

**Habitat Management Plan for  
The Viera Wilderness Park  
Brevard County, Florida**

**Submitted to:**

Brevard County  
Florida Fish and Wildlife Conservation Commission  
St. Johns River Water Management District  
U.S. Army Corps of Engineers  
U.S. Fish and Wildlife Service

**On Behalf of:**

The Viera Company  
c/o A. Duda and Sons  
7380 Murrell Road, Suite 201  
Viera, Florida 32940  
Tel: (321) 242-1200  
Fax: (321) 253-1800

**Submitted by:**

Glatting Jackson Kercher Anglin, Inc.  
120 North Orange Avenue  
Orlando, Florida 32801  
Tel: (407) 843-6552  
Fax: (407) 839-1789

GJ Project No. 18749  
Revised December 10, 2009

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## EXECUTIVE SUMMARY

This Habitat Management Plan (HMP) has been produced in accordance with the Development Order (DO) for the Viera Development of Regional Impact, Substantial Deviation No. 2 (SD #2), submitted by A. Duda and Sons (ADS) and The Viera Company (Viera). The SD #2 includes the addition of the 1,567 acre, the West Viera Expansion Area (WVEA) to the Viera DRI. The WVEA occurs in central Brevard County on land owned by ADS known as the "Cocoa Ranch" and is used for cattle grazing, sod production, and other agricultural activities. Although dominated by improved pasture, the WVEA includes considerable historical natural communities such as pine flatwoods, hydric pine flatwoods, live oak and cabbage palm hammocks, and wet prairie. These natural communities, as well as the improved pasture, provide habitat for state- and federally-protected species of wildlife, including bald eagle (*Haliaeetus leucocephalus*), Florida sandhill crane (*Grus canadensis pratensis*), gopher tortoise (*Gopherus polyphemus*), burrowing owl (*Athene cunicularia*), and Audubon's crested caracara (*Caracara cheriway*), among others.

The comprehensive community design of the area within SD#2 began with environmental principles that guided the development plan in order to assure the long-term protection of natural resources. The cornerstone of the conservation strategy lies with the creation of the Viera Wilderness Park (VWP). The VWP combines preservation, and agricultural lands, that together comprises 5257.8 acres, or 44% of the proposed WVEA. The VWP will provide regionally significant conservation lands that buffer adjacent state-owned conservation lands from proposed development, protect the St. Johns River floodplain, preserve and enhance high quality upland/wetland systems, provide large open space areas for passive recreation, provide a significant amount of floodwater retention and may serve to decrease storm peaks and downstream flooding, and most importantly, provide a large contiguous protection area that can be managed for wetland resources and listed species habitat.

The intent of this HMP is to provide overarching guidance which directs the intent of land uses and habitat management practices within the VWP. The goals of the HMP are to assure that: listed species habitat is preserved, enhanced and managed such that listed species utilization within the VWP increases; and wetland resources are preserved and enhanced within the VWP. The HMP establishes long-term objectives for the implementation and management of the ecosystems within the VWP. Long-term management objectives include: 1) resource protection and conservation; 2) prescribed fire; 3) vegetation management; 4) hydrological enhancement; 5) cattle grazing and other agricultural practices; 6) monitoring; 7) operations; 8) funding; and 9) community outreach and collaboration through education. Each objective will be accomplished by specific actions, as described herein, which will become more specific with each issued permit. These goals, objectives, and actions will be administered by the Viera Stewardship District (VSD), which is an independent special district formed as a local unit of special purpose government pursuant to Chapter 189, Florida Statutes. The VSD has been granted specific powers by the Florida Legislature with respect to providing community infrastructure and ensuring long-term management of environmental and conservation resources.

The HMP is a guiding instrument for VWP conservation strategies as management is transferred from ADS to the VSD which will intensify as development within the WVEA progresses. The HMP will adapt to new science and changing environmental conditions over time and will maintain the unique ecological assets of the VWP, creating a regional conservation and recreational asset that will be protected and managed for generations to come.

## 1.0 INTRODUCTION

This Habitat Management Plan (HMP) has been produced and approved in accordance with the conditions set forth in the Development Order (DO) for the Viera Development of Regional Impact (DRI), Substantial Deviation No. 2 (SD#2). SD #2 includes the addition of the West Viera Expansion Area (WVEA) to the DRI. Totalling 11,567 acres, the WVEA occurs in central Brevard County between Interstate 95 and the St. Johns River on land known as the "Cocoa Ranch" used by A. Duda and Sons (ADS) for cattle grazing, sod farming, and other agricultural activities. (Figure 1)

At the beginning of the design process for the development of the WVEA, environmental principles were created to guide the development plan and assure the long-term protection of the project's natural resources. These principles are:

1. Provide long-term protection of the St. Johns River corridor, floodplain, and adjacent natural lands;
2. Protect larger, more ecologically viable, high-quality wetland/upland systems throughout the project;
3. Protect listed species through a comprehensive conservation strategy that considers habitat conditions over time;
4. Provide enhanced, protected, and long-term managed habitat and mitigation for potential wetland and listed species impacts that may occur within the development;
5. Sustain or enhance biological diversity;
6. Provide large, contiguous, open space for passive recreation and educational programming; and
7. Provide long-term management through the formation of an entity capable of assuring the protection and management of preserved lands.

These principles served as a touchstone during the Application for Development Approval (ADA) and development design process, and will continue to guide the project through its construction, the creation and management of the conservation and agricultural lands, and ultimately the implementation of the VWP.

The VWP is the conservation centerpiece of the WVEA and the embodiment of the principles above. The VWP is a combination of large-scale conservation and managed agricultural lands will be set aside and managed for listed species and wetland resources. The VWP, in sum, creates a unique regional conservation and recreational asset that will be protected and managed

for generations to come. This HMP will act as a guide for all managed lands within the Viera Wilderness Park (VWP) (Figure 2).

#### *Habitat Management Plan Purpose*

This HMP will serve as a guiding document to implement the conservation strategies of the VWP. It provides overarching guidance which directs the intent of land uses and habitat management practices within the VWP. The goals of the HMP are to assure that: habitat for listed species is preserved, enhanced and managed such that listed species utilization increases; and wetland resources are preserved and enhanced within the VWP. The resource management objectives establish targeted direction for the management actions that will be performed to achieve the goals of the HMP. Each objective will be accomplished by specific management actions, as described herein. The actions within each objective will become more specific as each Stage of the VWP is implemented and each permit is activated. The HMP will adapt to new science and changing environmental conditions over time, and it will be updated periodically. The long-term management actions and monitoring of the VWP will be overseen by an environmental professional to ensure that these goals and objectives are achieved.

Inventories were conducted throughout the WVEA for land use and vegetative communities, fauna, and flora, in association with the SD#2. These inventories will serve as benchmarks to help evaluate the effects of surrounding development, and the management objectives included in the HMP. The HMP establishes long-term objectives for management of natural ecosystems and listed species habitat (Section 4.0, Resource Management Objectives). Combined with surveys and long-term monitoring, this will help evaluate the temporal and spatial success of management actions. Finally, the HMP attempts to balance the restoration of historical natural communities and local hydrology, and maintain or create habitat to meet the needs of listed species.

## **2.0 ENVIRONMENTAL SETTING**

The proposed VWP is generally located in central Brevard County between the St. Johns River and Interstate 95 (Figure 1). The VWP will be bounded to the west by the River Lakes Conservation Area (RLCA), land owned and managed by the St. Johns River Water Management District (SJRWMD) and to the east by the DRI development. Ultimately comprising 5257.8 acres, the VWP will be approximately twelve miles long and ranges from 500 feet to a mile and a half wide as depicted on Figure 2.

### **2.1 Topography**

The VWP occurs within four United States Geological Survey (USGS) 7.5 minute quad sheets, including Lake Poinsett, Cocoa, Deer Park NE, and Eau Gallie (Figure 3). Elevations range from 25 to 12 feet NGVD (National Geodetic Vertical Datum) within VWP. A small amount of VWP in the north has elevations near 12 feet.

## *2.2 Hydrology*

The most significant hydrological feature near VWP is the St. Johns River. The St. Johns River originates in marshes and wetlands near Fellsmere in Indian River County, meandering and flowing northward approximately forty miles before reaching the land near VWP. The St. Johns River continues west/northwest, flowing into Lake Winder approximately two miles west of VWP, then narrows and flows to the northeast into Lake Poinsett, approximately 2.5 miles northwest of VWP. Together, the lakes and the St. Johns River form a semi-circle along the southern, western, and northern portions of VWP, and create a broad peninsula that juts westward into the Eastern Valley from the Atlantic Coastal Ridge. The VWP lies in this peninsula (**Figure 4**). All of this occurs within the broader context of the Lake Poinsett Unit of the Upper St. Johns River basin.

Historically, the WVEA was likely dominated by wet and mesic flatwoods communities and a diverse mosaic of wet and dry prairie (**Figure 5**). The majority of the wetlands on the site were isolated from larger, connected wetland systems that occur to the north, west, and south along the RLCA. As water levels increased during periods of high rainfall, water would likely sheetflow slowly across the flatwoods and prairie communities, gradually receding into isolated depressions, freshwater marshes, and the floodplain.

Although many of the historical wetlands remain, their extent and function has been reduced or altered by extensive agricultural activities, such as sod farming and cattle grazing. To foster and expand these operations, ranchers gradually dug a complex drainage network of canals, ditches, and swales throughout the Cocoa Ranch over the past half-century. Many of the on-site wetlands were connected to the drainage network. As a result, many of the wetlands that were isolated historically are now connected to the canal/ditch/swale network and are hydrologically manipulated. The principal canals run east-west and are named based on their distance from the project's southern boundary, i.e. the two mile, four mile, six mile, seven mile, and eight mile canals. They all carry flow west to the St. Johns River from the WVEA, and other communities east of Interstate 95.

Another potential hydrological influence on-site is the South Central Regional Wastewater Treatment Facility, a wastewater treatment facility and constructed wetlands operated by Brevard County (**Figure 4**). The created wetlands, totaling 163 acres, consist of four peripheral cells and an internal lake. Based on a Department of Environmental Protection Domestic Wastewater Facility permit, the plant is allowed to discharge up to 2.5 MGD annual average daily flow from the created wetland. Most of this volume is held in the cells for an extended period, and allowed to percolate into the groundwater. The remaining volume is used for water reuse or discharged westward into the Four-Mile Canal (one of the area's major canals) and ultimately into the St. Johns River. The detention time through the created wetland system is approximately 53 days.

## *2.3 Regional Context/Public Lands*

The VWP is adjacent to a long strand of publicly owned land along the St. Johns River in Brevard County (**Figure 4**). From the Three Forks Marsh Conservation Area in the south to the



Seminole Ranch Conservation Area in the north, the SJRWMD owns approximately 137,000 acres. With other publicly owned lands, a nearly complete corridor of protected and managed land stretches from the southern boundary of Brevard County to State Road 46 in the north. Adjacent to the VWP is the RLCA, a +/-44,000 acre conservation area owned by the SRJWMD that generally follows the course of the St. Johns River, wrapping around VWP's southern, western, and northern boundaries. In 1999 ADS sold +/-14,000 acres to SJRWMD to become part of the RLCA.

#### **2.4 Ranch History**

Established by A. Duda and his sons in the 1940's, the Cocoa Ranch was initially 38,000 acres of pasture and woodland habitats used for cattle grazing. With the construction of I-95 and the subsequent influx of people into central Florida in the early 1970s, the Cocoa Ranch began turf grass sod operations to provide landscaping cover for the many new homes, shopping centers, and other developments.

The constant growth in central Florida increased property values of the Cocoa Ranch, and in the mid-1980's a master plan was developed for the property so that growth could be planned. The first phase of development was Viera East, a 3,000-acre DRI approved in 1990. Today the Cocoa Ranch is still in operation, continuing its tradition of sod farming and cattle grazing.

The ongoing agricultural operations of ADS have created exceptional habitat conditions and food sources for a variety of listed species, as described below. ADS created, and the USFWS approved, the **Cocoa Ranch Caracara Procedure (Appendix C)** that establishes management practices to protect caracara on the Cocoa Ranch.

#### **2.5 Soils**

According to the U.S. Department of Agriculture (USDA) Soil Conservation Service Soil Survey of Brevard County (1974), the following twenty-four (24) soils occur on the project site (**Figure 6**):

- Anclote sand (2)
- Basinger sand (7)
- Chobee sandy loam (13)
- Copeland complex (16)
- EauGallie sand (17)
- Rivera sand (19)
- Floridana sand depressional (22)
- Floridana sand (23)
- Immokalee sand (28)
- Malabar sand high (29)
- Malabar sand (30)
- Malabar (31)
- Micco peat (33)

- Myakka sand (36)
- Oldsmar sand (40)
- Pineda sand (47)
- Pomello sand (49)
- Pompano sand (51)
- Samsula muck, depressional (62)
- Tomoka muck (67)
- Valkaria sand (70)
- Wabasso sand (71)
- Winder loamy sand (73)
- Water (99)

The most extensive soil type is Felda Sand. It occurs primarily in association with improved pasture throughout VWP. Other predominant soil types include Winder loamy sand, Wabasso sand, Valkaria sand, Tomoka muck, and Samsula muck, depressional. All of the soil types are nearly level. Most of the soil types have a water table within ten (10) inches of the soil surface several months of the year. A brief description of each soil type occurring within VWP according to the USDA soil surveys of Brevard County and the Hydric Soils of Florida Handbook (1974) are included in **Table 1**.

### **2.6 Natural Communities**

The vegetative communities within the VWP were characterized using Florida Land Use, Cover, and Forms Classification System (FLUCFCS) (FDOT 1999) designations. **Figures 7A** and **7B** depict the extent and type of these vegetation types. Existing land use and vegetative community types in VWP and acreages are listed below. Detailed descriptions are provided in **Appendix A**.

#### **Natural Community Types/Acreage**

<b>Community Type</b>	<b>Number</b>	<b>Acreage</b>
Residential - Low Density	110	15.9
Improved Pasture	211	1824.9
Sod Farm	242	274.3
Other Open Land	260	2.1
Palmetto Prairie	321	45.1
Pine Flatwoods	411	1232.1
Live Oak Hammock	427	102.7
Cabbage Palm Hammock	428	213.2
Hardwood-Conifer Mixed	434	222.2
Mixed Hardwoods	438	5.1
Canals and Ditches	511	91.1
Reservoirs, less than 10 acres	534	1.7
Mixed Wetland Hardwoods	617	4.9
Willow and Elderberry Wetland	618	12.2

Exotic Wetland Hardwoods	619	31.4
Hydric Pine Flatwoods	625	552.7
Hydric Pine Savannah	626	15.2
Wetland Forested Mixed	630	72.7
Cabbage Palm Wetland	632	47.0
Cabbage Palm-Hardwood Mixed	633	47.0
Freshwater Marsh	641	84.9
Wet Prairie	643	241.5
Hydric Pasture	647	47.1
Roads	814	67.7
Electric Power Transmission Lines	832	3.7
<b>Total</b>		<b>5257.8</b>

### 3.0 LISTED SPECIES

#### 3.1 Listed Animals

Much of the VWP has been identified by FFWCC as a “Biodiversity Hotspot,” an area having a high degree of overlap for rare or declining species of wildlife and natural communities (Figure 8). The WVEA and the VWP have been extensively evaluated for the occurrence or potential occurrence of threatened and endangered (T&E) wildlife and plant species from fall 2004 to spring 2009, including extensive vehicular or pedestrian surveys through all habitat types in the project during all seasons of the year. Table 2 includes a list of T&E species and Species of Special Concern (SSC) that potentially occur in Brevard County, typical habitats occupied by each species, and the probability of occurrence of each species within the WVEA. Survey methodologies for the following specific species were based primarily on methodologies sanctioned by the Florida Fish and Wildlife Conservation Commission and the U.S. Fish and Wildlife Service. These methodologies were reviewed by the appropriate regulatory agencies, resulting in surveys and data collection for the following listed species:

- Audubon’s crested caracara,
- Bald eagle,
- Burrowing owl,
- Florida sandhill crane,
- Gopher tortoise, and
- Southeastern American kestrel (*Falco sparverius paulus*) (not observed).

Observations of the following listed wildlife species were recorded during the species-specific surveys and many site evaluations for other purposes including land use mapping, wetland flagging and functional assessments, agency inspections, and other field work:

- American alligator (*Alligator mississippiensis*),

- limpkin (*Aramus guarauna*),
- little blue heron (*Egretta caerulea*),
- roseate spoonbill (*Platalea ajaja*),
- snowy egret (*E. thula*),
- tricolored heron (*E. tricolor*),
- white ibis (*Eudocimus albus*), and
- Wood stork (*Mycteria americana*).

Results of these surveys were included in the SD#2 ADA, subsequent Sufficiency Responses, and correspondence associated with finalizing SD#2. The location of the nests and burrows of the listed species that have been observed within the VWP are depicted in **Figure 9**. Additional wildlife surveys are anticipated to be required as future permits are obtained for impacts and mitigation within the WVEA. The results of these surveys will be used to supplement the map of listed species, nest and burrow locations, within the VWP. Life histories for each listed species above are provided in **Appendix B**.

The Eastern indigo snake (*Drymarchon corais couperi*) is assumed to occur on site, although it has not been observed during thousands of hours of wildlife surveys and other field services. While not specifically addressed in the HMP, it is understood that the conservation measures and management actions contained herein will foster suitable habitat for the Eastern indigo snake and other listed and non-listed species.

### **3.2 Listed Plant Species**

Surveys for listed plant species were conducted during one event in the spring of 2006 and during all of the other wildlife surveys and site evaluations. The survey for listed plants was reconnaissance level and was not intended to be comprehensive. A total of four (4) listed plant species, including blue butterfly (*Pinguicula caerulea*), yellow butterfly (*P. caerulea*), cinnamon fern (*Osmunda cinnamomea*), and royal fern (*O. regalis*) have been observed within the WVEA. Cinnamon fern and royal fern are generally found in shallowly inundated wetland areas, and occur in varying densities in many wetlands. The butterflyworts are generally found in wet/mesic flatwoods and wet prairies within the project.

### **3.3 Potentially Occurring Listed Plant Species**

Given the history of cattle grazing and alteration of upland habitats throughout the site, the potential to support many listed plant species is limited. However, the pine flatwoods, oak hammocks, and wetland systems on the western and southern edges of the site are generally intact and may support a variety of listed species. The majority of the species, including grass pink (*Calopogon multiflorus*), yellow-fringed orchid (*Platanthera ciliaris*), crested fringed orchid (*P. cristata*), and snowy orchid (*P. nivea*), are typically found in regularly burned, mesic to hydric flatwoods like those found along the northern, western, and southern portions of the site. The three remaining listed plant species, including butterfly orchid (*Encyclia tampensis*), green-fly orchid (*Epidendron conopseum*), and giant wild pine (*Tillandsia utriculata*), are epiphytes that typically grow in live oak hammocks and/or forested wetland systems. The

forested wetland systems and live oak hammocks in the project likely provide habitat for these species. Table 2 lists other potentially occurring plant species in VWP.

#### 4.0 RESOURCE MANAGEMENT OBJECTIVES

##### *4.1 Resource Protection and Conservation*

*Objective 1) Resource Protection and Conservation* will occur through the legal protection of the Conservation and Rural Districts of the VWP (described below) and through ongoing protection of listed species and natural ecosystems.

##### *4.1a Conservation Planning*

The outcome of the conservation and development design process for the WVEA was the creation of the VWP. The VWP will be constituted by the Conservation and Rural Districts that will progressively expand to provide wetland and listed species habitat (Figure 10).

The Conservation District will be characterized by largely intact natural systems that buffer adjacent state owned lands. The Conservation District will provide wetland resource and tree protection and enhancement, and open space for recreational use, where appropriate. The intended land uses within the Conservation District may include passive recreational uses such as hiking, mountain bicycle and horseback riding, primitive camping and educational kiosks.

The Rural District will be characterized by some intact natural areas but is intended to be dominated by improved bahia grass pasture. The Rural District will be protected and managed predominately to provide habitat for caracara and other listed species. Because of the caracara's expansive habitat requirements, it is considered an umbrella species for the VWP. Land management activities that provide optimal nesting and foraging habitat for caracara will also provide and maintain foraging and nesting habitat for sandhill cranes, burrowing owls, wood storks, bald eagles, other listed wading birds, and Southeastern American kestrels (although none were observed on-site). The habitat requirement of all of these species combined is far overshadowed by the habitat that will be included in the VWP for caracara.

It is anticipated that portions of the VWP will provide for the mitigation requirements associated with impacts to caracara nesting and foraging habitat associated with the development of the WVEA. It is also likely that in order to provide sufficient mitigation, the USFWS may require the creation of additional pasture and/or prairie habitats within the VWP. In this event, the creation of pasture/prairie should occur in ruderal, early successional, or previously timbered or cleared habitat. As part of the Village Sketch Plan application process, Figure 7A and 7B will be updated for the Stage of the VWP that will provide mitigation and tree protection for that Village. Vegetative communities that shall not be converted to pasture or prairie include: Live Oak (427), Hardwood - Conifer Mixed (434), Mixed Hardwoods (438), Mixed Wetland Hardwoods (617), Wetland Forested Mixed (630), Cabbage Palm - Hardwood Mixed (633), and portions of Pine Flatwoods (411) and Hydric Pine Flatwoods (625). These Vegetative communities (cover types) are referenced in the Landscape Section of the PUD. The cover types

designated as Preferred Cover Types in the Alternative Design Standards for the West Viera PUD will be defined on an amended Figure 7C and will be managed to maintain the viability of the natural vegetative community. If caracara mitigation requirements cannot be met adhering to the guidelines above, then alternative mitigation will be used to satisfy the permitting requirements.

Since the Rural District will be managed with active agricultural operations, it will not be open to the public the majority of the time. There may be selective public access points and passive recreation, as described above for the Conservation District or limited public access when the pastures are out of rotation, but this will be at the discretion of the VSD.

The conservation planning objective is to ensure that habitat management occurs in a balanced manner for both listed species, and wetland resources. Neither wetland enhancement or restoration nor habitat conversion or management for crested caracara will be pursued to the exclusion of the other.

#### *4.1b Conservation Protection*

The HMP establishes a conceptual framework for the creation and expansion of the Conservation and Rural Districts in accordance with the Staging Plan attached in the D.O. (Exhibit 7). Specifically, portions of the Rural and Conservation Areas shall transition to Rural and Conservation Districts and constitute the VWP, as described in the Staging Plan. The conceptual framework is temporal and driven by permitting events and subsequent development in the WVEA. The Staging Plan depicts the general progression of protection of the VWP which will be driven by the planning and permitting of each of the 4 Villages proposed under the DO. Each Village will be reviewed and permitted by the appropriate regulatory agencies and the corresponding portion (Stage) of the VWP will be protected using the Staging Plan as a guideline. All lands within the VWP will be protected through various legal instruments, such as conservation easements, and fee simple ownership by the VSD, which will exercise authority and management over the VWP. The timing of management actions (discussed below) is meant to be a guide and not a stringent point in time at which certain actions will begin or end. This should give regulatory authorities, as well as the VSD, a point of reference to evaluate decades of management timing and progress.

#### *4.1c Management Timing*

ADS will continue to own and operate the Cocoa Ranch, after the SD #2 D.O. approval. As such, ADS will manage all existing operations within the Conservation and Rural Areas, according to all appropriate laws and the Cocoa Ranch Caracara Procedure, as approved by the USFWS, until such Areas transition to Conservation and Rural Districts, as described below. Upon such transition, the applicable land shall be managed in accordance with this HMP.

As each Stage of the VWP occurs, agricultural activities will continue, within the appropriate permitted portions of the VWP, in order to maintain suitable listed species habitat. Accordingly, some management actions described in this HMP will continue to be fulfilled by ADS or the VSD in the ordinary course of agricultural operations. To the extent required, management

actions that are not performed by ADS in connection with its agricultural operations within the VWP, such actions will be undertaken and performed by the VSD. It is further anticipated that management actions required under this HMP will gradually increase from the date of each Stage approval, ultimately peak when habitat enhancement and restoration efforts are at their maximum, and then stabilize representing the level of management necessary to "maintain" protected natural systems and managed areas. Accordingly, management actions pursuant to this HMP will be provided in three distinct time periods as more particularly described in the following paragraphs.

The conceptual timing framework consists of three periods of resource management activity.

Management Period I is conceived as a transitional period in which land will be constrained with appropriate legal instruments as required by individual permits associated with each Village according to the Staging Plan. Also, less intensive management actions will begin, most likely in conjunction with normal ranch management. These management actions will include all requirements detailed in individual permits associated with applicable DRI development. Normal ranch operations will be the primary means of managing the VWP, beyond specific permit-related requirements. It is likely that some level of wetland mitigation/enhancement, as well as related wetland monitoring and exotic plant control, will also occur as required by the permits. Management Period I will continue until a permit requires implementation of Period II activities within the VWP.

Management Period II will begin concurrent with the first Stage approval and permits, and continue up to ten years, or more, after its issuance. This period is conceived as a conversion phase, i.e. a period in which intensive resource management actions begin in earnest. These actions will be driven by individual environmental permits, but may include wetland enhancement, filling ditches, canopy thinning or planting, exotic species removal, and limited pasture creation. As market demand and development activities increase, management actions as described in **Table 3** will be expanded as required by individual permits related to WVEA.

Management Period III is conceived as an evaluation and on-going maintenance period. This period will likely begin sometime within ten to twenty years post-approval of the applicable Stage. As the more intensive management activities decreases, management costs will also decrease. Nearly all of the resource management actions detailed herein will be either well underway or near completion. During this Management Period there should be substantial data to evaluate the success of the VSD's management and make appropriate changes in the HMP, if necessary. Management Period III will consist of long term, low intensity management and monitoring of the established conditions. By this time, the VWP will likely have expanded to its final boundary, be fully protected, and long term management will continue as directed by regulatory permits.

During all periods, listed species mitigation will occur in the form of habitat enhancement and/or protection in the VWP prior to or concurrent with the impact as required by the applicable

development permit. These protection measures, including the actions listed below each management objective, will be implemented as impacts occur in accordance with the Staging Plan depicted in the DO and individual permits. This should allow time for the target species to relocate to new foraging and nesting habitat, while providing time to monitor listed species behavior as habitat is modified in accordance with applicable permits. Some management actions will be eliminated when management objectives are met and sustained by natural forces, as conceptually depicted in **Table 3**.

#### *4.1d Management Units*

To facilitate land management, the VWP will be divided into management units delineated along major field roads, utility corridors, natural/physical features, inside the Rural or Conservation Districts. These pasture and forested areas have letter-number designations (J4E, L1, etc.) historically established by ADS as agricultural management units (**Figure 11**). These designations will assist with resource management activities and can be modified further as needs arise.

#### *4.2 Prescribed Fire*

*Objective 2) Prescribed Fire* will be an integral management tool in the VWP and will occur at regular intervals.

Prescribed fire will occur in all management units of VWP. Along with hydrological enhancement, it will be an integral component in maintaining and enhancing fire-dependent ecosystems in VWP. Fire regimes will mimic historical frequencies for fire-dependent community types as listed in **Table 4**. With an average rotation of three years and given VWP's size (5257.8 acres), an annual goal for prescribed fire should be approximately 1000 acres. Once fuel loads are reduced, the VSD will abide by accepted practices to mimic natural conditions and effects, including varying fire intensity, frequency, firing technique, and timing. To monitor this, the VSD will maintain a prescribed fire log in accordance with applicable fire burning permits. The VSD fire plan for each burn unit will supplement this data. The fire data will be maintained by the VSD for inspection by the public.

The VSD should avoid conducting prescribed fires in management units that contain a caracara nest, during the peak nesting season (**Table 5**). Prescribed fire conducted within management units that contain a caracara nest will be given additional consideration as described in section 5.1.

Many of Florida's residents are from parts of the country where prescribed fire is not a regular occurrence in the natural environment. The VSD recognizes its role and responsibility in explaining the value and benefits of prescribed fire and will use a variety of communication channels to inform local residents. This action will be developed immediately following the initiation of the first permitted stage of mitigation to lay the groundwork for public support and to help allay concerns.



#### **4.3 Vegetation Management**

**Objective 3) Vegetation Management**, including exotic plant control, mechanical techniques (mowing, roller-chopping and aeration), and selective timbering, will be an important management tool in VWP.

Vegetation management will continue to be an integral part of VWP's long-term management, including: a) exotic plant control, b) timber management, c) mechanical management, and d) monitoring.

##### **4.3a Invasive Exotic Plant Control**

Relative to its size, WVEA and VWP currently have localized invasive exotic plant infestations. The Florida Exotic Pest Plant Council (FLEPPC) defines an invasive exotic plant as a "naturalized exotic plant that is expanding its range into natural areas and disrupting naturally occurring native plant communities". FLEPPC groups invasive exotics into two categories – Category I and Category II. Category I species alter and displace native plants and communities, by reducing habitat and biodiversity, and inhibiting flood control and marine navigation. Category II species may become Category I species but have not yet shown the same capability for environmental degradation. Several Category I species occur within VWP as listed in **Table 6**.

Exotic control will occur on a phased basis (see **Conservation Protection, Planning, and Management Phasing, Section 4.1a**) and will occur on a limited basis in VWP as directed by specific conditions of each construction permit. In accordance with specific permits, the VSD will survey for and control all Category I exotic plant species in the VWP through herbicide treatments, mechanical control, or biological methods.

##### **4.3b Timber Management**

Cabbage palm and timber harvesting will be a significant management tool in restoring historical prairie communities of the VWP. Because this activity will require a substantial financial commitment, this will be initiated in accordance with the Staging Plan for the VWP, and will likely occur during multiple seasons to conform to environmental constraints and best management practices.

Some amount of selected pine canopy cover in the forested cover types in the Conservation and Rural Districts may be harvested, to enhance and create more habitat for rangeland species in the VWP such as caracara, sandhill cranes, and potentially, burrowing owls. The specific location and amount of canopy cover reduction for each management unit in the VWP will be determined in the field, during permitting and refined in each Village Sketch approval process, to meet the overall goals of the HMP. Harvests will be designed to replicate the extent of historical canopy cover for wet and dry prairie, hydric pine flatwoods and savannah. Contrary to typical timber harvests, the trees left over should include the largest and healthiest trees so that they may provide eagle and potential red cockaded woodpecker nest trees in the future. In addition, the trees left over should include a variety of age classes, to replace the eventual death of large pine

trees. For aesthetic purposes, adequate clumps of mature pines and forested buffers may be kept between the Rural Development Districts and areas of the VWP identified for prairie restoration.

Cabbage palm is extremely prolific within the VWP and must be managed and controlled in order to maintain functional pasture, flatwoods, prairies, and wetlands. Currently this is accomplished by selective harvesting of particular age/size classes. This practice will continue in the VWP in order to control cabbage palm, but will be conducted in a balanced manner to maintain the function of listed species habitat and wetland resources.

Best management practices will be implemented for timber and cabbage palm harvesting within the VWP. This includes minimizing road creation and impacts to wetlands and other sensitive natural resources during the wet season, and avoiding listed species nest locations and harvesting during the nesting season.

This management activity will be initiated for each specific parcel in the Conservation or Rural Districts as that parcel is subjected to protective measure, pursuant to individual permits. Frequent prescribed fire and natural hydrology should maintain the historical vegetative composition of the prairie communities after restoration. Timber/cabbage palm harvests will be conducted in accordance with the approved **Cocoa Ranch Caracara Procedure (Appendix C)** until canopy cover objectives, which are specified in the appropriate permits, are met and maintained. Qualitative monitoring will occur annually also until canopy cover objectives are met and maintained.

The vegetative communities (cover types) referenced as Preferred Cover Types in the Landscaping, Tree Protection, and Land Clearing Standards in the PUD within the tree protection areas as defined in the PUD shall not be cleared or converted to pasture or prairie but shall be protected to provide forested and native habitat. These cover types include: Live Oak (427), Hardwood - Conifer Mixed (434), Mixed Hardwoods (438), Mixed Wetland Hardwoods (617), Wetland Forested Mixed (630), Cabbage Palm - Hardwood Mixed (633), and portions of Pine Flatwoods (411) and Hydric Pine Flatwoods (625). The Preferred Cover Types located within Tree Protection Areas will be managed to maintain the viability of the natural vegetative community. These vegetative communities within the VWP, as a whole, shall be managed with the intent of protecting trees but may still be carefully managed with tools such as fire and cabbage palm harvesting which will enhance the vegetative community, but may harm limited individual trees. The intent is not to preserve every single tree in these vegetative communities but to maintain a minimum 50% canopy coverage and preserve healthy natural forested systems within the Tree Protection Areas.

#### *4.3c Mechanical Management*

Mechanical vegetation control may be utilized to manage pine flatwoods and improved pasture. Drum aerators are used to aerate pastures, prepare for seeding, and prepare pine flatwoods for pasture conversion or any community for prescribed fire. Roller chopping is another common method of enhancing natural communities, often as a precursor to prescribed fire. Both devices

can be adjusted to control their impact on the target vegetation and soil. Other mechanical methods include mowing/bushhogging, grinding (Gyro-Trac, Hyro Ax), and hand removal (i.e. chainsaw).

Mechanical vegetation management techniques may be applied within management units of the Conservation and Rural Districts of VWP to prepare for prescribed fire, and habitat and natural community enhancement. Some units may require multiple applications, depending on environmental goals and variables - fire regime, fuel loads/types, and hydrology. Management units within the Conservation District of VWP will be managed according to applicable scientific literature, photo-interpretation of historical aerials, and management objectives. Mechanical techniques such as roller chopping or aerating, within known gopher tortoise sites (relocation areas) will be minimized and supervised by appropriately trained personnel. Mechanical methods may also be used more intensively in areas immediately adjacent to the Village District and the Rural Development District to address urban interface constraints for prescribed fire.

#### ***4.4 Hydrological Enhancement***

***Objective 4) Hydrological Enhancement*** will occur in the Conservation District as authorized by individual permits, as well as in portions of the Rural District (also described below).

The hydrology of VWP is controlled after decades of alterations, primarily through ditches, canals, structures, dry-season irrigation, and roads. Restoring hydrology in the Conservation District, and to some extent in the Rural District, in a balanced manner, is an essential restoration strategy for VWP.

To allow restoration efforts to address ecological alterations, the majority of the Conservation District will be allowed to fluctuate naturally with the surrounding floodplain of the St. Johns River. This will be accomplished in each management unit through enhancement activities to be detailed during construction level permitting and wetland mitigation.

The installation of ditch plugs, water control structures, culverts, at-grade crossings, or the removal of selected roads to enhance hydrology will be conducted on a phased basis within the VWP after consultation with the project engineer in accordance with applicable permits (also see **Section 4.7a, Infrastructure Maintenance/Repairs**). The VSD may consult with the SRJWMD to consider joint hydrological enhancement initiatives on lands connected hydrologically but separately managed by each entity.

#### ***4.5 Cattle Grazing and other Agricultural Practices***

***Objective 5) Cattle Grazing and other Agricultural Practices*** will continue in order to perpetuate and foster habitat for on-site listed species, especially Audubon's crested caracara.

##### ***4.5a Cattle Grazing and Management***

Currently, about 3300 head of cattle graze on approximately on 10,000 acres within WVEA and lease-backs on SJRWMD-owned land. The number of animal units (AU) (cow/calf pair) per

acre ranges between one (1) AU per three (3) acres for improved pasture, to one AU per nine to ten acres for unimproved or wooded pastures. ADS rotates cattle based on several factors - available forage, growing season variables, etc.

Several grazing practices and actions seem to enhance foraging habitat for crested caracara and other listed species (sandhill crane, burrowing owl). They include bovine biological cycles (cattle birth/death), pasture ditch maintenance, mowing, prescribed fire, cabbage palm harvesting, timber harvesting, and sod harvesting. These practices and their respective benefits to crested caracara are described as follows:

- Cattle birth/death – as carrion eaters, caracara capitalize on the life cycle of cattle: ranch personnel and Glatting Jackson Ecologists have observed caracara feeding on the post-calving afterbirth, a source of food not concentrated in the food web of natural systems. Cattle mortality also provides an enormous amount of food that caracara regularly feed on. According to the ADS personnel, with 3300 head of cattle in the Cocoa Ranch, each weighing approximately 1000 pounds, and at an annual loss of three (3) percent, about 99,000 pounds (approximately 50 tons) of cattle carcasses are annually, added to the local food web;
- Pasture swale maintenance/irrigation – hydrological conveyances in WVEA can be classified into three groups, from large to small: canals, ditches, and swales. All three groups are periodically cleaned. The ADS periodically cleans the pasture swales every two to three years throughout the Cocoa Ranch, usually using a grader to re-sculpt the swales and remove vegetation and accumulated soil. The pasture swales mimic natural hydrologic fluctuations through periodic irrigation and drainage. As the swales are artificially drained for agricultural purposes, the biomass collects in increasingly smaller and smaller pools of water, concentrating food for many species, including crested caracara and wood storks. Caracara also benefit from ditch maintenance for, as the ditches are cleaned/re-graded with equipment, fauna are captured and are deposited on the ditch bank. Ecologists from Glatting Jackson and ADS personnel have confirmed this behavior;
- Prescribed fire – to recycle nutrients and reduce thatch in the pastures, ADS conducts regular prescribed fire, a practice which benefits caracara by creating open, prairie-like conditions that caracara, burrowing owls and sandhill cranes prefer, and, to some extent, providing carrion caused by fire mortality;
- Cabbage palm/timber harvesting – this practice maintains the prairie conditions favored by caracara, leaving cabbage palm densities favorable to caracara (see **Timber Management 4.3b**);
- Mowing – mowing maintains herbaceous cover at low levels, simulating historical prairie habitat somewhat and creating more suitable burrowing owl, sandhill crane, and caracara

foraging habitat; caracara follow the ADS ranch mowers in the summer, seizing the opportunity for a ready meal;

- Sod harvesting – this practice also creates foraging for caracara, either through inadvertent fauna mortality caused by the machinery, or by making food easier to see and catch. This practice also perpetuates the open herbaceous cover that caracara and sandhill crane prefer.

All of the land management practices above have created optimal habitat for a variety of listed species such as the caracara, sandhill crane, burrowing owl, wood stork, and a variety of other listed wading birds. Cattle will continue to be grazed within the VWP with herds being adjusted as available pasture decreases from WVEA development and as market conditions change. All grazing practices described above will continue as part of the long-term grazing operation within VWP. Permit conditions may provide more specificity to some of these management actions as each Stage is authorized. It is anticipated that normal “cow/calf” operations at reasonable cattle densities will continue within the VWP over the long term. Extremely high cattle densities, as found in cattle feedlots for slaughter operations, are not consistent with this HMP.

Should grazing in VWP become unfeasible, a prescribed fire program, hydrological enhancements, or other suitable management practices will be commenced to either maintain the improved pastures or to create more natural systems that are suitable for utilization by caracaras, sandhill cranes, burrowing owls, wood storks and/or other listed wading birds. Large scale, high intensity plasticultural farming practices are not envisioned to be consistent with the goals and objectives this HMP.

#### *4.5b Swale Maintenance*

As discussed above, the pasture swales are periodically cleaned to maintain drainage and irrigation. The activity is normally conducted during the dry season (November-April), partially coinciding with burrowing owl nesting season.

Most burrowing owls within the Cocoa Ranch have constructed their burrows on the spoil adjacent to the pasture swales. As the swales are cleaned, the freshly graded soil is deposited on top of the old spoil, potentially covering or collapsing owl burrows on the spoil mound. The peak nesting season for burrowing owls occurs from February through May, but can extend from October through July. To avoid possible entombment of burrowing owls from swale maintenance, pastures, within the VWP, will be surveyed shortly before maintenance occurs. Additionally, equipment operators will receive training to identify and look for burrowing owl during this activity, further ensuring their protection during the nesting season. This activity will occur as long as ditch and swale maintenance is necessary within VWP.

#### *4.5c Sod Farming*

ADS began sod farming at the Cocoa Ranch around 1973. ADS currently produce several varieties of sod including bahiagrass and St. Augustine (see **Appendix A**). Several listed species appear to be attracted to many of the sod farming practices on Cocoa Ranch. Caracaras have been observed foraging around sod harvesting operations. Harvesting or mowing sod exposes

grubs and other insects which are in abundant supply for many of the listed species at Cocoa Ranch. Sandhill cranes, wood storks, and a multitude of wading birds also appear to take advantage of the supply of fish and arthropods found in the sod fields and drainage ditches.

Of the many sod varieties produced at Cocoa Ranch, bahiagrass is the most abundant. Coupled with long-term cattle grazing, bahiagrass pastures in VWP will provide suitable foraging and nesting habitat for listed species, especially crested caracara, burrowing owl, and sandhill crane. Grazing (discussed above) seems to have the greatest influence on the management of this cover type, but the practice of farming bahia grass likely contributes to pasture grass maintenance as well.

The main elements of bahia grass farming are prescribed burning, harvesting, fertilizing, and of course, cattle grazing. Prescribed burning usually occurs during the winter as needed to reduce thatch build up. Bahiagrass sod harvesting is contingent upon soil type, rainfall, and other environmental variables and usually occurs every two to five years, sometimes longer. Sod is cut in strips, leaving narrow bands of bahia between each cut to seed new grass. Pastures are usually fertilized in the spring after harvest, typically with an NPK (nitrogen, phosphorus, potassium) fertilizer, or chicken manure. The biggest influence on pastures is cattle. Cattle are grazed and rotated through pastures based on several criteria, such as pasture condition (i.e. available forage), length of growing season, environmental conditions, etc. Collectively, grazing and range management practices are consistent with habitat management for crested caracara and other listed species within VWP (see **Cattle Grazing/Practices** above, and **Listed Species Life Histories, Appendix B**). Protection zones established in the approved USFWS **Cocoa Ranch Caracara Procedure (Appendix C)** will be observed in connection with all agricultural operations within the VWP unless permits require a modified procedure.

#### *4.6 Monitoring*

*Objective 6) Monitoring* will be conducted to evaluate listed species behavior and productivity, enhancement, and ongoing land management activities. Collected data will be shared with the appropriate state and federal agencies.

The VSD will conduct various monitoring as required by regulatory authorities, including vegetative, wetland, and listed species monitoring. The details for monitoring will be defined in specific permits as the WVEA is developed and as portions of the Conservation and Rural Districts are added to the VWP.

##### *4.6a Prescribed Fire Monitoring*

Prescribed fire monitoring will include basic annual photo-monitoring points, including two permanent points per burn unit with photos taken in the cardinal directions to evaluate vegetative changes. The VSD will establish the points in different community types.

#### *4.6b Hydrologic and Vegetative Monitoring*

The VSD will implement baseline and long-term monitoring methods to evaluate the success of hydrological enhancements, including at a minimum annual photo-monitoring and qualitative vegetative monitoring, as required by applicable permits. It is likely that some of these photopoints will be used in conjunction with prescribed fire/vegetation monitoring.

#### *4.6c Crested Caracara Monitoring*

The VSD will collect data and monitor how caracara responds to development. A qualified professional will study the caracara and be engaged to assess caracara ecology. The specific methods and goals of the monitoring will be developed during permitting with the USFWS, but may include: habitat use, home range size and configuration (nesting and non-nesting seasons), hatching success, brood number, fledgling success, foraging behavior, interaction/conflict with other nesting caracaras, new territory selection, response to habitat alterations, or human disturbance, etc. This research will be provided to the USFWS to contribute to the overall science and understanding of the species.

Radio transmitters and color bands may be installed on all adults associated with all nests within the VWP. All subsequent offspring produced by these nests also may be color banded for a minimum of six years or as long as permit conditions require. The banding and installation of transmitters will be coordinated and supervised by a qualified professional. All surveys will allow time sufficient to survey each nest, existing and new, and gather data from transmitters, as well as field observations and data collection necessary to determine how displaced caracara are responding to the staging and management of the VWP. The specific monitoring methodology and reporting criteria will be developed during permitting with the USFWS.

If development is significantly postponed due to market conditions and the extent of habitat alterations near existing nests is postponed, the VSD will coordinate with the USFWS to reduce the level of monitoring until development resumes.

#### *4.6d Other Listed Species Monitoring*

Annual monitoring (unless noted otherwise) will be conducted for gopher tortoise, sandhill crane, and burrowing owl, the details of which are as follows:

- Gopher tortoise - Monitoring for gopher tortoise will be conducted in accordance with future FFWCC relocation permit conditions. Gopher tortoise burrow surveys will be conducted using FFWCC-approved methodology.
- Florida sandhill crane - the habitat within the VWP may be surveyed during each nesting season to determine the approximate number of sandhill crane nests utilizing, and to evaluate the quality of habitat within the VWP, and to provide guidance for any management activities that could alter the success of any active nests. The sandhill crane survey methodology, duration, and reporting requirements will be determined during permitting with the FFWCC.

- Burrowing owl – At such time as burrowing owl burrows, within the VWP, could be affected by land management activities, described in section 4.5b, surveys for owl burrows will be conducted during the peak nesting season. Other burrowing owl monitoring will be conducted as determined during permitting with the FFWCC.

#### *4.7 Operations*

*Objective 7) Operations*, including the regular maintenance of infrastructure, providing adequate personnel, and providing wildlife management, will be conducted to ensure the long-term success of natural resource management in VWP.

##### *4.7a Maintenance, Repair and Improvement of Agricultural/Community Facilities*

Much of VWP's infrastructure, or roads, are essential for cattle grazing, ditch/canal maintenance, access to off-site properties, and land management. In many instances, roads also act as convenient fire breaks for prescribed fire. Essential roads will be maintained to facilitate operations but, hydrology impaired by various roads may be enhanced, as determined appropriate by project engineers and the management personnel (see also **Hydrological Enhancement, Section 4.4**). The agricultural facilities and structures are also essential for normal agricultural operations and land management.

Notwithstanding any contrary provision of this HMP, the following activities and work in connection therewith are allowed in the VWP and shall not be prohibited by this HMP: (i) the installation, repair, maintenance and improvement of facilities and structures directly relating to permissible agricultural uses within the VWP, including but not limited to barns, sheds, corrals, feeders, wells, fences, crossings and gates; and (ii) the lawful repair, maintenance, re-location and improvement of existing or future canals, ditches and swales, or portions thereof, located within the VWP.

##### *4.7b Administration*

Sufficient personnel will be provided to accomplish land management objectives within VWP, and may be supplemented through volunteers, student interns, graduate students, etc.

Management plan updates will occur at 2-year intervals following the approval of the DO as part of the Biennial report. These HMP updates will be prepared by the VSD's Environmental Professional, as defined in the Viera DO, and will include an evaluation of the progress in achieving the long term goals and objectives of the HMP. In addition, each update will include a summary of land management conditions and monitoring actions modified as a result of permit requirements.

##### *4.7c Wildlife Management*

Various forms of game management have historically been conducted within WVEA and will be continued to control nuisance animals and manage game populations. Hunting will be managed in the VWP in accordance with applicable laws and ordinances.



#### **4.8 Funding**

**Objective 8)** Long-term maintenance, management, and operation of the VWP in accordance with the HMP shall be funded by the VSD.

To carry out its prescribed functions, the Florida Legislature has granted the VSD the legal authority to fund and finance the facilities and services necessary to perform the management functions required by this HMP, including, but not limited to, the specific power and authority to issue bonds, impose benefit and/or maintenance assessments and levy fees and user charges in accordance with its charter.

#### **4.9 Community Outreach and Collaboration**

**Objective 9)** *Community Outreach and Collaboration*, including education, volunteerism, and sharing of research, will be fostered in the VWP.

The VWP will face increasing pressure for public access and use as the development of WVEA progresses. Because of its size, several access points will be designated in VWP to serve different communities and offer varying recreational experiences.

#### **4.9a Interpretive Education**

During Management Phase III of the VWP implementation plan, the VSD will encourage environmental stewardship through education. It may be directed toward adults and children to explain VWP's importance and to instill an appreciation of its natural resources. Interpretive programming can be conducted on-site (through VWP staff, volunteers, local school teachers, and universities, etc.). Off-site environmental education, with VWP as the centerpiece, can be offered at local schools. The VSD will avail itself of basic research and land management services: species inventories, wildlife surveys, exotic plant control, etc. through programs that build relationships with area universities, schools, SJRWMD, and its communities. The VSD will begin this relationship early in the development of WVEA to prepare for local stewardship of VWP in the coming decades.

Additionally, the VSD will promote environmental education through the following:

- Disseminate findings on research to governmental agencies - the VSD will share data and findings it has collected for crested caracara, burrowing owls, its agricultural management techniques, and long-term plans for crested caracara protection within VWP.
- Encourage public outreach/education for listed species - as in the education campaign for prescribed fire, the VSD will endeavor to inform its residents about listed species in the VWP and adjacent areas. The goal is to heighten awareness and appreciation of listed species, their habitat needs, and the ongoing efforts to enhance habitat within VWP.

## 5.0 INDIVIDUAL LISTED SPECIES CONSIDERATIONS

### 5.1 *Crested Caracara*

Management for crested caracara will occur generally through the resource management actions listed above in **Section 4.0, Resource Management Objectives**. The species will also benefit from additional scientific research, monitoring, and education. These management activities will foster an environment in which the species will persist and from which the broader scientific community will learn. The VWP will provide foraging and nesting habitat: large expanses of uninterrupted, pasture or prairie-like conditions (i.e. natural communities or improved pasture), cabbage palm trees/clusters, and an abundant food supply in a managed setting.

The Rural District of the VWP will be set aside and managed to attract crested caracara and other listed species from the WVEA.

The Rural District will be subject to the following land management protocol:

- Major tree alterations (harvesting or planting) shall not occur without prior approval of the VSD;
- No use of chemical insecticides shall be allowed without the prior approval of the VSD;
- Parcels adjacent to the VWP shall be notified of prescribed burning conducted within the VWP, implemented in accordance with the HMP;
- Agricultural uses within the VWP that are compatible with, or facilitate the environmental goals and objectives of the HMP, shall be encouraged by the VSD.
- Management units that contain a caracara nest tree will be evaluated for pre-fledged juveniles that may be present on the ground, prior to a prescribed burn.

### 5.2 *Bald Eagle*

There are two eagle nests (BE039 and BE003) in the VWP (**Figure 9**). Existing habitat within VWP, as well as off-site resources, will provide substantial nesting and foraging habitat. Also, the pine flatwoods in the western portion of VWP, as well as various pastures, provide a number of large pines that could be suitable for future bald eagle nest trees. These areas are close to the RLCA, Lakes Washington, Winder, and Poinsett, the St. Johns River, and other natural foraging resources.

In accordance with the USFWS guidelines, natural habitat may be converted to improved pasture or timbered during the non-nesting season. Healthy, mature super-canopy trees within VWP will be identified before logging occurs and left standing as potential future nest trees.