

Tippecanoe II
Land Management Plan
FCT Project # 01-063-FF1

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Prepared for
Florida Communities Trust and
Florida Fish and Wildlife Conservation Commission

by
Charlotte County
Community Services Department

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Abbreviations and Acronyms

ATV	All-terrain vehicle
CHEC	Charlotte Harbor Environmental Center
DEP	Florida Department of Environmental Protection
DNR	Florida Department of Natural Resources
DOF	Fl. Dep. of Agri, And Consumer Svc. Div. of
Forestry	
FNAI	Fl. Natural Areas Inventory
FWC	Fl. Fish and Wildlife Conservation Commission
HCP	Habitat Conservation Plan
MP	Management Plan
Natural Resources	Charlotte County Natural Resources Division
SWFWMD	SWFL Water Management District
USGS	United States Geologic Survey
USFWS	United States Fish and Wildlife Service

1.0 INTRODUCTION

Tippecanoe II (Mitigation Area) is a 182-acre tract of environmentally sensitive land located in northwest Charlotte County, southeast of the Charlotte Sports Park (*Exhibit A*). Flamingo Boulevard borders the east boundary of Tippecanoe II. Joppa Avenue and Como Street border Tippecanoe II to the north and south, respectively. Pear St. borders Tippecanoe II to the west. Tippecanoe II is located in Township 40 South, Range 21 East, Sections 14, 23, and 24 of USGS Quadrangle El Jobean. Tippecanoe II is adjacent to other county and state preserve land (*Exhibit C*).

This property was acquired in 2006 to mitigate the impacts of two Charlotte County projects on seven scrub-jay families. Grant funding from the Florida Communities Trust (FCT) was used to acquire a portion of Tippecanoe II (Appendix A). The remainder was acquired using the Charlotte County Local Option Sales Tax, which has no restrictions on the use of the property.

Tippecanoe II was platted by General Development Corp. several decades ago, but was never developed. Approximately 38 acres of the 182-acre site consisted of undeveloped roads and their rights-of-way (ROW). The remaining acreage is dominated by scrub and scrubby flatwoods. Listed species such as the Florida scrub-jay (*Aphelocoma coerulescens*), the gopher tortoise (*Gopherus polyphemus*), and the osprey (*Pandion haliaetus*) have been observed within Tippecanoe II and other listed species such as the gopher frog (*Rana capito*), eastern indigo snake (*Drymarchon corais*), Florida mouse (*Podomys floridanus*), Sherman's short-tailed shrew (*Blarina carolonensis shermani*), southeastern American Kestrel (*Falco sparverius*), and Florida pine snake (*Pituophis melanoleucus mugitus*), have the potential to be present.

This Management Plan outlines the monitoring and management activities for Tippecanoe II, and was developed to ensure that Tippecanoe II will be developed in accordance with the Grant Award Agreement (Appendix A) and in furtherance of the purpose of the grant application. Key management strategies include prescribed burns and exotic/invasive species removal. Activities such as garbage removal, road removal, site security, grading of ditch lines and plow lines, and re-vegetation of the ROW has assisted in restoring Tippecanoe II to its native state. Tippecanoe II has good manageability; however, the adjacent land use of low-density residential may have an impact on the fire management (Section 3.5).

Tippecanoe II will be open to the public. Trails and a wildlife observation platform will further public enjoyment of this site. Regular tours of Tippecanoe II will be available for the willing public. Only passive use recreation (e.g. hiking, bird watching, etc.) will be allowed within Tippecanoe II. Ordinances prohibiting destructive uses such as ATV use, camping, illegal dumping, creating new trails, and others are already in existence or are

being developed. Literature and advertising identify that Tippecanoe II was acquired with funds from the Florida Communities Trust.

2.0 PURPOSE

Charlotte County is proposing two county projects that will impact a total of seven scrub-jay families. The first project proposes to enhance Edgewater Drive from a two-lane roadway to a four-lane roadway. The enhancement would start at the corner of Edgewater Drive and Collingswood Blvd and continue northwest along Flamingo Blvd. The project would end at the corner of Flamingo Blvd and State Road 776, a total of three miles. This project is anticipated to impact six scrub-jay families and to begin in 2015/2016. A second project, the Murdock Village Redevelopment Area in northwest Charlotte County was anticipated to impact one scrub-jay family, there is no anticipated start date for this project.

It is the goal of Charlotte County to continue to restore and manage Tippecanoe II for the optimal health of each habitat and to maximize the diversity of both flora and fauna within the communities and habitats onsite. Priority management objectives include:

- Focus on managing for the Florida scrub-jay as an umbrella species where appropriate.
- Increase suitable habitat for the Florida scrub-jay to aid in the overall expansion of the species in Charlotte County.
- Increase habitat suitability for other known or potential listed species.
- Manage for reduction of wildfire fuel.

Tippecanoe II was purchased primarily to obtain an Incidental Take Permit from the United States Fish and Wildlife Service (USFWS) for impacting scrub-jays. The properties will be managed in perpetuity for scrub-jay conservation. Mitigation sites for both projects are adjacent and will be combined and treated as a single property for land management and public recreation purposes. The 150-acre mitigation area for the Edgewater Drive project occurs from Carbon Ave to the southern boundary. The 32-acre mitigation area for the Murdock Village project occurs from Joppa Ave south to Carbon Ave.

This property was purchased because it contains scrub habitat and scrubby flatwoods, which, once properly managed, will provide ideal scrub-jay habitat. It is anticipated that the current jay families will benefit from land management, that other jays may relocate to this area, and that the scrub-jay individuals and families will increase. Listed species such as gopher tortoises and indigo snakes may reside in these habitats, and will benefit from proper land management as well. This Mitigation Area will be managed by the Charlotte County Community Services, Parks and Natural Resources Division (Division) for the conservation, protection, and enhancement of natural resources.

The secondary purpose for acquiring this habitat is for public outdoor recreation and education that is compatible with the conservation, protection, and enhancement of the site (Section 4.2 and 5.2). Passive recreation is the desired future use of Tippecanoe II.

The future land use and zoning designations were changed 2008. The final future land use designation for Tippecanoe II is Preservation. The zoning designation for Tippecanoe II is Environmentally Sensitive.

Objectives of Recreation and Open Space Element, of the Charlotte County, Smart Charlotte 2050 Plan that would be furthered by managing Tippecanoe II include:

- **REC Objective 1.2 Park and Recreation Maintenance and Management**
To protect and maintain existing parks and assets to preserve physical, environmental, functional, recreational and aesthetic values.
- **REC Policy 1.2.1 Public Awareness**
The County shall protect, restore, and manage natural resources in parks and provide interpretive information regarding environmental resources, conservation easements and ecosystems within parks. The County shall consider the proper long-term ecological functions and recreational value of the land and will work to increase public awareness and understanding of ecological systems.
- **REC Policy 1.2.2 Park Management and Maintenance Guidelines**
The County shall develop and implement guidelines for all park assets and improvements that will serve to provide a uniform basis for establishing management and maintenance practices and criteria which consider periodic, short and long-term needs.
- **REC Policy 1.2.3 Invasive Species Removal**
The County shall develop and pursue invasive, exotic plant and animal eradication programs for parks and open space by 2012.

Objectives of Natural Resources Element, of the Charlotte County, Smart Charlotte 2050 Plan that would be furthered by managing Tippecanoe II include:

- **ENV Policy 2.2.7 Environmental Acquisition and Management**
The County shall acquire and manage environmental lands using all available opportunities including, but not be limited to: levying an ad valorem tax; obtaining State, Federal and non-profit grant funding; land swaps; public/private partnerships; public/public partnerships (such as Florida Communities Trust); community land trusts; and conservation easements. All lands acquired by the County for preservation shall be managed to retain their environmental value.

- **ENV Policy 2.2.11 Land Management**
The County, or duly authorized management agencies, shall develop and implement long range management plans for preservation or conservation lands consistent with the natural resources found on these properties.
- **ENV Policy 2.2.12 Public Awareness of Environmental Lands**
In cooperation with other government agencies and non-profit groups, the County shall work to increase public awareness, appreciation, and (consistent with the resources found at each site) access to the publicly owned preserves and environmental parks within the County's borders.
- **ENV Policy 2.3.6 Exotic Plant Removal**
The County shall continue to enforce the removal of invasive exotic plants. The County shall also prohibit the planting of species listed as noxious weeds by 5B-57.007, Florida Administrative Code, and listed as invasive species on the Florida Exotic Pest Plant Council Invasive Plant Lists.
- **ENV Policy 2.3.8 Environmental Education**
The County shall support efforts to increase the public's understanding and stewardship of wildlife, natural communities, and other natural resources through partnerships with non-profit organizations such as the Florida Master Naturalist Program, the Florida Yards and Neighborhoods Program, and the University of Florida Food and Agricultural Sciences program.

Management of the environmental park will also further the acquisition and management goals of the Florida Department of Environmental Protection (DEP) by adding conservation and recreational lands adjacent to Charlotte Harbor Buffer Preserve; and to the Charlotte County Community Services Department by adding conservation and recreation lands next to Tippecanoe II (Tippecanoe FCT # 01-063-FF1).

3.0 NATURAL AND CULTURAL RESOURCES

The valuable natural resources in Tippecanoe II include imperiled ecosystems, including scrub habitat, and endemic species. The most important tools for the management of the natural resources within Tippecanoe II will include prescribed fire and invasive species removal (Sections 3.4 and 3.5). The natural communities are delineated in **Exhibit D**. During the mapping of the natural communities Division staff recorded common vegetative species within each community. No unusual vegetation was observed in any of the communities. When occurrences of previously unknown protected and special plant and animal species are observed onsite these observations will be reported to FNAI utilizing the FNAI Field Report Forms or on the FNAI web site at: http://www.fnai.org/FNAI_data/RareSpeciesDataForm.cfm.

3.1 Natural Communities

Scrub

Tippecanoe II contains approximately 23 acres of scrub habitat. The FNAI ranks scrub habitat as imperiled both in-state (S2) and globally (G2) (FNAI 2010). Florida scrub communities are unique to the state, although several neighboring states have similar habitats (Myers and Ewel, 1992). FNAI characterizes scrub to be dominated by evergreen shrubs with or without a canopy of pines. Scrub is found on white sandy infertile soils, groundcover, if any, consists of lichens and herbs. Common vegetation includes sand pine, sand live oak, myrtle oak, Chapman's oak, scrub oak (*Quercus inopina*), saw palmetto, rosemary (*Ceratiola ericoides*), rusty lyonia (*Lyonia ferruginea*), scrub hickory (*Carya floridana*), scrub palmetto (*Sabal etonia*), hog plum (*Ximenia Americana*), silkbay (*Persea humilis*), beak rush (*Rhyncospora* spp.), milk peas (*Galactica* spp.), and staggerbush (*Lyonia* spp.) (FNAI 2010). All scrub habitat within Tippecanoe II is minimally disturbed but mildly to badly overgrown due to fire suppression. Patches of Brazilian pepper (*Schinus terebinthifolius*) have been observed within these communities. Introducing the appropriate fire regime is the key strategy to restoring this habitat (Section 3.5).

Management goals for this habitat type are as follows:

- Perform two burns by 2025
- Increase area of bare sand to 25 percent
- Reduce canopy height to no more than 3 meters
- Continue to manage exotics/ invasive species

Scrubby Flatwoods

Tippecanoe II contains approximately 130 acres of scrubby flatwoods, which aerially, comprises much of Tippecanoe II. Like scrub, scrubby flatwoods are mostly limited to Florida; FNAI ranks scrub habitat as imperiled both in-state (S2) and globally (G2) (FNAI 2010). FNAI characterizes scrubby flatwoods by an overstory of widely spaced pines and a short, shrubby understory of saw palmetto (*Serenoa repens*), scrub oaks, wiregrass (*Aristida* spp.), rusty lyonia, lichens, and tarflower (*Bejaria racemosa*) (FNAI 2010). All scrubby flatwoods habitat within Tippecanoe II is minimally disturbed, but overgrown to varying degrees due to fire suppression. On 60 acres south of the Belden Ave and north of Pear St., palmettos are overgrown, but tree canopy is not. On 73 acres from Pear Street south to the Christopher Waterway, the flatwoods are succeeding into xeric hammock. The pine canopy is closing, and the oak trees are growing large. On approximately one acre, the flatwoods contain a palm hammock depression. South of the Christopher Waterway, there is high pine tree mortality from previous hurricane activity and the canopy is open. Introducing the appropriate fire regime or mechanical thinning is the key strategy to restoring this habitat (Section 3.5)

Management goals for this habitat type are as follows:

- Conduct two burns, on units 2,3, and 4, by 2032.

- Perform a 30 to 40 percent over-story reduction, of approximately 45 acres of overgrown scrubby flatwoods.
- Continue to manage exotics/ invasive species

Hydric Hammock

Tippecanoe II contains approximately 17 acres of hydric hammock. Hydric hammocks are characterized as a well-developed hardwoods and cabbage palm (*Sabal palmetto*) forest, with a variable understory of palms and ferns. Typical plants include cabbage palm, laurel oak (*Quercus laurifolia*), red cedar (*Juniperus virginiana*), red maple (*Acer rubrum*), swamp bay (*Persea palustris*), sweetbay (*Magnolia virginiana*), water oak (*Quercus nigra*), southern magnolia (*Magnolia grandiflora*), wax myrtle (*Morella cerifera*), saw palmetto, bluestem palmetto (*Sabal minor*), needle palm (*Rhaphidophyllum hystrix*), poison ivy (*Toxicodendron radicans*), dahoon holly (*Ilex cassine*), myrsine (*Myrsine floridana*), hackberry (*Celtis* spp.), sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), Florida elm (*Ulmus americana*), swamp chestnut oak (*Quercus michauxii*), American hornbeam (*Carpinus caroliniana*), Walter viburnum (*Viburnum obovatum*), royal fern (*Osmunda regalis*), peppervine (*Ampelopsis arborea*), rattanvine (*Berchemia scandens*), yellow Jessamine (*Gelsemium* spp.), and Virginia creeper (*Parthenocissus quinquefolia*). Although a comprehensive vegetation survey has not yet been conducted within the hydric hammock it is dominated by cabbage palm, peppervine, Carolina willow (*Salix caroliniana*), and non-scrub oak species, water oak, buttonbush (*Cephalanthus occidentalis*), poison ivy, and ferns. Although somewhat dry today, this hammock was likely a wetland before Tippecanoe II was platted. Road and ditch construction likely lowered the water table. This site is minimally disturbed, but contains a large amount of vegetative debris and some illegally dumped debris. Although this area burned previously, hydric hammocks rarely burn (FNAI and DNR, 1990). However, because it has dried out over the last 30 years, it may carry fire when the adjacent scrubby flatwoods are burned (Section 3.5). If it does not carry fire, some mechanical thinning may be necessary in removing the vegetative debris (Section 3.5). Hydric hammocks are typically self-sustaining communities. Because it may be succeeding to another community type since the water table was lowered, the only management will be to keep the vegetative debris down and monitor conditions over time.

Historical aerial photos from 1953 reveal several streams that crossed Tippecanoe II. Later aerials from 1970 show the expansion and development of three of these streams into the Flamingo Waterway, the Christopher Waterway, and the Knox Waterway. Two of the streams were still present within Tippecanoe II (Publication of Archival, Library & Museum Materials, 2007). No wetlands are present in these areas today. Patches of Carolina willows and buttonbush and depressions in the ground currently remain where the stream beds once existed.

Management Goals for this habitat type are as follows:

- Continue to manage exotic/ invasive species

- Introduce fire to reduce fuel loads.

Xeric Hammock

A small patch of, approximately 2 acres, xeric hammock is found within Tippecanoe II, north of the scrub. Xeric hammock is an advanced successional stage of the neighboring scrub (FNAI and DNR, 1990). FNAI characterizes xeric hammocks as a denser low-canopy forests with little or open understory with shrubs characteristic of scrub. Typical plants in a xeric hammock include live oak (*Quercus virginiana*), sand live oak, saw palmetto, sparkleberry (*Vaccinium arboreum*), pignut hickory (*Carya glabra*), redbay (*Persea borbonia*), American holly (*Ilex opaca*), wild olive (*Osmanthus americanus*), and beautyberry (*Callicarpa americana*). Typically, xeric hammocks develop when fire has been excluded for 30 or more years. When fire occurs, typically every 30 to 50 years, it may be devastating and change the community.

Management goals for this habitat type are as follows:

- Reduce the over-story height to no more than 3 meters.
- Mulch .25 acres of the Xeric hammock to create a mosaic
- Introduce fire to the community to reduce fuel loads, and create sandy patches indicative of scrub.
- Continue to manage exotic/ invasive species

Ruderal

Tippecanoe II contains ruderal sites, of which 38 acres are associated with the road ROW and seven acres are associated with former land uses. FNAI and DNR (1990) do not have a typical plant listing for ruderal sites. Currently, the site is dominated by weedy colonizing species and grasses. After the removal of the roads and debris, these areas could re-vegetate with native vegetation, monitoring for exotic species will be ongoing for the restoration of this habitat. One ruderal site south of Joppa Ave. will be maintained as the park entrance and will remain an open field. This area may be the recipient of a community bat house (Sections 3.2 and 4.2).

Listed Plant Species

Federally- or state-listed plant species that have been observed within Tippecanoe II include the Florida bonamia (*Bonamia grandiflora*) (federally threatened), and the beautiful pawpaw (*Deeringothamnus pulchellus*) (Federally and state- endangered). The many-flowered grasspink (*Calopogon multiflorus*) (state endangered) has the potential to exist within scrub and flatwoods communities in Charlotte County (Chaffin, 2000 and Florida Department of Agriculture & Consumer Services Division of Forestry (DOF), 2007a).

3.2 Inventory of the Natural Communities

The natural communities will be monitored once per year. In this routine monitoring, photo points will be taken, and any information on identified listed species will be

forwarded to the Florida Natural Areas Inventory using the forms located in (Appendix C).

3.3 Invasive/Exotic Plants and Feral Species Management

Exotic nonnative invasive plant species reduce the quantity and quality of habitat available for native wildlife. Tippecanoe II is surrounded primarily by other conservation lands, making it slightly less susceptible to invasive nuisance species; however, dispersal by birds and other wildlife (e.g., feral hogs) as well as by wind does occur.

Exotic invasive species that have been observed within the park include Brazilian pepper, melaleuca (*Melaleuca quinquenervia*), Japanese climbing fern (*Lygodium japonicum*), and cogon grass (*Imperata cylindrica*). These species are ranked as Category I according to the 2017 List of Invasive Species from the Florida Exotic Pest Plant Council (FLEPPC), in Appendix D. Despite all the opportunities, nuisance exotic encroachment is somewhat sparse; all exotic invasive species are at manageable levels. Staff has treated larger infestations in the past and attempts to eradicate nuisance exotics upon discovery. Due to the small size of current exotic invasive plant infestations there are no plans for re-vegetating treatment areas. Staff will continue to review on a case by case basis if re-vegetation is needed at the time of treatment.

Prevention is the most effective method of control; staff continually monitors the sites for early detection and control of populations. Currently, efforts to eradicate these Category I species closely parallel the exotic species control plans recommended by FLEPPC. Application of the most recent treatment recommendations by species are available via the FLEPPC web site (<http://www.fleppc.org/>).

Exotic/Feral Animals

Feral pigs (*Sus scrofa*) are present on Tippecanoe II. County staff has contracted with the United States Department of Agriculture since 2016 for the control of exotic/invasive fauna on County conservation lands. Although the trapping program has been very successful, the feral hog population persists. Overall, the contracted numbers of feral hogs have been lowered and impacts to the natural community has been minimized.

Monitoring

The site is monitored on a regular basis, to exclusively assess the presence of invasive/exotic plant and animal species.

3.4 Restoration

Tippecanoe II has been County owned and maintained since 2006. There are no plans for restoration now.

3.5 Prescribed Burning

Prescribed burning has taken place on Tippecanoe II since its purchase for both ecosystem restoration and maintenance. Each of the major vegetation communities found on the park, scrubby flatwoods, and scrub, are fire adapted and the use of prescribed fire is the best way for staff to manage a healthy ecosystem.

Burn priorities and rotations schedules are revisited throughout each year as both management resources and growing conditions change. All management units have perimeter fire-lines which are maintained throughout the year. Burning is coordinated with the DOF. Charlotte County’s outreach program to inform residents of the area of the benefits of prescribed burns includes presentations, direct mailings and additional coordination with FFS.

3.6 Listed Species

Charlotte County maintains a list of species observed within the Tippecanoe II by County staff. This list includes birds, mammals, amphibians, reptiles. As additional species are observed throughout the changing of seasons, via wildlife surveys or during management efforts, the list shall be updated.

Species found on the Federal and/or State endangered and threatened species lists are referred to as “listed species.” For management purposes, Charlotte County Community Services also refers to the biological status as reported by FNAI.

Listed animal species that have been observed in the five most prominent vegetation communities include:

- **Scrub** – Florida scrub-jay (*Aphelocoma coerulescens*), Florida mouse (*Podomys floridanus*), gopher tortoise (*Gopherus polyphemus*), Southeastern American kestrel (*Falco sparverius paulus*)
- **Scrubby Flatwoods** – Florida scrub-jay (*Aphelocoma coerulescens*), bald eagle (*Haliaeetus leucocephalus*), Florida mouse (*Podomys floridanus*), gopher frog (*Rana capito*), gopher tortoise (*Gopherus polyphemus*), Southeastern American kestrel (*Falco sparverius paulus*), merlin (*Flaco columbarius*)
- **Hydric Hammock** – Florida scrub-jay (*Aphelocoma coerulescens*), Southeastern American kestrel (*Falco sparverius paulus*), American Alligator (*Alligator mississippiensis*)
- **Xeric Hammock** – gopher tortoise (*Gopherus polyphemus*)

Listed Species of Tippecanoe II Florida Scrub – Jay Mitigation Area

Endangered (E), Threatened (T), Species of Special Concern (SSC)

Common Name	Genus	Species	State	Fed
Bald Eagle	<i>Haliaeetus</i>	<i>leucocephalus</i>	Delisted: Protected	
Florida Scrub-jay	<i>Aphelocoma</i>	<i>coerulescens</i>	T	T
Osprey	<i>Pandion</i>	<i>Haliaeetus</i>	SSC	

Southeastern				
American kestrel	<i>Falco</i>	<i>sparverius paulus</i>	T	
American alligator	<i>Alligator</i>	<i>mississippiensis</i>		T
Gopher Tortoise	<i>Gopherus</i>	<i>polyphemus</i>	T	

Charlotte County is committed to managing the various ecological communities at Tippecanoe II to increase the diversity of flora and fauna, including both listed and common species. A key part of such management is ongoing monitoring. Monitoring takes place in the form of incidental observations, semi-formal surveys associated with monthly site inspections, and formal surveys for certain species and species diversity. Specific species surveys that are conducted include those for Florida scrub-jay and gopher tortoise. All native wildlife species are protected in the park.

3.7 Archeological, Cultural, and Historical Resources

Tippecanoe II does not contain, or is not within ¼ mile, a site listed on the National Register of Historic Places by the National Park Service or a site listed in the Florida Master Site File maintained by the Department of State, Division of Historical Resources (Historical Resources).

An archeological survey was conducted in June 2011, and Tippecanoe II is not recognized by a local historic board or the Historical Resources as being significant at the local, regional, or state level. The closest historical site, CH00497, is within ½ mile south of the Pear St. and Maureen St. intersection (Southeastern Archeological Research, Inc., 2008). The report does not detail this site.

Per one historian, Hernando DeSoto may have camped within Tippecanoe II in 1539, at the present Flamingo Waterway between Joppa Ave. and Wintergarden Ave. (Sheppard, 2007). However, supporting archaeological evidence has not been officially documented (Luer, 2002).

The Division of Historical Resources will be contacted immediately if evidence is found to suggest an archaeological or historic resource/site at Tippecanoe II. If artifacts or historic sites are discovered, collection or disturbance will be prohibited without authorization from the Division of Historical Resources. If artifacts or historical sites are discovered, the Division of Historical Resources will be coordinated with and management will comply with Chapter 267, Florida Statutes, Section 267.061 2(a) and (b). Any significant resources will be interpreted for the public using educational signs.

4.0 SITE DEVELOPMENT AND IMPROVEMENT

4.1 Acknowledgement Sign

The acknowledgment sign will be designed to "FCT" specifications, at least 3' x 4', and include the FCT logo, the date the property was acquired and with FCT funds. Signs are

being created to assist the public in enjoying the features of this property. In addition to the acknowledgment sign, trail signs and other site amenities are on the property.

4.2 Existing Physical Improvements

Existing physical structures within the Park include fences and gates, walking trails, parking areas, and a canoe/kayak launch. These improvements are designed to improve the ability of the public to enjoy the natural resources of the Park while protecting these resources. All of Charlotte County's environmental parks and preserves are "pack in, pack out" facilities, trash cans are not provided.

- **Entrance Signage** – An entrance sign, bearing the Charlotte County logo and park name has been installed at the entrance area on Joppa Ave. Included with these signs is an additional acknowledgement sign identifying the Park as being purchased with funds from "Florida Communities Trust."
- **Fencing** – Fencing has been installed to secure the entire perimeter of the site. Signage was installed at key points along the fencing to advise visitors of the restricted areas. The fencing is made of 4 strands of smooth wire fencing on poles that space up to approximately 20 feet apart. Seven locked gates provide vehicle access to Tippecanoe II for Division personnel or emergency vehicles. Seven pedestrian walk-throughs allow foot-traffic to the trail system.
- **Walking Trails** – A network of dirt nature trails over 1.5 miles in total length, a portion of which will be a loop trail, will be provided. The nature trails will begin at the parking area, traversing around sensitive natural communities. The trails will follow existing roadways and ATV trails when possible to minimize disruption to the natural communities. There will be no trails south of the Christopher Waterway because this area is too small and isolated from the main Mitigation Area to justify the habitat disruption that would result from public use (i.e., secondary parking lot and new trails).
- **Parking Areas** – Joppa Ave, at the northern border of Tippecanoe II, provides access as the entrance for Tippecanoe II. A compacted dirt road connects Joppa Ave to the parking area. The parking area is located on a former outdoor basketball court that has been augmented with crushed shell and accommodates 10 vehicles, including one ADA accessible space. When feasible we will continue to utilize pervious materials for our parking areas at our environmental parks and preserves.
- **Kiosk** – A kiosk at the main trailhead has been installed.
- **Butterfly Garden** – Due to the nature of the natural communities onsite, the wildlife observation platform amenity would not provide an enhancement to the

park, and likely would not get very much use. A covered picnic pavilion is provided near the entrance of the park, in an area formerly disturbed. The pavilion is approximately 10' x 10' and will accommodate at least 4 picnic tables.

- **Picnic Areas** – There are two areas located on the property with access to a picnic table. One resides along the northern fence line of Unit 3, and the other is located in the Butterfly Garden, in Unit 1.
- **Interpretive Signs and Kiosks** – A two-paneled kiosk at the main trailhead will include educational panels and a large park map will be featured.
- **Sidewalks/Bike Lanes** – Sidewalks and bike lanes were added to SR 776 when the road was expanded providing for alternative transportation methods.
- **Bike Racks** – Bike racks are provided at the entrance to Tippecanoe II.

4.3 Proposed Physical Improvements

Proposed physical improvements will provide for appropriate public access, while meeting the management goal of conservation, protection, and enhancement of the Park's natural resources. Charlotte County will request written approval from FCT before undertaking any alterations or physical improvements that are not addressed in the MP.

Surveys will identify any protected vegetation or wildlife inhabiting the site. Site plans will be adjusted accordingly to protect any such species. Relocation of listed species may be considered as an alternative. Any relocation efforts will adhere to all permits as may be required by FWC and USFWS. The development of nature trails, interpretive signs and displays, observation areas, and permanent fire breaks will utilize existing roads, trails, disturbed areas, and fire breaks to the greatest extent possible to minimize disturbance of native vegetation and reduce fragmentation.

4.4 Wetland Buffer

A 100-foot buffer will be provided between parking lots, major facilities, and wetlands.

4.5 Storm water Facilities

Storm water facilities were designed to provide recreational open space or wildlife habitat in a park-like setting and are minimal along the entry road.

4.6 Hazard Mitigation

Tippecanoe II is located entirely within the 100year floodplain. As such no major structures are planned for construction on the property. This property will function as a buffer for wind and storm surge associated with a storm event.

4.7 Education Program

Charlotte County provides at least 12 regularly scheduled environmental or historical educational programs per year at Tippecanoe II Scrub Jay Mitigation Area conducted by trained educators or resource professionals.

Charlotte County has a current contract with Charlotte Harbor Environmental Center. This contract provides for 12 guided walks per year. In addition to these walks county staff and volunteers from CHEC conduct some exotic/invasive flora species treatments.

4.8 Permits

No permits for the protection of listed species currently exist for this property.

4.9 Easements, Concessions and Leases

There are two existing easements within Tippecanoe II. The first easement provides ingress/egress to a landlocked parcel along the Flamingo waterway. This easement was provided at the time of acquisition. One additional easement occurs to provide underground utilities (FPL and Verizon) to the pre-existing homes along the Flamingo waterway, as well as to the outparcels adjacent to Tippecanoe II. Charlotte County maintains the mowing of the easement as part of general land management.

The Division will provide FCT 60-day prior written notice and information regarding any lease of any interest, the operation of any concession, any sale or option, the granting of any management contracts, and any use by any person other than in such person's capacity as a member of the general public, and no document will be executed without the prior written approval of FCT. If fees are collected, they will be placed in a segregated account solely for the upkeep and maintenance of Tippecanoe II. If any revenue is generated it will be reported in a separate annual revenue report for FCT.

5.0 MANAGEMENT NEEDS

5.1 Coordinated Management

Community Services' staff is committed to working with all interested parties in accomplishing the management goals. As appropriate, FFS and DEP are contacted for coordination of activities, including cooperative ventures where we receive and/or aid in mechanical vegetation reduction and prescribed burning. Coordination also takes place with FFS, DEP, and FWC concerning wildlife management. The Charlotte County Sherriff's Office, FWC law enforcement, and DEP each coordinate in security aspects of the property.

5.2 Greenways and Trails

Charlotte County Resolution No. 980440A0 pledged to develop an integrated system of trails, greenways, corridors, preserves, and waterways, to provide a foundation for the eco-tourism industry, provide wildlife corridors, and enhance public access to and

appreciation of the County's natural resources (**Exhibit H**). A map of publicly-owned land within the vicinity of the Park is provided in **Exhibit C**.

Tippecanoe II has approximately 1.7 miles of walking trails (**Exhibit G**), which are adjacent to the Charlotte Harbor Buffer Preserve State Park on the West side of the property.

5.3 Staffing

The Division will provide staffing, management, and maintenance for the Park. A full time Environmental Specialist will be directly responsible for all land management activities. Assistance from other Environmental Specialists and additional Department staff will be available as needed and the support of the Division Manager and other administrative positions will be available. Additional staffing may be obtained through volunteers, non-profit organizations, and/or contracted services as needed.

5.4 Public Education and Outreach

The County is committed to providing appropriate passive outdoor recreational opportunities by allowing public access to the Park. Additional educational programming opportunities designed to facilitate a greater understanding and appreciation of the natural resources may be provided as appropriate and as the need and public interest develops. The environmental education program may include:

- **Organized excursions into the Park.** Organized programs will meet FCT requirements. Currently a non-profit organization is contracted to lead educational nature walks throughout the year. Additional organized programming may be developed by staff or by non-profit organizations at the direction of the Division.
- **Self-guided excursions into the Park.** Trail signs and educational kiosks (including a large site map) will be installed at the Park. Trail maps and a wildlife checklist will be posted on the County's website; because of printing costs, the County does not plan to provide printed copies at the Park.

Organized program descriptions will be included in the annual stewardship report, including types of programs and the number of participants.

5.5 Maintenance

Charlotte County Community Services has the responsibility for managing and maintaining the Park. The maintenance objectives for the Park are visitor and employee health, safety, and welfare, maintenance of aesthetic qualities, and protection of natural resource values. Structures, such as bridges and fences, are inspected during monthly site inspections for maintenance and repair needs. Exotic vegetation treatment needs are met with both habitat management and trail maintenance activities. The site will have dedicated staff to perform routine maintenance tasks, including

- Mowing and pruning of vegetation around the entrance, parking areas, trails, and fire breaks
- Upkeep and cleaning of the facilities (including parking areas, fencing, kiosks, and signage)
- Garbage and debris removal
- Land Management (including removal of exotic species and prescribed burning)

The Division may utilize contracted and/or volunteer services as needed to assist in maintenance tasks.

5.6 Security

Charlotte County is concerned about both the safety of visitors and the protection of natural resources. The Community Services' Parks and Natural Resources Division staff ultimately has the responsibility for site security, including prevention of vandalism, property damage, unauthorized vehicle access, and trespassing. A three-tiered approach to site security is employed:

- **Signage and Fencing** – Signs and fencing shall be installed to restrict vehicle access and warn against other restricted or prohibited activities.
- **Staff** – Division staff shall monitor the integrity of the fences, repair damage by vandalism, monitor the site for evidence of ATV use, and take measures to clarify restricted areas and activities to citizens with signage
- **Sheriff, Fire/EMS, and DOF** – Shall respond to emergency calls from citizens

Activities that are not compatible with passive natural resource based activities are prohibited. Such prohibited activities include alcoholic consumption, social gatherings except for nature hikes, personal acts considered indecent or not appropriate for all ages and all groups within the public, disturbance of the peace, hunting except for the contracted removal of exotic and/or nuisance animals, harassing of wildlife, harvesting, destruction and/or removal of vegetation, any other activity that may have a negative impact on visitors, wildlife and/or the ecosystem.

All wildlife species are protected, including venomous snakes and other dangerous animals, and shall not be killed, harmed or harassed by visitors or staff unless they present an immediate, clear and unavoidable threat, or are part of an exotic species removal program to be carried out by authorized personnel only. Safety against wildlife species is not considered a viable reason to carry a lethal weapon. Except when carrying a concealed weapon for personal safety, accompanied by a license to do so by the state, possessing a firearm, bow, crossbow, trap or other hunting device is considered the intent to hunt or take wildlife and is prohibited.

6.0 COST ESTIMATE AND FUNDING SOURCES

A portion of this Park was acquired using funds from FCT. The remainder was funded by Charlotte County Local Option Sales Tax. The Park will be managed using ad valorem County taxes.

The annual cost estimate was broken into seven major categories:

- **Natural Resource Protection**
 - Exotic vegetation treatment - \$2,500
 - Feral animal/Exotic plant monitoring – in house
 - Listed species survey – in house or volunteer
- **Resource Enhancement**
 - Controlled burning – \$2,144 (One rotation of all management units, approximately 134 burnable acres at approximately \$16 per acre, in house cost)
 - Mechanical thinning -In house
- **Archeological and Historical Resource Protection**
- **Educational Program**
 - Contracted Services (Nature Walks) - \$2,100
- **Maintenance**
 - Mowing and pruning of vegetation around the entrance, fence, parking area, trails, and fire breaks -In House Upkeep of facilities (parking area, fencing, kiosk, signage) - \$1500 annually (Cost estimate based on current contract for environmental fencing)
- **Staffing** – See Section 5.3

7.0 PRIORITY SCHEDULE

A priority schedule that details a timeline for major events is included in Appendix B. This priority schedule covers 2018-2033.

8.0 MONITORING AND REPORTING

8.1 Stewardship Report

It is the Division's responsibility to provide an Annual Stewardship Report each year on or before October 30th, as required by Rule 9K-7.013 F.A.C. which evaluates the implementation of the Management Plan.

Any proposed modification of the Management Plan and/or undertaking any site alternations or physical improvements that are not addressed in the FCT-approved Management Plan requires FCT review and approval. There will also be a separate annual revenue report that will be submitted annually that is separate from the stewardship report.

There will be a separate annual revenue report for any revenue generated on the property and will be submitted to FCT each year.

8.2 Habitat Assessment Monitoring

The goals of habitat assessment monitoring are to evaluate management efforts to ensure they are meeting ideal habitat requirements that are required for the associated plant and animal species to thrive. Evaluations from these monitoring efforts will be included in the Annual Stewardship Report.

Monitoring efforts have been described in Sections 3.1, 3.4, and 3.5. Those monitoring efforts are summarized as:

- Ongoing inspection for feral pig (or other invasive species) damage.
- Listed Plant Survey
- Habitat photo monitoring
- Bird surveys
- Scrub-jay surveys
- Gopher tortoise surveys as needed
- General surveys/site inspections.

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