none have been observed in these areas although there has been heavy use by other wading birds. The eastern indigo snake is also likely to be found on the site.

Mitigation on the LNP site in Levy County consists of hydrologic restoration including the filling of ditches, installation of low water crossings, and culvert installation. The clearing of the pine plantations and restoration of more natural fire regime supplemented with plantings will restore a natural ecosystem.

#### **Goethe State Forest**

Due north of the LNP site, is the Goethe State Forest (GSF) Daniels Island Tract mitigation site, although similar in characteristics to the LNP site, this site has been under public ownership for many years and some restoration has occurred. The vegetation targeted for restoration as part of the mitigation plan, includes basin swamp, cypress swamp and wet flatwoods. Due to these habitat types being target, is it unlikely that scrub jays or wood storks utilize the site. The eastern indigo snake is likely found on the site and the American alligator may be found in some of the open water areas. There are multiple active red cockaded woodpecker (RCW) nest trees on this parcel.

Mitigation on the GSF site will be similar to the LNP site consisting of hydrologic and vegetation enhancements on the GSF site.

### **Homosassa Tract (Withlacoochee State Forest)**

The Homosassa Tract (HT) of the Withlacoochee State Forest is made up of several parcels of land in Citrus County. The HT is adjacent to the Chassahowitzka Riverine Swamp Sanctuary. It is under the management of the Division of Forestry. The vegetation targeted for restoration as part of the mitigation plan, includes basin swamp, depressional marsh, dome swamp, wetland shrub and planted pine. Due to this habitat, it is unlikely that scrub jays or RCWs utilize the site. The eastern indigo snake is likely found on the site. The depressional marsh areas may be used by the American alligator and wood stork. Cooley's water willow may be present at edges of the depressional marsh area.

Mitigation on the HT site will also consist of hydrologic and vegetation enhancements.

### **Boarshead Ranch**

Boarshead Ranch is a privately owned ranch located in Pasco County. It sits where the Hillsborough and Withlacoochee rivers diverge, and is adjacent to the Southwest Florida Water Management District owned Green Swamp property. The areas surrounding the mitigation areas include crop and pasture lands, pine flatwoods, pine plantation, lakes, stream and lake swamp and cypress. The American alligator has been observed on this site and the site may be used by indigo snakes and wood storks.

The mitigation goal at Boarshead is to restore and enhance the existing wetland conditions and create additional wetlands from uplands that were previously converted to pine plantation or pastureland.

### **Five Mile Creek**

The Five Mile Creek property is owned by Pasco County. It is a highly disturbed site as the result of past use as a borrow pit. Dominating the site are several water bodies surrounded by large berms and a mixture of disturbed upland and wetland habitats. The very steep side slopes of the water bodies limit the vegetated fringe except for a very small zone. The berms are vegetated primarily by blackberry, cogon grass and bahia grass with some wax myrtle. The dense shrub areas are dominated by primrose willow, coastal plain willow and wax myrtle. The upland portions of the site are overgrown and vegetated mainly with weedy species including blackberry, groundsel bush, bahia grass, cogon grass and dog fennel. The nature of this highly disturbed site is such that it may have occasional use by indigo snakes and possibly American alligator. The depth of the water and the limited vegetated fringe make usage by wood storks unlikely.

Mitigation activities on this site include restoration of the Five Mile Creek floodplain and increasing the wildlife habitat value by creating a broad littoral shelf marsh area. The target communities for the mitigation include basin marsh, freshwater marsh and a portion of cypress strand. This should create ideal habitat for American alligator and wood stork foraging.

### **Brooker Creek**

The Brooker Creek mitigation site is within an existing PEF right-of-way (ROW) transecting the Pinellas County Brooker Creek Preserve. Existing habitat within the ROW consists of depressional marsh and wet prairie surrounded by cypress, wetland mixed forest, pine flatwoods. Due to the habitat present, wood storks and the American alligator would be expected to be found in the areas of the ROW proposed for enhancement. Lack of habitat for the scrub jay and red cockaded woodpecker reduces the likelihood they would be observed on the site. Eastern indigo snakes may occasionally use the ROW areas. The American bald eagle has been observed many times roosting on the transmission structures.

Mitigation on this site includes hydrologic enhancement by installing low water crossings and possibly additional culverts in the existing access roads. Selective plantings will occur to increase diversity in the depressional marsh and wet prairie areas.

**Conclusions**

All of the wetland mitigation sites may have some usage by the American bald eagle, American alligator, wood stork and eastern indigo snake. The construction activities at the mitigation sites will be temporary in nature and may result in temporary disturbance of these species. Undisturbed similar habitat exists on these sites and/or immediately adjacent to these sites so any displaced utilization would be immediately replaced within a short distance from the construction activities.

As part of the wetland mitigation plan, PEF will conduct additional reviews for listed species and if necessary coordinate with the USFWS on any appropriate permits necessary prior to construction. This may include implementation of the Standard Protection Measures for Indigo Snakes and setback requirements from the eagle's nest. PEF will continue to work with the DOF staff to ensure there are no impacts to the RCW's on the GSF site. The implementation of the wetland mitigation plan should provide additional habitat for the species temporarily disturbed during construction.

Table 1 - USFWS Listed Plants and Animals and their Potential Occurrence on Mitigation Sites

Species	Habitat of Occurrence	USFWS Status	Habitat Present on Mitigation Sites (Yes/No)						Likelihood of Species Occurring on Mitigation Site					
			LNP Site	Goethe	Homosassa	Boarshead	Five Mile Creek	Brooker Creek	LNP Site	Goethe	Homosassa	Boarshead	Five Mile Creek	Brooker Creek
<b>BIRDS</b>														
<i>Aphelocoma coerulescens</i> <b>Florida scrub-jay</b>	Low-growing oak scrub habitat	T	No	No	No	No	No	No	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
<i>Mycteria americana</i> <b>Wood stork</b>	Cypress strands and domes, mixed hardwood swamps, freshwater marshes	E	Yes	Yes	Yes	Yes	Yes	Yes	High	High	High	High	Medium	High
<i>Picoides borealis</i> <b>Red-cockaded woodpecker</b>	Mature pine woodlands	E	No	Yes	No	No	No	No	Low	High	Unlikely	Low	Unlikely	Unlikely
<b>REPTILES</b>														
<i>Alligator mississippiensis</i> <b>American alligator</b>	Most permanent bodies of fresh water, including marshes, swamps, lakes, and rivers	T (SA)	Yes	Yes	Yes	Yes	Yes	Yes	High	High	High	High	High	High
<i>Drymarchon couperi</i> <b>Eastern indigo snake</b>	Broad range of habitats, from scrub and sandhill to wet prairies and mangrove swamps; often commensal with gopher tortoises	T	Yes	Yes	Yes	Yes	Yes	Yes	Medium	Medium	Medium	High	Low	Low

Progress Energy Florida- Levy Nuclear Plant

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			LNP Site	Goethe	Homosassa	Boarshead	Five Mile Creek	Brooker Creek	LNP Site	Goethe	Homosassa	Boarshead	Five Mile Creek	Brooker Creek	
<b>PLANTS</b>															
<i>Campanula robinsiae</i> <b>Brookville bellflower</b>	Wet, grassy slopes and drying pond edges in vicinity of Chinsegut Hill, in Hernando County	E	No	No	Yes	No	No	No	No	Unlikely	Unlikely	Low	Unlikely	Unlikely	Unlikely
<i>Chrysopsis floridana</i> <b>Florida golden aster</b>	Sunny, bare patches of sand in sand pine scrub; low sand ridges of excessively well drained, fine sands; railroad and highway rights-of-way	E	No	No	No	No	No	No	No	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
<i>Justicia cooleyi</i> <b>Cooley's water-willow</b>	Mesic hardwood hammocks over limestone	E	No	No	No	No	No	No	No	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
<i>Nolina brittoniana</i> <b>Britton's beargrass</b>	Scrub, sandhill, scrubby flatwoods, and xeric hammock	E	No	No	No	No	No	No	No	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely

Notes:

T = Threatened

E = Endangered

T(SA) = Threatened due to similarity in appearance to a federally listed species