

Appendix E

Threatened & Endangered Species Survey



**KENDALL – TAMiami EXECUTIVE AIRPORT
PROTECTED SPECIES SURVEY**

June 2006

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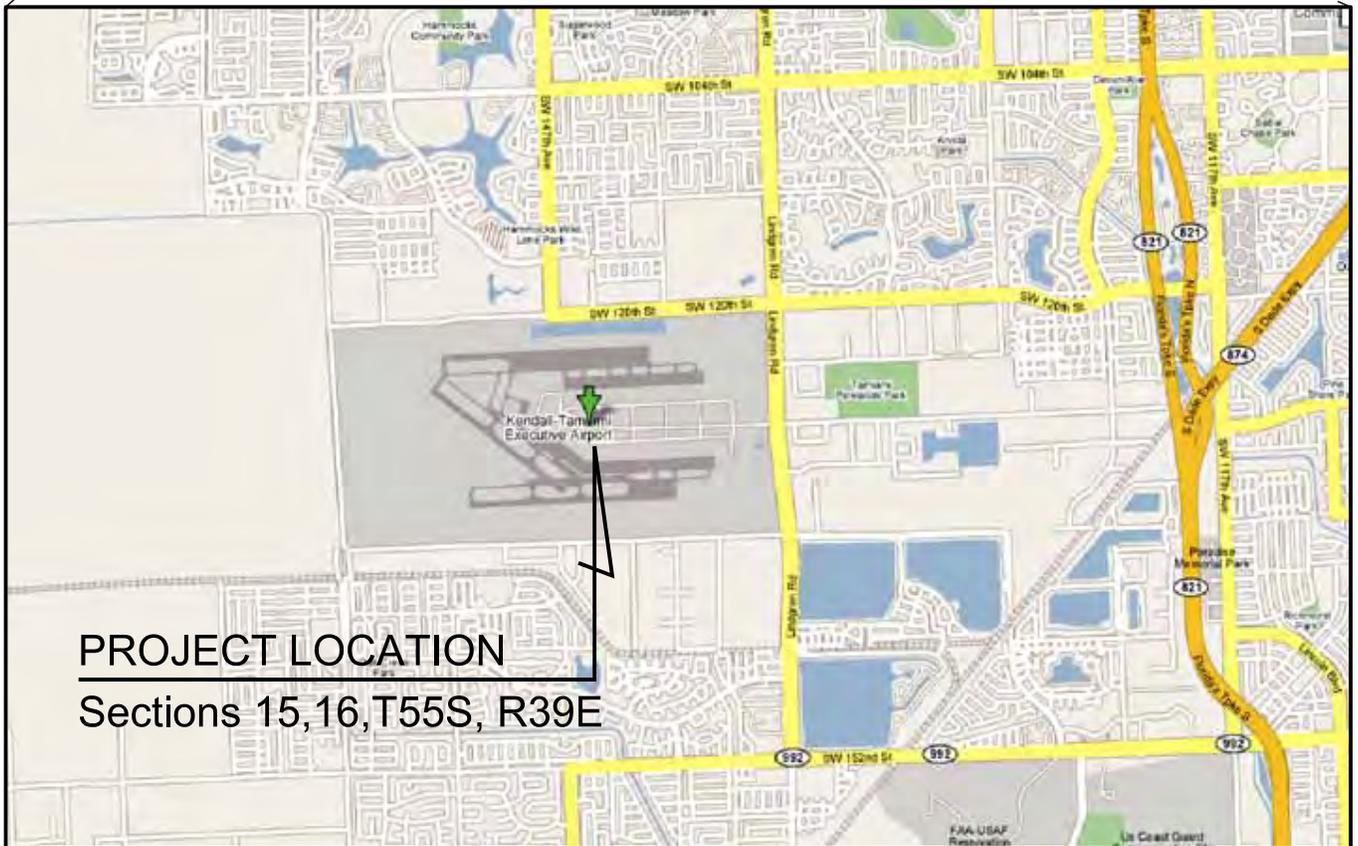
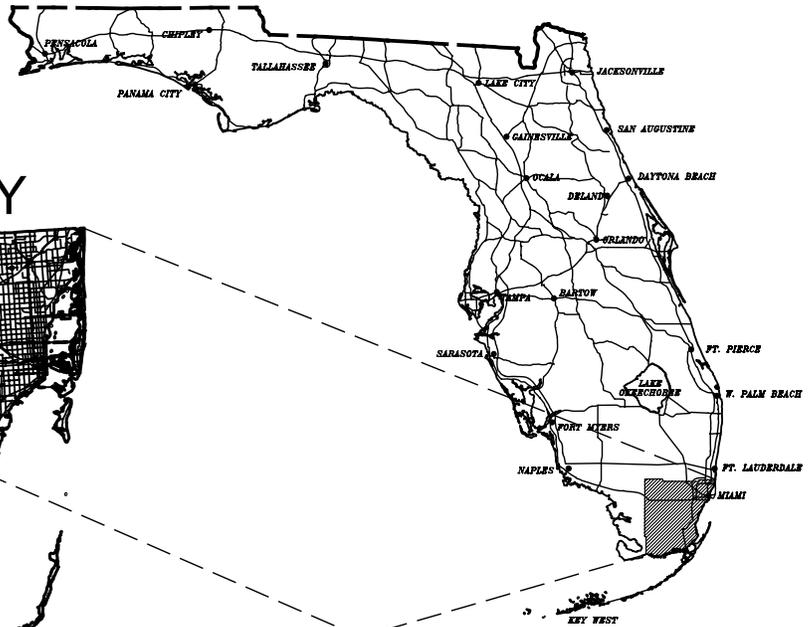
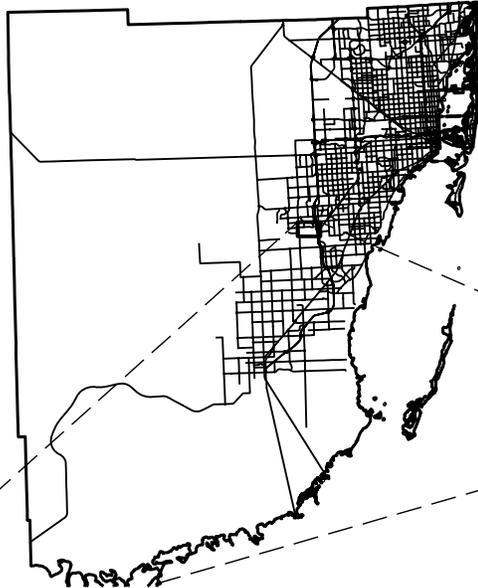
1.0 INTRODUCTION

The Kendall – Tamiami Executive Airport (Airport) is a 1,380-acre General Aviation airport located in Miami-Dade County, Florida. The Airport is pursuing the extension of Runway 9R-27L by 550 feet to the east and 1,798 feet to the west, for a final length of 7,350 feet. The purpose of the project is to allow the Airport to meet its role as a reliever airport to Miami International Airport by allowing current users to operate without load penalties.

The project site is located on the south side of S.W. 120th Street and on the west side of S.W. 137th Avenue. See Figure 1-1 for the Project Location Map.

The following represents the results of the Protected Species Survey for the Airport, conducted in accordance with methodologies outlined by the Florida Fish and Wildlife Conservation Commission (FWC) and U.S. Fish and Wildlife Service (FWS).

MIAMI-DADE COUNTY



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Kendall-Tamiami Airport Runway Expansion Project-Location Map

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
June 2006	20066312		As Shown	1 OF 1

2.0 Vegetation Associations

Ecologists from Johnson Engineering Inc. conducted vegetative mapping of the project site on June 14, 2006. The cover and vegetation association types found within the project site were delineated utilizing aerial photographs (1"=200' and 1"=300') (USGS DOQ's 2004) and on-site field investigations. Habitats were classified based on the nomenclature of the Florida Land Use, Cover and Forms Classification System, Level III (FLUCFCS) [Florida Department of Transportation (FDOT), 1999]. This system, originally developed by FDOT, allows for a uniform but flexible means of classifying land uses important for determining the presence of wetlands and suitable habitat for protected species. A FLUCFCS table is provided as Table 2-1. A 2' x 3' aerial with FLUCFCS overlay and Protected Species Location Map is provided in Appendix A of this report.

The approximate acreage and habitat type for each FLUCFCS Code are found in Table 2-1. A brief description of the five (5) FLUCFCS Codes identified on the Airport runway expansion project follows.

TABLE 2-1 FLUCFCS Table

FLUCFCS Code	Habitat	Approximate Acreage	Percent of Total	SFWMD Jurisdictional Status	ACOE Jurisdictional Status
214	Row Crops	95.88	30%	Upland	Upland
422	Brazilian Pepper	8.86	3%	Upland	Upland
510	Canal	9.77	3%	Other Surface Water	Other Surface Water
748	Maintained Grass Field	196.33	61%	Upland	Upland
811	Airports	9.04	3%	Upland	Upland
TOTAL		319.88	100%		

NOTES:

1. The FLUCFCS lines depicted on the aerial are approximate and provided for general planning purposes.
2. The upland / wetland limits have not been located in the field or survey located.
3. The upland / wetland limits are approximate and subject to change and should not be relied on for permitting purposes.
4. The acreages provided are approximate and subject to change based on agency verification of the upland / wetland limits.

FLUCFCS Code 214 – Row Crops (95.88 acres)

Active farm fields exist at the northwest end of runway 9R-27L as well as west of the north-south canal which bisects the western portion of the project area. There were no crops growing during the field inspection but the presence of farm equipment, farm workers and the recently plowed appearance of the fields indicated that these are currently, actively farmed. The vegetation structure found within these fields consisted only of an understory, no mid-canopy or canopy species were observed. The understory included such pioneering species as sedges (*Cyperus* sp.), crabgrass (*Digitaria serotina*), day flower (*Commelina diffusa*) and wild taro (*Colocasia esculenta*).



FLUCFCS Code 214 – Row Crops

FLUCFCS Code 422 – Brazilian Pepper (8.86 acres)

In the western portion of the project site, just east of the north-south bisecting canal is a forested area consisting predominately of Brazilian pepper (*Schinus terebinthifolius*). The only other canopy species observed was Java plum (*Syzygium cumini*). Other invasive exotic and nuisance plant species were found in the mid-canopy such as napiergrass (*Pennisitum purpureum*), Guineagrass (*Panicum maximum*) and ragweed (*Ambrosia artemisiifolia*). The canopy and mid-canopy were so dense that no other ground cover species were observed. The extent of this habitat type appeared to be slightly elevated (rock pile) in comparison to the other surrounding habitat types. This may explain why the habitat is not mowed like the surrounding habitat and why these invasive exotic plants are growing here.



FLUCFCS Code 422 – Brazilian Pepper

FLUCFCS Code 510 – Canal (9.77 acres)

There are two drainage canals found within the project area. One canal is completely contained within the Airport property and the other, much larger canal bisects the Airport property in a north-south direction and extends off-site in both directions. This habitat is mostly open water with some torpedo grass (*Panicum repens*), camphorweed (*Pluchea rosea*), beak sedge (*Rhynchospora microcarpa*), starrush whitetop (*Rhynchospora colorata*) and rosegentian (*Sabatia* sp.). Wildlife species sighted within these areas include green heron (*Butorides striatus*) and common grackles (*Quiscalus quiscula*).



FLUCFCS Code 510 – Canal

FLUCFCS Code 748 – Maintained Grass Field (196.33 acres)

This habitat type makes up for the majority of the project site at the west and east ends of the runway. Since these areas are routinely mowed there were no mid-canopy or canopy species found. The dominate species found within this habitat were Bahiagrass (*Paspalum notatum*) and smutgrass (*Sporobolus indicus*). Other species observed include crabgrass, beggarticks (*Bidens alba*), spurge (*Spermacoce* sp.), Guineagrass, fogfruit (*Phyla nodiflora*), Bermudagrass (*Cynodon dactylon*), natalgrass (*Rhynchelytrum repens*), and wedelia (*Sphagneticola trilobata*). Wildlife species observed in this habitat include northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), loggerhead shrike (*Lanius ludovicianus*), European starling (*Sturnus vulgaris*), burrowing owls (*Athene cunicularia floridana*), killdeer (*Charadrius vociferus*), cattle egret (*Egretta thula*) and red-winged blackbird (*Agelaius phoeniceus*).



FLUCFCS Code 748 – Maintained Grass Field

FLUCFCS Code 811 – Airports (9.04 acres)

This code refers to runways and taxiways associated with operation of the Airport.

3.0 SURVEY METHODOLOGY

Prior to the onsite surveys, a literature review was conducted, which included Florida's Official List of Endangered Species, Threatened Species and Species of Special Concern (FWC 2004), (F.A.C. Chapter 5B-40.0055 Florida Department of Agriculture and Consumer Services [DOACS]) and Endangered and Threatened Species of the Southeastern United States (FWS 1995) to identify species that may occur within this geographic region.

Table 3-1 lists the times and weather conditions during the field survey. The Protected Species Survey was conducted in accordance with the Florida Fish and Wildlife Conservation Commission (FWC) guidelines, which require a minimum of 15% coverage of each habitat suitable for listed species utilization. Linear belt pedestrian and vehicular transects were utilized to survey the vegetated portions of the project site. The distance between the transects was established to cover a minimum of 50% of each FLUCFCS Code that may contain listed species. Table 3-2 lists the potential protected species that could occur in each habitat.

Locations of all observed protected species were recorded on a 1"= 200' scale aerial photograph. Three burrowing owl (*Athene cunicularia floridana*) burrows were identified. The field location of the burrow was labeled and GPS located.

Table 3-1 Survey Date, Time, Weather Conditions and Purpose of Field Survey

DATE	TIME	WEATHER CONDITIONS	JEI ECOLOGISTS	PURPOSE OF FIELD SURVEY
6/14/06	1000 - 1400	Sunny; Upper 80s to Low 90s; N Wind at 5-10 mph	WBB & ALS	FLUCFCS Mapping of Kendall-Tamiami Executive Airport and Protected Species Survey

Table 3-2 Listed Wildlife Observed or that Have the Potential to Occur

Scientific Name	Common Name	Designated Status		Observed / Potential to Occur in FLUCFCS
		FWC	USFWS	
Reptiles				
<i>Alligator mississippiensis</i>	American alligator	SSC	T (S/A)	Potential in 510
Birds				
<i>Athene cunicularia floridana</i>	Florida burrowing owl	SSC	-	Observed at burrows within 748

FWC – Florida Fish and Wildlife Conservation Commission

USFWS – U.S. Fish and Wildlife Service

SSC – Species of Special Concern

T- Threatened

(S/A) – Similarity of Appearance

E – Endangered

4.0 RESULTS

Two (2) active burrowing owl burrows were observed during the field survey, one at either end of Runway 9R-27L. Two additional burrows, located at the east end of the runway, did not appear active at the time of the survey since no birds or eggs were sighted. Burrow #1 had four (4) owls present, two of which were probably the adults and the other two birds were most likely the fledglings. When burrow #2 was approached an owl flew out of it; whether this was an adult at the beginning of the nesting process or a fledgling bird was not determined. All four (4) burrows are within the project footprint, therefore it will be necessary for the Airport to obtain an Incidental Take Permit from FWC. The Burrowing Owl Management Plan below outlines specific management techniques designed to reduce potential impacts to the owls.

The project site has limited habitat for other listed species since it lacks suitable native habitat; all of the habitats found within the project site are either disturbed, man made or significantly altered. No other signs of protected species were found during the Protected Species Survey. However, the American alligator (*Alligator mississippiensis*) has the potential to occur within either canal in search of food.

5.0 DISCUSSION

Although Kendall – Tamiami Executive Airport is inhabited by several burrowing owls, the habitat itself can be considered unsuitable due to its close proximity to active aircraft operations. FWC in cooperation with the Federal Aviation Administration (FAA) has authorized airports to harass listed species utilizing areas within 300 feet of active tarmacs, taxiways, and runways to reduce potential wildlife vs. aircraft conflicts. The layout of Kendall – Tamiami Airport leaves very little suitable owl habitat outside the allowable harassment areas. However, permission to harass listed species does not include the destruction of burrowing owl burrows.

Any damage or destruction to burrowing owl nests is prohibited without an Incidental Take Permit issued by FWC. FWC will only permit the destruction of inactive burrows (burrows containing no eggs or flightless young) as a last resort. Burrows can generally be considered inactive from July 10th to February 15th (non-nesting season). Between February 15th and July

10th (nesting season), burrows containing adult owls are considered active nests unless information suggesting that all young owls have fledged from the nest has been collected.

Kendall – Tamiami Airport is a relatively small airfield without the benefit of large pervious areas located away from active aircraft operations for burrowing owls to be directed. Additionally, protection zones associated with all three (3) runways significantly reduce potential burrowing owl habitat. This combined with the Airport becoming surrounded by commercial and residential development leaves little to no suitable habitat on or near Airport property.

6.0 BURROWING OWL MANAGEMENT PLAN

6.1 Burrowing Owl History

The burrowing owl is one of the smallest species of Florida owls and is listed as a Species of Special Concern by the FWC. Natural burrowing owl habitat in Florida includes grasslands and open rangeland throughout the state. However, the preferred habitat in southwest Florida seems to be maintained grassy areas located in close proximity to development (Ehrlich 1988).



Florida burrowing owl at Kendall-Tamiami Airport

These interface areas allow the owls to thrive on small mammals, birds, reptiles, insects, and other forage species (FWC 2003). The presence of suitable burrows seems to be the limiting factor for burrowing owl success (Rosenberg 1998). Burrows are generally built in well-drained sandy areas and often adorned with decorations. The abundance of grassy areas at Kendall – Tamiami Executive Airport has provided suitable habitat for burrowing owls for many years. However, proposed expansion of the Airport will reduce the amount of suitable habitat for burrowing owls.

6.2 Monitoring and Excavation

It is critical that no active burrowing owl burrows (burrow containing eggs or flightless young) are damaged during construction and that no owls, eggs, or flightless young are injured during burrow collapse activities. The following procedures will be implemented to reduce impacts to the owls:

1. **Timing:** Burrowing owl nesting season is from February 15th until July 10th. Any burrow attended by one or more burrowing owls during the nesting season will be considered active, and thus will not be disturbed.
2. **Occupation:** All burrows will be monitored by a qualified ecologist prior to commencement of construction activities to ensure no eggs or flightless young will be impacted. Burrows that are considered too damaged to house owls will be deemed inactive. Burrows that could potentially hold owls will be thoroughly investigated by terrestrial and / or subterranean (underground camera) observation methods prior to excavation.
3. **Method of Collapse:** If a burrow is occupied by eggs or juvenile owls it will not be collapsed until the owls have fledged. Burrows will be collapsed by hand shovel only after the ecologist has ensured it is unoccupied. Correspondence in the form of a year-end letter report will be submitted to FWC.
4. **Mitigation:** In accordance with FWC recommendations and FAA guidelines, onsite burrowing owl habitat enhancement activities such as artificial nest construction, t-perch installation, or habitat management practices will not be conducted.

6.3 Remaining Owls

Additional consideration must be paid to remaining burrowing owls on Airport property. Regulations set forth by the FAA do not allow enhancements to airport property that may increase the potential for aircraft/wildlife collisions. Therefore, no enhancements to burrowing owl habitat such as the construction of starter or artificial burrows or installation of t-perches are proposed at Kendall – Tamiami Executive Airport. Once construction activities

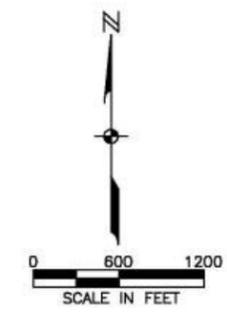
are completed, remaining owls on the Airport will be left to their own recourses to find suitable habitat. Owls continuing to reside at the Airport that do not pose a threat to aircraft operations will likely be left in place. However, if burrowing owls become a nuisance to aircraft operations, the Miami-Dade Aviation Department retains the right to implement a wildlife harassment program in accordance with FWC and FAA policies.

7.0 REFERENCES

- Ehrlich, P.R., Dobkin, D.S., and Wheye, D. 1988. The Birder's Handbook, A Field Guide to the Natural History of North American Birds.
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- U.S. Fish and Wildlife Service. 1995. Endangered and Threatened Wildlife and Plants. 50 CFR 17.00 & 17.12. 41 pp.

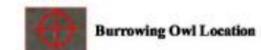
APPENDIX A

FLUCFCS and Protected Species Survey Map



FLUCFCS CODE	DESCRIPTION	APPROX. ACREAGE	STATE STATUS	STATE STATUS
214	Row Crops	96.88	U	U
422	Brazilian Pepper	8.86	U	U
510	Canal	9.77	OSW	OSW
748	Maintained grass Field	196.33	U	U
811	Airport	9.04	U	U
Total		319.88		

Legend



Notes:

1. The FLUCFCS and wetland limits have been estimated from aerial photo interpretation and limited ground truthing on June 14, 2006.
2. Wetland limits have not been flagged, GPS survey located or agency verified and are subject to change.
3. Habitat mapping based on the Florida Land Use Cover and Forms Classification (FLUCFCS) methodology established by the Florida Department of Transportation (FDOT, 1999).
4. Aerial imagery shown is from a December 2004 flight date.

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Runway Expansion Project
FLUCFCS & Protected Species Map

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
June, 2006	20066312	55,39,16;52,41,26	As Shown	1 OF 1