



SURVEY FOR LISTED FAUNA AND FLORA SPECIES

*conducted on
the*

146.5± Acre Covington Hill Project Site

located in

Section 9, Township 22 South, Range 19 East
Hernando County, Florida

Prepared for

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1.0 INTRODUCTION

McAlpine Environmental Consulting has completed a preliminary biological environmental study of the 146.5± acre Covington Hill project site. The study was performed in accordance with Hernando County government request under file number H-00-60. The study site is in Hernando County, Florida in Section 9, Township 22 South, Range 19 East. Vicinity and location maps are attached as Figures 1 and 2.

The purpose of this report was to identify the existing natural resources of the subject property with emphasis on mapping habitat communities, and the use and/or presence of fauna or flora species listed as endangered, threatened, species of special concern, or commercially exploited by either federal or state agencies. This assessment includes the following:

1. Identification of ecological communities within the boundaries of the subject site using Florida Land Use, Cover and Forms Classification System (FLUCFCS);
2. Identification of wetlands within the study site;
3. Results of a pedestrian survey of fauna within the subject site to determine if protected species listed in *Florida's Endangered Species, Threatened Species and Species of Special Concern, Official List*, (1 August 1997); and
4. Results of a pedestrian survey of flora within the subject site to determine if species listed in *Florida's Endangered Species, Threatened Species and Species of Special Concern, Official List*, (1 August 1997).

2.0 METHODOLOGY

The subject property was surveyed for the occurrence and potential for occurrence of species protected or listed by either the Florida Fish and Wildlife Conservation Commission (FFWCC), the U.S. Fish and Wildlife Service (USFWS), or the Florida Department of Agriculture (FDA) based on known habitat preferences and geographical distribution. The latest edition of *Florida's Endangered Species, Threatened Species and Species of Special Concern, Official List* (1 August 1997) published by the FFWCC was used to establish state and federal status of species. This list was cross

referenced with a list from the Florida Natural Areas Inventory Internet file (December 2000) of listed/protected flora and fauna species reported, confirmed, or having the potential to occur in Hernando County. All ecological communities were examined and classified following the Florida Land Use, Cover and Forms Classification System (FLUCFCS). Figure 3 (project aerial), which is attached to this report, depicts onsite habitat types.

The study site was surveyed and classified by completely traversing the site in a zigzag pattern at approximately 10 meter intervals on December 31, 2000.

Maps used to help identify and map habitat types included:

- U.S.D.A. Soil Conservation Service *Soil Survey of Hernando County, Florida Aerial Photographs* 1:20,000 (1973)
- USGS 7.5 minute quadrangles topographic map, 1:24000, Brooksville, 1954 (Photorevised 1988)
- 1995 USGS Online Digital Orthophoto Quarter Quadrangle (DOQQ) False color Infrared Soil Conservation Services Aerial, (1" = 2000' to 1" = 200')

3.0 HABITAT CHARACTERIZATION

The vegetative communities were identified for the study site by using the *Florida Land Use, Cover and Forms Classification System (FLUCFCS)* (FDOT 1985). Four (4) land use and cover types were identified within the study site. These vegetative communities are described as follow:

211: Pasture

This habitat covers 104.5± acres or 71.3% of the site and was the dominant vegetative cover type (Figure 3). Vegetation in the improved pasture mainly consisted of smutgrass (*Sporobolus indicus*) and Bahia grass (*Paspalum notatum*) as the dominant species, with Florida pusley (*Richardia scabra* L.), thistle (*Cirsium horridulum*), partridge pea (*Cassia fasciculata*), coffee senna (*Cassia occidentalis*), and southern fleabane (*Erigeron quercifolius*) as subdominant species.

420: Upland Hardwood Forest

This vegetative type accounted for 38.0± acres or 25.9% of the study site and was observed in the southern portion of the site. Most of the understory in this habitat was noted recently bush-hogged and cleared during the site inspection. Dominant tree species observed in the mixed hardwood area included live oaks (*Quercus virginiana*), laurel oak (*Quercus laurifolia*), basket oak (*Quercus michauxii*), water oak (*Quercus nigra*), southern magnolia (*Magnolia grandiflora*), sweetgum (*Liquidambar styraciflua*), American hornbeam (*Carpinus caroliniana*), winged elm (*Ulmus alata*), hackberry (*Celtis laevigata*), and pignut hickory (*Carya glabra*). Midstory vegetation mainly consisted of immature trees noted in the overstory. Groundcover vegetation mainly consisted of catbriar (*Smilax auriculata* and *glauca*), spanglegrass (*Chasmanthium spp.*), beautybush (*Callicarpa americana*), and wild petunia (*Ruellia caroliniensis*).

162: Freshwater Marsh

This vegetative type accounted for 0.5± acres or 0.3% of the study site and was observed in the northern portion of the site. Two isolated marshes were noted on the site. One was approximately 0.4± acres (North Marsh) and the other was 0.1± acres (South Marsh). Dominate vegetation within the North Marsh included soft rush (*Juncus effusus*), fire flag (*Thalia geniculata*), and smartweed (*Polygonum punctatum*). Dominate vegetation within the South Marsh included soft rush, smartweed, and primrose willow (*Ludwigia octovalvis*).

510: Streams and Waterways (Flowway)

This vegetative type accounted for 3.5± acres or 2.4% of the study site. This habitat bisected the site north to south. This area is a moderately sloped "hillside creeks/gully" that conveys onsite and offsite runoff from the south portion to the north portion of the site. During significant rainfall events, surface water runoff and water seeping atop a shallow underlying impermeable clay substratum is collected in this flowway. The bottom of the flowway contained fine white sand and the slopes are mainly clay and sand strata. The flowway is approximately 5-10 feet deep and 10-15 feet wide.

4.0 RESULTS

4.1 Fauna

Ten (10) protected wildlife species have the potential to occur in the study site based on habitat preference and known geographical distribution.

The wildlife species that have the potential of occurring within the study site include the eastern indigo snake (*Drymarchon corais couperi*), gopher tortoise (*Gopherus polyphemus*), little blue heron (*Egretta caerulea*), snowy egret, (*Egretta thula*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*), southeastern American kestrel (*Falco sparverius paulus*), Florida sandhill crane (*Grus canadensis pratensis*), bald eagle (*Haliaeetus leucocephalus*), and wood stork (*Mycteria americana*).

The survey of the study site noted no protected wildlife species. However, American kestrels were noted feeding in the pasture habitat on the subject site. Whether or not the American kestrels were southeastern American kestrels (*Falco sparverius paulus*), which are listed as threatened by the FFWCC (unlisted federally) and are year round residents of Florida; or eastern American kestrels (*Falco sparverius sparverius*), which are unlisted and migrate to Florida in the winter, was inconclusive due to their similarities and the large influx of *F. s. sparverius* mixing with the resident *F. s. paulus* in Florida during the winter. Whether the kestrels are *F. s. paulus* or *F. s. sparverius* can only be determined in the field after mid-April, at which time the migrant *F. s. sparverius* will have migrated north. No suitable nesting cavity trees were noted on the subject site. The FFWCC does not require mitigation for the loss of kestrel forging habitat sites the size of this project.

4.2 Flora

Fifteen (15) species of plants listed by the FDA have the potential to occur in the subject site based on habitat preference and known geographical distribution.

The listed plant species that have the potential of occurring in the study site include southern maiden fern (*Adiantum capillus-vereris*), brittle maidenhair fern (*Adiantum tenerum*), incised groove-bur (*Adiantum incisum*), auricled spleenwort (*Asplenium auritum*) dwarf spleenwort (*Asplenium pumilum*)

sinkhole fern (*Blechnum occidentale*), Brooksville bellflower (*Campanula robinsiae*), Cooley's water-willow (*Justicia cooleyi*), greenfly orchid (*Epidendrum conopseum*), green adder's-mouth (*Malaxis unifolia*), Florida spiny-pod (*Matelea floridana*), pigmy-pipes (*Monotropis reynoldsiae*), needle palm (*Rhapidophyllum hystrix*), green ladies-tresses (*Spiranthes polyantha*), plateau bristle fern (*Trichomanes petersii*), Craighead's nodding-caps (*Triphora craigheadii*), and broad-leaf nodding-caps (*Triphora latifolia*).

No protected species of flora were observed on the site.

5.0 SUMMARY

No listed fauna or flora species were observed during the survey.

6.0 LITERATURE UTILIZED

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