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**U.S. Fish & Wildlife Service**

**LAND PROTECTION PLAN AND  
ENVIRONMENTAL ASSESSMENT FOR  
THE ESTABLISHMENT OF  
EVERGLADES TO GULF CONSERVATION AREA**

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Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee,  
Polk, Sarasota Counties, Florida



**Southeast Region**

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## Table Of Contents

<b>Land Protection Plan</b> .....	<b>1</b>
<b>I. Introduction and Purpose</b> .....	<b>1</b>
Project Description .....	4
The Mission of the National Wildlife Refuge System (Refuge System) .....	7
Refuge Unit Purpose(s), Vision, and Goals.....	7
<b>II. Resources</b> .....	<b>10</b>
Resources to be Protected.....	10
Threats to the Resources .....	13
Relationship of Project to Landscape Conservation Goals and Objectives .....	17
<b>III. Land Protection Strategy</b> .....	<b>39</b>
Action and Objectives .....	39
Land Protection Priorities.....	41
Land Protection Options .....	49
Service Land Acquisition Policy.....	51
<b>IV. Coordination</b> .....	<b>53</b>
Coordination with Conservation Partners .....	53
Tribal Coordination.....	53
Elected Official Contacts .....	53
Public Outreach.....	55
Special Considerations .....	57
<b>V. References</b> .....	<b>57</b>
<b>Appendix A. ENVIRONMENTAL ASSESSMENT</b> .....	<b>64</b>
<b>I. Purpose and Need for Action</b> .....	<b>64</b>
Introduction .....	64
Scope of the Environmental Assessment.....	66
Purpose and Need .....	68
Background .....	68
National Wildlife Refuge System Overview .....	69
Action.....	70
Related Resources.....	71
Special Considerations .....	75

---

Coordination and Consultation .....	75
Public Participation.....	76
Public Scoping .....	76
Public Review and Comment .....	78
<b>II. Alternatives, Including the Preferred Alternative .....</b>	<b>80</b>
Introduction .....	80
Formulating Alternatives.....	83
Alternatives Evaluated but Discarded.....	83
Description of Alternatives.....	84
Alternative A – No Action.....	84
Alternative B – Conservation Area Partnership Approach (Preferred Alternative) .....	86
Summary .....	88
<b>III. Affected Environment and Environmental Consequences.....</b>	<b>89</b>
Physical Environment.....	89
Topography and Geology.....	89
Soils.....	91
Weather and Climate.....	100
Climate Change.....	101
Hydrology and Water Quantity .....	105
Water Quality .....	108
Noise .....	111
Biological Environment.....	112
Focal Natural Communities .....	114
Fish and Wildlife .....	122
Federal/State Listed and Priority At-Risk Species.....	124
Federally Protected Plants .....	152
Fishery Resources.....	152
NonNative and Invasive Animals and Plants.....	156
Socioeconomic Environment.....	164
Population.....	164
Employment and Income .....	165
Tourism.....	166

---

Wildlife-Dependent Recreation.....	167
Ecosystem Services.....	167
Land Use .....	168
Transportation Facilities and Utility Corridors.....	171
Cultural Resources.....	173
Environmental Justice.....	179
Unavoidable Adverse Effects.....	184
Relationship Between Short-Term Uses of the Human Environment and Enhancement of Long-Term Productivity .....	184
Potential Irreversible and Irretrievable Commitments of Resources .....	184
Summary .....	184
Recommendation .....	186
<b>IV. Information on Preparers .....</b>	<b>187</b>
Planning Team .....	187
Other Contributors to the Document: .....	188
State Coordination .....	188
Tribal Coordination.....	189
<b>V. References.....</b>	<b>191</b>
<b>Appendix B. Conceptual Management Plan.....</b>	<b>209</b>
Introduction .....	209
Goals of the National Wildlife Refuge System.....	211
Laws Guiding the National Wildlife Refuge System.....	212
Purpose of Establishment and Land acquisition Authority .....	213
Vision for the Everglades to Gulf Conservation Area.....	214
Goals and Objectives for the Everglades to Gulf Conservation Area .....	214
Management of the Everglades to Gulf Conservation Area .....	216
Administration.....	216
Facilities .....	216
Funding .....	217
Staffing .....	218
Law Enforcement .....	218
Fire Management.....	218

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Invasive Species Management.....	219
Population Monitoring.....	219
Public Use Opportunities and Management.....	219
Partnerships .....	221
Invasive Species Management.....	221
Fire Management.....	222
Law Enforcement .....	222
Wildlife-dependent Recreational Opportunities .....	222
Summary .....	222
Acquisition Management .....	225
Public Use Management .....	226
Cultural Resources.....	227
Operations and Planning .....	227
References .....	227
<b>Appendix C. Interim Compatibility Determinations.....</b>	<b>229</b>
<b>Appendix D. Land Cover Classification Table .....</b>	<b>290</b>
<b>Appendix E. Landscape Conservation Design (2022).....</b>	<b>296</b>
<b>Appendix F. Interim Recreational Act Funding Analysis .....</b>	<b>340</b>
<b>Appendix G. Summary of Public Comments on the Draft Land Protection Plan and Draft Environmental Assessment and the Service’s Response .....</b>	<b>342</b>
<b>Appendix H. Intra-Service Section 7 ESA Consultation for the Everglades to Gulf Conservation Area Establishment. ....</b>	<b>409</b>
<b>Appendix I. Finding of No Significant Impact .....</b>	<b>435</b>

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## LIST OF FIGURES

LPP Figure 1. Outline of the LCD Study Area.....	3
LPP Figure 2. Everglades to Gulf Conservation Area .....	6
LPP Figure 3. Focal Natural Communities. ....	12
LPP Figure 4. Projected 2070 development trends in central Florida. Image source: Carr and Zwick (2016). 16	
LPP Figure 5. Projected 2070 development trends in south Florida. Image source: Carr and Zwick (2016)*. 16	
LPP Figure 6. Existing Conservation Lands in the Conservation Area .....	36
LPP Figure 7. Priority 1-Lands within the Conservation Area that have been identified as a high ecological priority (Morris et al. 2022, Appendix E).....	43
LPP Figure 8. Priority 2- Lands within the Conservation Area that have been identified as moderate-high ecological priority (Morris et al. 2022, Appendix E).....	44
LPP Figure 9. Priority 3-Lands within the Conservation Area that have been identified as moderate ecological priority (Morris et al. 2022, Appendix E).....	45
LPP Figure 10. Priority 4- Lands within the Conservation Area that may be consider low priority could still be considered for acquisition for connectivity purposes but may not rank as an ecological priority.....	46
LPP Figure 11. Protection Opportunities in the Conservation Area.....	47
LPP Figure 12. Development Threats in the Conservation Area. ....	48
EA Figure 1. LCD Study Area Boundary .....	65
EA Figure 2. Everglades to Gulf Conservation Area .....	67
EA Figure 3. Conservation Lands within the Conservation Area. ....	73
EA Figure 4. Soil Drainage Groups in the Conservation Area.....	93
EA Figure 5. Focal Natural Communities .....	117
EA Figure 6. Landcover Types.....	119
EA Figure 7 Cultural regions of pre-contact Florida. The LCD Study Area spans portions of the Central Peninsular Gulf Coast, the Caloosahatchee, the Okeechobee Basin, and the Glades regions.....	176
CMP Figure 1 Conservation Area.....	210

## LIST OF TABLES

LPP Table 1. Focal Natural Communities (Protected and Unprotected). Source: Morris et al. (2022); Florida Fish and Wildlife Conservation Commission and Florida Natural Areas Inventory (2022).....	10
LPP Table 2. Units by County for the Everglades to Gulf Conservation Area .....	49
LPP Table 3. Land Sales by County.....	52
LPP Table 4. Ownership of Lands in the Conservation Area. Source: Southeast Conservation Blueprint Summary 2023).....	74
EA Table 1. Soil Classification Map in the Conservation Area.....	94
EA Table 2. Focal Natural Communities.....	118
EA Table 3. Landcover within the Conservation Area.....	120
EA Table 4. The common names, scientific names, and status of Birds of Conservation Concern within the Conservation Area (USFWS 2021a). ....	123
EA Table 5. Common names, scientific names, type, and statuses for Federal and State-listed species (FWC 2021, USFWS 2023b).....	148

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EA Table 6. Category 1 and 2 invasive species in central and south Florida. Data source: Florida Exotic Pest Plant Council (FLEPPC 2019).....	157
EA Table 7. Invasive wildlife species found in Florida.....	163
EA Table 8. Primary Land Uses within the Conservation Area.....	170
EA Table 9. Initial review of the Florida Master Site Files. Source: Florida Master Site Plan. ....	174
EA Table 10. Site Type .....	174
EA Table 11. Socioeconomic indicator scores for people of color and low-income populations reported by county. Socioeconomic indicator scores are reported as U.S. percentile. Scores over the 50th percentile are underlined. Source: EJScreen (EPA 2023) .....	180
EA Table 12. Descriptions, data sources, and data retrieval years for EJScreen’s 13 environmental justice indexes (EPA 2023).....	180
EA Table 13. EJScreen environmental index scores for 13 variables measured by county. Environmental index scores are reported as U.S. percentile. Scores over the 50th percentile are underlined. Source: EJScreen (EPA 2023) .....	182

# Everglades to Gulf Conservation Area

## Land Protection Plan



U.S. Department of the Interior  
Fish and Wildlife Service  
Southeast Region  
January 2024





## **LAND PROTECTION PLAN**

### *I. INTRODUCTION AND PURPOSE*

Southwest Florida fosters a unique set of natural communities and species with notable threats from rapid human population growth and climate change. However, this region also harbors a large and largely intact rural landscape essential to the Florida panther and a host of other Federal and State listed species. It plays a vital role in the ecological integrity of both the Everglades and Charlotte Harbor watersheds. Important opportunities still exist to protect large working landscapes and functional ecological connections between conservation areas to address many of the region's biodiversity and water resource conservation goals.

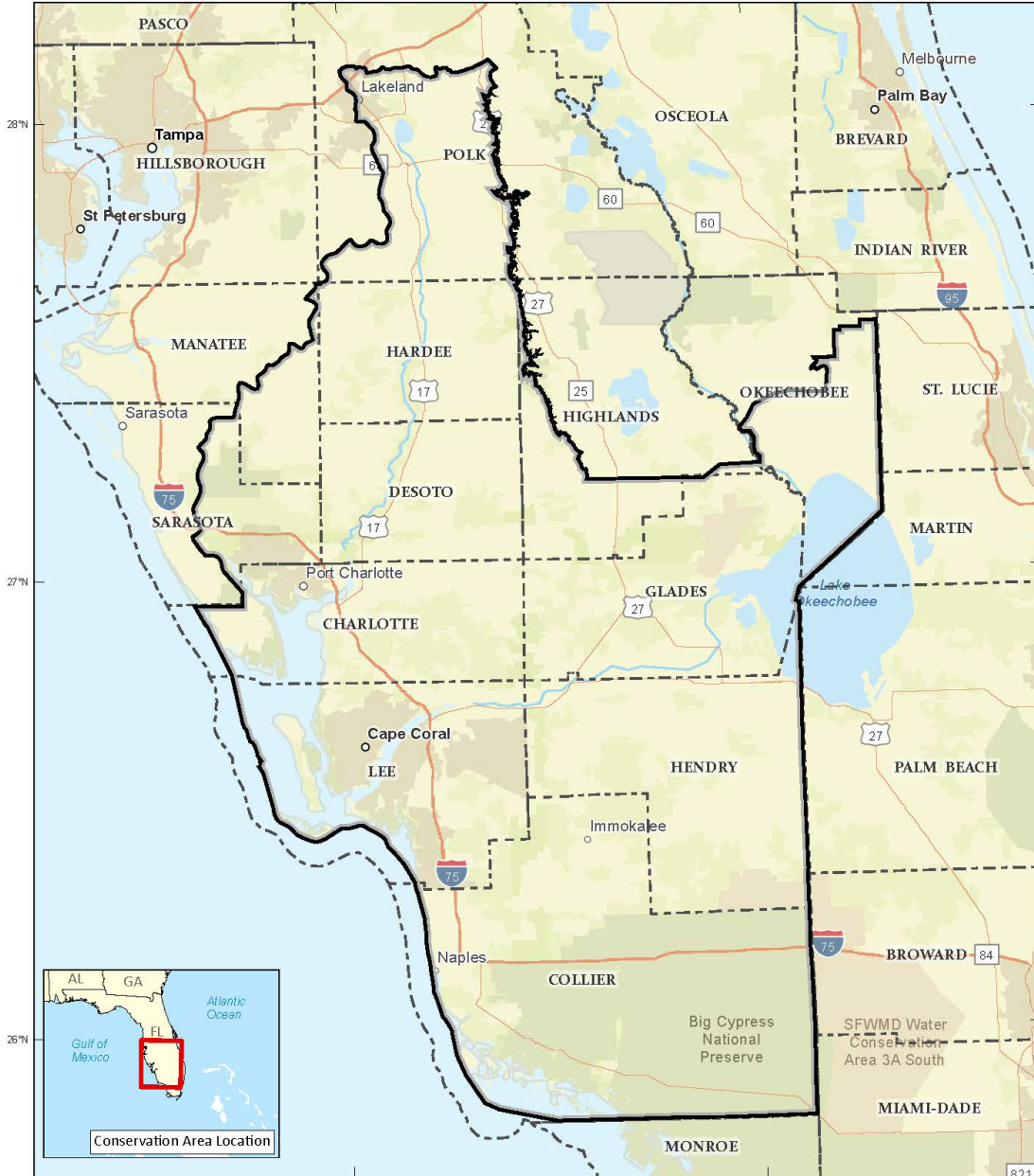
The U.S. Fish and Wildlife Service (Service), Southeast Region, proposes to conserve, protect and manage one of the most important regional conservation landscapes in the United States through the establishment of the Everglades to Gulf Conservation Area (Conservation Area) which will be located within the Study Area used for the Southwest Florida Landscape Conservation Design (LCD; Morris et.al 2022) (Appendix E). The LCD Study Area incorporates almost 7 million acres of land and water from the western Everglades north to include the Caloosahatchee watershed to the headwaters of the Peace River, west to incorporate the Myakka River watershed, and east to the Lake Wales Ridge, Fisheating Creek watershed and the northwestern half of Lake Okeechobee (LPP Figure 1).

The Study Area represents the current breeding range and best potential population expansion areas for the Florida panther and habitat for other listed and focal species, unique natural communities, the heart of Florida's unique prairie ranching landscape, Everglades watersheds, and the entire Peace River and Myakka river watersheds, which are essential for the health of Charlotte Harbor, an estuary of national significance as designated by Congress and epicenter of natural resource based tourism and economic activity in southwest Florida. The Study Area is also an essential keystone for the Florida Wildlife Corridor, which is delineated by the State of Florida as one of the top three priorities within the Florida Ecological Greenways Network (FEGN). The Florida Wildlife Corridor has recently become a statewide conservation priority for the Florida Legislature and Governor, who have expressed their commitment to its protection through a significant increase in conservation protection land funding for the Florida Forever and Rural and Family Lands Protection programs. This Study Area represents an unprecedented landscape-scale conservation opportunity with great potential for both large scale conservation funding and cooperative opportunities between federal, State, regional, and local partners. In fact, Florida's ecological and economic future is dependent on conservation success in this region.

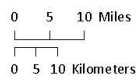
Working with the key partners, as well as with other State and local governments, Tribal Nations, businesses, non-governmental organizations, and the public, the Service examined the needs for wildlife habitat protection within the biologically important Everglades, Caloosahatchee, Fisheating Creek, Peace River and Myakka River watersheds. During the planning process, this Study Area was further refined to encompass a smaller, over 4-million-acre area referred to as the Everglades to Gulf Conservation Area which will be equivalent to the acquisition boundary. The Conservation Area spans twelve counties and encompasses the Greater Everglades, the northern margin of Lake Okeechobee, and the watersheds of the Caloosahatchee River, Fisheating Creek, Peace River, and Myakka River. Within the Conservation Area, the Service proposes to acquire less-than-fee-title in the Conservation Area. In addition, the Service will also pursue fee-title interest in up to 10% of the Conservation Area to support the shared goals of conservation efforts in this important landscape. It is crucial to

note the Service's policy is to work with willing sellers to acquire less-than-fee-title or fee-title interest in property.

One of the objectives of establishing a Conservation Area is to contribute to a more connected and functional conservation landscape that will provide effective habitat connections between existing and future conservation areas. Identification of land parcels within the Land Protection Plan (LPP) does not preclude the acquisition of those parcels by other agencies, organizations, or individuals.



Produced in the Division of Planning,  
 Atlanta, Georgia  
 Map Date: 9/15/2023  
 Primary Data Sources: SWFLCD, UF GeoPlan  
 Base Map: ESRI  
 FDEP Albers HARN- NAD 83  
 ArcGIS Pro v3.1



SWFLCD Study Area  
 County Boundary

**LPP Figure 1. Outline of the LCD Study Area**

## PROJECT DESCRIPTION

The generalized Study Area for the Conservation Area is located within portions of the Greater Everglades, Caloosahatchee River, Fisheating Creek, Peace River, and Myakka River Watersheds. The Conservation Area will protect a combination of wetland and upland habitats supporting migratory birds, federal and State listed species, and regionally important wildlife and plant communities within an approximately 4,045,268-acre portion of the 7-million-acre Study Area. Within this region, undeveloped lands and surface waters provide a host of wildlife-dependent recreational opportunities such as hunting, fishing, and wildlife-watching amid an increasingly urbanized landscape.

Recognizing the generations of responsible stewardship within this working rural landscape, the Conservation Area proposes to work with willing landowners to secure a legacy of conservation lands for future generations to enjoy. The Conservation Area will aim to address threats from habitat fragmentation and urban development, altered ecological processes, and impacts from global climate change.

This LPP identifies the authorization and establishment of the Everglades to Gulf Conservation Area, as outlined in the Service's Preferred Action (Alternative B) in the Environmental Assessment (EA). The purposes of the LPP are to:

- announce the Service's intent to establish the Everglades to Gulf Conservation Area;
- provide landowners and the public with an outline of Service policies, priorities, and protection methods for property in the project area;
- assist landowners in determining whether their properties are located within the Conservation Area; and
- inform landowners about the Service's long-standing policy of acquiring land only from willing sellers.

### Conservation Area/Acquisition Boundary

A specified area within which the Service will work with partners and willing landowners to achieve conservation goals and within which the Service will have authority to work with willing landowners to acquire fee-title and less-than-fee-title interest or enter into management agreements.

Alternative B, the proposed alternative, identifies an approximately 4,045,268-acre Conservation Area. The Service will be authorized to acquire up to 10% of the Conservation Area in fee-title. In addition, the Service will seek opportunities on less-than-fee-title acquisitions within the Conservation Area.

### Study Area

A generalized area of interest evaluated in the LCD (2022) within which the Service assessed opportunities for conservation measures and analyzed threats to fish and wildlife resources.

The Study Area for this project totals approximately 7 million acres of the Greater Everglades, Caloosahatchee River,

Fisheating Creek, Peace River, and Myakka River Watersheds. The designation of a Study Area does not convey authority to establish rules and regulations throughout the 7-million-acre area.

#### Areas Not Considered

During the planning process, certain areas were removed from consideration for less-than-fee-title and fee-title acquisition. These included lands owned by Tribal Nations, incorporated lands, developed areas and areas determined not to meet the Service's criteria for additional conservation.

The LPP presents the methods that the Service, conservation partners, and interested landowners could use to accomplish wildlife and habitat goals and objectives for the Conservation Area.

The scope of the EA and LPP is limited to the acquisition of lands, in less-than-fee-title and fee-title, within the Conservation Area. The EA and LPP are not intended to cover the development and/or implementation of detailed, specific programs for the administration and management of those lands. A conceptual management plan and interim compatibility determinations (Appendix B) will guide management and public use on fee-title lands acquired within the Conservation Area and where appropriate, less-than-fee lands (i.e., conservation easements) until a comprehensive conservation plan and compatibility determinations are developed.

The following definitions aid in outlining the Preferred Action:

The specific action identified in this LPP will be to establish the Everglades to Gulf Conservation Area (LPP Figure 2.) which will include less-than-fee-title and fee-title acquisition. The Conservation Area will provide the Service with the opportunity to engage with partners and local landowners on conservation activities such as acquiring conservation easements and fee-title lands, wetland restoration management actions, recreational opportunities, and provide cultural, traditional, and medicinal use opportunities.

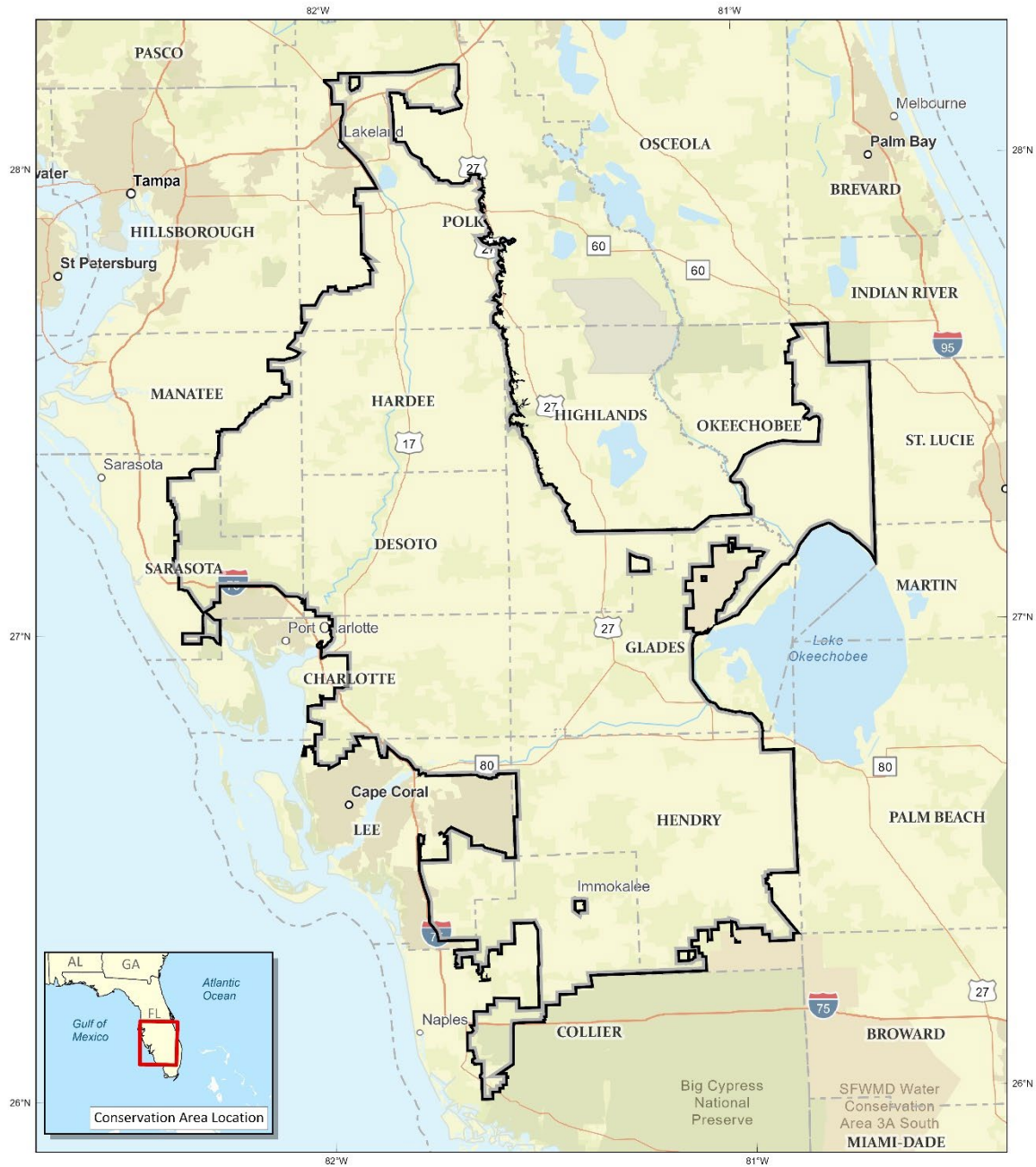


U.S. Fish & Wildlife Service

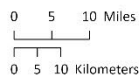
### Everglades to Gulf Conservation Area

Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk and Sarasota Counties

Conservation Area Boundary



Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 12/8/2023  
 Primary Data Sources: USFWS  
 Base map: ESRI  
 F-DEP Albers HARN-MAD 83  
 ArcGIS Pro v3.1



- Conservation Area Boundary
- County Boundary

**LPP Figure 2. Everglades to Gulf Conservation Area**

## **THE MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM (REFUGE SYSTEM)**

"... to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans" (National Wildlife Refuge System Improvement Act of 1997).

## **REFUGE UNIT PURPOSE(S), VISION, AND GOALS**

Emphasizing migratory birds, listed species, and wetlands, while protecting the important fish and wildlife resources of this landscape, the listed purposes have been developed for the establishment of the Conservation Area.

"... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. 668dd(a)(2) (National Wildlife Refuge System Administration Act)

"...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." 16 U.S.C. 1534 (Endangered Species Act of 1973)

"...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

"...to conserve and protect migratory birds..., including species that are listed...as endangered species or threatened species, and to restore or develop adequate wildlife habitat." 16 U.S.C. §715i (Migratory Bird Conservation Act)

"...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude..." 16 U.S.C. 742f(b)(1) "...for the development, advancement, management, conservation, and protection of fish and wildlife resources...." 16 U.S.C. 742f(a)(4), (Secretarial powers to implement laws related to fish and wildlife) (Fish and Wildlife Act of 1956)

"...suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. 460k-1  
"... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. 460k-2 [Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended]

The vision for Everglades to Gulf Conservation Area is:

Together with our partners, we will preserve wildlife corridors containing a mosaic of natural communities and working lands with rich cultural history and traditions for the benefit of all people. All species and habitats will be protected and contain the resiliency to facilitate adaptation due to the impacts of climate change and development. Additionally, protection and management actions within the Everglades to Gulf Conservation Area will improve water quality and water storage, provide wildlife dependent recreational opportunity, and support Florida's family farms and ranches.

### Conservation Area Goals and Objectives

Four overarching goals were developed for the Conservation Area. The goals are intentionally broad, descriptive statements of the desired future conditions. They embrace the purposes and vision statement. The goals address a functional conservation landscape; habitat for fish and wildlife; water quality, quantity, and storage; opportunities for Tribal Nations; and wildlife-dependent recreation, as listed.

**1. Protect, Restore, and Manage Habitats for Fish and Wildlife.** The Conservation Area will aid in the maintenance and recovery of Florida panther populations and protect many rare and endemic species, including over 100 Federally and State-listed Threatened and Endangered species, such as the Florida scrub-jay, Audubon's crested caracara, wood stork, Florida bonneted bat, Everglade snail kite, Eastern indigo snake and sand skink, thereby protecting natural communities found only in south Florida and species adapted to Florida's unique subtropical environment. In addition, the Service will conserve important rural landscape mosaics, including ranchlands, to combat habitat fragmentation and protect wildlife corridors essential to many species' viability and adaptation responses to climate change. Important wildlife corridors essential for listed species viability and adaptation opportunities in response to climate change will be provided. The Conservation Area will also provide opportunities to restore important wetlands, provide water storage, and improve water quality for the Greater Everglades, Myakka River, Peace River, Fisheating Creek, and Caloosahatchee River watersheds, and coastal estuaries including Charlotte Harbor.

**2. Provide Science-Driven Landscape-Level Conservation.** The Conservation Area will contribute to protection of a functional conservation landscape composed of a mosaic of natural communities and ranchlands that will prevent further habitat fragmentation, provide functional habitat for wide-ranging listed species, and facilitate watershed and prescribed fire management. The Conservation Area will allow the Service to protect and restore water resources within multiple watersheds to improve water quality and quantity; maintain and enhance ecological integrity, recreation, and the economy; and improve and secure water supplies, benefiting humans and wildlife. The landscape-scale ecological priorities within the Conservation Area are identified with the best available ecological and spatial data based on conservation science, landscape ecology, tribal indigenous knowledge, and spatial analysis.

**3. Conserve Important Lands and Waters for the Benefit of All People.** Visitors to the Conservation Area fee-title lands will enjoy opportunities for compatible wildlife-dependent recreation which may include hunting, fishing, wildlife observation, photography, environmental education, and interpretation, while increasing knowledge of and support for conservation. Fee-title lands could also provide cultural, traditional, and medicinal use opportunities. Willing landowners could protect their private land through conservation easements and stewardship programs while providing important ecosystem services for all people. The Everglades and southwest Florida watersheds require protection of remaining functional wetlands and floodplains, and



restoration of hydrology to avoid further impairment and improve water quality and supply including Charlotte Harbor, an essential economic engine for south and southwest Florida.

**4. Promote Conservation Partnerships Working with Adaptive and Flexible Tools and Strategies.** Collaboration in science, education, research, and land acquisition (including conservation easements) will facilitate the development of new partnerships and strengthen existing partnerships with natural resource organizations, private landowners, government agencies, Tribal Nations, and local decision-makers. The partnerships will help inform land management decisions and encourage continued responsible stewardship of natural and rural landscapes essential for listed species protection, associated natural resources, while facilitating resiliency and adaptation to climate change.

Objectives associated with the Conservation Area would:

- Assist with the restoration of the Everglades.
- Enhance the viability and recovery of the Florida Panther and over 100 other threatened and endangered species and 17 At-risk species.
- Protect and restore watersheds and coastal estuaries for ecological integrity, water supply, recreation, and the economy especially the Caloosahatchee River watershed, Fisheating Creek watershed, the Peace River watershed, the Myakka River watershed, Okaloacoochee Slough, Corkscrew Swamp, and Charlotte Harbor.
- Maintain unique natural communities and species adapted to the unique subtropical environment.
- Conserve habitat diversity and complexity.
- Improve and increase resiliency.
- Facilitate protection of a regional scale wildlife corridor through the protection of a functional landscape mosaic of natural communities and ranchlands.
- Facilitate resiliency and adaptation to climate change through protection and restoration of freshwater flows into coastal wetlands and protecting coastal to inland connectivity to provide a functional retreat for coastal species.
- Complement other conservation initiatives.
- Foster existing partnerships and seek new partnerships.
- Conserve cultural sites and landscapes.
- Provide cultural, traditional, and medicinal use opportunities on fee-title lands.
- Provide wildlife dependent recreational opportunities on fee-title lands.

## II. RESOURCES

### RESOURCES TO BE PROTECTED

For a complete description of resources (physical, biological, socioeconomics, cultural) to be protected, see Chapter II. Affected Environment of the Environmental Assessment (Appendix A) for the Everglades to Gulf Conservation Area.

#### Habitat and Wildlife Resources

##### Habitat

Six focal natural communities are found within the proposed conservation area: dry prairie, freshwater forested wetland, upland hardwood/hammock, high pine and scrub, pine flatwoods, and wet prairie and freshwater marsh. These focal natural communities were created by lumping together focal natural communities from the Southwest Florida Landscape Conservation Design (Morris et al. 2022). A table describing the crosswalk between the focal natural communities used in this document and those in the Southwest Florida Landscape Conservation Design is available in LPP Table 1, along with the number of protected and unprotected acres for each focal natural community. The focal natural communities are shown in LPP Figure 3.

**LPP Table 1. Focal Natural Communities (Protected and Unprotected). Source: Morris et al. (2022); Florida Fish and Wildlife Conservation Commission and Florida Natural Areas Inventory (2022)**

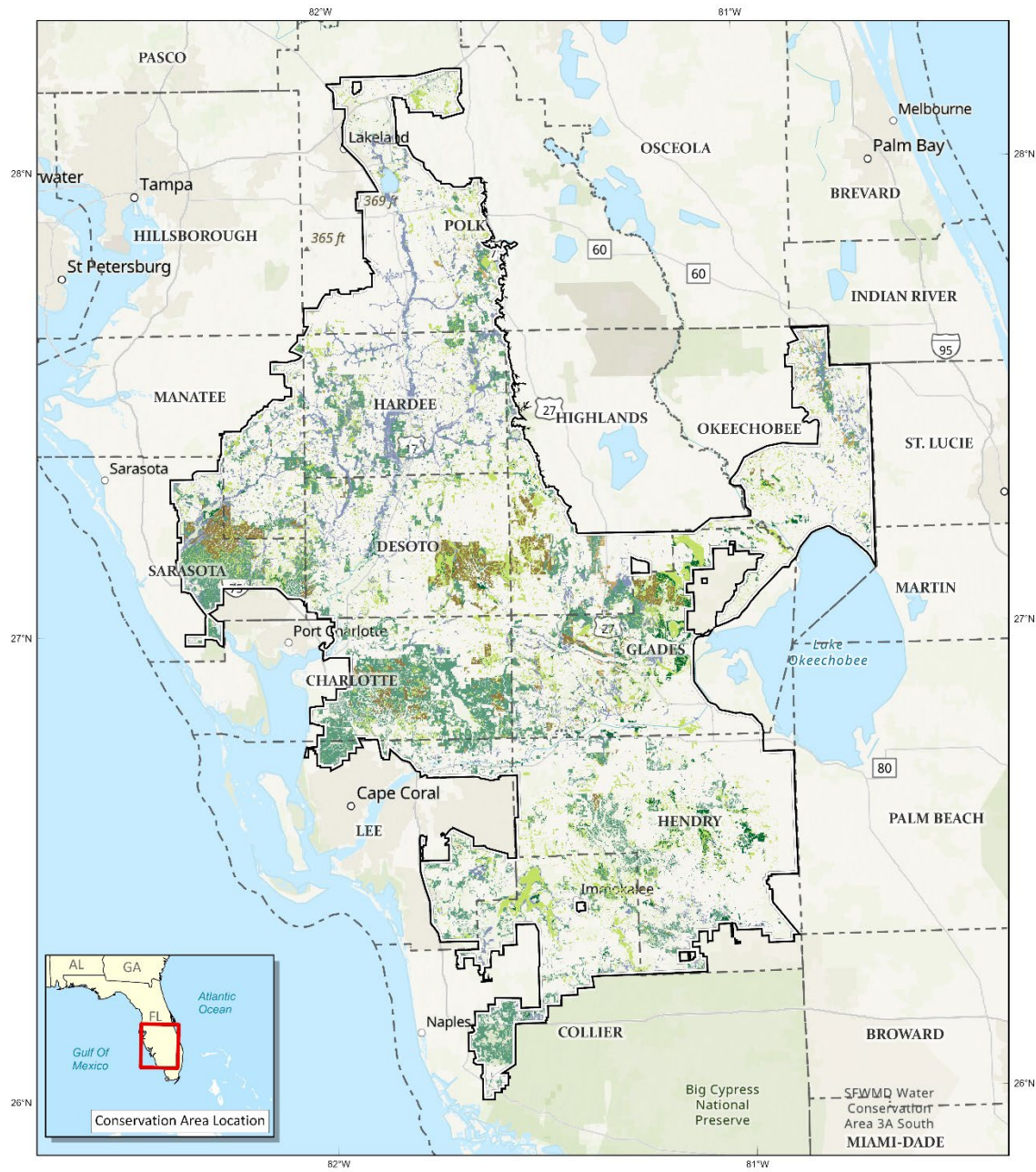
CA Map Unit	SWFLCD Focal Natural Community	Protected (acres)	Unprotected (acres)	Total
Dry Prairie	Dry Prairie	55,680	23,285	78,965
Freshwater Forested Wetland	Bay Wetland	2,959	4,733	7,692
Freshwater Forested Wetland	Cypress/Pine/Cabbage Palm	4,543	18,991	23,534
Freshwater Forested Wetland	Freshwater Hardwood Wetland	37,700	131,621	169,231
Freshwater Forested Wetland	Hydric Hammock	6,823	4,092	10,915
Upland Hardwood/Hammock	Upland Hammock	21,281	44,802	66,083
Upland Hardwood/Hammock	Upland Hardwoods	497	1,236	1,733
High Pine and Scrub	Sandhill	641	12	653
High Pine and Scrub	Scrub	4,904	11,009	15,913
Pine Flatwoods	Hydric Flatwoods	48,880	27,753	76,633
Pine Flatwoods	Mesic Flatwoods	150,616	171,746	322,362
Pine Flatwoods	Scrubby Flatwoods	6,974	8,647	15,621
Wet Prairie and Freshwater Marsh	Freshwater Marsh	67,272	186,455	253,727

Wet Prairie and Freshwater Marsh	Wet Prairie	23,926	47,881	71,807
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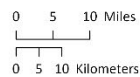


### Everglades to Gulf Conservation Area

Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk and Sarasota Counties



Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 12/20/2023  
 Primary Data Sources: SWFLCD, FL CLC 3.6  
 Basemap: ESRI  
 FDEP Ablers HARN- NAD 83  
 ArcGIS Pro v3.1



- Conservation Area Boundary
- County Boundary

- Focal Natural Communities
- Dry Prairie
  - Freshwater Forested Wetland
  - Upland Hardwood/Hammock
  - High Pine and Scrub
  - Pine Flatwoods
  - Wet Prairie and Freshwater Marsh

LPP Figure 3. Focal Natural Communities.

## **Wildlife**

The variety of habitats found in the Conservation Area supporting a range of wildlife, including various amphibians and reptiles that tend to stay in localized areas to wide-ranging species such as Florida black bear. (Chapter II in the EA contains more detailed information about the wildlife of this area.) Numerous bird species, both resident and migratory, utilize project area habitats for foraging, loafing, and breeding. Common mammal species include white-tailed deer, black bear, raccoon, opossum, various rodents, and bats. The Conservation Area hosts 18 Birds of Conservation Concern and its waters provide habitat for at least 70 fish species, most of which are found across peninsular Florida. Additionally, more than 500 amphibian, reptile, bird, and mammal species have been identified within the Conservation Area.

## **Threatened and Endangered Species**

As is further detailed in the Affected Environment chapter of the EA, the Conservation Area will provide habitat for many federal and State listed species. In addition, the EA discusses habitat needs of several listed species and factors contributing to population declines. Listed species include most major taxonomic groups. There are over 100 Federally or State listed or candidate plant and animal species in the Conservation Area. A more comprehensive list of federal, federal at-risk, State, and conservation birds of concern species found throughout the 12 counties encompassing the Conservation Area can be found in the EA (Appendix A).

## **THREATS TO THE RESOURCES**

A variety of factors have been implicated in the decline of habitats and wildlife species in the Conservation Area. In addition to habitat loss, the alternation of the area's hydrology and decline in water quality are of concern. Most of the threats summarized below are likely to adversely affect habitats with negative consequences to a range of species.

### **Waterflow and Water Quality**

The estuaries of Southwest Florida in the Caloosahatchee and Greater Everglades watersheds are impacted by poor water quality due to excess nutrients, as well as the quantity and timing of water delivery from Lake Okeechobee. Increased water storage and treatment in the Greater Everglades ecosystem is needed to achieve the goals of Everglades restoration. Protection and restoration of the Fisheating Creek watershed is essential for restoration of Lake Okeechobee and all downstream ecosystems.

The Peace and Myakka River watersheds are crucial to a healthy Charlotte Harbor Estuary an estuary of national significance and designated by Congress and Gulf of Mexico. The watersheds are increasingly impacted by development, intensive agriculture, and phosphate mining, but there are also important opportunities to protect remaining natural uplands, wetlands, and ranchlands that all contribute to water resource protection. Protection of lands within the Peace River watershed will help protect critical water resources and its significance to water resources becomes even more important given future mining impacts to the river and Charlotte Harbor.

### **Climate change**

Greenhouse gas emissions caused by human activities have caused the Earth to warm, with the global surface temperature increasing faster since 1970 than in any other 50-year period over at least the last 2000 years (Intergovernmental Panel on Climate Change [IPCC] 2023). From 2011–2020, the global temperature was 1.1°C higher than from 1850–1900. Larger increases have occurred over land (1.59°C) than over the ocean (0.88°C) (IPCC 2023). The primary sources of greenhouse gas emissions include unsustainable energy use, land use and land-use change, and consumption-based lifestyles (IPCC 2023).

Increasing temperatures have contributed to glacial melting and the thermal expansion of ocean water, resulting in sea level rise. Historically, the average rate of global sea level rise was 1.3 mm per year between 1901 and 1971, increasing to 1.9 mm per year between 1971 and 2006, and further increasing to 3.7 mm per year between 2006 and 2018 (IPCC 2023). Human influence is certain to be the main driver of these increases since at least 1971 (IPCC 2023). Florida is extremely vulnerable to the effects of sea-level rise due to a combination of low land elevations, a high-water table, peninsular geography of being surrounded by ocean on three sides, susceptibility to tropical cyclones, and a large and growing human population that is mostly concentrated along the coasts (Noss et al. 2014). Sea-level rise and increased intensity of storm surges in Florida are leading to the erosion and saltwater inundation of beaches and barrier islands, greater property damages, saltwater intrusion into drinking water supplies, and adverse impacts on coastal ecosystems and species (Noss 2011). The National Oceanic and Atmospheric Administration (NOAA) estimates that by 2060, sea level off the coasts of Naples and Fort Myers will rise by 1.4 ft under their intermediate scenario and 1.9 ft under their intermediate-high scenario (NOAA 2023). Scientists are confident sea levels will continue to rise during the coming decades, likely worsening these impacts.

Human-induced climate change has caused substantial damage to Earth's terrestrial and aquatic ecosystems. Mass wildlife mortality events have been recorded worldwide on land and in the ocean, while ecosystems have experienced increasingly irreversible changes. Florida's species are vulnerable to these climate change impacts, out of 1,200 species tracked by the Florida Natural Areas Inventory, housed within the Florida Resources and Environmental Analysis Center at Florida State University, 25% are likely to lose at least half of their current habitat due to sea level rise alone (Stys et al. 2017). Florida's wildlife populations and ecosystems are likely to experience many challenges related to climate change, including but not limited to the inability of species to migrate inland due to human modification of the landscape Noss et al. (2014); negative impacts from phenological changes, such as mistimed migrations (Robinson et al. 2009); changes in the population dynamics of species with temperature-dependent sex determination (Laloë et al. 2016); disruption of synchronized co-evolutionary relationships, like that between plants and their pollinators; enhanced fitness and range shifts of invasive species (Rahel et al. 2008, Bellard et al. 2013); vegetation root zone saltwater intrusion (Miller et al. 2022); and habitat migration and alteration (Pearlstine et al. 2010, Koch et al. 2015, Nungesser et al. 2015). The negative impacts on Florida's wildlife and habitats associated with climate change are expected to increase as warming continues.

Global warming is also leading to changes in Florida's precipitation patterns (Miller et al. 2022). Annual precipitation has increased by 5% since 1900 in southwest Florida (U.S. Global Change Research Program 2018). Since the 1970's, heavy downpours have increased in frequency and intensity by 27% and are increasing flooding along barrier islands, coastal beaches, and in low-lying areas. Model simulations predict changes in seasonal precipitation for southwest Florida with increases in dry season rainfall up to 20% and decreases in wet season rainfall up to 30% (NOAA 2017). A decrease in wet season rainfall will lead to lower water levels and increased droughts during a time that plants are water-dependent for growing and flowering and wetland bird species are foraging. The change in timing of rainfall will stress ecosystems and cause changes in vegetation types. An increase in dry season rainfall will increase water levels and hydroperiods during the important time of year when many birds are preparing to breed and nest, migratory birds are stopping over to forage, alligators are preparing nesting holes, and plants are becoming more dormant (Miller et al. 2022).

The impacts associated with climate change are not restricted to wildlife and ecosystems. Because humans are intimately intertwined with the environment, climate change also affects humans and human systems. Changes in freshwater availability and the productivity of agriculture, livestock, and fisheries have been observed,

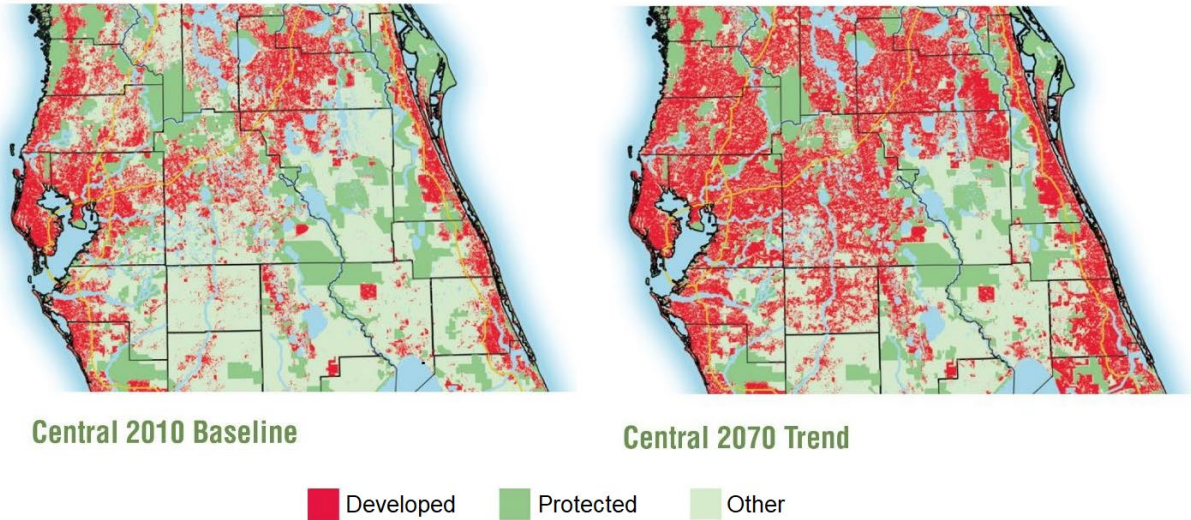
resulting in food and water insecurity (IPCC 2023). Climate change has also caused adverse impacts on human health and well-being related to infectious diseases (Lafferty 2009), heat stress, respiratory illnesses (Barnes et al. 2013), cardiovascular issues (De Blois et al. 2015, Giorgini et al. 2017), malnutrition (Lieber et al. 2022), mental health (Berry et al. 2010, Cianconi et al. 2020), and displacement (Warner et al. 2009). In addition, economic damages from climate change have been detected (Stanton and Ackerman 2007, Hsiang et al. 2017, Auffhammer 2018) in climate-exposed sectors, such as realty, agriculture, forestry, fishery, energy, and tourism (IPCC 2023). Further, urban infrastructure, including transportation, water, sanitation, and energy systems, has been compromised by climate-related events (IPCC 2023). These documented impacts are concentrated amongst economically and socially marginalized urban residents and are driven by changes in multiple physical climate conditions, which are increasingly attributed to human influence (IPCC 2023).

### **Development**

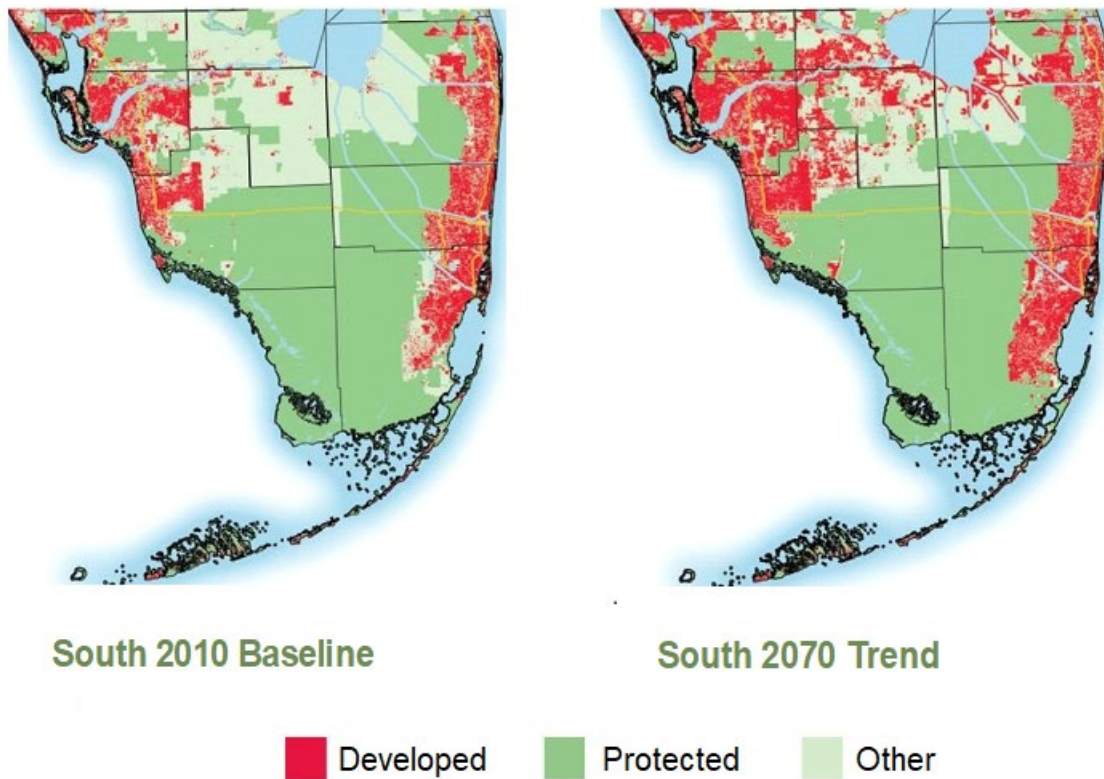
Development Southwest Florida is growing rapidly, experiencing extreme human population growth, fast-paced and largescale habitat loss due to new development, and rapidly expanding coastal development. Coastal development is spreading further inland and threatening important habitats, watersheds, and a sustainable rural landscape (Volk et al. 2017). Though the growth rate fluctuates, Florida's population increased by approximately 2.7 million people between 2010 and 2020 (U.S. Census Bureau n.d.). Over 25% and 15% of central (LPP Figure 4) and south (LPP Figure 5) Florida's land was developed as of 2010 (Carr and Zwick 2016). By 2070, the percentage of developed land within central and south Florida is expected to increase to 48.2% (LPP Figure 4) and 30.4% (LPP Figure 5), respectively (Carr and Zwick 2016). Further, the population of the 12 counties within the boundary is expected to grow by over 1.1 million people by 2050 (Rayer and Wang 2022), contributing to the projected urbanization of 280,400 acres or 7% of the Conservation Area (Southeast Conservation Adaptation Strategy 2022). This population growth, coupled with tourism, has exacerbated the conversion of natural and semi-natural lands to urban land uses and expanded the loss of biodiversity and ecosystem services (Volk et al. 2017).

In addition to development, the agricultural industry has also transformed Florida's natural landscapes. As of 2010, 40.3% of central Florida and 29.9% of south Florida is used for agricultural purposes, including croplands and livestock (Carr and Zwick 2016). Ranching is currently a predominant use in south-central and southwest Florida, though these ranches also have significant value for prairie, wetland, and wide-ranging wildlife species and have an important role in water storage and conservation. These ranches are threatened by conversion to development, though in some cases also from agricultural intensification. Currently, the State is on track to decrease the percentage of land used for agriculture from 40.3% to 28.9% in central Florida (LPP Figure 4) and 29.9% to 21.5% in south Florida (LPP Figure 5) by 2070, with some of the agricultural acreage being lost to development (Carr and Zwick 2016).





**LPP Figure 4. Projected 2070 development trends in central Florida. Image source: Carr and Zwick (2016).**



**LPP Figure 5. Projected 2070 development trends in south Florida. Image source: Carr and Zwick (2016)\*.**

\*Americans with Disabilities Act (ADA) Compliance Disclaimer: The U.S. Fish and Wildlife Service is committed to ensuring its electronic documents are accessible to all users. There may be some third-party images and maps within this document that are not ADA compliant at this time. Please contact [southeast\\_fws\\_planning@fws.gov](mailto:southeast_fws_planning@fws.gov) for further assistance.



### **Invasive Exotic Species**

The threats discussed above all contribute to the proliferation of invasive exotic species in south Florida. The climate is conducive to the establishment and expansion of many species from around the globe. Often these species outcompete endemic species that become stressed due to changes in water flow and availability, climate change, and slower rates of development that allow invasive species to become dominant. In addition, invasive, exotic species change habitat for native wildlife species. The habitat changes may result in loss of food resources and loss of cover that adds another source of stress on these species.

Treatment of invasive, exotic species is costly and time-consuming. Typical treatment methods include prescribed fire, chemical treatment, and manual removal. The ability to use these treatments on a large scale is important to have a significant impact on the presence of these species. Development and dense populations make some treatments more difficult to implement.

### **RELATIONSHIP OF PROJECT TO LANDSCAPE CONSERVATION GOALS AND OBJECTIVES**

The Conservation Area will contribute to many landscape conservation goals and objectives, as well as partner efforts, including international, national, and regional conservation plans and initiatives. These include but are not limited to plans and initiatives listed below.

#### *International:*

#### **North American Bird Conservation Initiative (NABCI 2022)**

The North American Bird Conservation Initiative and its partners work to advance national and international priorities in bird conservation. Most of the work is accomplished through its subcommittees, which focus on crucial bird conservation needs. The United States North American Bird Conservation Initiative Committee recognizes seven formal subcommittees: Communications, Human Dimensions, International, Monitoring, Legislative and Policy, Private and Working Lands, and State of the Birds. The State of the Birds report uses the latest bird monitoring and scientific data to assess the status and health of all U.S. bird species and promote birds as indicators of overall environmental health and human well-being.

#### **North American Waterfowl Management Plan (NAWMP 2018)**

The goals of NAWMP revision are: 1) Abundant and resilient waterfowl populations to support hunting and other uses without imperiling habitat; 2) Wetlands and related habitats sufficient to sustain waterfowl populations at desired levels, while providing places to recreate and ecological services that benefit society; and 3) Growing numbers of waterfowl hunters, other conservationists and citizens who enjoy and actively support waterfowl and wetlands conservation. The 2018 Plan update added eight recommendations:

1. Focus conservation actions on waterfowl habitat and population management objectives and incorporate social science into planning and program delivery.
2. Help people understand the opportunities for conservation and outdoor recreation resulting from NAWMP and how society benefits from waterfowl habitat.
3. Compel people to take action to conserve waterfowl habitat.
4. Identify key geographic areas where the best opportunities exist to meet the needs of waterfowl and people.
5. Establish a process to review and update Plan objectives every 10 years and provide guidance on implementation.

6. Share knowledge from all work to integrate and balance the needs of habitat, waterfowl, and people.
7. Bolster training programs for future waterfowl management professionals.
8. Replace the Interim Integration Committee (IIC) with a new system of liaisons between the Plan Committee and the working groups and appoint ex-officio members from the working groups to the Plan Committee.

The Conservation Area directly supports the goals and recommendations of the NAWMP through wetland conservation, outdoor recreation, and strategic land conservation.

#### **North American Waterbird Conservation Plan (Kushlan et al. 2002)**

Waterbird Conservation for the Americas, a partnership of organizations and individuals, developed the North American Waterbird Conservation Plan in 2002 to conserve and manage 210 species of seabirds, waterbirds, marshbirds, and wading birds in North America, Central America and the Caribbean. Colonial nesters represent 80% of the species covered by the Plan of those species, one-third are considered to be at serious risk of population declines. Contaminants, destruction of inland and coastal wetlands, hydrologic change, and habitat loss are some of the primary threats to waterbirds identified in the Plan. Conservation of waterbirds through landscape-level protection is directly supported by the Conservation Area.

#### **Partners in Flight North American Landbird Bird Conservation Plan (Rosenberg et al. 2016)**

The mission of Partners in Flight is: "Keeping common birds common and helping species at risk through voluntary partnerships." Partners in Flight is a network of more than 150 organizations engaged in land management, monitoring, education, outreach, policy, science, and research with a goal of stopping or reversing population declines before species need to be listed as threatened or endangered. Partners in Flight strategic goals include:

- Maintain healthy bird populations, in natural numbers, in healthy habitats and ecosystems.
- Keep species from becoming threatened or endangered through proactive measures and science-based planning.
- Promote full life-cycle conservation of migratory birds throughout the Western Hemisphere.
- Promote the value of birds as indicators of environmental health and human quality of life.

Recommendations in the Partners in Flight North American Landbird Conservation Plan include providing funding for existing and new protected areas, create corridors of high-quality habitat, protect vital surface water sources, and reduce habitat loss and degradation. The Conservation Area supports these and many other recommendations and goals of the Partners in Flight North American Landbird Conservation Plan.

#### *National:*

#### **Natural Resources Conservation Service**

The Agricultural Conservation Easement Program (ACEP) provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits. Under the Agricultural Land Easements component, NRCS helps Tribal Nations, state and local governments and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land. Under the Wetlands Reserve Easements component, NRCS helps to restore, protect, and enhance enrolled wetlands. NRCS easement programs are very popular in Florida and well-funded. The Wetland Reserve Easement (WRE) Program under the NRCS ACEP is an easement program that purchases conservation easements on degraded or former wetlands in need of restoration. NRCS prioritizes wetlands that have been converted into other agricultural uses. NRCS

prioritizes applications based on the easement's potential for protecting and enhancing habitat for migratory birds and other wildlife. WRE's are more restrictive than other easements. NRCS has the right to restrict grazing rights for restoration purposes. NRCS has not done this and have indicated it is highly unlikely they ever will, as cattle are an important management tool in Florida. A reduced rate grazing option is also potentially available. WRE's tend to have a higher dollar value than other easements, due to their restrictive nature. The Agricultural Land Easement (ALE) Program is a partnership program and is geared for working landscapes. NRCS provides financial assistance to eligible partners for purchasing ALE's that protect the agricultural use and conservation values of eligible land. Eligible partners include Tribal Nations, state and local governments and non-governmental organizations that have farmland or grassland protection programs. The ALE program will provide up to 50% match for working agricultural lands and 75% where there are grasslands of special significance. NRCS does not purchase these easements, rather they contribute to the partner that is acquiring the easement. The State of Florida's Rural and Family Lands Protection Program (RFLPP) has been successfully partnering with the NRCS ALE program for several years, as have some local governments and land trusts.

### **U.S. Shorebird Conservation Plan (Brown et al. 2001)**

In 2000, partners from state and federal agencies and non-governmental organizations across the country pooled their resources and expertise to develop a conservation strategy for migratory shorebirds. The U.S. Shorebird Conservation Partnership (USSCP) provides a scientific framework to determine species, sites, and habitats that most urgently need conservation action. The main goals of the plan are to ensure that adequate quantity and quality of shorebird habitat is maintained at the local level and to maintain or restore shorebird populations at the continental and hemispheric levels.

Shorebird related activities are coordinated through the Migratory Bird Program, which support the USSCP coordinator. In addition to administering and facilitating USSCP activities, the national coordinator assists the U.S. Fish & Wildlife Service regions with the development and implementation of shorebird monitoring efforts, works with the National Wildlife Refuge System on habitat protection and inventory and monitoring, coordinates with the Service's international programs on shorebird conservation, and collaborates with Endangered Species program on listed and candidate shorebird species.

### **Partners for Fish and Wildlife**

The Partners for Fish and Wildlife Program of the U.S. Fish and Wildlife Service consults with landowners to help them conserve and improve wildlife habitat. Landowner conservation is important because nearly 70 percent of land in the United States is privately owned. Public and private landowners are critical partners in ensuring the health and sustainability of America's fish, wildlife and plant species.

Projects are voluntary and customized to meet landowners' needs. Participating landowners continue to own and manage their land while they improve conditions for wildlife. Many Partners for Fish and Wildlife projects take place on working landscapes such as forests, farms and ranches. Partners for Fish and Wildlife focus efforts on areas of conservation concern, such upland forests, wetlands, native prairies, marshes, rivers and streams. Partners for Fish and Wildlife design projects to benefit federal trust species including migratory birds, endangered, threatened and at-risk species.

### **Forest Stewardship Program**

The Forest Stewardship Program (FSP) of the U.S. Forest Service works in partnership with state forestry agencies, cooperative extension, and conservation districts to connect private landowners with the information and tools they need to manage their forests and woodlands. Actively managed forests provide timber, fuel wood,

wildlife habitat, watershed protection, recreational opportunities, and many other benefits. They also benefit adjacent National Forest System lands by creating healthier, more resilient landscapes overall.

The Forest Stewardship Program provides resources for landowners and practitioners to promote healthy, productive forests and woodlands. The Conservation Area complements the goals of the Forest Stewardship Program through conservation of the watersheds, working lands, forests, woodlands, and wildlife habitat in central and southwest Florida.

#### **America's Great Outdoors Initiative (Presidential Memorandum 2010)**

The America's Great Outdoors Initiative was enacted in 2010 to promote and support innovative community-level efforts to conserve outdoor spaces and reconnect Americans to the outdoors. The memorandum called on the Secretary of the Interior, the Secretary of Agriculture, the Administrator of the Environmental Protection Agency, and the Chair of the Council on Environmental Quality to lead the initiative in coordination with the Department of Defense, Commerce, Housing and Urban Development, Health and Human Services, Labor, Transportation, Education, and the Office of Management and Budget to develop a 21st-century conservation agenda that builds on successes in communities across the country, and starts a national dialogue about enjoying America's great outdoors.

#### **Resilient Lands and Waters Initiative (2016)**

This initiative identifies landscape conservation priorities to build resilience. In collaboration with states, Tribes, and other partners, federal agencies designated seven Resilient Lands and Waters Partnerships nationwide during the spring and summer of 2015. One such partnership was Southwest Florida, which aims to determine where to focus various voluntary and non-regulatory conservation incentives. The strong partnerships will provide the needed interagency coordination and landowner and stakeholder involvement to apply incentives to meet the conservation targets for this region and provide resilience against future threats.

#### **The Great American Outdoors Act (Presidential Memorandum 2020)**

This landmark conservation law, enacted in 2020, authorizes the use of up to \$1.9 billion a year in energy development revenues for five years for needed maintenance to critical facilities and infrastructure in our wildlife refuges, national parks, forests, recreation areas and American Indian schools. The law also authorizes the use of \$900 million in royalties from offshore oil and natural gas drilling sites to permanently fund the Land and Water Conservation Fund to invest in conservation and recreation opportunities across the country. The U.S. Fish and Wildlife Service infrastructure portfolio drives local economic activity and supports every recreation and conservation activity that occurs on Service lands. Infrastructure is always degrading: As one structural problem is fixed, others develop. Service structures are particularly vulnerable to deterioration because of remote field locations and the increasingly destructive effects of climate change.

#### **America the Beautiful Initiative-Executive Order 140008-Tackling the Climate Crisis at Home and Abroad (Conserving and Restoring America the Beautiful 2021)**

The Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, through the Administrator of the National Oceanic and Atmospheric Administration, and the Chair of the Council on Environmental Quality shall, as appropriate, solicit input from state, local, Tribal Nations, and territorial officials, agricultural and forest landowners, fishermen, and other key stakeholders in identifying strategies that will encourage broad participation in the goal of conserving 30% of our lands and waters by 2030. America the Beautiful is a decade-long challenge to pursue a locally led and voluntary, nationwide effort to conserve, connect, and restore the lands, waters, and wildlife upon which we all depend. The key principles that are guiding the conservation efforts include:

- Pursuing a collaborative and inclusive approach to conservation;
- Conserving America’s lands and waters for the benefit of all people;
- Supporting locally led and locally designed conservation efforts;
- Honoring Tribal sovereignty and supporting the priorities of Tribal Nations;
- Pursuing conservation and restoration approaches that create jobs and support healthy communities;
- Honoring private property rights and supporting the voluntary stewardship efforts of private landowners;
- Using science as a guide; and
- Building on existing tools and strategies with an emphasis on flexibility and adaptive approaches.

The Conservation Area planning process engaged in manner of the key principles identified in the America the Beautiful initiative. If established, the Conservation Area will contribute to conserving 30% of lands and waters for the benefit of all people by 2030.

**Strategic Plan for Responding to Accelerating Climate Change (USFWS 2010)**

This plan's purposes are to (1) explain our strategies for achieving the mission of the U.S. Fish and Wildlife Service, "to work with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people," in the face of accelerating climate change and (2) provide direction for our agency and its employees, defining our role within the context of the Department of the Interior and the larger conservation community. In this plan, the U.S. Fish and Wildlife Service expresses its commitment to the agency's mission and the strategic goals and objectives that must be accomplished to sustain fish and wildlife nationally and internationally. The Conservation Area supports this initiative by providing wildlife corridors essential for species viability and adaptation opportunities in response to climate change.

*Regional:*

**Southeast Conservation Adaptation Strategy (2022)**

The Southeast Conservation Adaptation Strategy is a shared, long-term vision for lands and waters that sustain fish and wildlife populations and improve human quality of life across the southeastern United States and the Caribbean. It provides a regional focus for investments across organizations, disciplines, and partnerships on shared and proactive goals. The Southeast Conservation Adaptation Strategy aims to identify and support the steps necessary to regionally plan, implement, and evaluate actions that sustain habitat, mitigate threats, and adapt to desired conditions. As a result, it unifies the delivery of conservation activities and supports innovation that can be applied across the region.

**Southeast Conservation Blueprint (2022)**

The Blueprint is a living, spatial plan identifying priority areas for a connected network of lands and waters across the Southeast and Caribbean. The Blueprint identifies priority areas based on natural and cultural resource indicators representing terrestrial, freshwater, and marine ecosystems. Across most of the region, a connectivity analysis identifies corridors that link coastal and inland areas and span climate gradients. Because the Blueprint is a living plan, it evolves, driven by improvements to the underlying science, our growing understanding of on-the-ground conditions, and input from new partners.

**The Nature Conservancy’s Resilient Lands Analysis (Anderson et al. 2016)**

The Nature Conservancy’s Resilient Sites for Terrestrial Conservation project identifies the areas estimated to be the most climate resilient for each of 62 characteristic environments in Eastern North America. This new version, released in October 2016, builds on and replaces two previously released studies for the Northeast and

Southeast regions. The study developed new methods for mapping species-relevant microclimates and highly connected lands to identify where species are most likely to persist. A committee of 58 scientists from around the region reviewed and guided the project.

### **The Coastal & Heartland National Estuary Partnership formerly Charlotte Harbor National Estuary Program (CHNEP)**

The CHNEP was established on July 6, 1995, following a nomination submitted by the Governor Chiles of Florida to the US Environmental Protection Agency. It is a non-regulatory, science and consensus-based partnership that brings local, state and federal governmental entities together with the private sector and the public to advance common environmental initiatives. CHNEP collectively works towards fulfilling its strategic plan – called the Comprehensive Conservation and Management Plan (CCMP). The CCMP focuses on four main Action Plans, including water quality improvement, hydrological restoration, fish, wildlife, and habitat protection, and public engagement. It provides cutting edge scientific research and restoration, environmental education and public outreach, as well as supports and convenes partners and stakeholders throughout the Central and Southwest Florida region to protect and restore water and wildlife.

Additionally, CHNEP facilitated development of the Habitat Restoration Needs (HRN) Plan which serves as a guide for habitat management, connectivity preservation and conservation, sustainability, restoration, and resiliency throughout the CHNEP area. The Habitat Resiliency to Climate Change Project (HRCC) undertaken by CHNEP takes a closer look at habitat migration and impacts the watershed may experience due to most recent climate change and sea level rise predictions. The proposed Conservation Area would build upon the existing partnership efforts in improving and protecting water quality and quantity and restoration and protection of natural resources within the CHNEP estuaries and their watersheds, including Charlotte Harbor, Peace River, Myakka River, and Caloosahatchee River.

The Conservation Area will support recommendations from the CHNEP Habitat Restoration Needs and Habitat Resiliency to Climate Change reports, including:

- Reserve pervious coastal areas for tidal wetland habitats to migrate landward with increasing sea level rise.
- Greater preservation/ conservation and regulatory efforts are needed to address the disproportionate losses of native upland habitats in the area.
- Support conservation easement programs on ranch and agricultural lands that serve as Florida panther habitat. Some other upland areas would also benefit from acquisition to preserve habitat value.
- Protect adequate freshwater flows in the tidal rivers to sustain salt marsh and downstream estuaries.

### **Avon Park Air Force Range Joint Land Use Study (Tetra Tech, Inc. et al. 2010)**

The Joint Land Use Study (JLUS) is a collaboration with local cities and counties that includes portions of Polk, Osceola, Highlands, and Okeechobee Counties. The JLUS program encourages cooperative land use planning between military installations and the adjacent communities so future community growth and development are compatible with the training and operational missions of the installation. The JLUS is studying the planned land uses in the area that surround the range, and the military training needs of the armed forces, to determine their compatibility. It is designed to protect public health, safety, and welfare, while safeguarding the ability of the military services and homeland security agencies to provide needed training. A common recommendation for all counties and cities from this study includes developing policies to protect critical areas supporting military readiness and/or environmental conservation, including partnering opportunities with the U.S. Air Force, The Nature Conservancy, Florida Forever, Florida Defense Alliance, South Florida Water Management District, Florida Department of Environmental Protection, and federal agencies to purchase conservation lands. As part

of this program, potential funding sources should be identified and alternative mechanisms to fee-title purchase explored, such as restrictive use easements, aviation easements, land exchanges, and transfer of development rights.

The United States Department of Defense Readiness and Environmental Protection Integration Program is available source to achieve these efforts. The Avon Park Air Force Range Environmental Protection Integration Program benefits interested parties and industries important to the Florida economy, such as agriculture, recreation, and ecotourism. Protected lands and water resources and wetlands include lands of Everglades and the entire Florida water supply. The Conservation Area will provide the framework to work cooperatively with the Department of Defense to purchase conservation easements for the protection of ecological priorities while maintaining military readiness.

### **Comprehensive Everglades Restoration Plan (CERP)**

The CERP was authorized by Congress in 2000 as a plan to restore, preserve, and protect the south Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection. At a cost of more than \$10.5 billion and with a 35 plus year timeline, this is the largest hydrologic restoration project ever undertaken in the United States. The effort is implemented by a federal-state partnership to restore, protect, and preserve the region's water resources by addressing the quantity, quality, timing, and distribution of water. Results of the Conservation Area will improve water quality, quantity, timing, and distribution which will enhance efforts of the CERP.

### **Southwest Florida Comprehensive Watershed Plan (U.S. Army Corps of Engineers (USACE) and SWFCWP 2015)**

The Southwest Florida Comprehensive Watershed Plan, a CERP-related initiative with goals of improving inland and estuarine habitats, natural water regimes, and wildlife populations will be furthered by the proposal. The Southwest Florida Comprehensive Watershed Plan evolved out of the Southwest Florida Feasibility Study (SWFFS), which was initiated in 2001 to identify environmental problems and opportunities in Southwest Florida and develop a comprehensive watershed management plan for the region outside of the CERP geographic area. SWFFS was converted into SWFCWP to better address problems, needs, and opportunities within a regional watershed context and to recommend site-specific project implementation studies. The SWFCWP identifies plans that could be implemented by partners. The Conservation Area can assist in partnerships with others to protect and restore lands and waters of Southwest Florida watersheds.)

### **South Florida Ecosystem Restoration Land Acquisition Strategy (South Florida Restoration Task Force 2010)**

The proposal will be within the boundaries of the South Florida Ecosystem Restoration Land Acquisition Strategy (LAS) (South Florida Restoration Task Force 2010) developed to describe the land acquisition needed for ecosystem restoration projects that are either federally funded or jointly funded by federal and non-federal agencies, and with its appendices, provide a broad picture of all land acquisition initiatives that contribute to restoration. The LAS addresses land acquisition needed to achieve the three strategic goals for South Florida Ecosystem restoration as adopted by the Task Force, as listed.

- Goal 1: Develop the best possible strategies to protect water quality and quantity in the system.
- Goal 2: Restore, conserve, and protect habitats and species.
- Goal 3: Foster compatibility of the built and natural systems.

The LAS provides an update on how these restoration goals will be accomplished through the use of land acquisition strategies designed to ensure that only those private property rights necessary to accomplish the restoration goals are acquired from willing sellers at fair market value. It also measures and reports the

acquisition of identified lands. The LAS presents an overall land acquisition picture for those responsible for South Florida Ecosystem restoration activities and funding. It also provides cooperating agencies with a perspective on how their current and potential land acquisition projects relate and contribute to the vision of the CERP Task Force.

### **Kissimmee River Restoration Project**

In 1992, the U.S. Congress authorized the Water Resources Development Act to implement the Kissimmee River Restoration project, a cost-shared partnership between SFWMD and the USACE. This project was completed in 2020. The Kissimmee River Restoration Project is targeted to restored over 40 square miles of the river/floodplain ecosystem, including 44 miles of meandering river channel and nearly 20,000 acres of wetlands (<https://www.saj.usace.army.mil/Missions/Environmental/Ecosystem-Restoration/Kissimmee-River-Restoration/>). The Conservation Area will enhance the efforts completed by this project to protect portions of the Kissimmee River Watershed.

### **South Florida Multi-Species Recovery Plan (USFWS 1999)**

The 1999 South Florida Multi-Species Recovery Plan is one of the first recovery strategies specifically designed to meet the needs of multiple species that do not occupy similar habitats. The Plan contains ecosystem restoration initiative strategies to recover 68 federally listed threatened and endangered species, and to restore and maintain the biodiversity of native plants and animals in South Florida. The Conservation Area plays a role in the recovery many of the species listed in the Multi-species Recovery Plan, including Audubon's Crested Caracara (*Polyborus plancus auduboni*), Florida ziziphus (*Ziziphus celata*), Pygmy fringe-tree (*Chionanthus pygmaeus*), Garrett's mint (*Dicerandra christmani*), Scrub mint (*Dicerandra frutescens*), Florida perforate cladonia (*Cladonia perforata*), Pigeon wings (*Clitoria fragrans*), Short-leaved rosemary (*Conradina brevifolia*), Highlands scrub hypericum (*Hypericum cumulicola*), Lewton's polygala (*Polygala smallii*), ireweed (*Polygonella basiramia*), Carter's mustard (*Warea carteri*), Florida golden aster (*Chrysopsis floridana*), Snakeroot (*Eryngium cuneifolium*), Florida scrub-jay (*Aphelocoma coerulescens*), Wood stork (*Mycteria americana*), Everglade snail kite (*Rostrhamus sociabilis plumbeus*), American crocodile (*Crocodylus acutus*), Florida grasshopper sparrow (*Ammodramus savannarum floridanus*), Piping plover (*Charadrius melodus*), red-cockaded woodpecker (*Picoides borealis*), sand skink (*Neoseps reynoldsii*), Florida panther (*Puma concolor coryi*), Eastern indigo snake (*Drymarchon couperi*), and bluetail mole skink (*Eumeces egregius lividus*).

*State:*

### **Imperiled Species Management Plan (FWC 2016)**

The Imperiled Species Management Plan (ISMP) was approved by FWC in November 2016, with rule changes in effect as of January 2017, including changes in listing status for 23 species. The goal of Florida's ISMP is "With broad public and partner support, conserve or improve the status of threatened species to effectively reduce the risk of extinction." The ISMP represents a significant and successful collaborative effort between FWC staff, partners, and external stakeholders. This innovative, integrated plan is designed to conserve 60 fish and wildlife species over the next 10 years. The Conservation Area contains several of the ISMP species including: Big Cypress fox squirrel (*Sciurus niger avicennia*), Southern fox squirrel (*Sciurus niger niger*), Everglades Mink (*Neovison vison evergladensis*), Florida mouse (*Podomys floridanus*), Homosassa shrew (*Sorex longirostris*), Sherman's short-tailed shrew (*Blarina carolinensis shermani*), American Oystercatcher (*Haematopus palliatus*), Black Skimmer (*Rynchops niger*), Brown Pelican (*Pelecanus occidentalis*), Florida burrowing owl (*Athene cunicularia*), Florida sandhill crane (*Grus canadensis*), Least Tern (*Sternula antillarum*), Limpkin (*Aramus guarauna*), Little blue heron (*Egretta caerulea*), Reddish egret (*Egretta rufescens*), Roseate spoonbill (*Platalea ajaja*), Snowy egret (*Egretta thula*), Snowy plover (*Charadrius nivosus*), American kestrel (*Falco sparverius*)



*paulus*), Tricolored heron (*Egretta tricolor*), White ibis (*Eudocimus albus*), Florida pine snake (*Pituophis melanoleucus mugitus*), Short-tailed snake (*Lampropeltis extenuate*), Gopher frog (*Lithobates capito*) and Florida tree snail (*Liguus fasciatus*). Conservation efforts made within the Conservation Area will benefit efforts to protect species and habitats identified by ISMP.

### **State Wildlife Action Plan (FWC 2019)**

Florida's State Wildlife Action Plan (SWAP), completed in 2019, is a comprehensive, statewide plan for conserving Florida's wildlife and natural areas for future generations. SWAP highlights Florida's native wildlife and habitats in need, explains the reasons for their conservation need, and outlines specific conservation actions to protect them. SWAP identifies 974 animals and the actions needed to conserve them. It sets goals and measurable objectives for implementing the SWAP. SWAP categorizes the State into freshwater, saltwater, and land systems consisting of forty-five habitat categories. SWAP's goals direct the use of FWC resources, including State Wildlife Grants, and provide opportunities for partners to coordinate on conservation priorities. The implementation goals and objectives, achieved through five State Wildlife Grant funding cycles, includes: research and monitoring; marine and estuarine enhancement; terrestrial habitat integrity; and aquatic habitat resiliency. The SWAP takes an ecosystem-based approach to benefit more species and habitats including Species of Greatest Conservation Need which are State and Federally listed species and declining common species. The SWAP integrates climate-change through the plan and represents the impacts of climate change on all conservation efforts. SWAP also develops a framework for conserving species that live or use urban areas or working lands. FWC's on the ground implementation of SWAP occurs through the development of partnerships with scientists, businesses, landowners and volunteers that possess the necessary expertise to address implementation goals and objectives. The ultimate goal is for Florida's broader conservation community to share ownership of the SWAP, by implementing SWAP conservation actions and pooling financial resources to leverage cooperative conservation efforts. The Conservation Area will complement SWAP by leveraging opportunities through partnerships, protecting natural resources and habitats, and enhance efforts on working lands and conserving the species that live or use these lands.

### **Critical Lands and Waters Identification Project (Oetting et al. 2016)**

The Critical Lands and Waters Identification Project (CLIP) is the Florida Century Commission's flagship project led by Thomas Hocht, Ph.D., of the GeoPlan Center at the University of Florida and Jonathan Oetting of Florida Natural Areas Inventory (FNAI) at Florida State University. CLIP uses science and the best available statewide spatial data to depict Florida's critical environmental resources in a database that can be used as a decision-support tool for collaborative statewide and regional conservation and land use planning to envision and ensure the sustainability of Florida's green infrastructure and vital ecosystem services (Century Commission for a Sustainable Florida 2010). The use of CLIP data was instrumental in the initial development of this proposal. CLIP science recommendations will be vetted with rural landowners, State agencies, regional planning councils, and other stakeholders through the Cooperative Conservation Blueprint Initiative, led by FWC in partnership with the Century Commission and the Cooperative Conservation Blueprint steering committee. The goal is to develop a strategic plan for land and water conservation in Florida, using a new and broader range of conservation incentives with a shared view of the priorities.

### **Florida's Cooperative Conservation Blueprint (FWC 2006)**

The Cooperative Conservation Blueprint (Blueprint) is a multi-partner strategic conservation process initiated in 2006 by the FWC as part of implementing Florida's State Wildlife Action Plan. The process has brought together landowners, businesses, governmental and conservation organizations to collectively build broad agreement on both voluntary and non-regulatory conservation incentives along with a comprehensive vision of wildlife habitat and connectivity priorities to which existing and new incentive ideas can be applied. The goal is to conserve

wildlife and maintain a sustainable economy and a wide range of agriculture and nature-based opportunities, as well as provide clean air and water for the benefit of all Floridians.

The Blueprint builds on the Critical Land and Waters Identification Project (CLIP). The CLIP is a fully integrated set of GIS data layers of priority statewide conservation areas, working landscapes and development areas. The CLIP uses science and the best statewide spatial data to identify Florida's critical environmental resources in a database that can be used as a decision-support tool for collaborative statewide and regional conservation and land-use planning. The Cooperative Conservation Blueprint is about creating a bold vision for our State's future, 25-50 years from today. It is a collaborative effort that integrates environmental, social, and economic considerations to enhance the quality of life for future generations of Floridians.

The Blueprint Regional Pilot was instituted in 2010 to 2014 to focus application of incentives-based conservation landscape planning in south central and southwest Florida. The homogeneity of the landscape, high level of ongoing conservation activities in the region and large tracts of open and working lands made this geographic area particularly useful for on the ground application of the Blueprint process. The Pilot was organized into two main initiatives that included a southwest Florida area corridor mapping effort and a northern Everglades focus on incentive development. Priority conservation areas throughout the region were identified using extensive ecological research and stakeholder involvement. The second initiative involved identification of existing incentives and investigation into new incentives and alternative funding strategies with the potential to protect priority lands. The Conservation Area will build on the ecological priorities and interested party involvement identified by FWC.

### **Florida Wildlife Corridor**

In 2021, Governor Ron DeSantis and the Florida Legislature created the Florida Wildlife Corridor Act which directed the Florida Department of Environmental Protection to encourage and promote investments in areas that protect and enhance the Florida Wildlife Corridor. The Act specifically stated that the Florida Wildlife Corridor is an existing physical, geographically defined area comprised of over 18 million acres, of which 10 million acres are protected conservation lands. Additionally, in 2021, the Florida legislature dedicated \$300 million to support the effort in addition to the \$100 million allocated to Florida Forever Program. The funding is to be used for the acquisition of Florida Wildlife Corridor lands in fee simple or conservation easements.

The Florida Wildlife Corridor refers to the conserved lands and opportunity areas defined as Priority 1, 2 and 3 of the Florida Ecological Greenways Network (FEGN). The FEGN is a statewide database that identifies and prioritizes a functionally connected statewide ecological network of public and private conservation lands. It is the primary data layer used to inform the Florida Forever, Rural and Family Lands Protection Program and other state, federal, and regional land acquisition programs regarding the most important ecological corridors and intact landscapes across the State for protection of Florida's native wildlife, ecosystem services, and ecological resiliency. The Florida Ecological Greenways Network Florida Forever Projects identify "opportunity areas," which are lands and waters within the wildlife corridor that are not conserved lands, and green spaces within the corridor which lack conservation status and/or are contiguous or between conserved lands.

There are 1.46 million acres within the Florida Wildlife Corridor opportunity area that are a high priority for conservation through the State's Florida Forever program. Utilizing the most current scientific analysis of Florida's natural resources, DEP's Division of State Lands triages properties in the same manner as Florida Forever potential acquisitions. Priority is given to lands that preserve, protect, or enhance wildlife habitats and corridors and linkages to agricultural and rural lands. The Florida Wildlife Corridor is envisioned as an added

layer to enhance the Florida Forever program. Its purpose is to build upon the network of public and private lands for safe passage and dispersal routes to maintain healthy populations of plants and animals.

The establishment of the Conservation Area can enhance the effort of the State of Florida and provide the opportunity to leverage funds. The priority ecological areas of the Florida Wildlife Corridor greatly overlap with the identified priorities of the Conservation Area which can assist in creating a contiguous permanently protected corridor for wildlife.

### **Rural and Family Lands Protection Program**

The Rural and Family Lands Protection Program (RFLPP) was created in 2001 by the passage of the Rural and Family Lands Protection Act. The RFLPP is an agricultural easement program led by the Florida Department of Agriculture and Consumer Services (FDACS). The Program recognizes that working agricultural lands are essential to Florida's economic future and are increasingly threatened by urban development. The Program is designed to protect important agricultural lands through the acquisition of permanent land conservation easements. The Program is designed to protect valuable agricultural lands, create easement documents that provide for sustainable agricultural practices and reasonable protection of the environment without interfering with agricultural operations in a way that could put the continued economic viability of these operations at risk. The purpose of the program is to protect working landscapes, and easements are not restrictive. The program is very popular among landowners who will like to continue their agricultural operations. Projects are ranked based on the quality of their agricultural operations. To date, nearly 69,000 acres of working lands have successfully been protected through acquired conservation easements. Some of the Conservation Area fee-title and conservation easement lands may also be identified for acquisition by RFLPP. The Service and our State partners in FDACS will work collaboratively to identify parcels for acquisition and we may partner to leverage funding to protect parcels identified with ecological importance. (Sources: LCD and <https://www.fdacs.gov>)

### **Florida Forever Program**

The Florida Forever Program, created by the Florida Legislature in July 2001, follows in the footsteps of earlier successful land acquisition programs in the State of Florida by continuing to focus land acquisition efforts in several resource categories including natural communities, forest resources, plants, fish and wildlife, freshwater supplies, coastal resources, geologic features, historical resources, and outdoor recreational resources. Lands have been proposed for acquisition in the FFP because of outstanding natural resources, opportunity for natural resources-based recreation, or historic and archaeological resources. Since the inception of the FFP, the State has purchased more than 902,011 acres of land with approximately \$3.3 billion.

Some of the Conservation Area fee-title and conservation easement lands are likely also identified for acquisition by Florida Forever. The Service and Florida Forever will work collaboratively to identify parcels for acquisition and assess how we may partner to leverage funding to protect parcels identified with ecological importance. (<https://floridadep.gov/floridaforever>)

### **Florida Forest Legacy Program**

The Forest Legacy Program (FLP) aims to protect and conserve forests that are threatened by conversion to non-forest uses. The program is led by the Florida Forest Service and the U.S. Forest Service makes the final selections and distributes the funds. The Florida Forest Service places an emphasis on purchasing conservation easements, although past projects to date have been fee simple. Funding for the Forest Legacy Program are annual appropriations from the Land and Water Conservation Fund (LWCF) and more recently the Inflation Reduction Act (IRA). The Florida program focuses on conservation easements to ensure that forests in Florida remain economically viable. The program can partner with other state and county government entities to

leverage funding. Established objectives of the Program in Southwest-Central Florida include: maintain healthy flow of clean water vital to local citizens and the Everglades Natural Communities, flora, and fauna; conserve critical fish and wildlife habitat including threatened and endangered species such as Florida Panther, black bear, and whooping crane; and focus on areas where implementation of FLP could contribute to local or regional land use planning efforts, the reduction of urban sprawl, and protection of the forest resources. Important core criteria include: protection of scenic viewsheds; protection of fish and wildlife habitat; protection of threatened and endangered species habitat; protection of contiguous riparian areas, sensitive watersheds, lakefront, or buffering public drinking supply; support local resource-based economy; provide recreational opportunities, and protection of significant cultural resources.

Some of the Conservation Area fee-title and conservation easement lands are likely also identified for acquisition by FLP. The Service and our state partners in FDACS will work collaboratively to identify parcels for acquisition and how we may partner to leverage funding to protect parcels identified with ecological importance to both agencies. (Sources: LCD, <https://ccmedia.fdacs.gov> and <https://www.fs.usda.gov/managing-land/private-land/forest-legacy/program>)

### **Southwest Florida Water Management District**

The Southwest Florida Water Management District (SWFWMD) mission is to protect water resources, minimize flood risks, and ensure the public's water needs are met. The SWFWMD is a science-based organization responsible for managing and protecting water resources in west-central Florida. The SWFWMD's job is to ensure there are adequate water supplies to meet the needs of current and future users while protecting and restoring water and related natural resources. The SWFWMD encompasses all or part of 16 counties, from Levy County in the north to Charlotte County in the south. It extends from the Gulf of Mexico east to the highlands of central Florida. The SWFWMD contains 97 local governments spread over approximately 10,000 square miles, with an estimated 5.4 million permanent residents in 2020. This figure does not include seasonal residents and tourists. For planning purposes, the SWFWMD is divided into four regions: Northern, Tampa Bay, Heartland and Southern. The SWFWMD identifies four goals including: ensuring adequate supply of water while protecting and maintaining water resources and related natural systems; protecting and improving water quality to sustain the water resources, environment, economy, and quality of life; preserving, protecting, and restoring natural systems in support of natural hydrologic and ecological functions; and minimizing flood damage to protect people, property, infrastructure, and investment. The Strategic Plan (2023-2027) provides a road map for how the SWFWMD will meet the water resources challenges of west-central Florida by identifying what needs to be accomplished, how the job will be done, and how success will be measured. In addition to identifying the SWFWMD's programs, the Plan targets specific priorities in each of the four planning regions. The Plan is used to prioritize project funding requests and to provide guidance to funding partners. The Conservation Area includes Heartland and Southern regions. Implementation of the Conservation Area will assist with protecting water resources in west-central Florida and protecting natural resources.

### **South Florida Water Management District**

The South Florida Water Management District (SFWMD) mission is to safeguard and restore South Florida's water resources and ecosystems, protect our communities from flooding, and meet the region's water needs while connecting with the public and stakeholders. The SFWMD is a regional governmental agency that manages the water resources in the southern half of the State of Florida, covering 16 counties from Orlando to the Florida Keys and serving a population of 9 million residents. It is the oldest and largest of the State's five water management districts. Created in 1949, the agency is responsible for managing and protecting water resources of South Florida by balancing and improving flood control, water supply, water quality and natural systems. A key initiative is restoration of the Everglades – the largest environmental restoration project in the

nation's history. The SWFWMD is also working to improve the Kissimmee River and its floodplain, Lake Okeechobee and South Florida's coastal estuaries. The strategic plan (2023-2028) provides the SWFWMD and the public it serves with the blueprint for successfully meeting the water resource management regional priorities for a five-year period and beyond. It acts to focus the agency's efforts on its core mission functions of flood control, water supply, natural systems/water quality to put these commitments and strategies into action to help make a difference in South Florida's future. The Conservation Area will assist with the Plan's mission to advance ecosystem restoration by protecting and restoring ecological priority lands and waters and improve flood protection and water supply by contributing to water storage and improving water quality within the footprint of the SWFWMD.

### **Northern Everglades and Estuaries Protection Program (NEEPP)**

In 2016, the Florida legislature passed the Northern Everglades and Estuaries Protection Program (NEEPP), to protect and restore surface water resources and achieve and maintain compliance with water quality standards in the Northern Everglades through a phased, comprehensive, and innovative protection program that includes a long-term solution based upon the State's total maximum daily loads (TMDLs). NEEPP requires watershed protection programs to improve the quality, quantity, timing, and distribution of water in the Northern Everglades ecosystem. The programs are watershed specific and comprised of research and monitoring, development and implementation of best management practices, refinement of existing regulations and structural and non-structural projects. The programs are driven by Basin Management Action Plans and supported by the Watershed Protection Plan developed by the SWFWMD, FLDEP, and FDACS programs to control nutrient sources at the local, subregional, and regional levels. NEEPP focuses on the Lake Okeechobee Watershed and Caloosahatchee River Watershed which are contained in the Conservation Area. The Conservation Area will benefit NEEPP by assisting with improving water quality, quantity, timing, and distribution of Caloosahatchee River and portions of the Lake Okeechobee watersheds.

### **Charlotte Harbor Surface Water Improvement & Management Plan (Garcia et al. 2020)**

In 1987 the Florida Legislature created the Surface Water Improvement and Management (SWIM) Act to protect, restore, and maintain Florida's highly threatened surface water bodies. Under this act, the State's five water management districts identified a list of priority water bodies within their authority and implemented Surface Water Improvement and Management Plans to improve and/or protect them. In 1993, the Governing Board of the SWFWMD adopted the first Charlotte Harbor SWIM Plan. The original plan outlined issues and management actions associated with the three focus areas of water quality, hydrology, and natural systems (habitat).

In 2020, the SWFWMD completed its latest update of the Charlotte Harbor SWIM Plan. The SWFWMD will continue to their natural systems protection and restoration focus on coastal, upland and both freshwater and saltwater wetland habitats. These habitats include mangroves, salt marshes, oyster beds, mesic flatwoods, and upland pine communities. Coastal upland and wetland restoration will continue to be important in Charlotte Harbor and Lemon Bay. However, given the large size of the watersheds, the significance of healthy riverine corridors to protecting water quality, and the importance of hydrologic restoration, effort will also focus on the watershed as well as the shoreline and immediately adjacent lands. These efforts will include evaluating differences between various 46 upland forest management techniques, including their ability to enhance rainfall infiltration into the surficial aquifer, increase wet-weather storage, and increase baseflow, which could lead to improved water quality and more natural timing and volumes of inflows to coastal areas. For natural systems restoration, the SWIM Plan recognizes the Natural System restoration and protection goals and targets from the CHNEP's Habitat Restoration Needs Update Project (CHNEP et al. 2019). Project types, locations and acreages documented in the Habitat Restoration Needs Update will be used within the boundaries of the SWFWMD to guide ecosystem restoration programs and projects.

The Conservation Area will build upon the efforts of the SWIM Plan by protecting water quality, quantity, and storage and assist with improving flows to coastal areas by protecting and restoring natural resources within the watersheds flowing into Charlotte Harbor.

***County:***

**Heartland 2060 Building a Resilient Region Plan (Heartland 2060 2020)**

Florida's "Heartland" encompasses seven counties in Central Florida, including Polk, Hardee, Highlands, DeSoto, Okeechobee, Glades, and Hendry. The Central Florida Regional Planning Council began a visioning effort for this region in 2007 entitled Heartland 2060, and developed a broad resiliency plan, "Building a Resilient Region," for Heartland 2060 in 2014. Four task force teams were established for Heartland 2060 strategic planning: Education, Workforce and Economic Development; Environmental and Natural Resources; Transportation and Land Use; and Community Resources. The current and future status of these sectors were assessed and are described in the resiliency plan. The possible impact of future inland migration from coastal communities in Florida as a result of sea-level rise (SLR) was an issue explored in the Heartland 2060 project. Although the Florida Heartland does not have any coastal counties, the potential exists for these inland counties to experience in-migration and resettlement of displaced coastal populations. The potential future displaced population that might migrate to the Heartland was estimated assuming a three-foot rise in sea level by the year 2060. The Central Florida Regional Planning Council is developing a Strategic Action Plan - a regional blueprint to guide growth and development in the Heartland over the next 50 years. Priorities are to be established for protecting and enhancing conservation areas, natural resources, recreational areas, and open spaces; enhancing regional education and healthcare opportunities; guiding transportation and infrastructure investment and planning future land use; and building healthy communities through economic development. The vision enables growth while preserving natural areas and protecting wildlife and agricultural production, supporting healthy communities, large and small, and ensures a vibrant economic and social opportunities. The Heartland 2060 Five Year Strategic Action Plan is web-based on [www.heartland2060.com](http://www.heartland2060.com). Information from partners' contributions is available upon this platform to track alignment with the goals of Heartland 2060. Using the results of the planning effort, the Conservation Area can assist in the identification of priority lands and leverage preservation and protection of conservation areas with interested partners throughout the seven counties.

**Highlands County Comprehensive Plan (Central Florida Regional Planning Council 2014)**

Highlands County is a major contributor of natural area acquisition and protection in Highlands County, primarily through the vision and implementation of the Highlands County Comprehensive Plan. The Highlands County Comprehensive Plan identifies acquisition of natural resources including scrub and sandhill habitats (xeric habitats); endemic populations of threatened or endangered species, including species of special concern; wetlands and cutthroat seeps, and un-canalized freshwater estuaries feeding the lakes; important aquifer recharge functions; and unique scenic or natural resources through the plan's Natural Resources Element utilizing the Conservation Trust Fund account. Acquisition can be in the form of fee purchase, easements, donations, and other less-than-fee-title mechanisms of natural resources listed above for the enhancement, required maintenance, and/or management of publicly owned conservation-valued lands, as determined by the Highlands County Board of County Commissioners (Board). The Conservation Trust Fund is funded through voluntary contributions, mitigation or impact fees, matching grants, and referendum while other sources of funding as recommended by the Highlands County Natural Resources Advisory Commission (NRAC) are considered by the Board. NRAC was established in 1991 by the Board whose members include 11 full-time residents of Highlands County, including environmental, developmental, agricultural, professional, and at-large

representatives, who function as an advisory body to the Board on matters of natural resource protection, environmental clearance, and the stewardship of conservation efforts by, in, and for Highlands County. The Conservation Area can leverage opportunities with these ongoing efforts for natural resource protection.

### **Conservation Collier**

Conservation Collier is Collier County's environmentally sensitive land acquisition and management program. The mission of Conservation Collier is to acquire, preserve, restore, and maintain vital and significant threatened natural lands, forest, upland and wetland communities located in Collier County, for the benefit of present and future generations. Since 2003, the Conservation Collier Program has been acquiring properties of high natural resource value throughout Collier County from willing sellers. Properties acquired met specific criteria including rare habitat, aquifer recharge, flood control, water quality protection, and listed species habitat. At the program's inception, the Collier County Board of County Commissioners (Board) appointed a Land Acquisition Advisory Committee (Committee) to consider and make recommendations on offered properties. The Committee's recommendations have resulted in Board approval for and acquisition of 4,714 acres in 22 project locations throughout Collier County. The Conservation Area can complement these efforts by leveraging acquisition opportunities to ensure contiguous protection of lands and waters.

### **Collier County Comprehensive Watershed Improvement Plan (2016)**

Collier County encompasses over 2,300 sq miles and is located in southwestern Florida. Approximately 70 percent of Collier County (ca. 1,400 sq miles) has been altered by human modifications of the local hydrology. Prior to human alterations, rainfall either infiltrated into the surficial aquifer or flowed through extensive wetland features into the coastal waters of Collier County. Most of these hydrologic alterations were due to coastal development in Collier County since the early 1950s, as dredge-and-fill became the established method to meet the growing post-World War II demand for waterfront housing. The canals served to create waterfront property, increasing access for boating, and provided fill material needed for the creation of buildable lots. In addition to shoreline modifications, extensive canal construction for urban and agricultural drainage has changed the timing and quantity of freshwater inflows to coastal waters. These changes have dramatically affected water quality and quantity of many of Collier County's estuaries. For example, the construction of the Golden Gate Canal (GGC) network increased the size of the Naples Bay watershed and freshwater flows to Naples Bay, as lands that originally drained southward into the Rookery Bay watershed were redirected. Consequently, the Rookery Bay watershed is now much smaller and, combined with alterations in drainage pathways and changes in wet and dry season storage capacities, receives less freshwater inflow than it did historically. These altered freshwater inflow patterns have been identified as the most important threat to the natural biodiversity of Rookery Bay.

Modifications to drainage patterns have resulted in significant impacts throughout the watersheds in Collier County. Changes in the timing and amount of freshwater inflows into coastal waters, drainage alterations, and urbanization have also lowered groundwater levels, degraded or eliminated wetlands, altered wildlife distribution patterns or reduced populations, and increased the delivery of nutrients and other pollutants to coastal waters. This Plan was developed to address these conditions. The Conservation Area can complement the efforts identified in this Plan that are being made to restore the watersheds of Collier County especially the Naples Bay watershed.

### **Collier County Rural Lands Stewardship Area**

The Collier County Rural Lands Stewardship Area (RLSA) includes important environmental and agricultural assets, most of which are on privately held land. In 2002, the RLSA Overlay was adopted to create a land-use plan to protect agricultural areas, natural habitats, wetlands and flow ways while directing growth away from

these areas. The RLSA program was established under the Future Land Use Element (FLUE) of the Growth Management Plan (GMP). Its objective is the creation of an incentive-based land use overlay system based on the principles of rural land stewardship found in Florida Statutes, Section 163.3177(11), including environmental preservation, agricultural preservation and smart growth development.

Through the RLSA program, Stewardship Sending Areas (SSAs) can be approved for preservation purposes, creating credits to entitle Stewardship Receiving Areas (SRAs), typically towns, villages, hamlets and compact rural developments (CRDs). The credit system is designed to incentivize preservation of the most important environmental lands, including large, connected wetland systems and significant habitat for listed species, by awarding higher credit values for high value preservation areas. The Conservation Area can utilize the information contained in RLSA to identify high value land and through acquisition ensure preservation and protection.

### **Conservation Charlotte**

Since 1988 Charlotte County Parks and Natural Resources has managed environmental parks and preserves. On November 7, 2006, Charlotte County citizens voted to tax themselves for the purchase of environmentally sensitive lands. They approved a referendum authorizing the County to issue up to \$77 million in bonds to purchase environmentally sensitive lands. The bonds are paid for by a .20 mil ad valorem tax, equal to about 20 cents on every \$1,000 of tax assessed land value. The tax is levied annually for 20 years until 2027. All funds raised by these bonds are used to buy and manage environmental lands and open space. Charlotte County provides over 4,100 acres of preserves and environmental parks that focus on sensitive environmental habitats that are important to the community and are the guiding influence for management limited public use (preserves) and lands with less intensive management and the opportunity for more public use and amenities and multi-use trails (environmental parks). Charlotte County's Conservation Charlotte acknowledges that protecting environmentally sensitive lands balances the impacts of future growth while buffering sensitive areas from encroachment. Environmentally sensitive lands perform free services for people of Charlotte County including: flood control, filtering water resources, recharging aquifers, cleaning air, and providing open spaces and recreational opportunities. Without protecting environmental lands these services cost much more. Preserving special places allows the community to avoid future infrastructure costs and helps to keep Charlotte County unique and beautiful. Preservation efforts help protect Charlotte Harbor from storm surge. The Harbor is a vital component the local economy. The Conservation Area is focusing on restoration and protection of watersheds that feed into the Charlotte Harbor. Acquisition of lands for permanent protection will contribute to the County's efforts of Conservation Charlotte.

### **Lee County Conservation 20/20 Program**

Conservation 20/20 is Lee County's environmentally sensitive land acquisition and management program, through which there are 31,000 acres of conservation land protected in Lee County. The program was established in 1996 through voter referendum and reaffirmed at the ballot box in 2016, receiving 84 percent majority support from Lee County voters. Conservation 20/20 manages 52 preserves spread throughout Lee County. Properties that can be used for wildlife habitat, passive public recreation, open space conservation, surface water management, water quality and water recharge and supply, and flood control. Conservation 20/20 preserves include habitat critical to support the populations of several endangered and threatened animal species, including the Florida scrub-jay, gopher tortoise, Florida panther, West Indian manatee, and eastern indigo snake. Conservation areas are important for many reasons, including water supply and quality, flood prevention, habitat for wildlife, and green space for nature-based recreation and enjoyment. For preserves in Lee County, the focus is to restore and maintain these lands in their natural state, while enhancing hydrologic features and protecting water resources. Additionally, several rare plant species are found at these preserves,



including the Florida butterfly orchid, Catesby's lily, and golden leather fern. Conservation 20/20 Preserves provide a variety of recreation opportunities, including hiking, kayaking and canoeing, horseback riding, fishing, and scenic observation areas to view wildlife. The Conservation Area shares similar goals and objectives and efforts to protect water and natural resources will complement the Lee County Program.

### **Manatee County Environmental Lands Program**

The Environmental Lands Program (ELP) is focused on the conservation of Manatee County's environmental heritage to benefit current and future generations. The Environmental Land Management and Acquisition Committee advises the Board of County Commissioners (BCC) on environmental land acquisition, management, and recreational programming. The BCC decides which properties can be purchased. Only properties whose owners want to have their land considered for purchase are considered. A grassroots effort, led by individuals and organizations throughout the region, resulted in a successful 2020 Referendum to finance the acquisition, improvement, and management of conservation lands. The Conservation and Parks Projects Referendum calls for a 0.15 mill ad valorem tax and up to \$50,000,000 in general obligation bonds. Partnerships with many other organizations result in additional funds and resources that support the success of the program. Manatee County has 12 publically-accessible preserves and more than 30,000 acres established through a combination of land donations, land purchases, grants from other organizations, and partnerships with Land Trusts. Habitat restoration, ongoing resource management, and providing access for hiking, biking, running, swimming, paddling, horseback riding, fishing, hunting, camping, and picnics are rewarding challenges for Manatee County staff. Many recreational and outdoor education opportunities are provided. Four main criteria were established in the ELMAC Ordinance in 2003 and are fundamental to conservation and preservation programs throughout the County. Ecological quality relates to the quality of species or habitat, degree of alteration or degradation, level of restoration required. Rarity of species or habitat includes uniqueness, number of threatened, endangered or species of special concern supported. The importance to water resources focuses on the protection of or degradation to portable water supply or aquatic environment. Connectivity includes proximity to existing conservation lands or planned corridor, size of connection. The Conservation Area can help achieve the natural resource value criteria of the ELP including ecological quality, rarity of species or habitat, importance to water resources, and connectivity.

### **Polk County Environmental Lands Program**

Polk County is a major contributor of natural area protection, acquiring more than 12,000 acres of diverse lands in the county through the Polk County Environmental Lands Program (Program). The Program accepts site nominations and then gathers pertinent information for each nomination. The Program acquires, preserves, protects, manages and restores endangered and environmentally sensitive lands, water resources, and important wildlife habitats. Acquired properties are used for passive outdoor recreational purposes provided that such uses will not disturb or degrade the environmental quality for which the site was acquired. The Environmental Lands Criteria are used by the County's Technical Advisory Group and Conservation Land Acquisition Selection Advisory Committee (CLASAC) to rank sites and recommendations for or against acquisition of sites are forwarded to the Board of County Commissioners (BoCC) for consideration and approval. Costs for acquisition are shared with partners whenever possible. Once acquired, interim management begins and may include site security, debris removal, exotic species removal, and creation of visitor service amenities. A final management plan for each site is finalized and adopted by the BoCC based on evaluations of nature-based recreation opportunities and resource inventories to ensure compatibility with the site, and through input received via public review, CLASAC, and Polk County staff. Acquisition, management, and restoration of environmentally sensitive lands, water resources, and important wildlife habitat in Polk County are funded through a 1994 bond referendum utilizing ad valorem taxes (0.2 million) administered over a 20-year life span. Additional fee and less-than-fee funding will be available as the result of a successful 2022 referendum that

extended the revenue for an additional 20 years. Some funds will be available for water-quality projects from the Polk County stormwater tax. The Conservation Area could provide opportunities to create contiguous conservation protection to ensure vitality of sensitive lands.

### **Sarasota County - Environmentally Sensitive Lands Protection Program and Neighborhood Parklands Acquisition Program**

The Environmentally Sensitive Lands Protection Program (ESLPP) was created to protect lands through fee-title and less-than-fee simple acquisition methods with willing sellers. The ESLPP was initially funded by a 0.25 mill ad valorem tax passed by referendum in March 1999. After protecting over 14,500 acres within the first six years, the program was approaching the original \$53 million bond limit set by the referendum. To maintain flexible program funding, the Board of County Commissioners (BCC) authorized a referendum in November 2005. Sarasota County citizens approved a referendum with an 80% majority. Its passage extended and expanded the program to collect up to 0.25 mil of ad valorem through 2029, to include the purchase of Neighborhood Parklands Acquisition Program (NPP) and to authorize new related debt not to exceed \$250 million. To date, ESLPP has identified and established 32 diverse and environmentally sensitive areas/regions throughout the county for possible acquisition while protection over 40,000 acres of land through land purchases and conservation easements. ESLPP has purchased and/or protected 78 properties with ESLPP funds. NPP has acquired 24 properties totaling 115 acres throughout the county, including within municipalities. Environmental land protection can be done by purchasing and then owning land or negotiating and purchasing a perpetual conservation easement over land from a private landowner. The conservation easement allows the private landowner to retain ownership of the land but limit the current and future uses of the land. A conservation easement essentially removes all development rights from a property. The remaining allowable uses available to the landowner are low impact agriculture like cow-calf operations, outdoor nature-based recreation such as fishing, hunting, hiking and camping, and minimal structures such as a single-family home and barn. By removing development rights from a property, the Program is ensuring that native habitat remains intact, native wildlife and vegetation can thrive, natural resources and waterways stay protected, and wildlife corridors and greenspace are established and maintained. Any fee-title or less-than-fee-title acquisition efforts within the Conservation Area could complement the connectedness of landscape, water quality, and natural habitat objectives of the ESLPP.

### **PARTNERSHIP EFFORTS/RELATED RESOURCES**

Partnerships are integral to the conservation of this landscape. The southwest Florida region has a long history of agency and stakeholder conservation partnerships. FWC's Cooperative Conservation Blueprint regional pilot project (FWC Blueprint) completed in southwest Florida provided a starting point for a discussion regarding future efforts to effect protection of conservation priorities through voluntary conservation land protection and incentives programs. This effort took place between 2007 and 2014. Significant work on conservation incentives has been accomplished. The FWC Blueprint provides a building block to work from, as more detailed planning efforts are initiated. Additional work by the Peninsular Florida Landscape Conservation Cooperative provided successful models for establishing a framework for agency partnerships, and land protection efforts in the Everglades Headwaters NWR and CA have demonstrated the success of such partnerships. These models will serve as templates as conservation planning and implementation within the Everglades to Gulf Conservation Area. Building solid relationships with landowners is a critical first step. Leveraging existing conservation programs can advance conservation on a landscape-scale. The protection and conservation of wildlife habitats and working landscapes is an issue of concern in the region. During the public scoping and conversations with landowners and other conservation partners for this proposal, the Service recognized that all interested parties will have an enhanced ability to protect and manage wildlife and habitats in the Conservation Area. Partners often assist with activities including environmental education and interpretive programs, land acquisition, public

relations, habitat evaluations, species inventories, nest site and wildlife monitoring, and habitat restoration. For that reason, the Service recognizes the need to collaborate with other conservation organizations in the region to achieve objectives of the LLP.

The Service will work to combine conservation efforts with many partners, including partners yet to be identified. Several federal and state agencies serve as key partners in this landscape, including Natural Resource Conservation Service (NRCS); Avon Park Air Force Range, U.S. Air Force; Florida Fish and Wildlife Conservation Commission (FWC); Florida Department of Agriculture and Consumer Services (FDACS); Florida Forest Service (formerly Florida Division of Forestry); Florida Department of Environmental Protection (FDEP); Florida Division of State Lands; South Florida Water Management District (SFWMD); and Southwest Florida Water Management District (SWFLMD) County governments within the footprint and non-governmental organizations are also extremely active within the Conservation Area.

LPP Figure 6 depicts current conservation lands and waters within the Conservation Area. Many of our partners already own or have future plans to protect lands in the Conservation Area through conservation or agricultural easements. Still others have completed on-the-ground habitat restoration projects throughout the Conservation Area. These partners use their individual mission statements to focus protection and restoration efforts. Taken together, those mission statements cover the protection of state and federal threatened and endangered species, rare habitats, prairie and flatwoods habitats, ranchlands, and recreational areas that have been identified through the scoping process as being important to the long-term ecological health, economy, and way of life of the region.

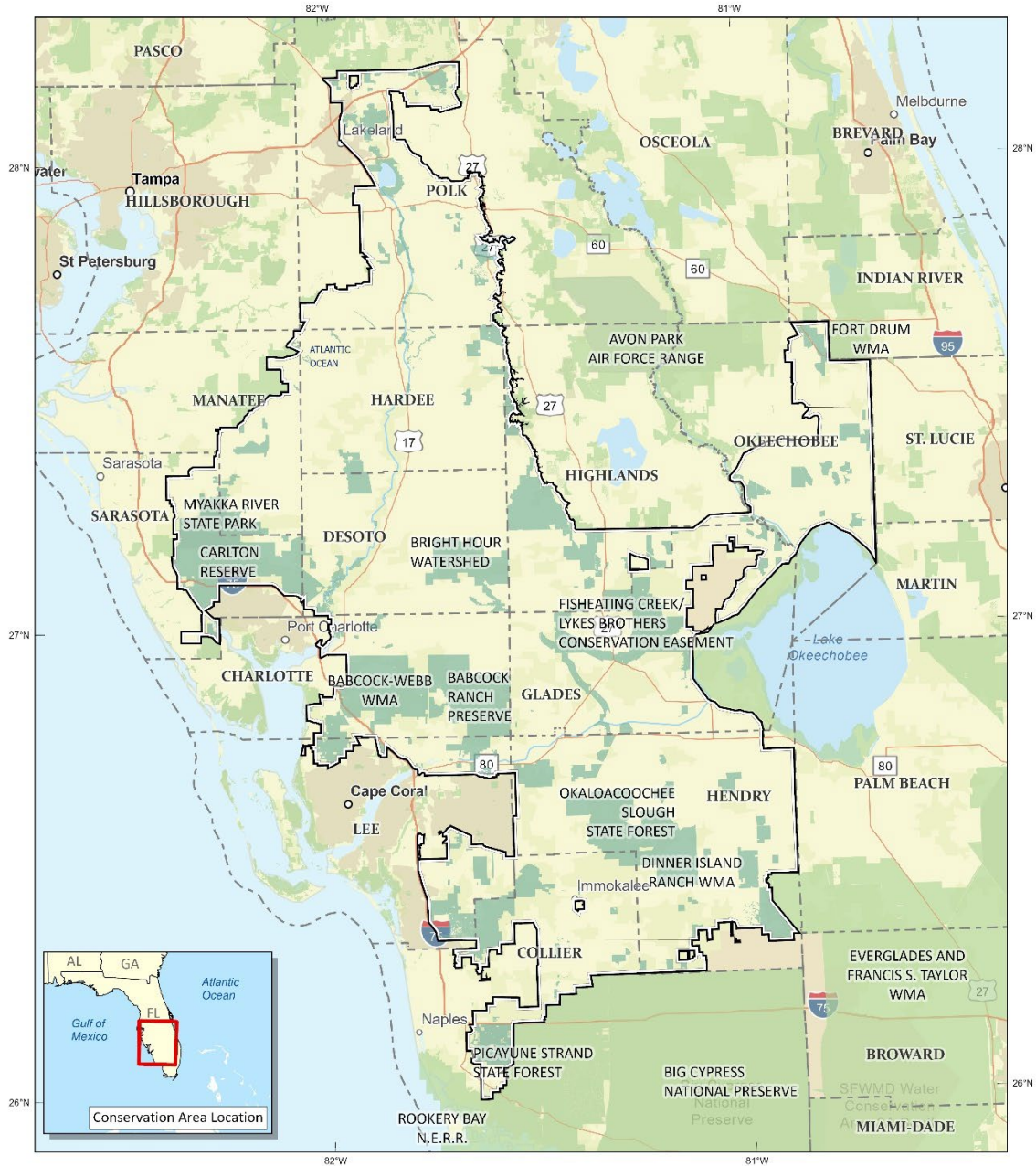


U.S. Fish & Wildlife Service

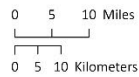
### Everglades to Gulf Conservation Area

Charlotte, Collier, DeSoto, Glades, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk and Sarasota Counties

Existing Conservation Lands



Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 12/16/2023  
 Primary Data Sources: FNAI - Florida Managed Areas May 2023  
 Base map: ESRI  
 NAD 1983 HARN Albers  
 ArcGIS Pro v.1



- Conservation Area Boundary
- Existing Conservation Lands within CA
- Other Conservation Lands
- County Boundary

LPP Figure 6. Existing Conservation Lands in the Conservation Area

## *RELATIONSHIP TO STATE WILDLIFE AGENCY*

A provision of the National Wildlife Refuge System Improvement Act of 1997, and subsequent agency policy, is that the Service shall ensure timely and effective cooperation and collaboration with other State fish and game agencies during the course of acquiring and managing units of the National Wildlife Refuge System. State wildlife management areas and units of the national wildlife refuge system provide the foundation for the protection of species and contribute to the overall health and sustainment of fish and wildlife species in the State of Florida.

Key State conservation agencies in this landscape include the FWC, FFS, FDACS, FDEP, SFWMD, and SWFWMD.

Management of State fish and wildlife resources is administered by FWC, FDACS, and FDEP for the long-term well-being and benefit of people. FWC protects and manages habitats for more than 575 species of wildlife, more than 200 native species of freshwater fish, and more than 500 native species of saltwater fish; while balancing these species' needs with the needs of over 22 million residents (U.S. Census Bureau 2022) and the 122 million annual visitors (FDOT 2021) who share the land and water with Florida's wildlife.

The FWC responsibilities include:

- Law Enforcement – to protect fish and wildlife, keep waterways safe for millions of boaters, and cooperate with other law enforcement agencies providing homeland security.
- Research – to provide information for the FWC and others to make management decisions based on the best science available involving fish and wildlife populations, habitat issues, and the human-dimension aspects of conservation.
- Management – to manage the State's fish and wildlife resources based on the latest scientific data to conserve some of the most complex and delicate ecosystems in the world along with a wide diversity of species.
- Outreach – to communicate with a variety of audiences to encourage participation and responsible citizenship and stewardship of the State's natural resources.

FWC, FDACS, and FDEP manage State lands and waters. FWC directly manages 6.07 million acres of Wildlife Management Areas. FDEP manages 175 State parks covering nearly 800,000 acres 42 aquatic preserves, three National Estuarine Research Reserves, and the Florida Key National Marine Sanctuary: totaling over 5 million acres of submerged lands and coastal uplands.

FFS manages over 1.2 million acres of State forests in Florida for multiple public uses including timber, recreation, and wildlife habitat. Operating from 15 districts throughout the State, FFS maintains a mission to protect and manage the forest resources of Florida, ensuring that they are available for future generations. Wildfire prevention and suppression are key components in FDOF's efforts. FFS is also the permitting agency responsible for authorizing prescribed burns throughout Florida including federal lands.

The SFWMD and SWFWMD are two of five State water management agencies. The districts are responsible for water management, water supply, and the conservation and protection of water resources, while providing environmental, economic, and recreational benefits in all or part of 29 south and southwest Florida counties. Together, the SFWMD and SWFWMD along with their partners manage more than 1.452 million acres (SFWMD 2023, SWFWMD 2023) for the purposes of protecting, supplying, and conserving the region's water resources.

The State's participation and contribution throughout this land protection process will provide for ongoing opportunities and open dialogue to improve the ecological sustainment of fish and wildlife in the State of Florida.

### *RELATIONSHIP TO TRIBAL NATIONS*

The Service and Tribal Nations recognize the need for strong, healthy communication and relationships so that we can work together to improve and enhance conservation of fish and wildlife resources and shared natural and cultural resource goals and objectives. The Service's engagement with and responsibilities to Tribes are guided primarily by doctrines of reserved rights, statutes, treaties, judicial mandates, Executive Orders, Presidential proclamations, and Secretary's Orders. The United States' trust responsibility is a well-established legal obligation that originates from the unique, historical relationship between the United States and Tribal Nations. The trust responsibility consists of the highest moral obligations that the United States must meet to ensure the protection of Tribal and individual Indian lands, assets, resources, and treaty and similarly recognized rights.

The Federal Government recognizes the valuable contributions of the Indigenous Knowledge (also called Indigenous Traditional Knowledge, Traditional Knowledge, Traditional Ecological Knowledge, and Native Science) that Tribal Nations and Indigenous Peoples have gained and passed down from generation to generation. Indigenous Knowledge combines observations, oral and written knowledge, innovations, practices, and beliefs over long terms and spanning generations, interweaving biological, physical, social, cultural, and spiritual systems. The Federal Government's consideration and inclusion of Indigenous Knowledge is guided by respect for the sovereignty and self-determination of Tribal Nations, the Nation-to-Nation relationship between the United States and Tribal Nations and the United States' trust responsibility, and the need for the consent of and honest engagement with Tribal Nations and Indigenous Peoples. For any effort, the Tribal Nation(s) or Indigenous People(s) involved clearly drive whether or not to share Indigenous Knowledge and whether or not their Indigenous Knowledge should be applied in Federal contexts; the Federal Government respects these decisions. Indigenous Knowledge offers critical insight into the historic and scientific significance of an area, providing an important foundation for understanding, analysis, and decision making. Consultation and collaboration with Tribal Nations and Indigenous Peoples is critical to ensuring that Indigenous Knowledge is considered and applied in a manner that respects Tribal sovereignty and achieves mutually beneficial outcomes. Indigenous Knowledge can play a key role in relation to the Federal Government's planning, analysis, decision making, and compliance under a variety of laws, regulations, and policies, importantly the Endangered Species Act (16 U.S.C. §§1531-1544), National Environmental Policy Act (42 U.S.C. §§4321 et seq. and 40 CFR Chapter V Subchapter A), Marine Mammal Protection Act (16 U.S.C. Chapter 31), Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. Chapter 38), National Historic Preservation Act (Title 54 U.S.C.), and Native American Graves Protection and Repatriation Act (25 U.S.C. §§3001-3013).

Tribal Nations are also important partners in the Greater Everglades landscape. The Service also works with the Tribes to ensure timely and effective cooperation and collaboration. During this planning process, the Service contacted several Tribal Nations with interest in this landscape: Seminole Tribe of Florida; Miccosukee Tribe of Indians of Florida; Seminole Nation of Oklahoma; Muscogee (Creek) Nation; and Poarch Band of Creeks. The Service and the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida met and discussed the role of the Service in land protection and opportunities in Southwest Florida and opportunities for the Service and Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida to collaborate on conservation objectives. The Seminole Tribe of Florida and Miccosukee Tribe of Indians of Florida contributed as active members of the planning team to develop this proposal.

### *III. LAND PROTECTION STRATEGY*

#### **ACTION AND OBJECTIVES**

##### *CONSERVATION AREA DEVELOPMENT*

The Conservation Area is approximately 4,045,268 acres in Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Polk, and Sarasota Counties. While defining the Conservation Area certain criteria were considered. Foremost were the ecological priorities based on the work of the University of Florida Center for Landscape Conservation Planning (Morris et al. 2022). The ecological priorities model is intended to showcase the national importance of the conservation priorities and opportunities in southwest Florida that are deserving of concerted cooperative efforts by federal, State, and regional partners to protect additional conservation lands before these opportunities are lost in one of the fastest developing regions in the United States. The conservation priorities analysis that determined the ecological priorities combined data from the Critical Lands and Waters Identification Project, the 2021 update of the Florida Ecological Greenways Network, and updated focal species and natural community priorities. In addition, a conservation protection opportunities model was created to help assess the protection potential of currently unprotected lands based on their ability to qualify under the criteria for existing land conservation programs both federal and State programs. The conservation protection opportunities layer included landowners who submitted applications for inclusion in conservation protection programs, which demonstrate a willingness to participate in conservation initiatives. A threats GIS data layer was also created using existing data sources to identify potential threat of conversion to development for unprotected conservation priority areas. The development threat layer is a combination of statewide Future Land Use data obtained from the Florida Geographic Data Library and the Florida 2070 Trend Development Scenario (Carr and Zwick 2016a) created by the University of Florida and obtained from the Florida Geographic Data Library. This information provided a perspective of urgency for protection for consideration in the Conservation Area.

The Conservation Area was refined to focus on the inclusion of the watersheds of Peace River, Myakka River, Fisheating Creek, and Caloosahatchee River. Occasionally the boundary drifted from an existing watershed to reflect the entirety of a parcel based on ownership or ensure connectivity with existing conservation lands. The northern boundary stretches to include a portion north of Interstate 4 to ensure connectivity for wildlife by including several proposed locations for wildlife crossings. On the eastern boundary, any portion of Okeechobee County that was not included in the Everglades Headwaters NWR and CA was included in the acquisition boundary. This includes an area within the St Johns River Water Management District which is intended to provide connectivity opportunity for wildlife. Additionally, any portion of the acquisition boundary that abuts the boundary of Everglades Headwaters NWR and CA is seamlessly connected. Throughout the Conservation Area areas that are extremely developed (subdivisions, airports, etc.) without opportunity for protection have been generally eliminated from acquisition boundary as well. Attention was taken on the western portion of the boundary to maximize protection of watersheds draining into the Charlotte Harbor to ensure water quality protection. Additionally, the western portion of the boundary is based on remaining protection opportunities to preserve species movement from coastal areas inland despite development pressure and sea level rise. The southern boundary of the acquisition area does not include parcels within the existing acquisition boundaries of Florida Panther NWR, J. N. Ding Darling NWR, Caloosahatchee NWR, Ten Thousand Islands NWR, Pine Island NWR, Matlacha Pass NWR, and Island Bay NWR.

The Service is proposing acquisition of less-than-fee-title lands within the Conservation Area. Up to 10% of the total Conservation Area could be acquired as fee-title lands. The Service proposes that acquiring identified habitat areas through Alternative B of the EA over time will provide for the protection of imperiled species, enhance habitat connectivity, protect water resources, and mitigate the effects of global climate change. It will also help many of the more common game and nongame species. Additionally, this Conservation Area will provide opportunities for wildlife-dependent recreation and new and dynamic partnerships.

### **Less-than-Fee-Title Acquisition**

The Service proposes acquisition of less-than-fee-title interests within the Conservation Area. Participation by landowners in the Conservation Area easements and agreements will be voluntary.

Landowners within an approved Conservation Area will be under no obligation to sell interest in their properties to the Service. If less-than-fee-title interests in lands within the Conservation Area were to be acquired, they will reflect the vision, purposes, and goals of the overall project, and will be subject to the terms and conditions of whatever easement, agreements, and/or other tool(s) used for less-than-fee-title acquisition. Less-than-fee-title acquisitions (e.g., conservation easements) will be acquired in perpetuity.

These less-than-fee-title interests will provide important opportunities for conservation, while at the same time maintaining private ownership rights and responsibilities. Landowners in the Conservation Area may voluntarily choose to participate, and participating lands will remain in private ownership. Private landowners who elected to participate will continue to control activities on their lands in accordance with the easement or agreement they negotiated.

### **Maximum Fee-Title Interest**

The Service also proposes a maximum fee-title interest in 404,527 (10% of the Conservation Area) acres acquired in properties from willing landowners only. Landowners within the area will be under no obligation to sell their properties to the Service. Lands acquired by the Service from willing landowners will be included within the boundary of the Conservation Area. Any proposal to expand beyond the authorized 404,527 acres or 10% of the Conservation Area will require an additional separate planning effort by the Service, including public involvement, in accordance with applicable laws and policies.

Public uses for consideration for this Conservation Area will include six priority public uses: hunting, fishing, environmental education, interpretation, wildlife observation, and photography. Potential public uses supporting priority public uses will also be considered (depending on the specifics of a particular property acquired), may include bicycling, boating, hiking, jogging, horseback riding, camping (with limitations), ORV use (with limitations), and facilities to support any of the approved uses. The Service is committed to working with the FWC to facilitate public use activities, specifically hunting and fishing. Uses will be approved through the appropriateness and compatibility requirements in the National Wildlife Refuge System Administration Act and the Refuge Recreation Act.

For properties that the Service will own in fee-title, habitat restoration and management will provide threatened, endangered, and resident wildlife with suitable habitat. Where appropriate, prescribed fire will be used to remove excess vegetation and restore native plant communities. Invasive species will be controlled through manual, mechanical, and chemical means. Cultural and historical resources will be protected and cultural,



traditional, and medicinal use opportunities will be provided. Additionally, interpretive programs and materials will allow the public to better understand and appreciate these important resources.

### **LAND PROTECTION PRIORITIES**

The Service's Preferred Action (Alternative B) will result in the protection of approximately 4,045,268 acres, using a combination of fee-title acquisitions and less-than-fee-title acquisitions (e.g., conservation easements and cooperative agreements) from willing sellers. The Service believes these are the minimum interests necessary to conserve and protect the fish and wildlife resources in the Conservation Area.

Much of the land included in the Conservation Area currently has (or could have, upon restoration) important habitat value and high potential for helping support a range of species. Lands included in the Conservation Area also have high potential for ensuring habitat connectivity between the Conservation Area and surrounding conservation lands, and in providing corridors between sites.

The Conservation Area was delineated after engaging numerous interested parties in the area and considering a variety of conservation and public benefits. The considerations included but were not limited to key wildlife species and habitats, habitat diversity, landscape resiliency, wildlife-dependent public recreation, Tribal Nation interests, water quality, infrastructure development within and outside the Conservation Area, community expansion and economics, past establishment proposals, current data and trends, working lands, potential for working partnerships, wildlife corridor opportunities, existing land conservation projects, industry, etc. The Conservation Area strives for wildlife habitat conservation and restoration for the benefit of wildlife and people.

Lands have been prioritized for acquisition using the listed criteria.

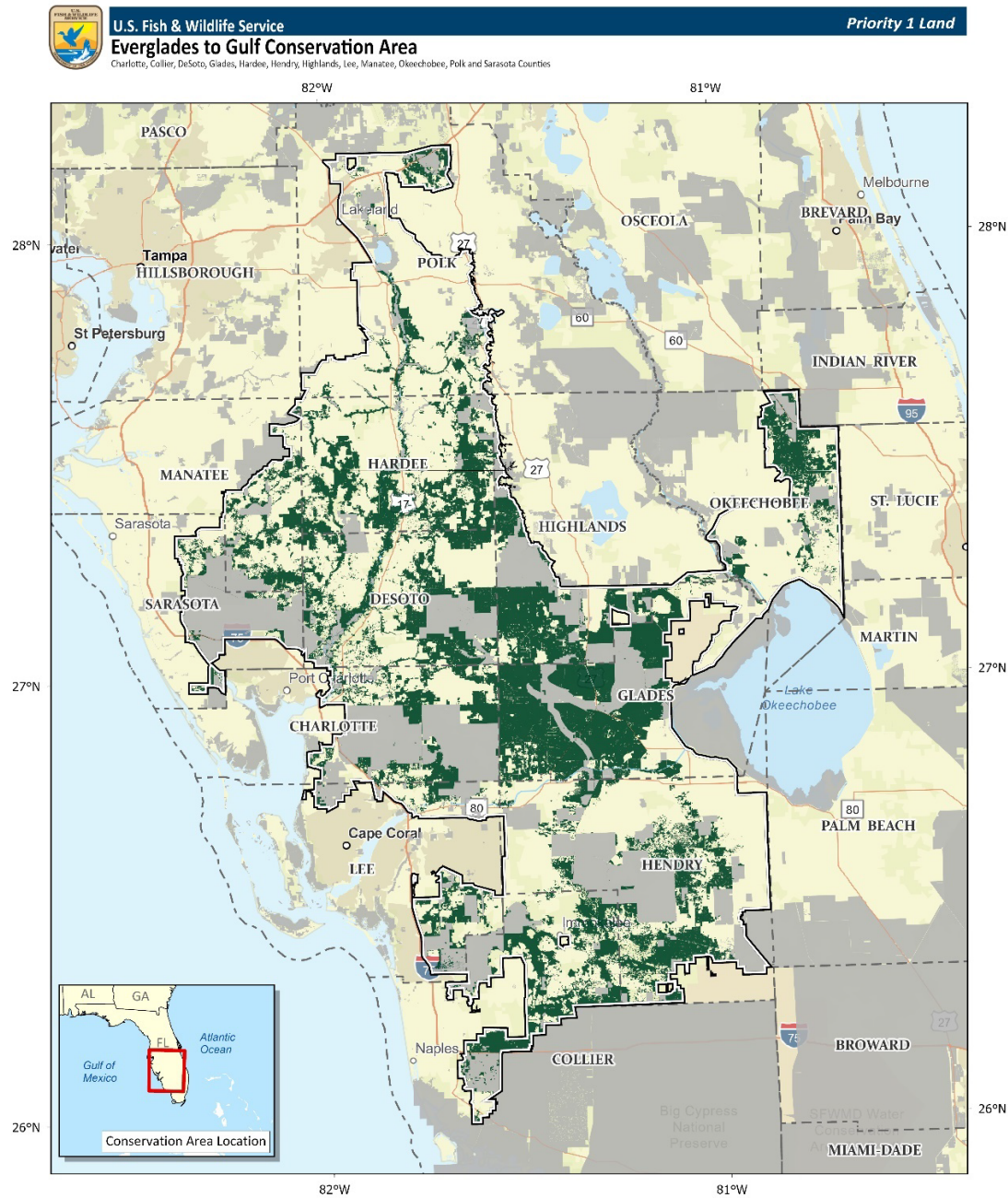
- Ecological importance
- Landscape connectivity and wildlife corridors
- Restoration of wetlands and water quality
- Existing and potential threats

The conservation priorities analysis that determined the ecological priorities combined data from the Critical Lands and Waters Identification Project, the 2021 update of the Florida Ecological Greenways Network, and updated focal species and natural community priorities. The ecological priorities are identified as high, moderate-high, and moderate. All three categories contain important resources for protection and are a priority to acquire. In addition, a conservation protection opportunities model was created in the 2022 Southwest Florida Landscape Conservation Design to help assess the protection potential of currently unprotected lands based on their ability to qualify under the criteria for existing land conservation programs both federal and State programs. The conservation protection opportunities layer included landowners who submitted applications for inclusion in conservation protection programs, which demonstrate a willingness to participate in conservation initiatives. This provided opportunity to identify willing landowners and properties where State funding could be available to leverage. These lists are always evolving, as new properties apply and are added to the list, but it provides a starting point for identifying landowners and partnership opportunities. A threats Geographical Information System (GIS) data layer was also created using existing data sources to identify potential threat of conversion to development for unprotected conservation priority areas. The development threat layer is a combination of statewide Future Land Use data obtained from the Florida Geographic Data Library and the Florida 2070 Trend Development Scenario created by the University of Florida and obtained from the Florida Geographic Data Library. In the northern half of the acquisition area, lands that have been restored after mining operations have ceased, left fallow post mining, currently being mined, or proposed for future mining operations have been included as well. Opportunities may exist to ensure connectivity for wildlife by including these areas.

Throughout the acquisition area, agricultural lands that have the potential for restoration and/or wildlife connectivity have also been included for consideration. All Tribal lands within the Conservation Area were not included. Existing conservation lands within the Conservation Area will not be considered for acquisition.

Based on a GIS-based land prioritization analysis for the LCD (Appendix E), categories of land acquisition have been established as Priority 1 (LPP Figure 7), Priority 2 (LPP Figure 8), Priority 3 (LPP Figure 9), and Priority 4 (LPP Figure 10) areas. However, attributes of each group may increase the suitability for increasing a lower ranked priority group to a higher ranked priority group [e.g., a property needing habitat restoration (Priority 4) may provide a critical habitat linkage after restoration, thus warranting elevating it to a Priority 1, Priority 2, or Priority 3 rating]. In addition to the initial rank scoring of an individual property, a site visit and best professional judgment or management assessment will be used to assure properties receive appropriate consideration. A map of the lands within each of the four priority groups is given below. LPP Figure 11 depicts high, moderate-high, moderate, and low protection opportunities and LPP Figure 12 depicts development threats within the Conservation Area.

Priority 1 – High Ecological Priority



Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 12/20/2023  
 Primary Data Sources: SWFLCD, FNAHFLMA May 23  
 Base map: ESRI  
 FDEP File: HARIN-NAD 83  
 ArcGIS Pro v3.1

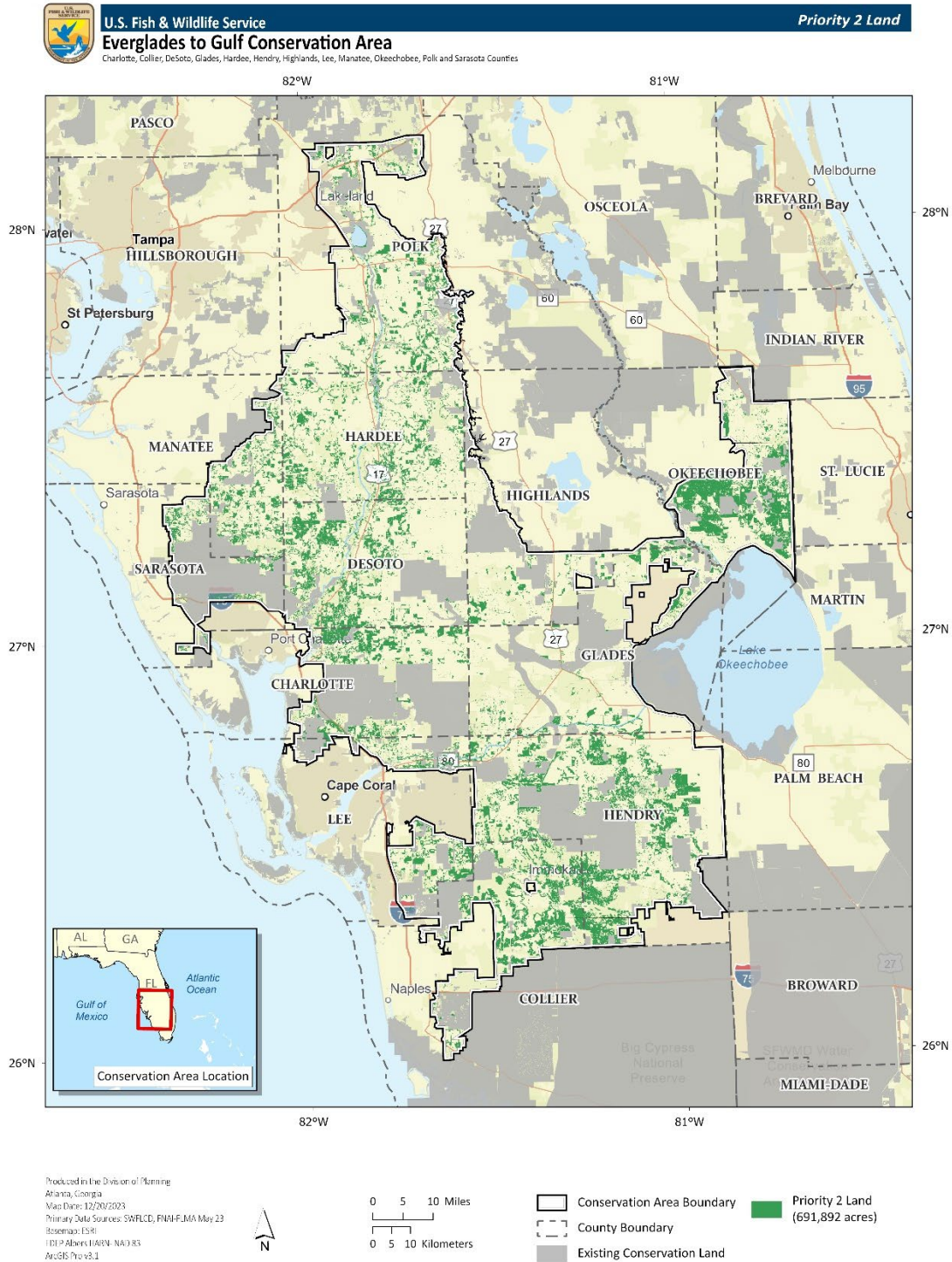


0 5 10 Miles  
 0 5 10 Kilometers

- Conservation Area Boundary
- County Boundary
- Existing Conservation Land
- Priority 1 Land (1,223,720 acres)

**LPP Figure 7. Priority 1-Lands within the Conservation Area that have been identified as a high ecological priority (Morris et al. 2022, Appendix E).**

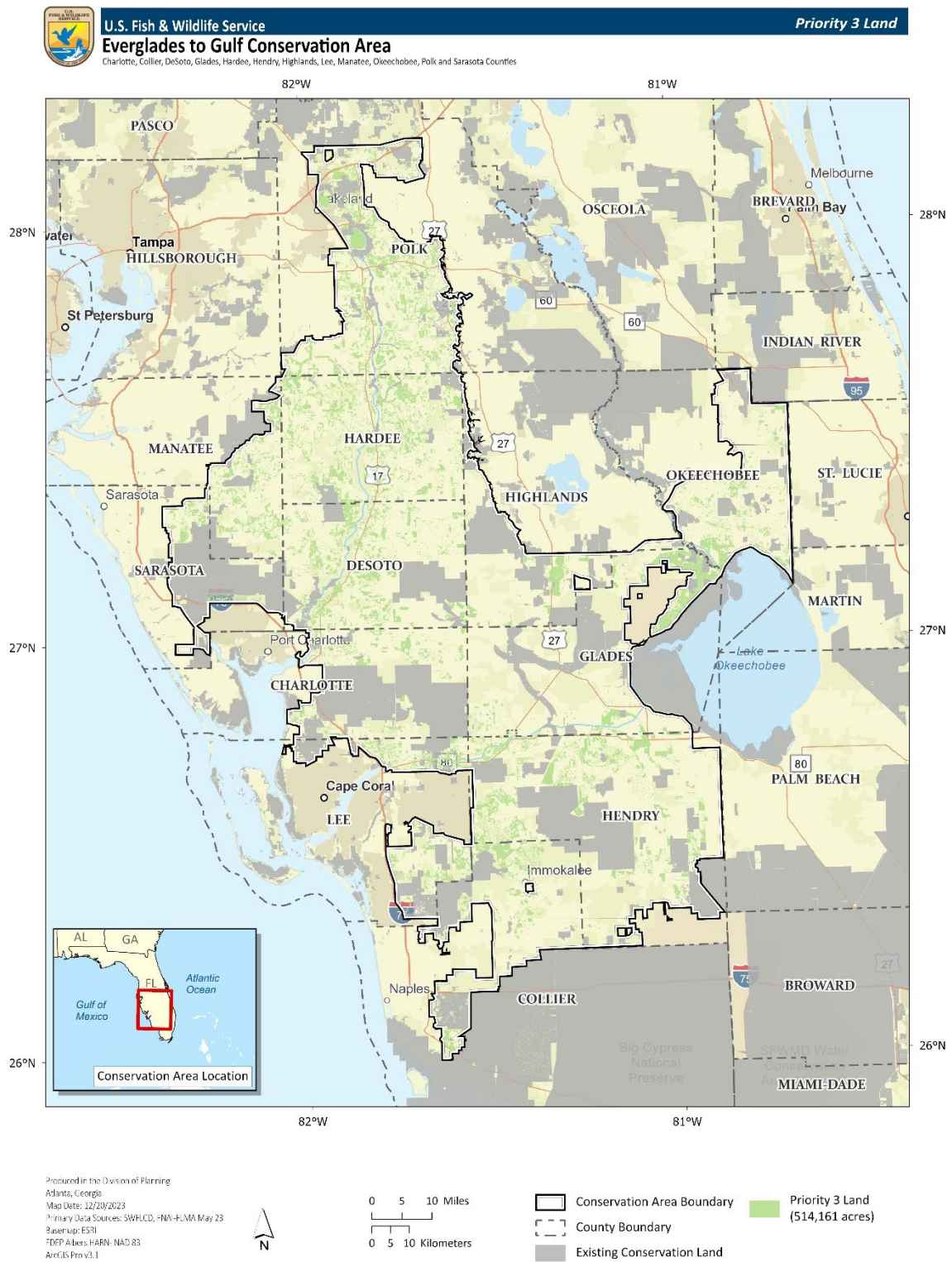
Priority 2- Moderate-High Ecological Priority



**LPP Figure 8. Priority 2- Lands within the Conservation Area that have been identified as moderate-high ecological priority (Morris et al. 2022, Appendix E).**

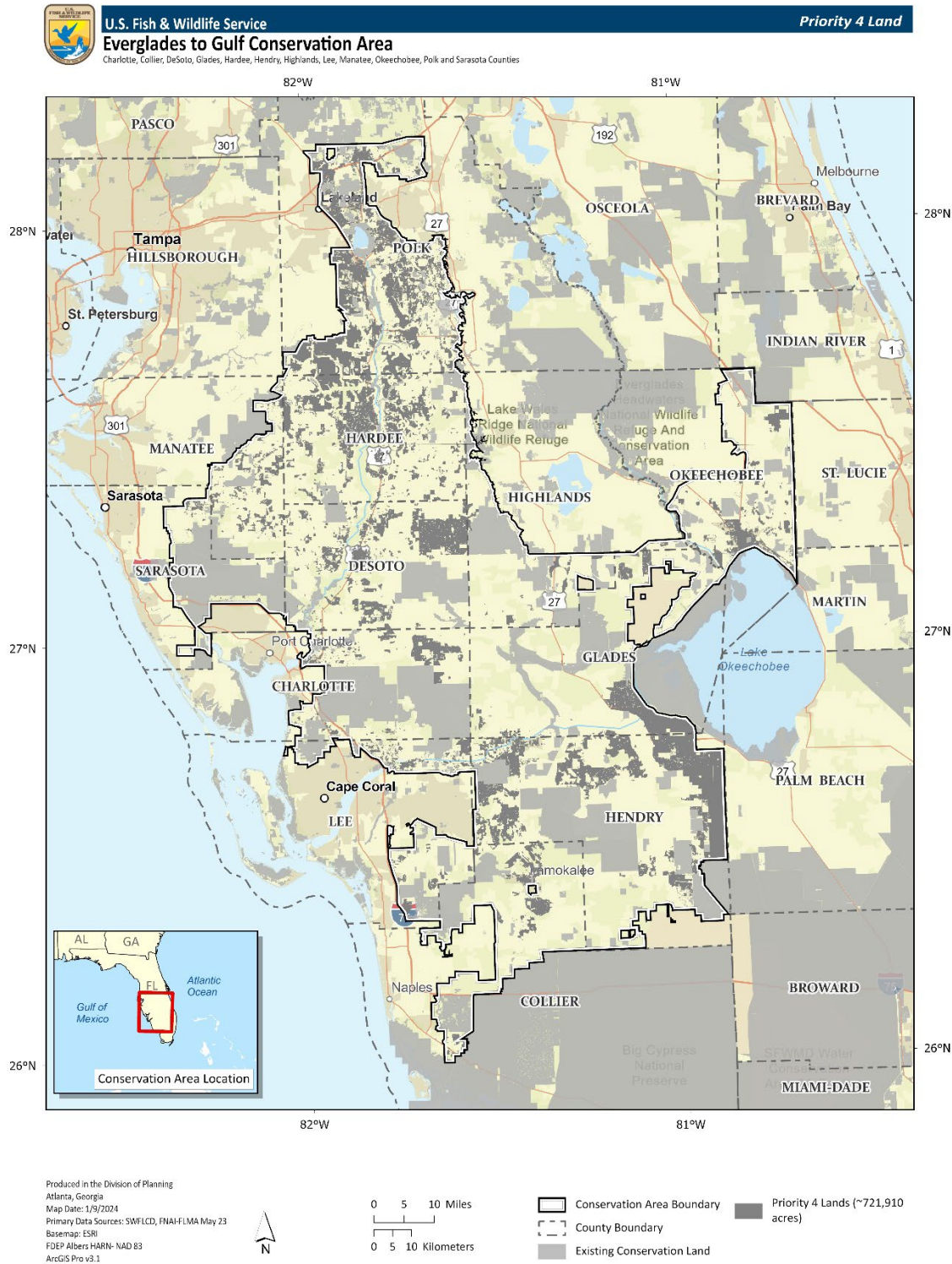


Priority 3- Moderate Ecological Priority



**LPP Figure 9. Priority 3-Lands within the Conservation Area that have been identified as moderate ecological priority (Morris et al. 2022, Appendix E).**

Priority 4- Low Priority



**LPP Figure 10. Priority 4-Lands within the Conservation Area that may be consider low priority could still be considered for acquisition for connectivity purposes but may not rank as an ecological priority.**



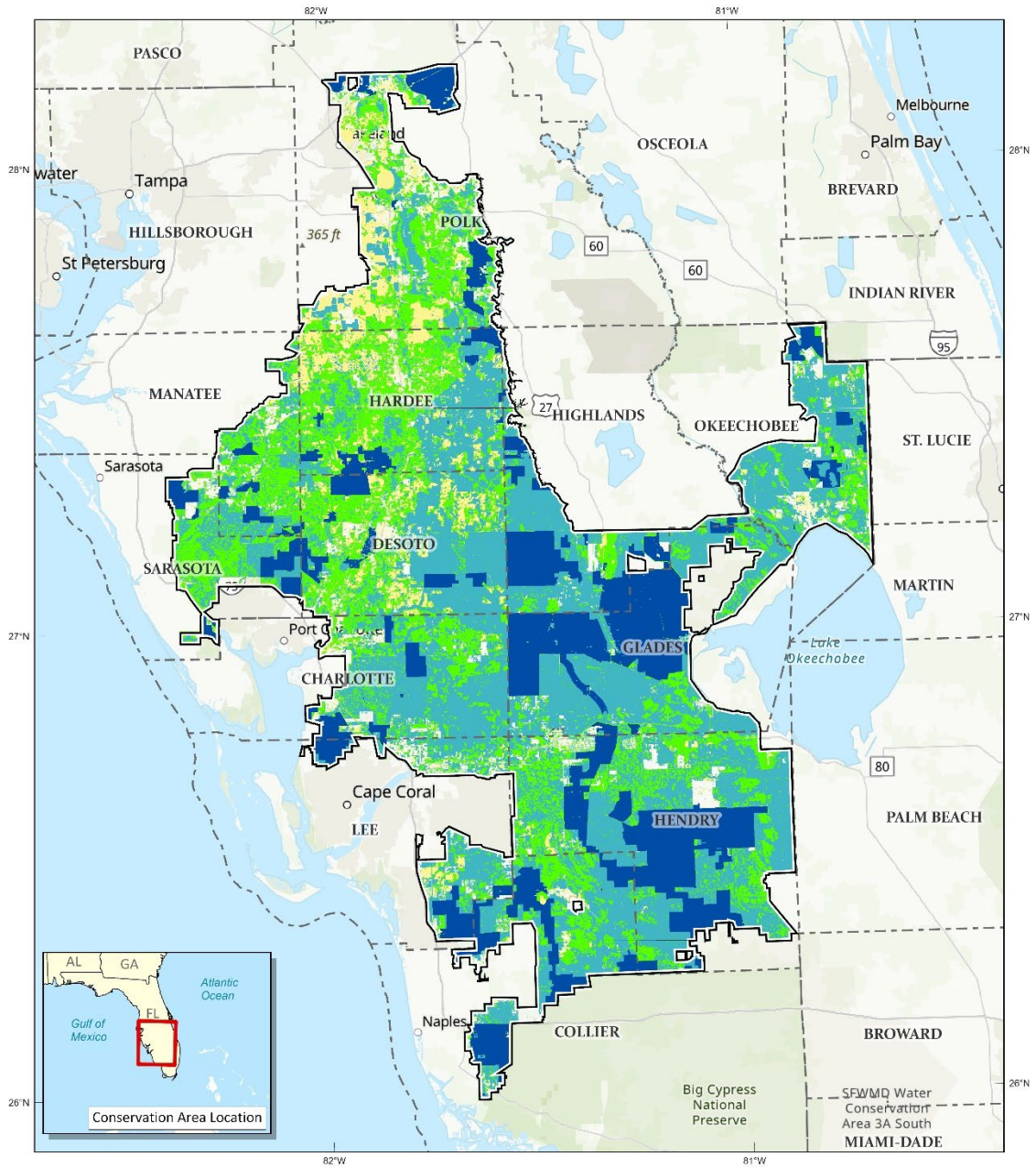


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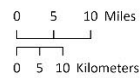
### Everglades to Gulf Conservation Area

Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk and Sarasota Counties

Protection Opportunities



Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 12/18/2023  
 Primary Data Sources: UF GeoPlan  
 Basemap: USR  
 FDEP Albers HARN-NAD 83  
 ArcGIS Pro v3.1



- Conservation Area Boundary
- County Boundary

#### Protection Opportunity

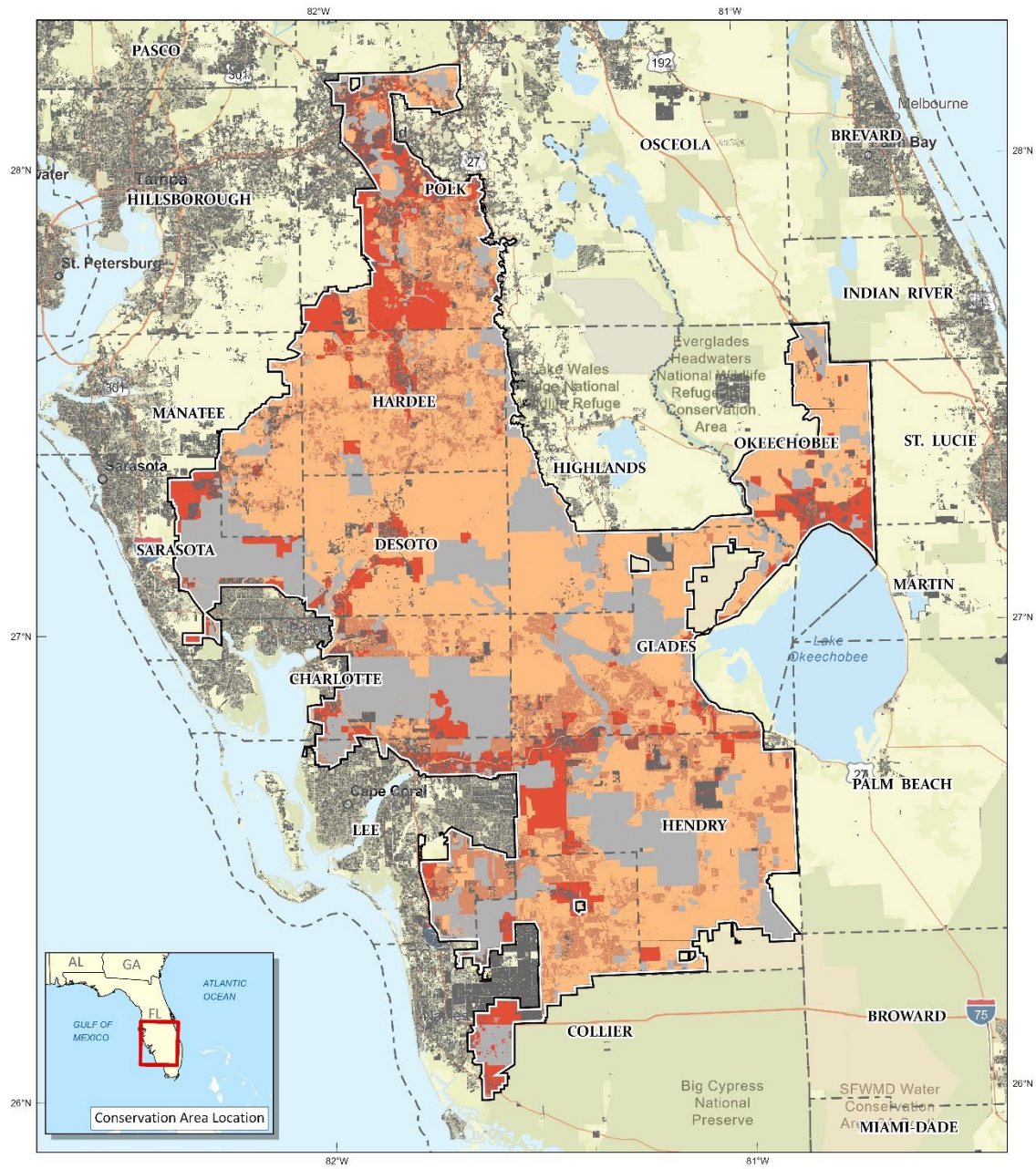
- High
- Moderate-High
- Moderate
- Low

LPP Figure 11. Protection Opportunities in the Conservation Area

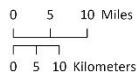


### Proposed Everglades to Gulf Conservation Area

Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk and Sarasota Counties



Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 1/10/2024  
 Primary Data Sources: SWFLCD, UFCLCP  
 Basemap: ESRI  
 NAD 83 Albers HARN  
 ArcGIS Pro v3.1



- |   |          |
|---|----------|
| Conservation Area (CA) Boundary           | Low      |
| County Boundary                           | Moderate |
| Existing Developed Land                   | High     |
| Existing Conservation Land in CA Boundary |          |

**LPP Figure 12. Development Threats in the Conservation Area.**



## LAND PROTECTION OPTIONS

The Service acquires lands and interests in lands, such as easements, and management rights in lands through leases or cooperative agreements, consistent with legislation or other congressional guidelines and executive orders, for the conservation of fish and wildlife and to provide wildlife-dependent public use for recreational and educational purposes. These lands include units of the national wildlife refuge system, national fish hatcheries, research stations, and other areas. County-by-county parcel data for lands within the acquisition boundary is available in LPP Table 2.

**LPP Table 2. Units by County for the Everglades to Gulf Conservation Area**

<b>County</b>	<b>Number of Parcels</b>	<b>Acres</b>	<b>Protected Acres</b>	<b>Percent Protected</b>
Charlotte	23,011	317,421	147,727	46.5
Collier	24,765	309,927	66,455	21.4
DeSoto	18,600	408,323	65,821	16.1
Glades	11,188	453,696	81,760	18.0
Hardee	14,664	408,534	20,449	5.0
Hendry	30,008	669,466	165,271	24.7
Highlands	8,708	246,730	80,243	32.5
Lee	33,312	179,755	53,473	29.7
Manatee	2,997	163,404	23,487	14.4
Okeechobee	21,328	276,852	36,778	13.3
Polk	85,462	446,776	48,540	10.9
Sarasota	10,167	164,383	103,567	63.0

If approved, the Service will use the following options to implement this Land Protection Plan:

- Option 1: Management or land protection by others
- Option 2: Less-than-fee-title acquisition by the Service
- Option 3: Fee-title acquisition by the Service

When land is needed to achieve fish and wildlife conservation objectives, the Service seeks to acquire the minimum interest necessary to meet those objectives and acquire it only from willing sellers. The proposal includes a combination of Options 1, 2, and 3 above. The Service believes this approach offers a cost-effective way of achieving the protection needed to accomplish Conservation Area goals and objectives, while also attempting to meet the needs of local landowners.

Option 1. A great deal of land that is ecologically important is contained in the project area. These lands are already owned by our partners or managed by our partners through conservation easements. It should also be noted that the conservation and protection of this landscape fits well into several partner agency initiatives. Management and protection of lands by others will continue, and the project will complement those efforts.

Option 2. Under option 2, the Service will protect and manage land by acquiring only a partial interest from willing landowners, typically in the form of a conservation easement. Other less-than-fee-title acquisition methods that may be employed include leases, mitigation and conservation banks, and/or cooperative

agreements. Most of the less-than-fee-title options leave the parcel in private ownership, while allowing the Service partial control over land use in a way that enables the Service to meet our conservation goals, as well as providing the landowner continued stewardship and management of their lands. The structure of such easements will provide permanent protection of existing wildlife habitats while also allowing habitat management or improvements and access to sensitive habitats, such as for endangered species or migratory birds. The Service will determine, on a case-by-case basis, and negotiate with each landowner, the extent of the rights the Service will be interested in buying. Those may vary, depending on the configuration and location of the parcel, the current extent of development, the nature of wildlife activities in the immediate vicinity, the needs of the landowner, and other considerations. Less-than-fee-title acquisitions (e.g., conservation easements) will be acquired in perpetuity.

In general, any less-than-fee-title acquisition will maintain the land in its current configuration with no further subdivision or development. Easements are a property right, and typically are perpetual. If a landowner later sells the property, the easement continues as part of the title. Properties subject to easements generally remain on the tax rolls, although the change in market value may reduce the assessment. The Service does not pay refuge revenue sharing (i.e., funds the Service pays to counties in lieu of taxes) on easement rights. Where the Service identify conservation easements, the Service will be interested primarily in purchasing development rights and some wildlife management rights such as restoring wetland or grassland habitat. Easements are best when:

- only minimal management of the resource is needed, but there is a desire to ensure the continuation of current undeveloped uses and to prevent fragmentation over the long term;
- a landowner is interested in maintaining ownership of the land, does not want it to be further developed, and will like to realize the benefits of selling development rights;
- current land use regulations do not limit the potential for adverse management practices;
- the protection strategy calls for the protection of a watershed area that can be accommodated with passive management; or
- only a portion of the parcel contains lands of interest to the Service.

The determination of value for purchasing a conservation easement involves an appraisal of the rights to be purchased, based on recent market conditions and structure in the area (See Land Protection Methods section).

Acceptance of interest in conservation and mitigation banks or entering into management agreements typically involves the acceptance of less-than-fee-title interest. In these instances, the Service will accept the management responsibility while ownership will remain with the landowner. In those instances where the acceptance involves fee-title transfer, the parcel will either need to be located within the Conservation Area or the Service will be required to conduct additional acquisition planning according to The National Environmental Policy Act (NEPA) guidelines.

Option 3. Under Option 3, the Service will acquire parcels in fee-title from willing sellers, thereby acquiring all rights of ownership. This option provides the Service the most flexibility in managing priority lands and ensuring the protection in perpetuity of nationally significant trust resources and providing opportunities to engage the public with wildlife-dependent recreation and education opportunities and provide cultural, traditional, and medicinal use opportunities.

Generally, the lands the Service will acquire in fee-title require active management (e.g., controlling invasive species, mowing or prescribed burning, planting, or managing for the six priority public uses). The Service only

proposes fee-title acquisition when adequate land protection is not assured under other ownerships, active land management is required, or it is determined the current landowner will be interested in a fee-title transaction and is unwilling to sell a partial interest such as a conservation easement.

In some cases, it may become necessary to convert a previously acquired conservation easement to fee-title acquisition: for example, when an owner is interested in selling the remainder of interest in the land on which the Service has acquired an easement. The Service will evaluate this need on a case-by-case basis.

## **SERVICE LAND ACQUISITION POLICY**

If a landowner expresses an interest and gives the Service permission, an appraisal will be completed on behalf of the Service by the Department of the Interior Appraisal and Valuation Services Office (AVSO) to determine its fair market value. Once an AVSO approved appraisal has been obtained by the Service, an offer for the landowner's consideration can be presented.

Appraisals completed by AVSO must meet federal as well as professional appraisal standards. In all acquisition cases, the Service is required by federal law to offer 100 percent of the property's appraised market value, which is typically based on comparable sales of similar types of properties.

The Conservation Area boundaries were delineated after engaging numerous interested parties in the area and considering a variety of conservation and public benefits. The considerations included but were not limited to key wildlife species and habitats, habitat diversity, landscape resiliency, public recreation potential, Tribal Nation interests, flooding frequency and duration, water quality, infrastructure development within and outside the Conservation Area, community expansion and economics, past establishment proposals, current data and trends, working lands, potential for working partnerships, wildlife corridor opportunities, existing land conservation projects, industry, etc. Designation of a final Conservation Area will give the Service the approval to negotiate with landowners that may be interested or may become interested in selling their land in the future. With this internal approval in place, the Service can react more quickly as important lands become available. The Service's long-established policy is to work with willing sellers as funds become available. Lands within this Conservation Area do not become a unit of the refuge system unless their owners willingly sell or donate them to the Service.

During the planning process, the 7-million-acre Study Area was refined and reduced to an approximately 4,045,268-acre Conservation Area. It is within this Conservation Area, if it were approved, that the Service will have the ability to work with willing landowners and partners on conservation programs and agreements. The Service could acquire less-than-fee-title interests within the Conservation Area. Additionally, the Service will have the authority to acquire up to 10% of acres in fee-title. Any proposal to expand beyond the authorized 10% of the approved Conservation Area acres will require an additional planning effort by the Service, including public involvement, in accordance with applicable laws and policies. Participation will be voluntary. Landowners within an approved Conservation Area will be under no obligation to sell interest in their properties to the Service. The Conservation Area will provide important opportunities for conservation, while at the same time maintaining the ability of the ranching community to persist. Landowners in the Conservation Area may voluntarily choose to participate and participating lands will remain in private ownership. Private landowners who elected to participate will continue to control activities on their lands. As lands were acquired, they will become part of the Conservation Area, which will reflect the vision, purposes, and goals of the overall project, but will be subject to the terms and conditions of whatever easement, agreements, and/or other tool(s) that will be used for less-than-

fee-title acquisition. Less-than-fee-title acquisitions (e.g., conservation easements) will be acquired in perpetuity.

### Funding

The two primary sources of funding for land acquisition are the Land and Water Conservation Fund (LWCF) and the Migratory Bird Conservation Fund (MBCF). The primary sources of income to the LWCF are fees paid by companies drilling offshore for oil and gas, and oil and gas lease revenues from federal lands. The primary sources of income to the MBCF are the sale of Migratory Bird Hunting and Conservation Stamps (also known as Duck Stamps) and import duties on arms and ammunition. The Service will seek funding from the LWCF and MBCF for fee-title and conservation easement acquisitions if the project is approved.

At this point in time, the Service is unable to predict where and when refuge unit lands will be acquired within the Conservation Area. Because the cost of acquisition varies widely depending on the characteristics of the tract and the method of acquisition, it is impossible to pre-determine the precise cost of acquisition and easements within the 4-million-acre Conservation Area. However, the current average cost per acre for the 12 counties within the Conservation Area are shown in LPP Table 3.

This range in value is affected by the following factors:

- Land types, i.e., Agriculture, Forest and Woodland, etc.
- Ownership size. Tract sizes range from less than one acre to approximately 65,000 acres.
- Legal interest(s) acquired (conservation easement).
- Other factors that affect per acre land value.
- The total acreages of fee-title vs. conservation easement interest acquired.

**LPP Table 3. Land Sales by County**

<b>County</b>	<b>Current Countywide Average Per-Acre Values</b>
Charlotte	\$6,273
Collier	\$6,408
DeSoto	\$6,608
Glades	\$7,541
Hardee	\$6,852
Hendry	\$5,954
Highlands	\$11,000
Lee	\$15,925
Manatee	\$4,286
Okeechobee	\$6,129
Polk	\$5,188
Sarasota	\$17,461

It is important to note that these costs are only provided as an approximation based on currently available information. Donations, the ratio of fee-title to conservation easement purchases, and land value fluctuations over time are among the factors that will likely influence the costs associated with completion of the Conservation Area.

## *IV. COORDINATION*

### **COORDINATION WITH CONSERVATION PARTNERS**

Service staff have been continuously engaged with interested parties including local, State, Federal, Tribal, non-governmental agencies, and private landowners. Specifically, since January 2022 through April 2023, strong interest in meeting with the National Wildlife Refuge System staff to discuss conservation activities and needs in southwest Florida have occurred. Staff participated in over 30 meetings. Topics discussed at the meetings included:

- general Service conservation activities on private lands;
- Florida Panther conservation efforts by the Service;
- the need to protect sensitive bird areas;
- the need for corridor protection for wildlife;
- collaboration potential of the Service and other State and Federal land acquisition agencies such as: Florida Forever (Florida Department of Environmental Protection), The Rural and Family Lands Protection Program (Florida Department of Agricultural and Consumer Services-FDACS) Forest Legacy (Florida Forest Service, FDACS), and Wetland Reserve Easement Program (Natural Resource Conservation Service (NRCS);
- management of conservation easements and fee-title lands by the National Wildlife Refuge System; and
- the Fisheating Creek and Florida Panther NWR Landscape Conservation Design completed in 2016 and encouragement to expand efforts for conservation protection, cultural and traditional use and access of Department of Interior lands, and the need for protection of working landscapes.

### **TRIBAL COORDINATION**

The Service engaged with Tribal Nations, including the Seminole Nation of Oklahoma, Poarch Band of Creek Indians, Miccosukee Tribe of Indians of Florida, Seminole Indian Tribe of Florida, and the Muscogee Nation early in the scoping process. At the request of the Miccosukee Tribe of Indians of Florida, a follow-up meeting occurred between the Service and the Miccosukee Tribe to discuss the Landscape Conservation Design (Morris et al. 2017) and the planning process. The Service and the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida met and discussed the role of the Service in land protection and opportunities in Southwest Florida and opportunities for the Service and Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida to collaborate on conservation objectives. The Seminole Tribe of Florida and Miccosukee Tribe of Indians of Florida contributed as active members of the planning team to develop this proposal.

### **ELECTED OFFICIAL CONTACTS**

#### **Scoping**

On March 13, 2023, The Service's National and Regional Congressional and Legislative Affairs Specialists notified Congressional staff in the offices below about the Conservation Area.

- Florida Senators
  - The Acting Regional Director for the Southeast Region and the Regional Congressional and Legislative Affairs specialist met with a Senator Rubio staffer in Washington DC on June 8; the staffer supported the concept, especially for easements on agricultural lands.
  - The Action Regional Director for the Southeast Region made phone notification to the Policy Adviser to Senator Rick Scott's office on March 13, 2023.
- Florida Representatives:

- Rep Darren Soto
- Rep Vern Buchanan
- Rep Gregg Steube
- Rep Scott Franklin
- Rep Byron Donalds
- Rep Mario Diaz-Balart
- Senate Appropriations Interior Subcommittee
- House Appropriations Interior Subcommittee
- Senate Environment and Public Works Committee
- House Natural Resources Committee
- House Leadership – Speaker Pelosi, House Majority Leader Hoyer, House Minority Leader McCarthy
- Congressional Research Service

### **Public Review and Comment**

On September 26, 2023, Regional and Washington DC-based Congressional and Legislative Affairs Specialists notified Congressional staff for ten members of the Florida Congressional Delegation of the availability of the draft Land Protection Plan and draft Environmental Assessment (see below). Assistant Secretary Estenez had a courtesy call with Sen. Rick Scott (R-FL) and Headquarters Congressional and Legislative Affairs Specialists called staff for Sen. Rubio (R-FL), Rep. Franklin (R-FL-18) and Rep. Donalds (R-FL-19). In addition, on September 28, Headquarters Congressional and Legislative Affairs Specialists and Regional Refuge staff briefed DC staff for Rep. Diaz-Balart (R-FL-26) on the proposal.

1. Sen Marco Rubio (FL-SEN3)
2. Sen Rick Scott (FL-SEN1)
3. Rep Darren Soto (FL-09)
4. Rep Daniel Webster (FL-11)
5. Rep Laurel Lee (FL-15)
6. Rep Vern Buchanan (FL-16)
7. Rep Gregg Steube (FL-17)
8. Rep Scott Franklin (FL-18)
9. Rep Byron Donalds (FL-19)
10. Rep Mario Diaz-Balart (FL-26)

On November 8, 2023, the Acting Region 4 Director and the Regional 4 CLA participated in eight DC-staff level meetings for Members of the Florida U.S. House Delegation. The Everglades to Gulf Conservation Area was discussed in each meeting to varying degrees, based on geography and interest. No staff expressed opposition to the proposal. Several Representatives expressed support of Everglades conservation/restoration, wildlife corridors and the proposal in general.

1. Rep Gregg Steube (R-FL-17)
2. Rep Scott Franklin (R-FL-18)
3. Col Michael Waltz (R-FL-06)
4. Rep Kat Cammack (R-FL-03)
5. Gus Bilirakis (R-FL-12)
6. Kathy Castor (D-FL-14)
7. Rep Darren Soto (D-FL-09)
8. Rep Mario Diaz-Balart (R-FL-26)

## **PUBLIC OUTREACH**

### **Scoping**

The 35-day scoping period for this project began on March 14, 2023, with a U.S. Fish and Wildlife Service press release announcing the proposed action and requesting public input. It ended on April 18, 2023. Seven public scoping meetings were conducted, including a virtual meeting with intergovernmental partners, two virtual meetings open to the public, and four in-person meetings. The dates and locations of the meeting were as follows: Intergovernmental virtual (March 24, 2023), Wauchula, FL (March 28, 2023), Arcadia, FL (March 30, 2023), Immokalee, FL (April 3, 2023), virtual (April 5, 2023), Labelle, FL (April 7, 2023), and virtual (April 12, 2023). A link to a webpage explaining the details regarding the dates and locations of the public scoping meetings and how to register and submit comments was included in the Service's initial press release.

Articles and information produced by other entities have also appeared in the press, including a YouTube video published by Defenders of Wildlife (January 27, 2023) and articles published by The Beaches Leader (March 14, 2023), POLITICO Pro (March 14, 2023), WGCU (March 14, 2023), National Wildlife Refuge Association (March 28, 2023), and Fort Meyers News-Press (April 5, 2023).

Collectively, the seven public scoping meetings had 171 attendees, including individual citizens; Avon Park Airforce Base; Florida Department of Transportation; Florida Department of Environmental Protection; Miccosukee Tribe; Florida Fish and Wildlife Conservation Commission; U.S. Army Corps of Engineers; National Park Service; Seminole Tribe of Florida; Southwest Florida Water Management District; South Florida Water Management District; Big Cypress National Preserve; Audubon of Florida; Center for Biological Diversity; Gray Ranch LLC; Conservation Foundation of the Gulf Coast; Strickland Ranch; Defenders of Wildlife; Cypress Chapter Izaak Walton League of America; Earth Justice; Audubon of the Western Everglades; Conservation Collier; South Florida Wetlands Management District; The Nature Conservancy; University of Florida Center for Landscape Conservation Planning; National Wildlife Refuge Association; Backcountry Hunters and Anglers; Florida Conservation Group; Lee County; National Wildlife Federation; Salty Science; Friends of the Florida Panther Refuge; City of Bonita Springs Community Development; JB Ranch; National Oceanic and Atmospheric Administration; Coastal & Heartland National Estuary Partnership; Friends of Bosque del Apache; Friends of Alaska National Wildlife Refuges; Family Lands Remembered; Florida Cattlemen's Association; Live Wildly Foundation; Everglades Foundation, Delta Waterfowl and American Daughters of Conservation; Environmental Lands Management and Acquisition Committee; Highlands County Board of County Commissioners; Friends of the Fakahatchee; Florida Trail Association; American Sportfishing Association; Conservancy of Southwest Florida; Sarasota County Parks, Recreation, and Natural Resources; Artemis Sportswomen (National Wildlife Federation); Florida Wildlife Corridor Foundation; Ancient Islands Group Florida Sierra Club; Ding Darling Wildlife Society; National Parks Conservation Association; Sarasota County Government; Florida Park Service; Stantec; The Friends of Rachel Carson NWR; Venetian Golf and River Club; H.W. Lochner, Inc.; Wildlands Conservation; and Hendry County.

The Service received approximately 2,600 comments, all of which were generally supportive. Substantive comments primarily focused on prioritizing habitats and wildlife, public use considerations, partnership opportunities, Tribal interests, restoration considerations, and willing landowner and easement interests.

### **Public Review and Comment**

The 35-day public review and comment period for the Draft Land Protection Plan and Environmental Assessment for the Proposed Establishment of Everglades to Gulf Conservation Area began on September 26, 2023, with a U.S. Fish and Wildlife Service press release requesting public review and comment. The news release was

distributed to over 300 media outlets and over 200 interested parties. The comment period ended on November 1, 2023. Four public meetings occurred during the public review and comment period, including two virtual meetings on October 20, 2023, and October 23, 2023. The Service also held two in-person meetings. The in-person meetings were on October 25, 2023, and October 26, 2023, in Wauchula, FL, and Immokalee, FL, respectively. Information regarding the dates and locations of the public meetings and how to register and submit comments was included in the Service's press release and posted to the project's website. The Service also posted a video presentation on the project website that was viewed over 300 times as of January 2024.

Various entities published articles about the proposed Everglades to Gulf Conservation Area, including but not limited to, the Coastal and Heartland National Estuary Partnership (date unknown); National Public Radio (date unknown); Telemundo (date unknown); Defenders of Wildlife on September 26, 2023; National Wildlife Refuge Association on September 28, 2023; WUSF on October 1, 2023; WLRN on October 2, 2023; The Invading Sea on October 3, 2023; Bradenton Herald on October 17, 2023; Your Sun on October 18, 2023; Inside Climate News on October 22, 2023; Florida Public TV on October 24, 2023; WFIT 89.5 FM on October 24, 2023; Florida Conservation Group on October 26, 2023; WGCU on October 27, 2023; WLRN on October 27, 2023; and Fox 4 Southwest Florida on October 31, 2023.

In total, approximately 3,000 comments were received were submitted via email, hard copy, or during public meetings. Comments were received from individuals and multiple local, state, and tribal governmental agencies, including the Miccosukee Tribe of Indians of Florida, the Florida Fish and Wildlife Conservation Commission, the Florida Department of Environmental Protection, Manatee County, and Palm Beach County. The Service also received comments from approximately 90 representatives and individuals affiliated with non-governmental and other various organizations, including the 5th Day Outdoors; All Florida Conservation; American Sportfishing Association; Archbold Biological Station; Athletic Brewing Company, LLC; Audubon Florida; Audubon Western Everglades; Babcock Ranch; Back Country Hunters and Anglers (Florida Chapter); Bergeron Everglades Foundation; Broward Health Medical Center; Busch Wildlife Sanctuary; cādence; Center for Biological Diversity; Charlotte Harbor Environmental Center; Coastal & Heartland National Estuary Partnership; Coastal Wildlife Club, Inc.; Conservancy of Southwest Florida; Conservation Foundation of the Gulf Coast; Defenders of Wildlife; Ducks Unlimited; Dynan Construction, LLC; Emory Ecological Society; Environment Florida Research and Policy Center; Environmental Confederation of Southwest Florida; Everglades Conservation and Sportsman Club; Family Lands Remembered; First Nation Group; Florida Cattlemen's Association; Florida Gladesmen, LLC; Florida Sportsmen Conservation Association; Florida Wildlife Corridor Foundation; Florida Wildlife Federation; Friends of Carlton Reserve; Friends of Florida Panther Refuge Board; Georgia State University; Green Cay Nature Center; Green Horizon Land Trust; Grizzly Creek Films; GSE Engineering and Consulting, Inc.; Izaak Walton League of America (Cypress Chapter); Johnson Pope Bokor Ruppel & Burns, LLP; J-Seven Ranch, Inc.; Keller Williams Realty; Kimley-Horn; Lemur Conservation Foundation; Loggerhead Marinelifelife Center; Lucuma Designs, LLC; Manatee County Environmental Lands Program; Manson Bolves Donaldson Tanner; Miakka Community Club; Michael Saunders & Company; Monroe & Giordano, LLC; Naples Zoo at Caribbean Gardens; National Park Conservation Association; National Tropical Botanical Garden Organization; National Wildlife Federation; Nelson Benefits Group; Orange Audubon Society; Palm Beach County Department of Environmental Resources Management; Palm Beach County Parks and Recreation Department; Palm Beach Zoo & Conservation Society; Pearl Homes; Pennoni; Peyton Cooper PC Creative; Pine Jog Environmental Education Center; Pinkerton & Laws; Premier Sotheby's International Realty; Quest Ecology; Rain Frog Ranch; Resource Depot; Responsible Growth Management Coalition, Inc.; River Run Farm, LLC; Roots of Compassion and Kindness; Rosebud Continuum; Safari Club International (South Florida Chapter); Sanibel-Captiva Conservation Foundation; Sarasota County Environmentally Sensitive Land Oversight Committee; SCI (South Florida Chapter); Sierra Club (Florida Chapter); Sunrise Naples; Sustainable Rookie; The Balmoral Group; The Environmental Conservancy of North Port, Inc.;



The Future of Hunting in Florida; The Gasparilla Inn & Club; The Nature Conservancy; Western Everglades Stakeholders Association; and Wildlife Conservation Society.

Substantive comments were summarized and categorized under seven general topics: wildlife and habitat, resource protection, wildlife-dependent recreation, administration, planning process and planning documents, other, and editorial (Appendix G). Any page numbers referenced in the comments or responses relate to the original page number in the draft LPP and EA released for public review and comment.

### **SPECIAL CONSIDERATIONS**

Lands within the Conservation Area have been reviewed by the Service for inclusion in the National Wilderness Preservation System according to criteria set forth in the Wilderness Act of 1964. Based on the Service's July 27, 2023 assessment, the Conservation Area was found not to be suitable for wilderness designation since:

- No areas meet the Wilderness minimum size requirement of 5,000 contiguous roadless acres;
- No areas contain any units of sufficient size for preservation as Wilderness;
- Areas under consideration have been altered by historic and ongoing human activities; and/or
- No areas include outstanding opportunities for solitude or for primitive recreation.

The Conservation Area comprises a landscape that is largely rural, with agriculture, forestry, ranching, and outdoor recreation/tourism. Most tracts in the Conservation Area are impacted by human use throughout the landscape. The extensive network of roadways, altered landscapes, increasing population, and development will make a wilderness experience improbable. Therefore, wilderness designation for any units of the Conservation Area is not appropriate.

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## **APPENDIX A. ENVIRONMENTAL ASSESSMENT**

### *I. PURPOSE AND NEED FOR ACTION*

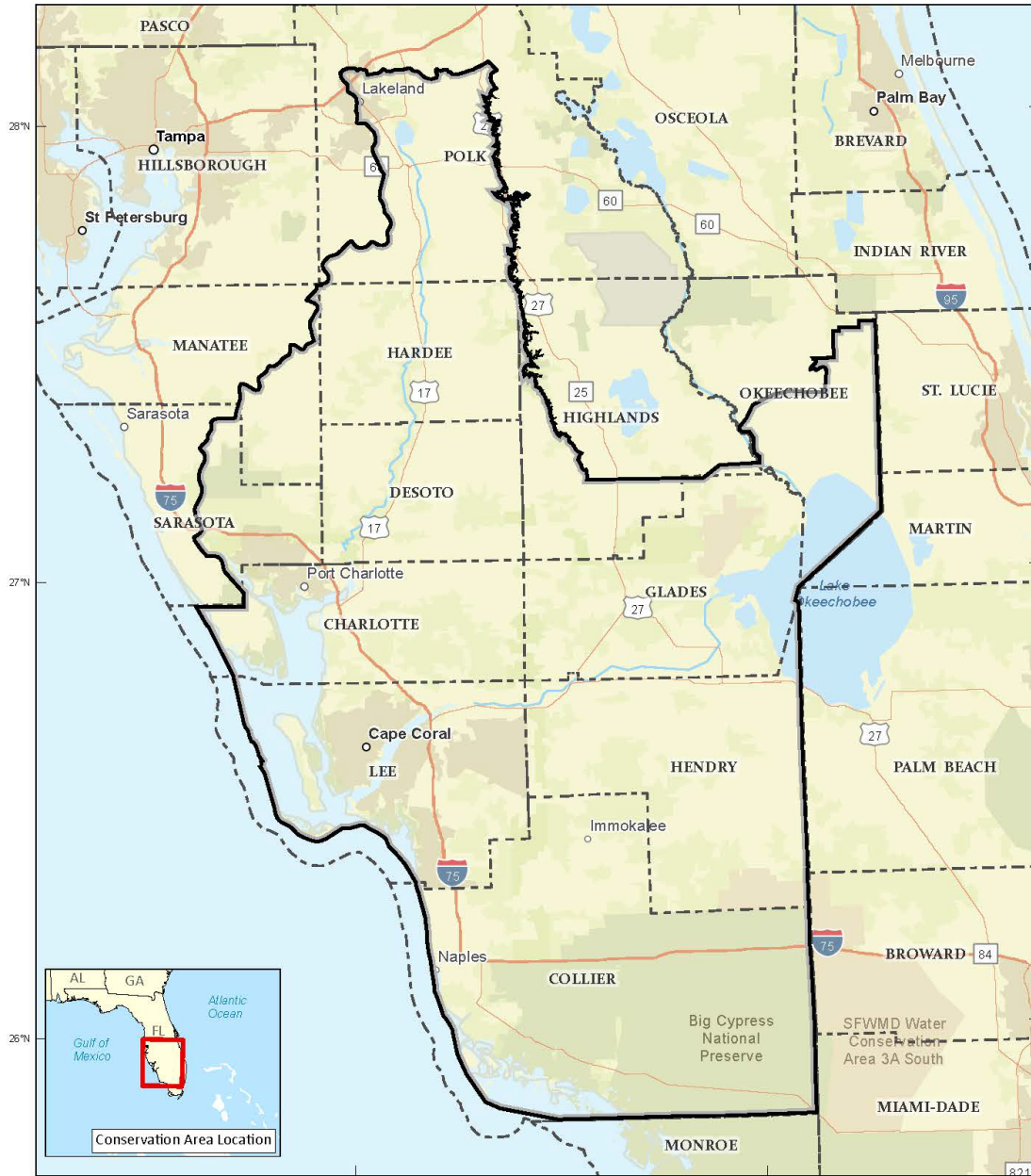
#### **INTRODUCTION**

The U.S. Fish and Wildlife Service (Service), Southeast Region, proposes to conserve, protect and manage one of the most important regional conservation landscapes in the United States through the establishment of the Everglades to Gulf Conservation Area (Conservation Area) which will be located within the Study Area used for the Southwest Florida Landscape Conservation Design (LCD) (Appendix E). The LCD Study Area incorporates almost 7 million acres of land and water from the western Everglades north to include the Caloosahatchee watershed to the headwaters of the Peace River, west to incorporate the Myakka River watershed, and east to the Lake Wales Ridge, Fisheating Creek watershed and the northwestern half of Lake Okeechobee (EA Figure 1).

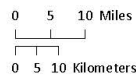
Working with the key partners, as well as with other state and local governments, Tribal Nations, businesses, non-governmental organizations, and the public, the Service examined the needs for wildlife habitat protection within the biologically important Greater Everglades, Caloosahatchee, Fisheating Creek, Peace River and Myakka River watersheds (EA Figure 1). During the planning process, this Study Area was further refined to encompass a smaller, approximately 4,045,268-acre area referred to as the Everglades to Gulf Conservation Area which will be equivalent to the acquisition boundary. The Conservation Area spans twelve counties and encompasses the Greater Everglades, the northern portion of Lake Okeechobee and the watersheds of the Caloosahatchee River, Fisheating Creek, Peace River, and Myakka River. Within the Conservation Area, the Service proposes to acquire less-than-fee-title in the Conservation Area. In addition, the Service will also pursue fee-title interest in up to 10% of the Conservation Area to support the shared goals of conservation efforts in this important landscape.

It is crucial to note the Service's policy is to work with willing sellers to acquire less-than-fee-title or fee-title interest in property. Landowners within the Conservation Area will be under no obligation to sell interest in their properties to the Service. The Conservation Area will provide important opportunities for conservation, while at the same time maintaining the ability of the ranching community to persist. Landowners in the Conservation Area may voluntarily choose to participate, and participating lands will remain in private ownership. Private landowners who elect to participate will continue to control activities on their lands.





Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 9/15/2023  
 Primary Data Sources: SWFLCD, UF GeoPlan  
 Basemap: ESRI  
 FDEP Albers HARN-NAD 83  
 ArcGIS Pro v3.1



SWFLCD Study Area  
 County Boundary

**EA Figure 1. LCD Study Area Boundary**

## **SCOPE OF THE ENVIRONMENTAL ASSESSMENT**

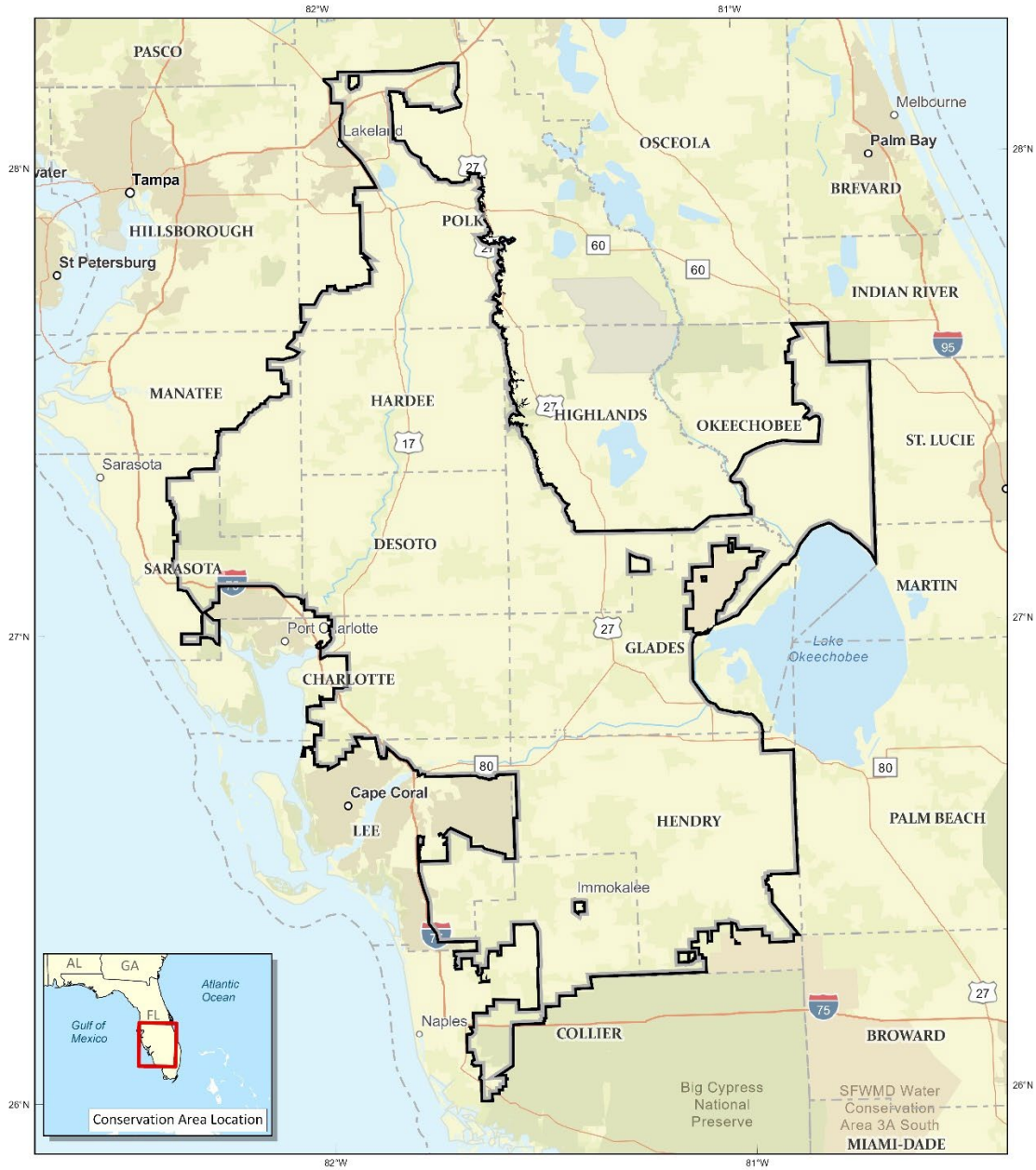
The scope of this Environmental Assessment (EA) is limited to the acquisition, in less-than-fee-title, and in fee-title of lands for the establishment of the Everglades to Gulf Conservation Area (EA Figure 2). Information and analysis are provided for the Conservation Area. This EA is not intended to cover the development and/or implementation of detailed, specific programs for the administration and management of those lands. A Conceptual Management Plan and Interim Compatibility Determinations (Appendix B) are included to provide general outlines on how the lands will be managed. The appendices are provided as general information for the public in its review of the project. The Service will develop a comprehensive conservation plan, a 15-year management plan, and needed step-down management plans (e.g., a step-down plan addressing hunting will likely be developed within 3-5 years of acquisition of property sufficient to support hunting), for the Conservation Area. These plans will be developed and reviewed in accordance with Department of Interior requirements of the National Environmental Policy Act.



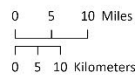
**U.S. Fish & Wildlife Service**  
**Everglades to Gulf Conservation Area**

Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk and Sarasota Counties

*Conservation Area Boundary*



Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 12/6/2003  
 Primary Data Sources: USFS  
 Base map: ESRI  
 FDEP Albers HARN-NAD 83  
 ArcGIS Pro v3.1



- Conservation Area Boundary
- County Boundary

**EA Figure 2. Everglades to Gulf Conservation Area**

## **PURPOSE AND NEED**

In coordination with partners, the purpose of the Everglades to Gulf Conservation Area is to strategically conserve and restore a functional network of natural and working lands to protect ecologically important habitats, vulnerable wildlife, watersheds, water quality, biodiversity, Everglades restoration, cultural resources, and wildlife corridors in southwest Florida to buffer these resources against present and future threats including but not limited to, development and climate change. In addition, enhance wildlife-dependent recreational opportunities and provide cultural, traditional, and medicinal use opportunities while promoting activities that complement and support the purposes of the Everglades to Gulf Conservation Area and other partner-driven conservation initiatives that exist in southwest Florida.

The need of the action is to meet the Service's priorities and mandates as outlined by the National Wildlife Refuge System Administration Act to "plan and direct the continued growth of the System in a manner that is best designed to accomplish the mission of the System, to contribute to the conservation of the ecosystems of the United States, to complement efforts of States and other Federal agencies to conserve fish and wildlife and their habitats, and to increase support for the System and participation from conservation partners and the public" (16 U.S.C. 668dd(a)(4)(C)). Additionally, there is a need for increased resource protection in this part of Florida, as various growing threats are likely to continue to put natural resources at risk. These threats include but are not limited to the listed items.

- Southwest Florida is one of the most rapidly growing parts of the United States with an extreme level of human population growth, fast-pace and large scale of habitat loss due to new development, and rapidly expanding coastal developed areas that are moving further inland to threaten important habitats, watersheds, and a sustainable rural landscape.
- The fresh and saltwater ecosystems of Southwest Florida are increasingly impacted by stormwater and nutrient pollution that is fueling blue-green algae blooms in Lake Okeechobee and the Caloosahatchee River (as well as other significant freshwater bodies) and increasingly frequent, severe, and longer duration red tide events in coastal estuaries and marine waters.
- Southwest Florida is particularly vulnerable to sea level rise associated with climate change because of its low and very gradual topographic gradient and high level of coastal development;
- Protecting connected landscape gradients from current coastline and natural coastal ecosystems to inland areas is essential for a resilient adaptation strategy for natural systems across the region.

## **BACKGROUND**

The Study Area from the LCD (2022) (Appendix E) represents the current breeding range and best potential population expansion areas for the Florida panther, with over a million acres of unprotected habitat for other listed and focal species, unique natural communities, the heart of Florida's unique prairie ranching landscape, Greater Everglades watersheds, and the entire Peace River and Myakka river watersheds, which are essential for the health of Charlotte Harbor, an estuary of national significance and designated by Congress and epicenter of natural resource based tourism and economic activity in southwest Florida. The Study Area is also an essential keystone for the Florida Wildlife Corridor, which is delineated by the State of Florida as the top three priorities within the Florida Ecological Greenways Network (FEGN). The Florida Wildlife Corridor has recently become a statewide conservation priority for the Florida Legislature and Governor, who have expressed their commitment to its protection through a significant increase in conservation protection land funding for the Florida Forever and Rural and Family Lands Protection programs. This Study Area represents an unprecedented

landscape-scale conservation opportunity with great potential for both large scale conservation funding and cooperative opportunities between federal, State, regional, and local partners. In fact, Florida’s ecological and economic future is dependent on conservation success in this region.

Southwest Florida fosters a unique set of natural communities and species with notable threats from rapid human population growth and climate change. However, this region also harbors a largely intact rural landscape essential to the Florida panther and a host of other federal and State listed species and species at-risk. It plays a very important role in the ecological integrity of both the Everglades and Charlotte Harbor watersheds. Important opportunities still exist to protect large working landscapes and functional ecological connections between conservation areas to address many of the region’s biodiversity and water resource conservation goals.

Conservation opportunities include:

- History of cooperative conservation efforts in the region including:
  - Served as the pilot project area for the Florida Fish and Wildlife Conservation Commission’s Cooperative Conservation Blueprint (FWC Blueprint); a science and stakeholder driven multi-year project that the Service can build upon;
  - Served as a focal area for the Peninsular Florida Landscape Conservation Cooperative;
  - Development of a smaller-scaled Southwest Florida Landscape Conservation Design in 2017;
  - Contained in the Resilient Lands and Waters Initiative, which is an effort to support collaborative landscape partnerships where federal agencies work with partners to conserve and restore important lands and waters and make them more resilient to changing climate.
- The region is home to many ranches providing landscape-scale conservation opportunities with willing landowners vitally interested in conservation easements (many of these ranches have gone through the intensive State vetting process and provide immediate conservation opportunities to leverage State funding);
- The State’s Florida Wildlife Corridor Initiative and land protection funding provides a large potential State match to potential priority wildlife corridor and refuge conservation projects occurring in much of the region.

The Service refined the 7-million-acre LCD Study Area to propose the 4-million-acre Conservation Area which is analyzed in this plan.

## **NATIONAL WILDLIFE REFUGE SYSTEM OVERVIEW**

The mission of the National Wildlife Refuge System is:

“... to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” (National Wildlife Refuge System Improvement Act of 1997).

Units of the National Wildlife Refuge System provide important habitat for native plants and many species of mammals, birds, fish, insects, amphibians, and reptiles. They also play a vital role in conserving threatened and endangered species.

Units of the National Wildlife Refuge System offer a wide variety of wildlife-dependent recreational opportunities, and many have visitor centers, wildlife trails, and environmental education programs. Nationwide, about 72 million visitors annually hunt, fish, observe, and photograph wildlife, or participate in educational and

interpretive activities (Big 6) on refuge system units. In the Southeast Region, there were over 20 million visits to support the Big 6 uses.

## **ACTION**

Southwest Florida has a combination of ecological significance, threats to ecological integrity, and conservation protection opportunities that make it unique in Florida and the United States. The region also has a long history of conservation planning and partnerships that make it “shovel ready” for regional landscape-scale conservation action through significantly enhanced fee simple and easement land protection and restoration funding. Federal funding in partnership with recently expanded State funding could achieve large-scale land protection needed to:

- Assist with the restoration of the Everglades.
- Enhance the viability and recovery of the Florida Panther and over 100 other threatened and endangered species and 17 At-risk species.
- Protect and restore watersheds and coastal estuaries for ecological integrity, water supply, recreation, and the economy especially the Caloosahatchee River watershed, Fisheating Creek watershed, the Peace River watershed, the Myakka River watershed, Okaloacoochee Slough, Corkscrew Swamp, and Charlotte Harbor.
- Maintain unique natural communities and species adapted to the unique subtropical environment.
- Conserve habitat diversity and complexity.
- Improve and increase resiliency.
- Facilitate protection of a regional scale wildlife corridor through the protection of a functional landscape mosaic of natural communities and ranchlands.
- Facilitate resiliency and adaptation to climate change through protection and restoration of freshwater flows into coastal wetlands and protecting coastal to inland connectivity to provide a functional retreat for coastal species.
- Complement other conservation initiatives.
- Foster existing partnerships and seek new partnerships.
- Conserve cultural sites and landscapes.
- Provide cultural, traditional, and medicinal use opportunities on fee-title lands.
- Provide wildlife dependent recreational opportunities on fee-title lands.

The scope of this EA is limited to working with partners to establish a Conservation Area which will include the acquisition, in fee-title and in less-than-fee-title, of lands. The Conservation Area is an approximately 4,045,268-acre area which will be equivalent to the acquisition boundary. Information and analysis are provided for the Conservation Area. This EA is not intended to cover the development and/or implementation of detailed, specific programs for the administration and management of those lands. A Conceptual Management Plan and Interim Compatibility Determinations (Appendix B) are included to provide general outlines on how the lands will be managed. The appendices are provided as general information for the public in its review of the project. The Service will develop a comprehensive conservation plan, a 15-year management plan, and needed step-down management plans (e.g., a step-down plan addressing hunting will likely be developed within 3-5 years of acquisition of property sufficient to support hunting), for the Conservation Area. These plans will be developed and reviewed in accordance with Department of Interior requirements of the National Environmental Policy Act.

For lands that the Service acquires in fee-title, habitat restoration and management will provide threatened, endangered, at-risk and resident wildlife with suitable habitat. Wetland drainage ditches may be filled to restore historic water storage capacity and provide breeding grounds for waterfowl. Prescribed fire will be used to remove excess vegetation and restore native plant communities. Invasive species will be controlled through manual, mechanical, and/or chemical means. Cultural and historical resources will be protected, and interpretive programs and materials will allow the public to better understand and appreciate these important resources.

The Service will acquire, protect, conserve, and manage important natural resources of this landscape through fee-title purchases, leases, donations, conservation easements, mitigation and conservation banks, and/or cooperative agreements from willing sellers. All lands and waters acquired will be managed by the service as the Everglades to Gulf Conservation Area. The overall objectives of the Conservation Area will be to provide wildlife corridors essential for species viability and adaptation opportunities in response to climate change; restore wetland and upland habitats for a wide range of imperiled species; contribute the restoration efforts of the Greater Everglades; complement other conservation initiatives; protect rural landscape mosaics of natural communities and ranchland to combat habitat fragmentation; conserve habitat diversity and complexity; maintain unique natural communities and species adapted to unique subtropical environments; sustain and protect over 100 State and Federally threatened and endangered species, 17 at-risk species, and 18 Birds of Conservation Concern; protect and restore watersheds and coastal estuaries for ecological integrity, water supply, recreation, and the economy; foster new and existing partnerships; conserve and protect cultural sites and landscapes; provide cultural, traditional, medicinal use opportunities to Tribal Nations; and provide opportunities for public wildlife-dependent outdoor interpretation, education, and recreation.

Public uses for consideration for the Conservation Area will include six priority public uses: hunting, fishing, environmental education, interpretation, wildlife observation, and photography. Potential public uses supporting priority public uses will also be considered (depending on the specifics of a particular property acquired), may include bicycling, boating, hiking, jogging, horseback riding, camping (with limitations), ORV use (with limitations), and facilities to support any of the approved uses. The Service is committed to working with the FWC to facilitate public use activities, specifically hunting and fishing. Uses will be approved through the appropriateness and compatibility requirements in the National Wildlife Refuge System Administration Act and the Refuge Recreation Act.

It is anticipated that funding for this project will be provided primarily through the Land and Water Conservation Fund and the North American Wetlands Conservation Act. The authority for the use of these funds for land acquisition is the National Wildlife Refuge System Administration Act; Endangered Species Act Of 1973; Emergency Wetlands Resources Act Of 1986; The Migratory Bird Conservation Act Of 1929; fish and Wildlife Act Of 1956; and Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended.

## **RELATED RESOURCES**

The Conservation Area will contribute to many of these, conservation and mitigation banks, national and international conservation plans and initiatives. During the planning process for this project, the Service engaged with Tribal Nations, including the Seminole Nation of Oklahoma, Poarch Band of Creek Indians, Miccosukee Tribe of Indians of Florida, Seminole Indian Tribe of Florida, and the Muscogee (Creek) Nation early in the scoping process. The Service and the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida met and discussed the role of the Service in land protection and opportunities in Southwest Florida and opportunities for the Service and Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida to

collaborate on conservation objectives. The Seminole Tribe of Florida and Miccosukee Tribe of Indians of Florida contributed as active members of the planning team to develop this proposal.

EA Figure 3 depicts current conservation lands and waters within the Conservation Area, while EA Table 1 shows a breakdown of land ownership. Many of our partners already own or have future plans to protect lands in the project area through conservation or agricultural easements. Still others have completed on-the-ground habitat restoration projects throughout the area. These partners use their individual mission statements to focus protection and restoration efforts. Taken together, those mission statements cover the protection of State and federal threatened and endangered species, rare habitats, prairie and flatwoods habitats, ranchlands, and recreational areas that have been identified through the scoping process as being important to the long-term ecological health, economy, and way of life of the region.

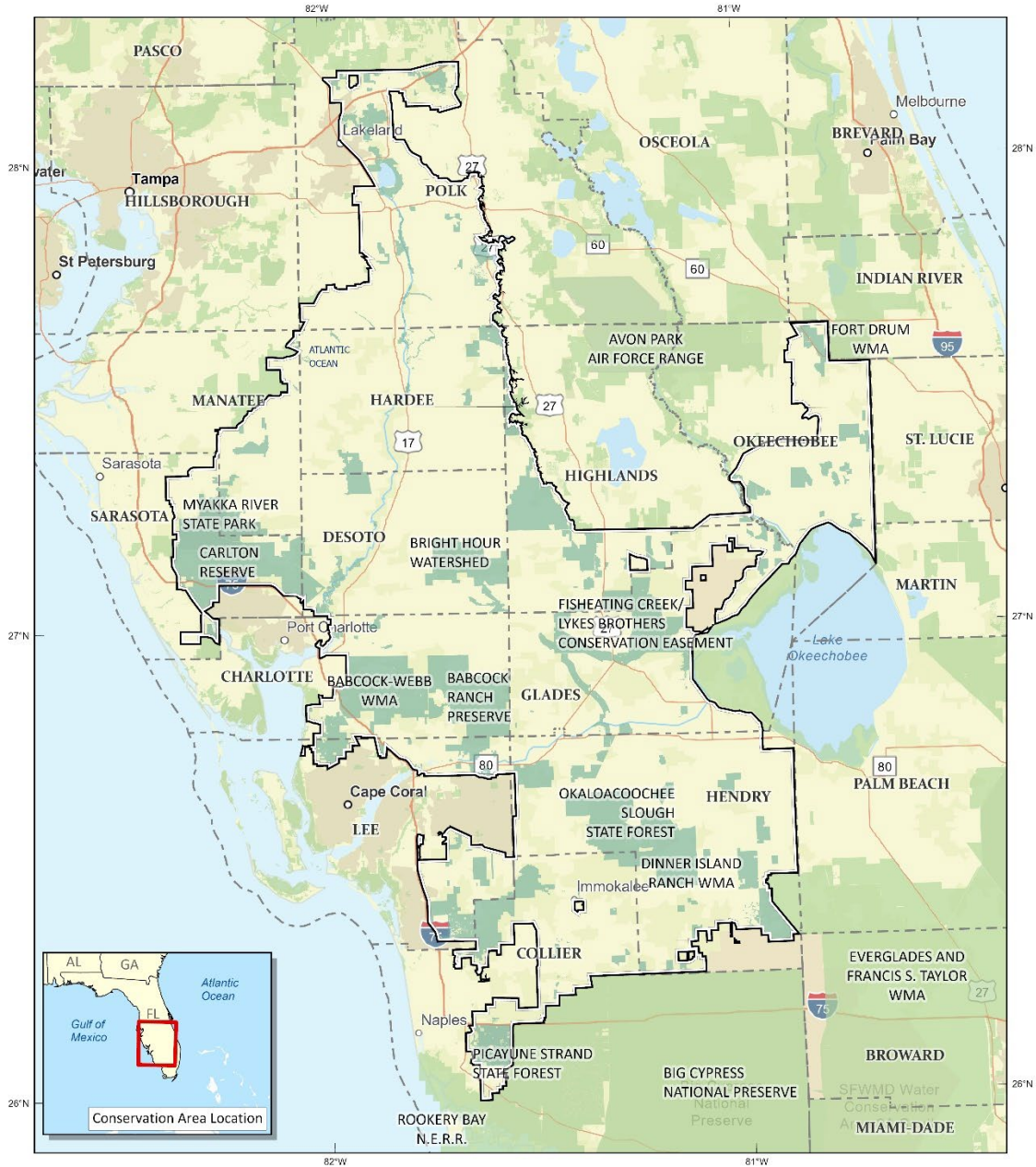




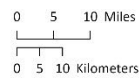
**U.S. Fish & Wildlife Service**  
**Everglades to Gulf Conservation Area**

Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk and Sarasota Counties

*Existing Conservation Lands*



Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 12/6/2023  
 Primary Data Sources: FNAI - Florida Managed Areas May 2003  
 Base Map: ESRI  
 NAD 1983 FARN Albers  
 ArcGIS Pro v3.1



- Conservation Area Boundary
- Existing Conservation Lands within CA
- Other Conservation Lands
- County Boundary

**EA Figure 3. Conservation Lands within the Conservation Area.**

**LPP Table 4. Ownership of Lands in the Conservation Area. Source: Southeast Conservation Blueprint Summary 2023)**

Ownership	Acres	Percent of Area
Federal	143	<0.1%
State/province	305,190	7.5%
Regional	142,251	3.5%
Local	73,811	1.8%
Private non-profit conserved lands	12,295	0.3%
Private conservation lands	278,711	6.9%
Designation	2,585	<0.1%
<i>Not conserved</i>	<i>3,230,282</i>	<i>79.8%</i>
<b>Total Area</b>	<b>4,045,268</b>	<b>100%</b>

Protected areas (U.S. Geological Survey Gap Analysis Project 2022) found with the Conservation Area footprint include but are not limited to:

- Babcock Ranch Preserve (Trustees of the Internal Improvement Trust Fund; 73,239 acres)
- Fred C. Babcock-Cecil M. Webb Wildlife Management Area (Florida Fish and Wildlife Conservation Commission; 67,375 acres)
- Wetlands Reserve Program, Highlands, FL (42,561 acres)
- Fisheating Creek/Lykes Brothers Conservation Easement (PVT; 41,526 acres)
- Myakka River State Park (Trustees of the Internal Improvement Trust Fund; 37,197 acres)
- Wetlands Reserve Program, Hendry, FL (34,736 acres)
- Okaloacoochee Slough State Forest (South Florida Water Management District; 32,347 acres)
- Bright Hour Watershed (PVT; 32,250 acres)
- Corkscrew Regional Ecosystem Watershed (South Florida Water Management District; 27,534 acres)
- T. Mabry Carlton, Jr. Memorial Reserve (Sarasota County; 24,577 acres)
- Dinner Island Ranch Wildlife Management Area (Trustees of the Internal Improvement Trust Fund; 21,706 acres)
- Fisheating Creek Wildlife Management Area (Trustees of the Internal Improvement Trust Fund; 18,373 acres)
- Picayune Strand State Forest (Trustees of the Internal Improvement Trust Fund; 18,348 acres)
- River of Grass (South Florida Water Management District; 17,905 acres)
- Yucca Pens Unit (Trustees of the Internal Improvement Trust Fund; 15,035 acres)
- Corkscrew Swamp Sanctuary (National Audubon Society, Inc.; 11,679 acres)
- Archbold Biological Station (Archbold Expeditions, Inc.; 8,823 acres)
- Fisheating Creek/Smoak Groves Conservation Easement (PVT; 8,377 acres)
- Spirit of the Wild Wildlife Management Area (Trustees of the Internal Improvement Trust Fund; 7,648 acres)
- Myakkahatchee Creek Conservation Easement (PVT; 7,631 acres)
- Tenoroc Fish Management Area (Trustees of the Internal Improvement Trust Fund; 7,528 acres)
- Wetlands Reserve Program, Okeechobee, FL (7,504 acres)
- Caloosahatchee Basin Water Storage Reservoir (South Florida Water Management District; 7,133 acres)

## **SPECIAL CONSIDERATIONS**

Lands within the Conservation Area have been reviewed by the Service for inclusion in the National Wilderness Preservation System according to criteria set forth in the Wilderness Act of 1964. Based on the Service's July 27, 2023, assessment the Conservation Area was found not to be suitable for wilderness designation since:

- No areas meet the Wilderness minimum size requirement of 5,000 contiguous roadless acres;
- No areas contain any units of sufficient size for preservation as Wilderness;
- Areas under consideration have been altered by historic and ongoing human activities; and/or
- No areas include outstanding opportunities for solitude or for primitive recreation.

The Conservation Area comprises a landscape that is largely rural, with agriculture, forestry, ranching, and outdoor recreation/tourism. Most tracts in the Conservation Area are impacted by human use throughout the landscape. The extensive network of roadways, altered landscapes, increasing population, and development will make a wilderness experience improbable. Therefore, wilderness designation for any units of the Conservation Area is not appropriate.

## **COORDINATION AND CONSULTATION**

During the planning process, the Service coordinated and consulted with a mix of governmental entities with interest in the landscape. Several federal and State agencies serve as key partners in this landscape, including NRCS; Avon Park Air Force Range; FWC; FDACS; FFS, FDACS; FDEP; Florida Division of State Lands; SWFWMD and SFWMD. These partners were keys to the development of this project.

Service staff have been continuously engaged with interested parties including local, State, Federal, Tribal, non-governmental agencies, and private landowners. Specifically, since January 2022 through April 2023, strong interest in meeting with the National Wildlife Refuge System staff to discuss conservation activities and needs in southwest Florida have occurred. Staff participated in over 30 meetings. Topics discussed at the meetings included:

- General Service conservation activities on private lands;
- Florida Panther conservation efforts by the Service;
- The need to protect sensitive bird areas;
- The need for corridor protection for wildlife;
- Collaboration potential of the Service and other State and Federal land acquisition agencies such as: Florida Forever (Florida Department of Environmental Protection), The Rural and Family Lands Protection Program (Florida Department of Agricultural and Consumer Services-FDACS) Forest Legacy (Florida Forest Service, FDACS), and Wetland Reserve Easement Program (Natural Resource Conservation Service (NRCS);
- Management of conservation easements and fee-title lands by the National Wildlife Refuge System; and
- The Fisheating Creek and Florida Panther NWR Landscape Conservation Design completed in 2016 and encouragement to expand efforts for conservation protection, cultural and traditional use and access of Department of Interior lands, and the need for protection of working landscapes.

Tribal Nations are also important partners in the Greater Everglades landscape. The Service works with the Tribal Nations to ensure timely and effective cooperation and collaboration. During the planning for this project, the Service engaged with Tribal Nations, including the Seminole Nation of Oklahoma, Poarch Band of Creek Indians, Miccosukee Tribe of Indians of Florida, Seminole Indian Tribe of Florida, and the Muscogee Nation early in the scoping process. At the request of the Miccosukee Tribe of Indians of Florida, a follow-up meeting occurred between the Service and the Miccosukee Tribe to discuss the Southwest Florida Landscape

Conservation Design (Morris et al. 2017) and the planning process. The Service and the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida met and discussed the role of the Service in land protection and opportunities in Southwest Florida and opportunities for the Service and Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida to collaborate on conservation objectives. The Seminole Tribe of Florida and Miccosukee Tribe of Indians of Florida contributed as active members of the planning team to develop this proposal.

## **PUBLIC PARTICIPATION**

### *PUBLIC SCOPING*

The 35-day scoping period for this project began on March 14, 2023, with a U.S. Fish and Wildlife Service press release announcing the proposed action and requesting public input. It ended on April 18, 2023. Seven public scoping meetings were conducted, including a virtual meeting with intergovernmental partners, two virtual meetings open to the public, and four in-person meetings. For those who could not attend, the scoping presentation was posted on the Conservation Area's website and viewed 190 times. The dates and locations of the meeting were as follows: Intergovernmental virtual (March 24, 2023), Wauchula, FL (March 28, 2023), Arcadia, FL (March 30, 2023), Immokalee, FL (April 3, 2023), virtual (April 5, 2023), Labelle, FL (April 7, 2023), and virtual (April 12, 2023). A link to a webpage explaining the details regarding the dates and locations of the public scoping meetings and how to register and submit comments was included in the Service's initial press release.

Articles and information produced by other entities have also appeared in the press, including a YouTube video published by Defenders of Wildlife (January 27, 2023) and articles published by The Beaches Leader (March 14, 2023), POLITICO Pro (March 14, 2023), WGCU (March 14, 2023), National Wildlife Refuge Association (March 28, 2023), and Fort Meyers News-Press (April 5, 2023).

Collectively, the seven public scoping meetings had 171 attendees, including individual citizens; von Park Airforce Base; Florida Department of Transportation; Florida Department of Environmental Protection; Miccosukee Tribe; Florida Fish and Wildlife Conservation Commission; U.S. Army Corps of Engineers; National Park Service; Seminole Tribe of Florida; Southwest Florida Water Management District; South Florida Water Management District; Big Cypress National Preserve; Audubon Florida; Center for Biological Diversity; Gray Ranch LLC; Conservation Foundation of the Gulf Coast; Strickland Ranch; Defenders of Wildlife; Cypress Chapter Izaak Walton League of America; Audubon Western Everglades; Conservation Collier; South Florida Wetlands Management District; Backcountry Hunters and Anglers; Lee County; National Wildlife Federation; Salty Science; Friends of the Florida Panther Refuge; City of Bonita Springs Community Development; JB Ranch; National Oceanic and Atmospheric Administration; Coastal & Heartland National Estuary Partnership; Friends of Bosque del Apache; Friends of Alaska National Wildlife Refuges; Family Lands Remembered; Florida Cattlemen's Association; Live Wildly Foundation; Delta Waterfowl; American Daughters of Conservation; Environmental Lands Management and Acquisition Committee; Highlands County Board of County Commissioners; Friends of the Fakahatchee; Florida Trail Association; American Sportfishing Association; Conservancy of Southwest Florida; Sarasota County Parks, Recreation, and Natural Resources; Artemis Sportswomen (National Wildlife Federation); Ancient Islands Group Florida Sierra Club; Ding Darling Wildlife Society; National Parks Conservation Association; Sarasota County Government; Florida Park Service; Stantec; The Friends of Rachel Carson NWR; Venetian Golf and River Club; H.W. Lochner, Inc.; Wildlands Conservation; Earth Justice; Everglades Foundation; Florida Conservation Group; National Wildlife Refuge Association; The Nature Conservancy; University of Florida Center for Landscape Conservation Planning; Florida Wildlife Corridor Foundation; Safari Club International; National Wildlife Foundation; National Wild Turkey Foundation; Everglades Coordinating Council; Southwest Florida Working Dog Association; Future Hunters of Florida; Florida Cattleman

Association; Conservation Florida; Wildland Scapes; Common Ground Ecology; Archbold Biological Station; and Hendry County.

The Service received approximately 2,600 comments, all of which were generally supportive. Substantive comments primarily focused on prioritizing habitats and wildlife, public use considerations, partnership opportunities, Tribal interests, restoration considerations, and willing landowner and easement interests.

Public scoping comments were categorized into five main categories (i.e., Wildlife and Habitat, Resource Protection, Recreation and other uses, Administration, and General), with appropriate subcategories, including those listed.

- **Wildlife and Habitat**
  - General
  - Florida Panther
  - Water Quality and Quantity
  - Wildlife Corridors and Migration
  - Ecosystem Services
  - Grazing on fee-title lands
  - Ecological priorities within Southwest Florida
  - Land management of fee-title lands and easements owned by the Service
- **Resource Protection**
  - Land Acquisition/Protection Process
  - Fee-title and Less-than-Fee-title Acquisition
  - Contaminants – Evaluation of Properties for Inclusion
  - Specific Properties/Sites
  - Specific Boundary for the Proposed Conservation Area
  - Cultural Resources/History within Southwest Florida
  - Wilderness
  - Restoration of mined lands
  - Tribal access to National Wildlife Refuge System lands
- **Recreation and other uses**
  - General
  - Hunting
  - Fishing
  - Wildlife Observation and Photography
  - ATV/ORV Use
  - Access
  - Bicycling
  - Boating
  - Horseback riding
  - Grazing
  - Tribal access
  - Haying
- **Administration**
  - General
  - Funding/Budget
  - Property Taxes/Refuge Revenue Sharing Payment

- Management Plan
- Partnerships/Outreach
- General
  - Economy
  - Means to achieve land protection
  - Development Patterns/Pressure
  - Other Examples of Federal Management
  - Planning Process
  - General

### *PUBLIC REVIEW AND COMMENT*

The 35-day public review and comment period for the Draft Land Protection Plan and Environmental Assessment for the Proposed Establishment of Everglades to Gulf Conservation Area began on September 26, 2023, with a U.S. Fish and Wildlife Service press release requesting public review and comment. The news release posted on the project's website ([Everglades to Gulf Conservation Area | U.S. Fish & Wildlife Service \(fws.gov\)](https://www.fws.gov/everglades-to-gulf-conservation-area)) and was distributed to over 300 media outlets and over 200 interested parties. Four public meetings occurred during the public review and comment period, including two virtual meetings on October 20, 2023, and October 23, 2023. The Service also held two in-person meetings. The in-person meetings were on October 25, 2023, and October 26, 2023, in Wauchula, FL, and Immokalee, FL, respectively. Information regarding the dates and locations of the public meetings and how to register and submit comments was included in the Service's press release and posted to the project's website. The Service also posted a video presentation on the project website that was viewed over 300 times as of January 2024. The comment period ended on November 1, 2023.

Various entities published articles about the proposed Everglades to Gulf Conservation Area, including but not limited to, the Coastal and Heartland National Estuary Partnership (date unknown); National Public Radio (date unknown); Telemundo (date unknown); Defenders of Wildlife on September 26, 2023; National Wildlife Refuge Association on September 28, 2023; WUSF on October 1, 2023; WLRN on October 2, 2023; The Invading Sea on October 3, 2023; Bradenton Herald on October 17, 2023; Your Sun on October 18, 2023; Inside Climate News on October 22, 2023; Florida Public TV on October 24, 2023; WFIT 89.5 FM on October 24, 2023; Florida Conservation Group on October 26, 2023; WGCU on October 27, 2023; WLRN on October 27, 2023; and Fox 4 Southwest Florida on October 31, 2023.

In total, approximately 3,000 comments were received were submitted via email, hard copy, or during public meetings. Comments were received from individuals and multiple local, state, and tribal governmental agencies, including the Miccosukee Tribe of Indians of Florida, the Florida Fish and Wildlife Conservation Commission, the Florida Department of Environmental Protection, Manatee County, and Palm Beach County. The Service also received comments from approximately 90 representatives and individuals affiliated with non-governmental and other various organizations, including the 5th Day Outdoors; All Florida Conservation; American Sportfishing Association; Archbold Biological Station; Athletic Brewing Company, LLC; Audubon Florida; Audubon Western Everglades; Babcock Ranch; Back Country Hunters and Anglers (Florida Chapter); Bergeron Everglades Foundation; Broward Health Medical Center; Busch Wildlife Sanctuary; cādence; Center for Biological Diversity; Charlotte Harbor Environmental Center; Coastal & Heartland National Estuary Partnership; Coastal Wildlife Club, Inc.; Conservancy of Southwest Florida; Conservation Foundation of the Gulf Coast; Defenders of Wildlife; Ducks Unlimited; Dynan Construction, LLC; Emory Ecological Society; Environment Florida Research and Policy Center; Environmental Confederation of Southwest Florida; Everglades Conservation and Sportsman Club; Family Lands Remembered; First Nation Group; Florida Cattlemen's Association; Florida Gladesmen, LLC; Florida Sportsmen Conservation Association; Florida Wildlife Corridor Foundation; Florida Wildlife Federation; Friends of Carlton

Reserve; Friends of Florida Panther Refuge Board; Georgia State University; Green Cay Nature Center; Green Horizon Land Trust; Grizzly Creek Films; GSE Engineering and Consulting, Inc.; Izaak Walton League of America (Cypress Chapter); Johnson Pope Bokor Ruppel & Burns, LLP; J-Seven Ranch, Inc.; Keller Williams Realty; Kimley-Horn; Lemur Conservation Foundation; Loggerhead Marinelifelife Center; Lucuma Designs, LLC; Manatee County Environmental Lands Program; Manson Bolves Donaldson Tanner; Miakka Community Club; Michael Saunders & Company; Monroe & Giordano, LLC; Naples Zoo at Caribbean Gardens; National Park Conservation Association; National Tropical Botanical Garden Organization; National Wildlife Federation; Nelson Benefits Group; Orange Audubon Society; Palm Beach County Department of Environmental Resources Management; Palm Beach County Parks and Recreation Department; Palm Beach Zoo & Conservation Society; Pearl Homes; Pennoni; Peyton Cooper PC Creative; Pine Jog Environmental Education Center; Pinkerton & Laws; Premier Sotheby's International Realty; Quest Ecology; Rain Frog Ranch; Resource Depot; Responsible Growth Management Coalition, Inc.; River Run Farm, LLC; Roots of Compassion and Kindness; Rosebud Continuum; Safari Club International (South Florida Chapter); Sanibel-Captiva Conservation Foundation; Sarasota County Environmentally Sensitive Land Oversight Committee; SCI (South Florida Chapter); Sierra Club (Florida Chapter); Sunrise Naples; Sustainable Rookie; The Balmoral Group; The Environmental Conservancy of North Port, Inc.; The Future of Hunting in Florida; The Gasparilla Inn & Club; The Nature Conservancy; Western Everglades Stakeholders Association; and Wildlife Conservation Society.

Following the public review and comment period, the Service reviewed all comments submitted to assist in evaluating the proposal to develop the Final LPP and the Final EA (See Appendix G in the Final EA for a summary of the substantive comments and the Service's responses). Any page numbers referenced in the comments or responses relate to the original page number in the draft LPP and EA released for public review and comment. The summary of comments are divided into seven main categories, as listed.

- Wildlife and Habitat
  - Focal Natural Communities
  - Habitat Management
  - Invasive Species
  - Habitat Loss and Fragmentation in General
  - Water Quality and Quantity
  - Hydrological Resources
  - Reptiles and Amphibians
  - Anadromous Fish Species
  - Florida Panther and Habitat
  - Carnivore Depredation
  - Landscape Connectivity, Wildlife Corridors, and Migration
  - Relationship to Landscape Conservation Objectives and Goals
  - Wildlife Sanctuary
  - Ecosystem Services
  - Climate Change and Sea Level Rise
  - Cumulative Impacts of Development
  - Size of Proposed Conservation Area, in General
- Resource Protection
  - General
  - National Wildlife Refuge and Conservation Area
  - Willing Seller Approach
  - Wilderness

- Land Acquisition/Protection
- Future Acquisition Criteria and Prioritization of Acquisitions
- Fee Title Versus Less-Than-Fee Title Acquisition Factors
- Federal Intrusion
- Less-than-Fee Title Acquisition
- Fee Title Acquisition
- Oil and Mineral Rights
- Timeliness of Acquisitions
- Boundary for the Conservation Area
- Indigenous Cultures and Traditional Practices
- Gladesmen
- Wildlife-Dependent Recreation
  - Hunting
  - Hunt Opening Package
  - Fishing
  - Public Access to Properties Acquired in Less-than-Fee Title
- Administration
  - Funding/Budget
  - Partnerships
  - Local Government Coordination
- Planning Process and Planning Documents
  - Planning Process
  - Comprehensive Conservation Plan
  - Vision
- Other
  - Apiculture
  - Farming and Ranching
  - Economic Benefit
- Editorial

## *II. ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE*

### **INTRODUCTION**

This chapter presents the alternatives including our Preferred Alternative that the Service believes best meets the purposes, vision, and goals for the Conservation Area. The vision is “together with our partners, we will preserve wildlife corridors containing a mosaic of natural communities and working lands with rich cultural history and traditions for the benefit of all people. All species and habitats will be protected and contain the resiliency to facilitate adaption due to the impacts of climate change and development. Additionally, protection and management actions within the Everglades to Gulf Conservation Area will improve water quality and water storage, provide wildlife dependent recreational opportunity, and support Florida’s family farms and ranches.”

Emphasizing migratory birds, listed species, and wetlands, while protecting the important fish and wildlife resources of this landscape, the listed purposes have been developed for the establishment of the Conservation Area.



"... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. 668dd(a)(2) (National Wildlife Refuge System Administration Act)

"...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." 16 U.S.C. 1534 (Endangered Species Act of 1973)

"...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

"...to conserve and protect migratory birds..., including species that are listed...as endangered species or threatened species, and to restore or develop adequate wildlife habitat." 16 U.S.C. §715i (Migratory Bird Conservation Act)

"...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude..." 16 U.S.C. 742f(b)(1) "...for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. 742f(a)(4), (Secretarial powers to implement laws related to fish and wildlife) (Fish and Wildlife Act of 1956)

"...suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. 460k-2 [Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended]

Four overarching goals were developed for the Conservation Area. The goals are intentionally broad, descriptive statements of the desired future conditions. They embrace the purposes and vision statement. The goals address a functional conservation landscape; habitat for fish and wildlife; water quality, quantity, and storage; opportunities for Tribal Nations; and wildlife-dependent recreation, as listed.

**1. Protect, Restore, and Manage Habitats for Fish and Wildlife.** The Conservation Area will aid in the maintenance and recovery of Florida panther populations and protect many rare and endemic species, including over 100 Federally and State-listed Threatened and Endangered species, such as the Florida scrub-jay, Audubon's crested caracara, wood stork, Florida bonneted bat, Everglade snail kite, Eastern indigo snake and sand skink, thereby protecting natural communities found only in south Florida and species adapted to Florida's unique subtropical environment. In addition, the Service will conserve important rural landscape mosaics, including ranchlands, to combat habitat fragmentation and protect wildlife corridors essential to many species' viability and adaptation responses to climate change. Important wildlife corridors essential for listed species viability and adaptation opportunities in response to climate change will be provided. The Conservation Area will also provide opportunities to restore important wetlands, provide water storage, and improve water quality for the Greater Everglades, Myakka River, Peace River, Fisheating Creek, and Caloosahatchee River watersheds, and coastal estuaries including Charlotte Harbor.

**2. Provide Science-Driven Landscape-Level Conservation.** The Conservation Area will contribute to protection of a functional conservation landscape composed of a mosaic of natural communities and ranchlands that will prevent further habitat fragmentation, provide functional habitat for wide-ranging listed species, and facilitate watershed and prescribed fire management. The Conservation Area will allow the Service to protect and restore water resources within multiple watersheds to improve water quality and quantity; maintain and enhance ecological integrity, recreation, and the economy; and improve and secure water supplies, benefiting humans and wildlife. The landscape-scale ecological priorities within the Conservation Area are identified with the best available ecological and spatial data based on conservation science, landscape ecology, tribal indigenous knowledge, and spatial analysis.

**3. Conserve Important Lands and Waters for the Benefit of All People.** Visitors to the Conservation Area fee-title lands will enjoy opportunities for compatible wildlife-dependent recreation which may include hunting, fishing, wildlife observation, photography, environmental education, and interpretation, while increasing knowledge of and support for conservation. Fee-title lands could also provide cultural, traditional, and medicinal use opportunities. Willing landowners could protect their private land through conservation easements and stewardship programs while providing important ecosystem services for all people. The Everglades and southwest Florida watersheds require protection of remaining functional wetlands and floodplains, and restoration of hydrology to avoid further impairment and improve water quality and supply including Charlotte Harbor, an essential economic engine for south and southwest Florida.

**4. Promote Conservation Partnerships Working with Adaptive and Flexible Tools and Strategies.** Collaboration in science, education, research, and land acquisition (including conservation easements) will facilitate the development of new partnerships and strengthen existing partnerships with natural resource organizations, private landowners, government agencies, Tribal Nations, and local decision-makers. The partnerships will help inform land management decisions and encourage continued responsible stewardship of natural and rural landscapes essential for listed species protection, associated natural resources, while facilitating resiliency and adaptation to climate change.

Objectives associated with the Conservation Area would:

- Assist with the restoration of the Everglades.
- Enhance the viability and recovery of the Florida Panther and over 100 other threatened and endangered species and 17 At-risk species.
- Protect and restore watersheds and coastal estuaries for ecological integrity, water supply, recreation, and the economy especially the Caloosahatchee River watershed, Fisheating Creek watershed, the Peace River watershed, the Myakka River watershed, Okaloacoochee Slough, Corkscrew Swamp, and Charlotte Harbor.
- Maintain unique natural communities and species adapted to the unique subtropical environment.
- Conserve habitat diversity and complexity.
- Improve and increase resiliency.
- Facilitate protection of a regional scale wildlife corridor through the protection of a functional landscape mosaic of natural communities and ranchlands.
- Facilitate resiliency and adaptation to climate change through protection and restoration of freshwater flows into coastal wetlands and protecting coastal to inland connectivity to provide a functional retreat for coastal species.
- Complement other conservation initiatives.

- Foster existing partnerships and seek new partnerships.
- Conserve cultural sites and landscapes.
- Provide cultural, traditional, and medicinal use opportunities on fee-title lands.
- Provide wildlife dependent recreational opportunities on fee-title lands.

The scope of this EA is limited to the acquisition, in less-than-fee-title and fee-title, of lands for the establishment of the Everglades to Gulf Conservation Area. This EA is not intended to cover the development and/or implementation of detailed, specific programs for the administration and management of those lands. A Conceptual Management Plan and Interim Compatibility Determinations (Appendix B and C) are included to provide general outlines on how the lands will be managed. The appendices are provided as general information for the public in its review of the project. The Service will develop a comprehensive conservation plan, a 15-year management plan, and appropriate step-down management plans for the Conservation Area within 15-years of the final EA. These plans will be developed and reviewed in accordance with the Department of the Interior requirements of the National Environmental Policy Act.

### **FORMULATING ALTERNATIVES**

Under the National Environmental Policy Act (NEPA), the Service developed and evaluated a reasonable range of alternatives based on the issues raised during internal and public scoping by the Service, the public, other federal agencies, Tribal Nations, State and local governmental agencies, organization, and other interested parties. The Proposed Action defines what the Service plans to do or recommend, but cannot implement without considering other reasonable, environmentally sensitive alternatives. Other reasonable alternatives to the Proposed Action that could also be viewed as fulfilling the purposes of the refuge system unit are described in this EA. This offers the Service and the reviewing public an opportunity to consider a range of reasonable alternatives for the Proposed Action, thus fulfilling one of the key tenets of NEPA.

Alternatives describe complementary management approaches for achieving the missions of the Service and Refuge System, the purposes for which the refuge system unit will be established, and its vision and goals, while responding to issues and opportunities identified during the planning process.

Based on this process to identify and evaluate alternatives, the Service selected two alternatives, including the NEPA-required No Action Alternative, to provide a baseline for comparing the action alternative. The alternatives evaluated in detail are listed.

- Alternative A. (No Action Alternative)
- Alternative B. Conservation Area Partnership Approach (Preferred Alternative)

### **ALTERNATIVES EVALUATED BUT DISCARDED**

One alternative that was discussed but discarded was to focus exclusively on utilizing conservation easements (i.e., Service purchase of only certain landowner rights and privileges such as development rights) without any fee-title acquisitions (i.e., Service ownership of all landowner rights and privileges). It was determined that this approach will not provide the Service the opportunity to provide wildlife-dependent outdoor recreation and education opportunities and not provide cultural, traditional, and medicinal use opportunities on fee-title lands. Since the specifics of conservation easements are highly dependent upon the landowners, the Service could not guarantee under this alternative the ability to provide opportunities for wildlife-dependent recreation and education or the ability to provide cultural, traditional, and medicinal use opportunities on fee-title lands. Although a conservation easements-only approach was determined not to be feasible, conservation easements

are useful tools that were incorporated into a more robust approach to landscape-scale conservation that is outlined in the Preferred Alternative.

## **DESCRIPTION OF ALTERNATIVES**

### *ALTERNATIVE A – NO ACTION*

This alternative represents the current state of land protection activity in the landscape without a conservation area designation by the Service. The Service will take no action to establish the Conservation Area within this area of interest. This alternative is referred to interchangeably as “Alternative A” or “No Action Alternative” throughout this document.

Currently, the landscape is dominated by a mix of active cattle ranches, scattered homesteads, farms, communities, lakes, river corridors, wetland basins, grassland savannahs, sandhills, and scrub habitat. A mix of conservation lands ranging from agricultural conservation easements to private conservation lands to municipal, State, Tribal Nations, and federal ownerships is also present. Under this alternative, habitat protection and management will continue by existing organizations and government programs. Approximately 893,581 acres of the Conservation Area is currently protected and managed.

Under the No Action Alternative, lands trusts, the State of Florida, and other conservation land managers will continue to protect some of the lands in the 7-million-acre Study Area defined in the LCD. Florida has a history of funding land protection efforts, and since 2001 the Florida Forever program has acquired more than 942,807 acres of land. Almost 3,518,094 acres of lands are proposed for acquisition under Florida Forever in 2022, with 947,680 acres of unprotected Florida Forever projects within the Study Area. In addition, the Study Area has 78,527 acres of Rural and Family Lands Protection Program (RFLPP) projects and will likely have well over 100,000 acres in RFLPP after the proposed new projects in the current cycle are evaluated; these are lands that will be eligible for conservation easements. Though State funding for conservation land protection varied greatly, currently approximately \$300 million per year cumulatively for the Florida Forever and RFLPP programs has occurred over the last three years (2021-2023). Southwest Florida is one of the fastest growing regions in the United States, with a rapid loss of rural land to residential and commercial development. Phosphate mining is another significant land use within the Study Area, primarily the Peace River watershed. Cumulatively, even the recently increased levels of State conservation land protection funding cannot keep up with the demand for permanent protection from willing landowners or the pace of development. This means that every dollar counts; more federal funding to augment State funding can make a crucial difference in protecting areas strategic for conservation before they are no longer suitable to support wildlife and habitat. It will take decades to protect all the areas important for conservation in the Study Area, but more funding now will decrease future costs and reduce the threat of loss of the most important areas.

Under this Alternative no new opportunities will be pursued by the Service for wildlife-dependent recreational public uses. Uses include hunting, fishing, environmental education, interpretation, wildlife observation, and photography. No new opportunities on Service-acquired fee-title lands for cultural, traditional, and medicinal use opportunities will occur.

The desired fish and wildlife protection objectives, therefore, cannot be achieved to any degree under this alternative. Specifically, implementation of the No Action Alternative will not achieve our objectives and will have adverse impacts to the area's valuable fish and wildlife habitats.

The role of Alternative A in terms of ability to meet each of the four overarching goals is detailed below.

**1. Protect, Restore, and Manage Habitats for Fish and Wildlife.**

Under the No Action Alternative, protection and management of wildlife and their habitats will be limited to existing conservation lands and programs, leaving remaining habitats vulnerable to a variety of threats, including development patterns and pressures. Development pressure will continue to threaten this landscape. Alternative A will maintain protection of approximately 893,581 acres of habitats currently protected by agricultural easements, private conservation, municipal, State, and federal ownerships. The Service will continue to work with partners to leverage site-specific grants for restoration and protection and offer management guidance for federally listed species.

**2. Provide Science-Driven Landscape-Level Conservation.** The existing conservation lands currently represents approximately 893,581 acres within the Conservation Area. These lands are often times disparate and do not allow for the genetic interchange of isolated populations of species, such as the Florida grasshopper sparrow. Some species found within this landscape, such as Florida black bear and Florida panther, require vast areas to forage, find mates, breed, and raise young. Under Alternative A, the fragmented landscape of this area currently limits habitat use, migration, and dispersal of a variety of species.

It is anticipated that the human environment and the natural environment will ultimately be impacted by sea level rise and a forced inland and upslope retreat will be forthcoming. Under Alternative A, the fragmentation of this landscape and the anticipated human development patterns will continue to limit the ability of wildlife species and plant communities to respond to the impacts associated with global climate and human demographic changes.

Conservation lands in this landscape will continue to be managed by their respective agencies and organizations under the No Action Alternative, but no further Service efforts to connect them will likely be forthcoming. Additional conservation lands managed by other agencies may be added to the conservation landscape through programs such as the Florida Wildlife Corridor Initiative. Based on this collective effort, protection of habitats currently protected by agricultural easements, private conservation, municipal, State, and federal ownerships (such as NRCS WRE program) will continue.

Ranches provide considerable amounts of wildlife habitat in this area. Improved pasture, riparian corridors, and wetland basins provide habitat for species such as Audubon's crested caracara, southeastern kestrel, and wood stork. Threats to this agricultural community abound. Planned urban growth immediately removes both wildlife habitat and agricultural production from the landscape. Infrastructure required to accommodate this growth follows with the development and associated increases in roadways and utilities. Changing demographics of the ranch community also impact the ability of the ranching traditions to exist. Additionally, even conservation measures, such as deep-water storage, could threaten habitat values, depending upon their placement in the landscape.

Under the No Action Alternative, agricultural lands will remain in place on the landscape for some amount of time, but these lands could continue to face the threat of development.

**3. Conserve Important Lands and Waters for the Benefit of All People.**

The Service seeks opportunities to promote appropriate and compatible wildlife-dependent recreation on units of the National Wildlife Refuge System. There will be no fee-title land acquisition, therefore, no Service-based recreational opportunities will be provided under the No Action Alternative. A number of wildlife-dependent

recreational activities that already exist within the landscape and will continue. Hunting and fishing will occur under regulations administered by the FWC. Much hunting occurs on private lands. Public hunting occurs on approximately 5.9 million acres of public lands in Florida.

Fishing is recreationally and economically important to the local population. Areas throughout the Conservation Area will continue to provide recreation fishing opportunities. There will be no Service-based fishing opportunities.

FWC, as well as other federal, State, county, municipal, and private organizations provide outdoor wildlife-dependent recreation and educational opportunities. These activities will continue under the No Action Alternative.

There will be no fee-title land acquisition, therefore, no Service-based opportunities to provide cultural, traditional, and medicinal use for Tribals Nations will be provided under the No Action Alternative.

Future habitat protection under existing laws and regulations may be insufficient to prevent substantial degradation of the area's fish and wildlife resource values. Federal executive orders involving the protection of wetlands and floodplains only apply to federal agencies. They do not apply to habitat alterations by non-federal entities which receive no federal funds.

On Dec. 22, 2020, the U.S. Environmental Protection Agency (EPA) published their approval of Florida's State 404 Program in the Federal Register, and the Florida Department of Environmental Protection (DEP) began administering the State 404 Program on that date. The primary deterrent against the loss of resource values is the Section 404 permit program, which is administered under the authority of the Clean Water Act. This program requires permits for most types of work in wetlands. Wetlands in the project area will be regulated under this program. In addition, the State of Florida has regulatory authority over the area and will not permit any developments that will violate the State's water quality standards.

However, there is no assurance that the protection offered by these regulations will be consistent with protection of the area's fish and wildlife resources. The regulatory programs are designed to accomplish different objectives. In addition, these programs are subject to changes in the law and to varying definitions and interpretations, potentially to the detriment of wetlands. The regulatory authority provides for the issuance of Section 10 and/or Section 404 permits when it is not contrary to the public interest to do so and provided other conditions are met. Fish and wildlife conservation is only one of several public interest factors that are considered in these permit issuance decisions. If fish and wildlife conservation is outweighed by other factors, permits that will alter the wetlands in the refuge system unit could be issued.

#### **4. Promote Conservation Partnerships Working with Adaptive and Flexible Tools and Strategies.**

There is management and land protection occurring on State and non-governmental organizations lands, depending on staff levels and funding. This will continue under the No Action Alternative. The Service could not acquire or manage fee or less-than-fee acreage containing habitat for the benefit of wildlife species within the Conservation Area as part of the Conservation Area. However, partner organizations and agencies will likely protect and manage some of this habitat.

#### *ALTERNATIVE B – CONSERVATION AREA PARTNERSHIP APPROACH (PREFERRED ALTERNATIVE)*

Under Alternative B, the Preferred Action Alternative, the Service will work with Tribal Nations, State, local, private, and federal partners towards a common vision for the conservation of the Greater Everglades and watersheds of the Caloosahatchee River, Fisheating Creek, Myakka River, and Peace River, and tributaries entering the northern portion of Lake Okeechobee. This alternative will protect and meet the needs of both rare and common wildlife, provide wildlife corridors linking existing conservation lands, and restore additional wetlands and wetland function, as well as provide opportunities for wildlife-dependent priority public uses and provide cultural, traditional, and medicinal uses. Public uses for consideration for this Conservation Area will include six wildlife-dependent priority public uses: hunting, fishing, environmental education, interpretation, wildlife observation, and photography (Big 6). Potential public uses supporting the Big 6 uses will also be considered (depending on the specifics of a particular property acquired) and may include bicycling, boating, hiking, jogging, horseback riding, camping (with limitations), ORV use (with limitations), and facilities to support any of the approved uses. The Service is committed to working with the FWC to facilitate public use activities, specifically hunting and fishing. All uses will be approved through the appropriateness and compatibility requirements in the National Wildlife Refuge System Administration Act and the Refuge Recreation Act.

The Land Protection Plan will be approved, and the Everglades to Gulf Conservation Area will be authorized and established. Working with willing landowners, protection of lands under Alternative B will include the authority to acquire less-than-fee-title lands within the Conservation Area. Additionally, up to 10% of acres in fee-title could be acquired within the Conservation Area. The Conservation Area will be approximately 4,045,268 acres located in Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk, Sarasota Counties, Florida (EA Figure 2).

**1. Protect, Restore, and Manage Habitats for Fish and Wildlife.** The Conservation Area will aid in the maintenance and recovery of Florida panther populations and protect many rare and endemic species, including over 100 Federally and State-listed Threatened and Endangered species, such as the Florida scrub-jay, Audubon's crested caracara, wood stork, Florida bonneted bat, Everglade snail kite, Eastern indigo snake and sand skink, thereby protecting natural communities found only in south Florida and species adapted to Florida's unique subtropical environment. In addition, the Service will conserve important rural landscape mosaics, including ranchlands, to combat habitat fragmentation and protect wildlife corridors essential to many species' viability and adaptation responses to climate change. Important wildlife corridors essential for listed species viability and adaptation opportunities in response to climate change will be provided. The Conservation Area will also provide opportunities to restore important wetlands, provide water storage, and improve water quality for the Greater Everglades, Myakka River, Peace River, Fisheating Creek, and Caloosahatchee River watersheds, and coastal estuaries including Charlotte Harbor.

**2. Provide Science-Driven Landscape-Level Conservation.** The Conservation Area will contribute to protection of a functional conservation landscape composed of a mosaic of natural communities and ranchlands that will prevent further habitat fragmentation, provide functional habitat for wide-ranging listed species, and facilitate watershed and prescribed fire management. The Conservation Area will allow the Service to protect and restore water resources within multiple watersheds to improve water quality and quantity; maintain and enhance ecological integrity, recreation, and the economy; and improve and secure water supplies, benefiting humans and wildlife. The landscape-scale ecological priorities within the Conservation Area are identified with the best available ecological and spatial data based on conservation science, landscape ecology, tribal indigenous knowledge, and spatial analysis.

**3. Conserve Important Lands and Waters for the Benefit of All People.** Visitors to the Conservation Area fee-title lands will enjoy opportunities for compatible wildlife-dependent recreation which may include hunting, fishing,

wildlife observation, photography, environmental education, and interpretation, while increasing knowledge of and support for conservation. Fee-title lands could also provide cultural, traditional, and medicinal use opportunities. Willing landowners could protect their private land through conservation easements and stewardship programs while providing important ecosystem services for all people. The Everglades and southwest Florida watersheds require protection of remaining functional wetlands and floodplains, and restoration of hydrology to avoid further impairment and improve water quality and supply including Charlotte Harbor, an essential economic engine for south and southwest Florida.

**4. Promote Conservation Partnerships Working with Adaptive and Flexible Tools and Strategies.** Collaboration in science, education, research, and land acquisition (including conservation easements) will facilitate the development of new partnerships and strengthen existing partnerships with natural resource organizations, private landowners, government agencies, Tribal Nations, and local decision-makers. The partnerships will help inform land management decisions and encourage continued responsible stewardship of natural and rural landscapes essential for listed species protection, associated natural resources, while facilitating resiliency and adaptation to climate change. Establishing a Conservation Area will give the Service a “seat at the table” with the many partners already working within this extremely important area and provide the opportunity for all conservation partners to leverage resources to achieve protection objectives.

#### **SUMMARY**

Partnerships with surrounding landowners, and Tribal Nations, municipal, State, and other federal agencies and non-governmental organizations will be the key to successful management of the Conservation Area. This document was developed cooperatively with Tribal Nations and State partnering agencies. It is supported by the land conservation partners working in the southwest Florida landscape. The Service will continue to cooperate with the conservation partners, all of whom are instrumental in helping accomplish habitat management goals and objectives.

Taken together, the respective missions of the groups engaged in partnership discussions cover the protection of rangeland, listed species, a wide variety of habitat types, and open space that the local community has identified as important for conservation. Based on this effort, Alternative B (Preferred Alternative) identifies approximately 4,045,268 acres that will conserve the area’s most important areas for maintaining biological integrity, diversity, resiliency, water quantity and quality, and the overall environmental health of the refuge system unit, and will provide habitat connectivity to other areas of protected lands, resulting in a more functional conservation landscape and wildlife corridor.

Many of the organizations with whom the Service is collaborating have already protected key habitats in this landscape and will continue to do so within the limits of their available resources. If the Conservation Area becomes a reality, there is a clear need for continued local, State, Tribal Nations, and federal support. The Service recognizes its inability to solve the problems of habitat fragmentation, urban development, altered ecological processes, impacts from sea level rise and global climate change, and land protection on its own. Thus, it is incumbent upon all agencies and organizations to continue the efforts of communication and cooperation. Through this effort, the Service will work to combine its efforts with those of its existing partners, as well as numerous other partners yet to be identified. The Service will continue discussions with FWC regarding the co-management opportunities of hunting, fishing, and other recreational activities associated with this project. If possible, the Service will provide Americans with Disabilities Act (ADA)-compliant hunts, and youth hunts. Generally, the Service will allow hunting, based on State hunting seasons and consistent with the Conservation Area’s comprehensive conservation plan and hunt plan. Fishing will be allowed, where accessible, and the Conservation Area may be able to support fishing derbies for children. A Hunt and Sports Fishing Plan



and Opening Hunt and Sports Fishing Package will be developed generally 3-5 years after fee-title acquisition to establish land and water base to support the use.

The Service and the Refuge System will work toward the overarching goals outlined in this document, addressing a functional conservation landscape; habitat for fish and wildlife; conserving lands and water; promoting partnerships and wildlife-dependent recreation and education. It is clear that partnerships with the public; Tribal Nations; landowners; neighbors; conservation organizations; and municipal, State, and other federal agencies will be the only path to a successful Conservation Area.

### *III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES*

This section is organized by affected resource categories and for each affected resource discusses both (1) the existing environmental and socioeconomic baseline in the action area for each resource and (2) the effects and impacts of the Preferred alternative action and any alternatives on each resource. The effects and impacts of the preferred alternative considered here are changes to the human environment, whether adverse or beneficial, that are direct, indirect, or cumulative. This EA includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource." Any resources that will not be more than negligibly impacted by the action have been dismissed from further analysis. It is organized under the following four major topics: physical resources (i.e., topography, soils, climate, and air and water quality), biological resources (i.e., habitats and fish and wildlife species), cultural resources, and socioeconomic conditions.

#### **PHYSICAL ENVIRONMENT**

##### *TOPOGRAPHY AND GEOLOGY*

##### **Affected Environment**

Southwestern Florida is an extremely low-lying area within the Conservation Area. Geologically, Florida perches on top of what geologists call the "Florida Platform," a mostly underwater plateau (Bostick et al. 2022). Due to sea-level fluctuations through geologic time, the Florida Platform has been both entirely underwater (during interglacial periods) and entirely above sea level (during glacial periods) (Bostick et al. 2022). Today, only about one-third of the Florida Platform is above sea level. The current shape of Florida's coastline is merely a geologic snapshot because the sea level constantly fluctuates with our planet's climate cycles.

The Florida Department of Environmental Protection has divided Florida into ten regional geomorphological districts based on landform similarities, the relationships to surrounding features, and geologic processes affecting the area, mainly coastal, fluvial, and karst processes. Most of the Conservation Area is within the Peace River and Everglades districts. Small portions of the Conservation Area are within the Lakes District and Barrier Island Sequence District. The characteristics of the Peace River, Everglades, Lakes, and Barrier Island Sequence districts, as described in Williams et al. (2022), are as follows:

- The Peace River District is characterized by streams and rivers that occur because of the low permeability Oligocene-Pliocene Hawthorn Group sediments that underlie most of the district and the limited occurrence of collapsed sinkholes. The low-relief terrain of the district gently slopes toward the Gulf of Mexico coast. Extensive phosphate mining has occurred in parts of this district, resulting in widespread landform modification.

- The Everglades District includes some of the youngest strata and landscapes in Florida. The geomorphological features in this district range from areas underlain by Pliocene-Pleistocene sediments to Holocene sediments. Wetlands characterize many areas; others include Pleistocene to Holocene carbonate islands and coastal ridges. Drainage in much of the district consists of surface water sheet flow, predominantly from north to south. All of the provinces in the district share several characteristics, including that they are geologically young; their landforms are closely related to Pliocene-Pleistocene coastal and marine shelf sedimentation and Holocene wetland development; and drainage is mostly by way of sloughs, sheet flow in wetlands, and poorly defined stream systems.
- The Lakes District occupies much of central peninsular Florida. It is a geomorphically complex district with large sinkholes and sinkhole lakes on ridges and in the valleys between the multiple ridges that occur in the area. The sinkholes range from simple, more-or-less round depressions like those near Lake Alfred, to complex, coalesced sinks that form uvalas and poljes, such as Crooked Lake near Babson Park. The Lakes District also contains the headwaters of the Peace River. The upper part of the Peace River valley contains several swallets, including some in-channel siphons and others that capture water only during high-flow conditions. In addition, sand mining is a major industry in the district because of the abundance of quartz sand.
- The Barrier Island Sequence District occurs along and inland from Florida's Atlantic Coast. The Conservation Area only occur within a small inland portion of this district, which consists of the lower end of the Kissimmee River valley and the lowlands surrounding the northern half of Lake Okeechobee.

In addition to the geomorphological features described above, there are more than 1,000 springs recognized in Florida (Florida Geological Survey n.d.) and eight within the Conservation Area: one each in Hardee, Lee, and Manatee counties; two in Polk County, and three in Sarasota County (Florida Department of Environmental Protection 2023). Springs are points where groundwater discharge occurs at natural openings called vents. Under artesian pressure, groundwater can forcefully flow out onto Earth's surface, creating a spring. Springs and spring-fed rivers support the local ecology and provide ample opportunity for recreation to the visitors and residents of Florida. Further, the quality of spring water reflects groundwater quality, which is exceedingly important in Florida, where more than 90% of residents drink groundwater (Florida Geological Survey n.d.).

#### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

The Service is unaware of any short-term or long-term adverse impacts the preferred alternative will have on Florida's topography and geology or planned actions that will significantly affect Florida's topography and geology. Conversely, the preferred alternative will allow the Service to acquire less-than-fee and fee-title properties, including wetlands, within the Conservation Area. Wetlands are remarkably good at building up soils to outpace sea level rise, which could buffer the State against topographical changes due to sea level rise; however, many wetlands are unlikely to be able to keep pace with rapid climate change-induced sea level rise, which will likely result in the submergence of some portions of Florida's low-lying areas and the alteration of present-day Florida's topography.

Florida is one of the states most susceptible to sea level rise due to its low-lying elevation and more than 8,400 miles of shoreline (Florida Climate Center n.d.) Satellite altimetry data indicate that the average rate of sea level

rise in the southeastern United States has been about 3.0 mm (0.12 inches) per year since the early 1990s, roughly equal to the global rate of sea level rise (Florida Climate Center n.d.). Sea levels across Florida are as much as 8 inches higher than they were in 1950, and the rate of sea level rise is accelerating (Florida Climate Center n.d.).

It is virtually certain that global mean sea levels will continue to rise throughout the 21st century and beyond. According to the latest science on sea level rise projections for the United States (Sweet et al. 2022), sea level rise over the next 30 years along the U.S. coastline is projected to be 10–12 inches (0.3–0.4 inches per year), on average, which will be as much as what has been measured over the past 100 years from 1920 to 2020. This indicates that accelerated sea level rise is likely to continue. Some parts of low-lying coastal Florida will become submerged, altering the State’s topography.

Florida has experienced moderate to severe erosion of some of its shorelines and beaches during the 20th century. Most erosion can be attributed to manmade inlets, storms, and sea level rise; however, it is difficult to determine how much erosion is caused by sea level rise (Williams et al. 2009). Further, there is a high degree of variability in shoreline erosion rates. Some areas along Florida’s coast display rapid erosion, while others may have a net gain in sand over time (Absalonsen and Dean 2010). Florida is likely to continue experiencing topographical changes along its coast due to natural and manmade factors.

### **Impacts of Affected Resources**

#### *Alternative A*

Under this alternative, additional lands will not be protected or conserved within the Conservation Area and potential impacts such as mining could occur on those parcels, thus positive impacts with regard to the topography in the Conservation Area are not anticipated. No beneficial impacts to the geology of the Conservation Area are expected under this alternative. Some lands that remain unprotected could be used for mining operations. While localized negative impacts of these types of topography changes may be experienced, the negative impacts to topography across the approximately 4,045,268-acre Conservation Area under the No Action Alternative are anticipated to be minor. The effects of mining operations on the underlying geology can be substantial, but they are limited to a particular site. Hence, because the Conservation Area is large compared to the surface area occupied by mines, minor negative impacts to the underlying geology of the area are anticipated.

#### *Alternative B*

Under this alternative, the topography and geology will be protected within the footprint of the Conservation Area as they could be protected from large construction projects and mining operations, resulting in additional benefits. No construction activities will occur that will impact the topography. Any possible new construction (i.e., visitor center, offices) is not expected to result in adverse impacts to this resource.

### *SOILS*

#### **Affected Environment**

The soils within the Conservation Area grade from excessively drained to well drained to poorly drained to very poorly drained soils that include a composite of upland and hydric soil classifications (EA Figure 4, EA Table 1). Upland soils typically include entisols and spodosols, whereas hydric soils generally include histosols and mollisols. The more xeric entisols are soils with little profile development and are characteristically classified as excessively well drained to well drained. These soils typically support sandhill and scrub vegetation. The water table is 4 to 6 feet below the surface. These soils are very rarely flooded. Scrubby flatwoods are a type of scrub

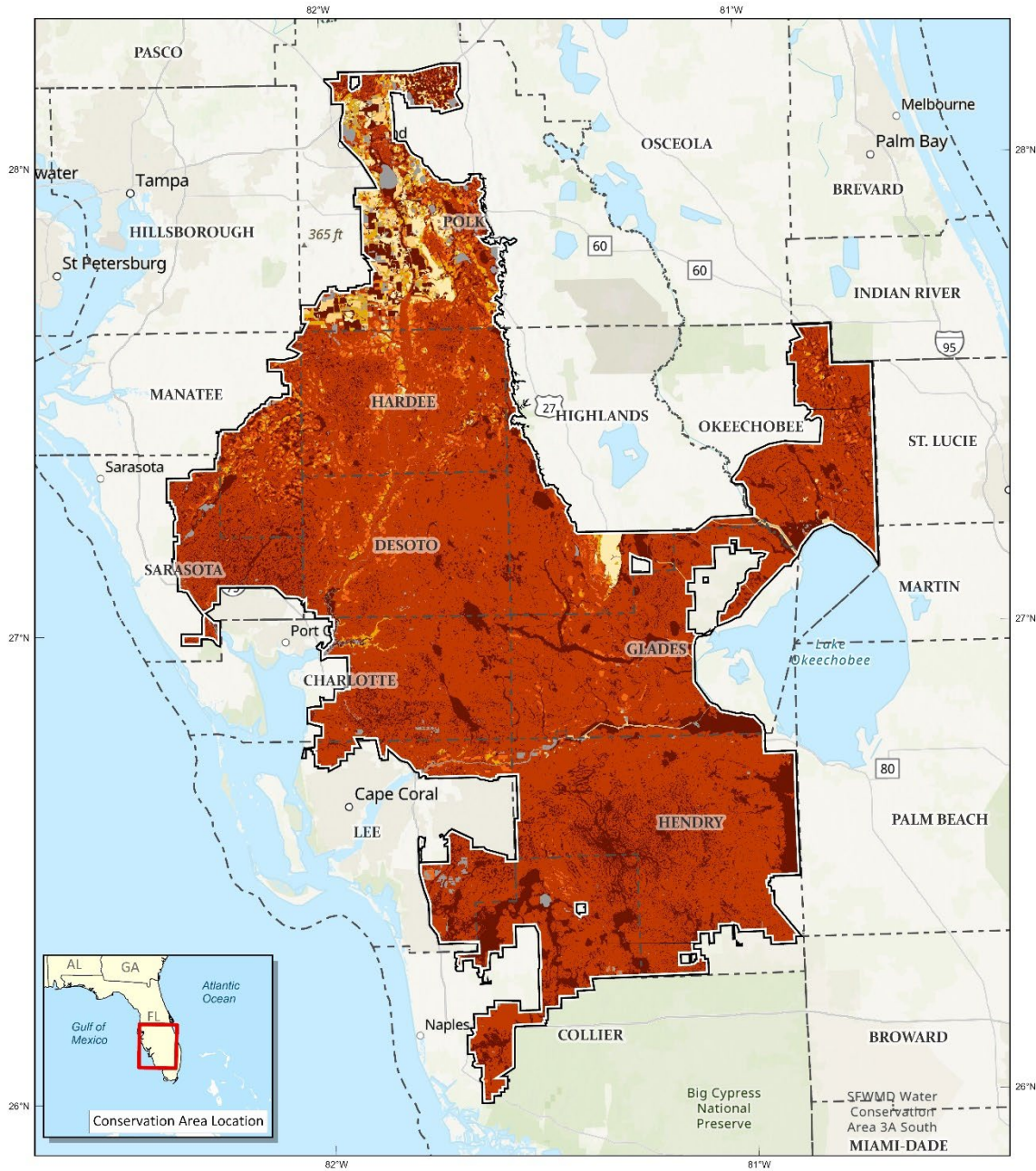
found on less xeric soils than sandhill or other types of scrub, but have drier soils than flatwoods soils. More mesic flatwood soils are generally composed of spodosols. Spodosols have a well-defined internal profile with a spodic horizon (a zone of accumulated organic matter, clay, and aluminum - a hardpan). The water table is within a foot of the surface during the rainy season and can be as deep as 40 inches (101.6 cm) during dry periods. Since the spodic horizon is relatively impermeable, perched water tables can occur. The native vegetation is slash pine (*Pinus elliotii* var. *densa*), and longleaf pine (*Pinus palustris*) with gallberry, palmetto, and *Lyonia* spp. in the understory. Hydric soils are found around lake edges, in bayheads, and in the depression marshes. Most of these soils have either a mollic epipedon (mollisols) or are organic soils (histosols). These soils remain flooded for most of the year. Native vegetation varies. In the bayheads, one can find bay trees (*Persea* spp.), maples (*Acer* spp.), and other hydric trees, while in the depression marshes the primary vegetation is grasses and forbs.



**U.S. Fish & Wildlife Service**  
**Everglades to Gulf Conservation Area**

Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk and Sarasota Counties

*Soil Drainage Groups*



Prepared in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 11/28/2023  
 Primary Data Sources: NRCS  
 Base Map: ESRI  
 FDEP Albers IARL NAD 83  
 ArcGIS Pro v3.1



0 5 10 Miles  
 0 5 10 Kilometers

— Proposed Conservation Area Boundary  
 - - - County Boundary

- Soil Drainage Class**
- Excessively Drained
  - Well Drained
  - Moderately Well Drained
  - Somewhat Poorly Drained
  - Poorly Drained
  - Very Poorly Drained
  - No data

**EA Figure 4. Soil Drainage Groups in the Conservation Area**

**EA Table 1. Soil Classification Map in the Conservation Area.**

NRCS Soil Component Name	Soil Order	Drainage Class	Acres	Percent
Adamsville	Entisol	Somewhat Poorly Drained	11,487	0.28
Adamsville variant	Entisol	Somewhat Poorly Drained	628	0.02
Anclote	Mollisol	Very Poorly Drained	10,088	0.25
Apopka	Ultisol	Well Drained	3,362	0.08
Aquents	Entisol	Poorly Drained	162	0.00
Archbold	Entisol	Moderately Well Drained	4,626	0.11
Arents	Entisol	Moderately Well Drained	22,624	0.56
Arents	Entisol	Somewhat Poorly Drained	3,478	0.09
Arents	Entisol	Well Drained	30,962	0.77
Astatula	Entisol	Excessively Drained	3,935	0.10
Astor	Mollisol	Very Poorly Drained	10,050	0.25
Basinger	Entisol	Poorly Drained	224,173	5.54
Basinger	Entisol	Very Poorly Drained	20,308	0.50
Braden	Ultisol	Somewhat Poorly Drained	31	0.00
Bradenton	Alfisol	Poorly Drained	91,796	2.27
Brighton	Histosol	Very Poorly Drained	455	0.01
Brynwood	Entisol	Poorly Drained	55,444	1.37
Brynwood	Entisol	Very Poorly Drained	8,082	0.20
Caloosa	Entisol	Somewhat Poorly Drained	3,016	0.07
Canaveral	Entisol	Moderately Well Drained	71	0.00
Canaveral	Entisol	Somewhat Poorly Drained	12	0.00
Candler	Entisol	Excessively Drained	30,099	0.74
Canova	Alfisol	Very Poorly Drained	4,447	0.11

NRCS Soil Component Name	Soil Order	Drainage Class	Acres	Percent
Cassia	Spodosol	Moderately Well Drained	2,296	0.06
Cassia	Spodosol	Somewhat Poorly Drained	11,261	0.28
Chobee	Mollisol	Very Poorly Drained	49,769	1.23
Chobee variant	Mollisol	Very Poorly Drained	11	0.00
Clewiston	Inceptisol	Very Poorly Drained	16,625	0.41
Cocoa	Entisol	Moderately Well Drained	934	0.02
Copeland	Mollisol	Very Poorly Drained	5,576	0.14
Cypress lake	Alfisol	Poorly Drained	95,385	2.36
Cypress lake	Alfisol	Very Poorly Drained	60,316	1.49
Dania	Histosol	Very Poorly Drained	5,912	0.15
Daytona	Spodosol	Moderately Well Drained	1,924	0.05
Delray	Mollisol	Very Poorly Drained	31,078	0.77
Denaud	Inceptisol	Very Poorly Drained	1,735	0.04
Duette	Spodosol	Moderately Well Drained	6,289	0.16
Dumps	N/A	No Data	162	0.00
Durbin	Histosol	Very Poorly Drained	1,735	0.04
Eaton	Alfisol	Very Poorly Drained	3,463	0.09
Eaugallie	Spodosol	Poorly Drained	135,914	3.36
Electra	Spodosol	Somewhat Poorly Drained	2,091	0.05
Estero	Spodosol	Very Poorly Drained	594	0.01
Farmton	Spodosol	Poorly Drained	40,957	1.01
Felda	Alfisol	Poorly Drained	80,588	1.99
Felda	Alfisol	Very Poorly Drained	32,425	0.80
Floridana	Mollisol	Very Poorly Drained	117,572	2.91

NRCS Soil Component Name	Soil Order	Drainage Class	Acres	Percent
Fort meade	Inceptisol	Well Drained	4,984	0.12
Ft. Drum	Inceptisol	Poorly Drained	9,143	0.23
Ft. Green	Alfisol	Poorly Drained	4,553	0.11
Gator	Histosol	Very Poorly Drained	31,708	0.78
Gentry	Mollisol	Very Poorly Drained	7,961	0.20
Gypsum land	N/A	No Data	805	0.02
Haplaquents	Entisol	Very Poorly Drained	3,746	0.09
Heights	Alfisol	Poorly Drained	10,189	0.25
Hicoria	Alfisol	Very Poorly Drained	4,517	0.11
Hilolo	Alfisol	Poorly Drained	2,079	0.05
Holopaw	Alfisol	Poorly Drained	73,106	1.81
Holopaw	Alfisol	Very Poorly Drained	42,354	1.05
Hontoon	Histosol	Very Poorly Drained	17,249	0.43
Hydraquents, clayey	Entisol	Very Poorly Drained	34,598	0.86
Immokalee	Spodosol	Poorly Drained	459,187	11.35
Isles	Alfisol	Very Poorly Drained	7,045	0.17
Jenada	Entisol	Poorly Drained	28,084	0.69
Jonathan	Spodosol	Moderately Well Drained	1,879	0.05
Jupiter	Mollisol	Poorly Drained	8,758	0.22
Kaliga	Histosol	Very Poorly Drained	23,936	0.59
Kendrick	Ultisol	Well Drained	591	0.01
Kesson	Entisol	Very Poorly Drained	1,266	0.03
Lauderhill	Histosol	Very Poorly Drained	12,836	0.32
Lochloosa	Ultisol	Somewhat Poorly Drained	1,405	0.03
Lynne	Spodosol	Poorly Drained	2,852	0.07
Malabar	Alfisol	Poorly Drained	150,140	3.71
Malabar	Alfisol	Very Poorly Drained	12,016	0.30
Manatee	Mollisol	Very Poorly Drained	11,225	0.28



NRCS Soil Component Name	Soil Order	Drainage Class	Acres	Percent
Matlacha	Entisol	Somewhat Poorly Drained	3,401	0.08
Millhopper	Ultisol	Moderately Well Drained	2,959	0.07
Myakka	Spodosol	Poorly Drained	295,600	7.31
Myakka	Spodosol	Very Poorly Drained	3,323	0.08
Narcoossee	Spodosol	Somewhat Poorly Drained	643	0.02
Neilhurst	Entisol	Excessively Drained	13,311	0.33
Nittaw	Mollisol	Very Poorly Drained	5,384	0.13
Notcom	No Data	No Data	25	0.00
Ochopee	Inceptisol	Poorly Drained	215	0.01
Ochopee	Inceptisol	Very Poorly Drained	93	0.00
Okeelanta	Histosol	Very Poorly Drained	20,593	0.51
Oldsmar	Spodosol	Poorly Drained	196,341	4.85
Oldsmar	Spodosol	Very Poorly Drained	680	0.02
Ona	Spodosol	Poorly Drained	32,756	0.81
Orlando	Inceptisol	Moderately Well Drained	6	0.00
Orsino	Entisol	Moderately Well Drained	4,399	0.11
Pahokee	Histosol	Very Poorly Drained	8,108	0.20
Paisley	Alfisol	Poorly Drained	2,738	0.07
Palmetto	Ultisol	Poorly Drained	1,680	0.04
Paola	Entisol	Excessively Drained	7,069	0.17
Parkwood	Alfisol	Poorly Drained	2,330	0.06
Parkwood variant	Alfisol	Poorly Drained	845	0.02
Peckish	Entisol	Very Poorly Drained	117	0.00
Pennsuco	Entisol	Very Poorly Drained	545	0.01
Pineda	Alfisol	Poorly Drained	170,213	4.21
Pineda	Alfisol	Very Poorly Drained	21,123	0.52
Pinellas	Alfisol	Poorly Drained	117	0.00

NRCS Soil Component Name	Soil Order	Drainage Class	Acres	Percent
Pits	N/A	No Data	162	0.00
Pits	N/A	Poorly Drained	88	0.00
Placid	Inceptisol	Very Poorly Drained	22,663	0.56
Pomello	Spodosol	Moderately Well Drained	6,070	0.15
Pomello	Spodosol	Somewhat Poorly Drained	33,104	0.82
Pomona	Spodosol	Poorly Drained	113,173	2.80
Pompano	Entisol	Poorly Drained	13,769	0.34
Pompano	Entisol	Very Poorly Drained	8,589	0.21
Popash	Alfisol	Very Poorly Drained	5,421	0.13
Pople	Alfisol	Poorly Drained	14,197	0.35
Punta	Spodosol	Poorly Drained	1,752	0.04
Quartzipsaments	Entisol	Moderately Well Drained	234	0.01
Riviera	Alfisol	Poorly Drained	48,778	1.21
Riviera	Alfisol	Very Poorly Drained	19,570	0.48
Samsula	Histosol	Very Poorly Drained	26,214	0.65
Sanibel	Inceptisol	Very Poorly Drained	4,764	0.12
Satellite	Entisol	Somewhat Poorly Drained	10,494	0.26
Smyrna	Spodosol	Poorly Drained	190,195	4.70
Sparr	Ultisol	Somewhat Poorly Drained	13,572	0.34
St. Augustine	Entisol	Somewhat Poorly Drained	20	0.00
St. Johns	Spodosol	Poorly Drained	5,110	0.13
St. Lucie	Entisol	Excessively Drained	3,312	0.08
Tavares	Entisol	Moderately Well Drained	32,650	0.81
Tequesta	Alfisol	Very Poorly Drained	9,319	0.23
Terra ceia	Histosol	Very Poorly Drained	9,103	0.23
Tomoka	Histosol	Very Poorly Drained	1,820	0.04

NRCS Soil Component Name	Soil Order	Drainage Class	Acres	Percent
Tuscawilla	Alfisol	Poorly Drained	20,902	0.52
Udifluvents	Entisol	No Data	2,384	0.06
Udorthents	Entisol	No Data	968	0.02
Udorthents	Entisol	Well Drained	4,136	0.10
Urban land	Entisol	No Data	2,349	0.06
Valkaria	Entisol	Poorly Drained	69,921	1.73
Valkaria	Entisol	Very Poorly Drained	1,520	0.04
Wabasso	Spodosol	Poorly Drained	126,021	3.12
Open water	N/A	No Data	68,520	1.70
Wauchula	Spodosol	Poorly Drained	10,958	0.27
Waveland	Spodosol	Poorly Drained	30,396	0.75
Winder	Alfisol	Poorly Drained	593	0.01
Winder	Alfisol	Very Poorly Drained	62,097	1.53
Wulfert	Histosol	Very Poorly Drained	3,375	0.08
Zolfo	Spodosol	Somewhat Poorly Drained	40,374	1.00

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

The Service is unaware of any other environmental trends or planned actions that will adversely impact soils, including the Preferred Action. No significant adverse or beneficial short-term, long-term, or cumulative impacts will be anticipated for soils.

### **Impacts of Affected Resources**

#### *Alternative A*

No beneficial impacts to soils in the Conservation Area are expected under the No Action Alternative, since no additional protection or conservation of these resources is proposed. In unprotected areas, soils will continue to be disturbed as a result of various land use practices, including agricultural operations, road-building, and the construction of buildings, parking lots, and other infrastructure needed to support expanding human settlements. Natural soil-formation processes will no longer occur in areas covered by impervious surfaces (e.g., roads, parking lots, and buildings). Soil compaction is also expected at sites where construction occurs. Additionally, soils will continue to be degraded by various contaminants resulting from the application of agricultural chemicals and run-off from roads and urban areas. Overall, the Service expects the effects on soils to constitute a minor negative impact.

#### *Alternative B*

Soils within the Conservation Area will be protected from disturbance and degradation associated with agriculture and development. There will be some minimal, localized adverse effects on soils under this alternative resulting from the construction of an office and public use buildings. Some limited construction (e.g., expanding an existing dwelling) may be allowed on the conservation easements, depending on the type of

agreements that are made with landowners. Those details are not available at this time. However, it is anticipated that any impacts to soils resulting from those activities will be minor.

## *WEATHER AND CLIMATE*

### **Affected Environment**

Southwest Florida is located in what is referred to as the subtropics, between the temperate zone to the north and the tropical zone to the south. The tropical climate shifts northward from mid-May to mid-October due to the Earth's axial tilt. Southwest Florida has warm, wet summers and mild, dry winters. The wet season begins around mid-May and usually ends as the dry season begins in mid-October. A combination of local, regional, and global events, regimes, and oscillations drives the weather and climate of southwest Florida.

During the wet season, Atlantic and Caribbean tropical and sub-tropical air masses dominate Florida. Warm, humid conditions with frequent showers and thunderstorms characterize the wet season. Although the wet season usually begins in mid-May, it varies from year-to-year. The beginning of the wet season is primarily determined by the onset of almost daily showers and thunderstorms over the Florida peninsula and late-night and morning showers and thunderstorms over the eastern Gulf of Mexico. Most rainfall is from convective thunderstorms produced from the daily sea breezes from Florida's west and east coasts. Another significant source of rainfall during the wet season is from tropical weather systems (i.e., tropical waves, tropical depressions, tropical storms, and hurricanes). The dry season begins in mid-October and ends in mid-May. Periodic surges of cool, dry continental air move through Florida during the dry season, producing short duration rain events followed by long periods of dry weather. Occasionally, continental cold fronts bring near-freezing temperatures to the region.

El Niño and the Southern Oscillation is a periodic fluctuation (i.e., every 2–7 years) in sea surface temperatures (El Niño) and the air pressure of the overlying atmosphere (Southern Oscillation) across the equatorial Pacific Ocean. The presence of an El Niño, or its opposite—La Niña—sufficiently modifies the general flow of the atmosphere, affecting ocean temperatures and weather conditions in many parts of the world. In southwest Florida, El Niño results in an unusually wet dry season, a colder winter than during La Niña or a neutral phase, decreased Atlantic Ocean hurricanes, above-average surface water levels, and fewer wildfires with smaller burn areas. La Niña causes a drier-than-normal dry season, below-average surface water levels, increased Atlantic Ocean hurricanes, and more wildfires with larger burn areas. During neutral phases, more deep freezes occur even if the winter is not consistently as cool.

The Atlantic multidecadal oscillation is an ongoing series of long-duration changes in the sea surface temperature of the North Atlantic Ocean, with a full oscillation cycle taking roughly 60 years to complete (Kerr 2000), resulting in warm and cool phases lasting about 30 years. Temperature changes associated with the Atlantic multidecadal oscillation have been shown to affect weather and climate around the North Atlantic basin and possibly throughout the global tropics (Enfield et al. 2001, Kerr 2005, Sutton and Hodson 2005, Knight et al. 2006, Semenov et al. 2010). Since the mid-1990s, the planet has been in a warm phase. Rainfall in central and south Florida becomes more plentiful when the Atlantic is in its warm rather than cool phase (NOAA n.d.). Further, the number of tropical storms that mature into severe hurricanes is much greater during warm phase than cool phases, while droughts and wildfires are more frequent during cool phases (NOAA n.d.) Computer models cannot accurately predict exactly when the Atlantic multi-decadal oscillation will switch phases. However, it is possible to calculate the probability that a change in the Atlantic multi-decadal oscillation will

occur within a given timeframe in the future. Scientists believe the planet is currently transitioning into a cool phase (Frajka-Williams et al. 2017).

Florida is particularly vulnerable to hurricanes because it is a peninsula with subtropical warm water on three sides. The hurricane season begins June 1 and ends November 30; however, hurricanes sometimes strike outside this period. Typically, hurricanes developing in the Main Development Region (MDR: 10° N to 20° N and 20° W to 60° W) of the North Atlantic move in a generally westward direction across the North Atlantic Ocean, making landfall on Caribbean Sea islands and landmasses along the Gulf of Mexico and the United States' southeastern seaboard. Based on data from 1900 to 2007, on average, a hurricane struck Florida every two years and a strong hurricane every four years (Malmstadt et al. 2009).

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

The El Niño Southern Oscillation and Atlantic Multidecadal Oscillation typically affect Florida's weather and climate trends somewhat predictably. However, unprecedented changes in the Earth's climate make it more difficult to predict future weather trends.

The Service is unaware of any planned actions that will have a discernable positive or adverse impact on Florida's weather and climate, including the preferred alternative. No significant adverse or beneficial short-term, long-term, or cumulative impacts on Florida's weather and climate are anticipated. The environmental trends, planned actions, and cumulative impacts regarding climate change are addressed in the Climate Change section below.

### **Impacts of Affected Resources**

#### *Alternative A and B:*

The Service does not anticipate any substantial short-term or long-term beneficial or adverse impacts on Florida's weather and climate; however, some parcel acquisition could maintain a natural buffer which could increase resiliency to storm events and water surges and reduce damage to infrastructure and development.

#### *CLIMATE CHANGE*

### **Affected Environment**

Greenhouse gas emissions caused by human activities have caused the Earth to warm, with the global surface temperature increasing faster since 1970 than in any other 50-year period over at least the last 2000 years (IPCC 2023). From 2011–2020, the global temperature was 1.1°C higher than from 1850–1900. Larger increases have occurred over land (1.59°C) than over the ocean (0.88°C) (IPCC 2023). The primary sources of greenhouse gas emissions include unsustainable energy use, land use and land-use change, and consumption-based lifestyles (IPCC 2023).

Increasing temperatures have contributed to glacial melting and the thermal expansion of ocean water, resulting in sea level rise. Historically, the average rate of global sea level rise was 1.3 mm per year between 1901 and 1971, increasing to 1.9 mm per year between 1971 and 2006, and further increasing to 3.7 mm per year between 2006 and 2018 (IPCC 2023). Human influence is certain to be the main driver of these increases since at least 1971 (IPCC 2023). Florida is extremely vulnerable to the effects of sea-level rise due to a combination of low land elevations, a high-water table, peninsular geography of being surrounded by ocean on three sides, susceptibility to tropical cyclones, and a large and growing human population that is mostly concentrated along the coasts (Noss et al. 2014). Sea-level rise and increased intensity of storm surges in Florida are leading to the

erosion and saltwater inundation of beaches and barrier islands, greater property damages, saltwater intrusion into drinking water supplies, and adverse impacts on coastal ecosystems and species (Noss 2011). The National Oceanic and Atmospheric Administration estimates that by 2060, sea level off the coasts of Naples and Fort Myers will rise by 1.4 ft under their intermediate scenario and 1.9 ft under their intermediate-high scenario (NOAA 2023). Scientists are confident sea levels will continue to rise during the coming decades, likely worsening these impacts.

Human-induced climate change has caused substantial damage to Earth's terrestrial and aquatic ecosystems. Mass wildlife mortality events have been recorded worldwide on land and in the ocean, while ecosystems have experienced increasingly irreversible changes. Florida's species are vulnerable to these climate change impacts and out of 1,200 species tracked by the Florida Natural Areas Inventory, housed within the Florida Resources and Environmental Analysis Center at Florida State University, 25% are likely to lose at least half of their current habitat due to sea level rise alone (Stys et al. 2017). Florida's wildlife populations and ecosystems are likely to experience many challenges related to climate change, including but not limited to the inability of species to migrate inland due to human modification of the landscape Noss et al. (2014); negative impacts from phenological changes, such as mistimed migrations (Robinson et al. 2009); changes in the population dynamics of species with temperature-dependent sex determination (Laloë et al. 2016); disruption of synchronized co-evolutionary relationships, like that between plants and their pollinators; enhanced fitness and range shifts of invasive species (Rahel et al. 2008, Bellard et al. 2013); vegetation root zone saltwater intrusion (Miller et al. 2022); and habitat migration and alteration (Pearlstine et al. 2010, Koch et al. 2015, Nungesser et al. 2015). The negative impacts on Florida's wildlife and habitats associated with climate change are expected to increase as warming continues.

Global warming is also leading to changes in Florida's precipitation patterns (Miller et al. 2022). Annual precipitation has increased by 5% since 1900 in southwest Florida (U.S. Global Change Research Program 2018). Since the 1970's, heavy downpours have increased in frequency and intensity by 27% and are increasing flooding along barrier islands, coastal beaches, and in low-lying areas. Model simulations predict changes in seasonal precipitation for southwest Florida with increases in dry season rainfall up to 20% and decreases in wet season rainfall up to 30% (NOAA 2017). A decrease in wet season rainfall will lead to lower water levels and increased droughts during a time that plants are water-dependent for growing and flowering and wetland bird species are foraging. The change in timing of rainfall will stress ecosystems and cause changes in vegetation types. An increase in dry season rainfall will increase water levels and hydroperiods during the important time of year when many birds are preparing to breed and nest, migratory birds are stopping over to forage, alligators are preparing nesting holes, and plants are becoming more dormant (Miller et al. 2022).

The impacts associated with climate change are not restricted to wildlife and ecosystems. Because humans are intimately intertwined with the environment, climate change also affects humans and human systems. Changes in freshwater availability and the productivity of agriculture, livestock, and fisheries have been observed, resulting in food and water insecurity (IPCC 2023). Climate change has also caused adverse impacts on human health and well-being related to infectious diseases (Lafferty 2009), heat stress, respiratory illnesses (Barnes et al. 2013), cardiovascular issues (De Blois et al. 2015, Giorgini et al. 2017), malnutrition (Lieber et al. 2022), mental health (Berry et al. 2010, Cianconi et al. 2020), and displacement (Warner et al. 2009). In addition, economic damages from climate change have been detected (Stanton and Ackerman 2007, Hsiang et al. 2017, Auffhammer 2018) in climate-exposed sectors, such as realty, agriculture, forestry, fishery, energy, and tourism (IPCC 2023). Further, urban infrastructure, including transportation, water, sanitation, and energy systems, has been compromised by climate-related events (IPCC 2023). These documented impacts are concentrated amongst

economically and socially marginalized urban residents and are driven by changes in multiple physical climate conditions, which are increasingly attributed to human influence (IPCC 2023).

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

Currently, the Service uses the Resist-Accept-Direct framework to strategically address ecological transformation caused by climate change, especially transformation occurring under novel conditions. Recognizing the need for coordinated action, representatives of several natural resource management agencies met in 2018 to develop a framework to address ecological transformation. This resulted in the Resist-Accept-Direct framework, which helps managers consider all potential adaptation responses. The first response, "Resist," represents traditional wildlife management in which management actions are implemented to counteract changes and restore habitats and populations to baseline conditions. The second response, "Accept," is a conscious decision to take a hands-off approach to ecological transformation caused by climate change, allowing habitats to transition without intervention. This method accepts the loss of some species and habitats and the establishment of others. The third response, "Direct," involves using projections of future conditions and steering the ecological change in ways that continue to support biodiversity and provide ecosystem services. The Service will implement other applicable frameworks to strategically address ecological transformation caused by climate change, especially transformation occurring under novel conditions as they come available.

### **Impacts of Affected Resources**

#### *Alternative A*

There will be no beneficial impacts on climate change under the No Action Alternative. Other federal, State, Tribal Nations, and non-governmental organization will continue to collaborate to address climate change concerns within the Conservation Area; however, the Service will be unable to collaborate with partners to implement climate change adaptation initiatives in communities within the Conservation Area; participate in coordinated efforts with other federal agencies, State agencies, non-governmental organizations, and Tribal Nations to address climate change concerns within the Conservation Area; acquire fee-title properties or conservation easements to maintain carbon storage capacity within the proposed Conservation Area and limit future developments and the associated increases in greenhouse gas emissions; or implementation of initiatives such as, Resist-Accept-Direct framework, to strategically address ecological transformation caused by climate change, especially transformation occurring under novel conditions.

#### *Alternative B*

The Service will collaborate with partners to ensure the best available climate science is used to inform natural resource management; support and implement climate change adaptation efforts in local communities, with a particular focus on social and environmental justice; support strategies that promote coordinated climate change actions among federal agencies, State agencies, non-governmental organizations, and Tribal Nations; acquire fee-title properties and conservation easements to maintain carbon storage capacity within the Conservation Area and reduce development; and use initiatives such as, Resist-Accept-Direct framework and other applicable frameworks to strategically address ecological transformation caused by climate change, especially transformation occurring under novel conditions.

## **Air Quality**

### **Affected Environment**

The Clean Air Act of 1970 (as amended in 1977 and 1990) regulates emissions from stationary and mobile sources. It also authorizes the Environmental Protection Agency to establish National Ambient Air Quality Standards for six criteria pollutants, including particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), ozone (O<sub>3</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>) and lead (Pb). Air quality standards are divided into two categories: primary and secondary. The primary air quality standards set limits to protect public health, including the health of sensitive populations, such as asthmatics, children, and the elderly. The secondary air quality standards set limits to protect public welfare, including damage to animals, crops, vegetation, and buildings and protection from decreased visibility. If the air quality in a geographic area meets or is cleaner than the national standard, it is called an “attainment” area; areas that do not meet the national standard are called “nonattainment” areas. Areas that were once in nonattainment but currently meet or exceed standards are identified as “maintenance” areas.

Florida is part of the Environmental Protection Agency’s Southeast Region, which also includes Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. On regional and national scales, all six criteria air pollutants have been improving (EPA 2023a). Nationally, lead (Pb) concentrations decreased by 88% from 2010 to 2022 (EPA 2023a). From 2000 to 2022, carbon dioxide (CO) concentrations in the Southeast Region have decreased by 67%, ozone (O<sub>3</sub>) by 25%, sulfur dioxide (SO<sub>2</sub>) by 78%, and nitrogen dioxide (NO<sub>2</sub>) by 44% (EPA 2023a). Fine particulate matter (PM<sub>2.5</sub>) and coarse particulate matter (PM<sub>10</sub>) concentrations in the Southeast Region have decreased by 48% and 31%, respectively, from 2000 to 2022 (EPA 2023a).

The Florida Department of Environmental Protection uses a monitoring network to measure the six criteria air pollutants’ concentrations within the State. Five of the eleven counties within the Conservation Area have air quality monitoring stations: one in Collier County, one in Highlands County, three in Lee County, three in Manatee County, and three in Polk County (EPA 2023b). Of the eleven counties that are partially or entirely within the Conservation Area, only Polk County had areas in nonattainment status in the last ten years (EPA 2023c). Parts of Polk County were designated as nonattainment areas for sulfur dioxide (SO<sub>2</sub>) in 2018 and 2019 and were redesignated as maintenance areas in 2020 (EPA 2023c).

Air quality declines tend to be correlated to increasing urbanization, due to higher levels of traffic, increases in air pollution from point sources, and reductions in vegetated areas (Song et al. 2008). Trees have been shown to reduce the concentration of ozone (O<sub>3</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), and particulate matter less than 10 and 2.5 microns in diameter (PM<sub>10</sub> and PM<sub>2.5</sub>), primarily through direct uptake and adhesion to stems and leaves. Some tree species naturally produce volatile organic compounds that can convert to ozone under certain atmospheric conditions, such as high temperatures and stagnant air (Chameides et al. 1988). However, because vegetated areas also remove ozone and other air pollutants from the atmosphere, there tends to be net reduction in air quality as areas become increasingly developed and forests are lost (Song et al. 2008).

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

The Service is unaware of any other environmental trends or planned actions that will adversely impact air quality, including the Preferred Action. No significant adverse or beneficial short-term, long-term, or cumulative impacts will be anticipated for air quality.



## **Impacts of Affected Resources**

### *Alternative A*

Positive effects on air quality in the Conservation Area are not expected under this alternative, since no additional protection or conservation of these resources is proposed. Other federal agencies, State agencies, Tribal Nations, and non-governmental organizations could conserve land within the Conservation Area, which will reduce the introduction of new sources of air pollution and help the State remain in attainment status for the six criteria air pollutants. Under this alternative, unprotected lands that are currently in a natural state may continue to be converted to agriculture and urban areas. Hence, the Service expects the No Action Alternative to have a minor adverse impact on air quality within the Conservation Area.

### *Alternative B*

With the establishment of the Conservation Area, the Service expects reduced future development within the Conservation Area, such as residential, commercial, and industrial development, thereby decreasing the introduction of new air pollution sources. Therefore, the preferred alternative will positively affect air quality, helping the State remain in attainment status for the six criteria air pollutants and minimizing the potential harm to human health and well-being, the agricultural industry, wildlife, and habitats.

Under this Alternative, operations and facilities, public visitation, and habitat management on fee-title acquired lands will contribute some short-term pollutants to the atmosphere, affecting air quality. Visitation to Service owned fee-title lands within the Conservation Area will be associated with a number of vehicles on the refuge system units. The low rate of speed necessitated will minimize emissions of air pollutants. In addition, the number of vehicles on the refuge system units at any given time will not be expected to create a significant impact to air quality.

Prescribed burning will be a valuable habitat management tool within several habitats on fee-title lands and conservation easements. Prescribed fires release several air pollutants, including CO and particulate matter. One positive consequence of prescribed fire is the reduction in the frequency and intensity of wildfires, which tend to release larger amounts of air pollutants (Hill et al. 2022). Overall, the negative consequences to air quality associated with this alternative are expected to be minor.

## *HYDROLOGY AND WATER QUANTITY*

### **Affected Environment**

Everglades restoration will improve the timing, volume, and distribution of water throughout the affected Watersheds primarily by increasing regional storage capacity, removing barriers to flow, and carefully redistributing water within the system to match natural cycles more closely. The increase in regional storage capacity is also expected to increase water resource benefits for other water-related needs of the region, including water supply and flood protection.

The Conservation Area includes five distinct basins, including two river basins (Myakka and Peace) that drain into the Charlotte Harbor Estuary. The Conservation Area also includes the Caloosahatchee River, Fisheating Creek and a portion of the Big Cypress basins.

### *Greater Charlotte Harbor Watershed*

The Greater Charlotte Harbor watershed is the largest in Southwest Florida and includes three basins of the Myakka River and Peace River and the Charlotte Harbor Proper. It begins at the headwaters of the Myakka River in Manatee County and Peace River in Lakeland and extends down to Port Charlotte where the rivers empty into Charlotte Harbor (CHNEP 2019).

### *Myakka River*

The 66-mile river begins its southerly flow from headwaters in Manatee and Hardee counties. After following a narrow floodplain forest corridor, the river slows and enters a series of lakes in Myakka River State Park. Deer Prairie Creek and Big Slough feed the river as it widens and enters Charlotte Harbor. The 34-mile portion of Myakka River in Sarasota County is designated a "Florida Wild and Scenic River."

### *Peace River*

The Peace River watershed expands over 2,315 square miles and starts at the Green Swamp in central Polk County, draining a series of wetlands and lakes. The rate of flow is directly proportional to groundwater levels. Underground and overland flows follow natural and altered paths through canals, flood control structures, former and active phosphate mines, wetlands, and Lake Handcock. South of Lake Handcock, canals and tributaries combine to define the main channel of the Peace River that eventually flows over 100 miles southwest to Charlotte Harbor.

### *Fisheating Creek*

Fisheating Creek basin is approximate 850 square miles in Highland, Glades, Hendry and Okeechobee Counties. The major source of water is a Fisheating Creek that flows into Lake Okeechobee (Paudel and Su 2020). It is the second largest natural source for the lake Okeechobee, being the only remaining free flowing water course feeding into the Lake. Fisheating Creek is 51 miles long. It flows southward through Cypress Swamp area in the southwestern part of Highland County and Glades County, turning a mile eastward to north county road and flows about 30 miles to Lake Okeechobee. The headwater adjoins Peace River/Charlotte Harbor basin on the west and the Kissimmee River Basin by the higher lake region on the north and east. During droughts there is little or no flow in the Creek, which is due to high evapotranspiration rates and lack of continued groundwater inflow. In the lower course Fisheating Creek flows in an easterly direction for about 20 miles and enters lake Okeechobee on western shore at the settlement of the Lake, rather than to Creek, thus making drainage boundaries indeterminate.

### *Caloosahatchee River*

The Caloosahatchee River is highly managed waterway connecting to Lake Okeechobee. Historically, the Caloosahatchee River was a shallow, meandering 50-mile-long river originating in the natural marshlands west of Lake Okeechobee. In 1881, a Canal (C-43) was dredged to connect the Caloosahatchee River to Lake Okeechobee. After the initial dredging, three lock and dam structures were added to control flow and stage height in the Lake and Canal. As part of the "Central and Southern Florida Project for Flood Control and Other Purposes," The River/Canal was widened and deepened to ensure high water levels in Lake Okeechobee can be managed to prevent harmful flooding in adjacent areas. The River is no longer free-flowing and is operated as two "pools" maintained at different elevations between the locks. These actions provided a navigable connection between the west coast of Florida and Lake Okeechobee and made the Caloosahatchee Estuary one of the major outlets for water drainage from the vast Upper Kissimmee, Fisheating Creek and Lake Okeechobee basins.

### *Big Cypress Basin*

The Big Cypress Basin is characterized as a rain driven system with a flooded shallow sheet of surface water starting shortly after the onset of the rainy season (usually in June) and ending in the winter dry season after surface waters recede. This Basin is exceptionally flat, with a typical gradient of only 5 to 10 inches per mile. Surface water hydrology of the Big Cypress Basin is typically characterized as a "sheetflow" flooding regime.

During the wet season, the landscape becomes covered with a shallow, continuous expanse of water that flows slowly toward the coastal Ten Thousand Islands region.

#### *Groundwater/Aquifers*

In west-central Florida and Southwest Florida, the groundwater system is composed of three main units: the Surficial Aquifer, the Intermediate Aquifer System and the Floridan Aquifer System. The Surficial Aquifer is the uppermost unconfined aquifer. It is composed primarily of unconsolidated sand but may also contain clay and/or shell deposits. The Surficial Aquifer varies widely in thickness throughout the Southwest Florida area, from completely absent in areas of the north to greater than 250 feet thick in the ridge areas of Polk and Highlands counties. In the southern portion, the surficial aquifer is underlain by a confining unit separating it from the underlying aquifer. However, in the northern portion, this clay-confining unit is thin and discontinuous. As a result, the water table sometimes lies directly above and is often in direct connection with the underlying Upper Floridan Aquifer.

In southwestern Florida, aquifers that lie between the Surficial Aquifer System and the Floridan Aquifer System are collectively referred to as the Intermediate Aquifer System. This aquifer system starts in Hillsborough and Polk counties and extends south through Lee and Collier counties. The Intermediate Aquifer System is under confined conditions and is mainly comprised of permeable layers of sand, shell and limestone separated by clay confining units. It is the main source of water supply for Sarasota, Charlotte and Lee counties where the underlying Floridan Aquifer contains brackish water. In general, the thickness of the Intermediate Aquifer System decreases from south to north, ranging from over 400 feet in Charlotte County to less than 50 feet in central Hillsborough County.

The Floridan Aquifer System is a highly productive aquifer system that covers all of Florida and areas of Alabama, Georgia, and South Carolina. The Floridan Aquifer System is further subdivided into the Upper Floridan Aquifer and the Lower Floridan Aquifer. In Southwest Florida, the Upper Floridan Aquifer generally contains good water quality and is the principal source of water for much of the Conservation Area. Underlying the Upper Floridan Aquifer is a sequence of relatively impermeable rocks, which serve as a confining unit separating the fresher water of the Upper Floridan Aquifer from the primarily saline water found in the Lower Floridan Aquifer in the southwest Florida area. The Upper Floridan Aquifer consists of a thick continuous series of carbonate rocks, hundreds of feet thick, made up of limestone and dolomite. The thickness of the Upper Floridan Aquifer tends to increase from north to south, ranging from several hundred feet in the north to over 1,400 feet in portions of Manatee and Sarasota counties. In general, the Upper Floridan Aquifer is confined over most of the central and southern portions of Southwest Florida.

#### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

Urbanization is rapidly transforming south and southwest Florida's natural landscapes. Although some conservation and restoration is occurring within the Conservation Area, it is likely insufficient to prevent cumulative impacts on hydrology. The cumulative impacts of residential, commercial, and industrial development combined with agriculture and increased water demand will likely adversely impact the Conservation Area's natural hydrology.

The Service is aware of some of the water management districts' upcoming projects that may beneficially or adversely impact the area's natural hydrology. However, any beneficial impacts from these plans are unlikely to offset the negative impacts on hydrology from residential, commercial, and industrial development and agriculture. See Southwest Florida Water Management District (2023) and South Florida Water Management District (2023a) for a complete list of current and upcoming projects.

There are extensive opportunities for wetland restoration and dispersed water storage in the Fisheating, Peace, and Myakka watersheds through the Natural Resource Conservation Service (NRCS) Wetland Reserve Easement Program, a federal partner that can assist with needed land protection and restoration.

### **Impacts of Affected Resources**

#### *Alternative A*

This alternative is not expected to provide additional protection or conservation of hydrology and water quantity of the area and no beneficial impacts are anticipated. Although some hydrological restoration will be conducted under this alternative, the flow of water on most unprotected lands in the Conservation Area will continue to be altered as a result of the construction of drainage ditches, roads, and other impervious surfaces. Impervious surfaces associated with urbanized areas reduce the area available for rainwater to percolate into the soil. At a more local level, increased storm water volumes and peak discharge rates associated with urbanization can produce drastic changes in stream channels, resulting in eroded banks and more frequent flooding that can cause damage to adjacent property, homes, and wildlife habitat. Increased surface run-off associated with urban areas will also have regional effects. Developed areas also tend to exacerbate periods of water shortage. Because impervious surfaces limit the amount of water that seeps into the ground, less water is stored in subsurface areas. Subsurface water plays an important part in the hydrology of an area by providing streams and rivers with a steady supply of water during droughts. As more lands are urbanized, the water-storage ability of an area is reduced, limiting water supplies needed for wildlife and human use.

As with hydrology, water quantity in the Conservation Area is expected to continue to be negatively affected under this Alternative. The amount of water available for wildlife, native habitats, and recreational opportunities will decline, as more water will be diverted to support increasing populations. Under the No Action Alternative, hydrology and water quantity will not be protected in approximately 4,045,268 acres of the Conservation Area, constituting a minor negative impact across the Conservation Area.

#### *Alternative B*

This Alternative is expected to result in positive impacts to the hydrology and water quantity within the Conservation Area. Lands acquired within the Conservation Area by the Service will be protected from the construction of extensive drainage ditches, roads, and large areas of impervious surfaces associated with development that will otherwise alter the hydrology.

There could be some localized impacts to hydrology and water quantity resulting from construction projects on fee-title acquired lands (i.e., Service-construction will not occur on conservation easements). Although additional environmental studies will likely be conducted in association with any future construction, it is not believed that there will be significant impacts to the hydrology or water quantity. Overall, the negative effects on hydrology and water quantity are believed to be minor under this alternative.

### *WATER QUALITY*

#### **Affected Environment**

The Conservation Area is primarily located within two water management districts, the Southwest Florida Water Management District and South Florida Water Management District, with a very small portion of the Conservation Area falling within the St. Johns River Water Management District. Of the 12 counties within the Conservation Area, the Southwest Florida Water Management District contains DeSoto, Hardee, Manatee,

Sarasota, and parts of Charlotte, Highlands, and Polk counties, and the South Florida Water Management District contains Collier, Glades, Hendry, Lee, and parts of Charlotte, Highlands, Okeechobee, and Polk counties.

The Southwest Florida Water Management District has an abundance of surface waters used for various purposes by the people who live and work there, those who are visiting, and the fish and wildlife that depend on the area's water resources. Excessive nutrient loading remains the largest single threat to water resources (Southwest Florida Water Management District 2023). While nutrients are essential to life and ecosystem functions, excessive nutrients can cause nuisance algal and plant growth; oxygen depletion; loss of water clarity, desirable species, and biodiversity; flavor effects on drinking water; increased probability of human and animal pathogens; and other water quality impairments. Of the total water bodies within the district with sufficient data to satisfy assessment criteria (679 out of 1,438 water bodies), 59.5% were determined to be healthy and 40.5% unhealthy in 2022 based on nine nutrient-related parameters (Southwest Florida Water Management District 2023).

The Southwest Florida Water Management District also assesses biological conditions as indicators of water quality, including dissolved oxygen, habitat conditions, and the health of aquatic insect communities. The biological conditions provide information on all activities occurring within the watershed and can be used to establish baseline characteristics, characterize the overall condition of a watershed, identify potential problem pollutants, target more intensive diagnostic sampling, and support land use planning and management. The Florida Department of Environmental Protection primarily uses the Stream Condition Index, stream floral metrics, and Lake Vegetation index (Florida Department of Environmental Protection 2022) to evaluate the biological conditions in surface waters. Of the 283 watersheds or stream reaches assessed in 2022 within the district, 109 watersheds or stream reaches were determined to be impaired based on biological assessments (Southwest Florida Water Management District 2023).

Increasing nitrate-nitrogen levels in Upper Floridan aquifer groundwater discharging from springs is a continuing concern in the district and statewide. While not yet posing significant human health impacts, increasing nitrate concentrations stimulate the growth of aquatic vegetation, which can alter the ecological function of springs and receiving water bodies. Of the 48 springs assessed in 2022, 18 were classified as improving and 30 as degrading (Southwest Florida Water Management District 2023).

The South Florida Water Management District has invested in stormwater treatment areas, or human-constructed wetlands, to remove and store nutrients through plant growth and the accumulation of dead plant material that is slowly converted to a layer of peat soil. Five stormwater treatment areas south of Lake Okeechobee are now removing excess nutrients from agricultural runoff water and, in some cases, runoff from urban tributaries before discharging it into the Everglades and other natural areas. Since 1994, the stormwater treatment areas have treated 8.2 trillion gallons of water and reduced the total phosphorus load by 77% (South Florida Water Management District 2023a).

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

The Southwest Florida Water Management District reported that in 2015 the Florida Department of Environmental Protection changed the water quality reporting criteria, increasing the number of nutrient-related parameters from two to nine. Therefore, the Southwest Florida Water Management District cautions that comparing their data to years prior to 2015 is no longer suggested. Data regarding nutrient levels from 2015 to 2022 are variable and do not suggest a clear positive or negative trend. However, the data used to determine if a water resource has healthy biological conditions does show a clear trend—the percentage of watersheds and streams within the Southwest Florida Water Management District is steadily declining.

The South Florida Water Management District reports data differently than the Southwest Florida Water Management District. Compared to data from 1979 to 1983, water quality data collected from 2013 to 2017 indicate that water quality improvement efforts, including stormwater treatment areas, have improved phosphorus concentrations in the Everglades from an average of 24 ppb to nine ppb (South Florida Water Management District 2023b). However, 12 monitoring sites in the Everglades still have phosphorus concentrations exceeding 10 ppb (South Florida Water Management District 2023b).

The Service is aware of ongoing and future water resource improvement projects being conducted by the Southwest Florida Water Management District and South Florida Management District. The water management districts in south and southwest Florida and their partners are collaborating to implement projects and plans focused on improving water quality. For example, the Districts' plans to improve water quality include assisting with septic to sewer conversions, monitoring trends to assess the ecological conditions of springs and other water resource systems, developing and implementing water quality projects aimed at reducing nutrient loading, restoring saltwater and freshwater wetlands, reducing water use, and reducing saltwater intrusion into aquifers (South Florida Water Management District 2023a and Southwest Florida Water Management District 2023). Further, the South Florida Water Management District is constructing a 6,500-acre stormwater treatment area as part of the Everglades Agricultural Area reservoir project. For a comprehensive project list, see Southwest Florida Water Management District (2023) and South Florida Water Management District (2023a).

Although the water management districts within the Conservation Area are implementing projects and plans to improve or maintain water quality in their respective regions, water quality may be at risk due to the expected addition of 1.1 million people into the 12 counties within the Conservation Area by 2050 (Rayer and Wang 2022) and the projected urbanization of 7% of the Conservation Area (Southeast Conservation Adaptation Strategy 2022). Urbanization increases impervious surfaces such as parking lots, rooftops, roads, and sidewalks, resulting in runoff and creating additional avenues for transporting pollutants from the landscape into water bodies. However, agriculture within the study area is expected to decrease (Carr and Zwick 2016), which could offset some of the adverse impacts of urbanization. In addition, other conservation entities will likely conserve some land within the conservation area, benefitting water quality. Given the many factors that could affect water quality in the future, it is still being determined how the cumulative impacts of water quality improvement projects, increased urbanization, land conservation, and decreased agriculture will result in positive or adverse short-term or long-term impacts on water quality trends.

### **Impacts of Affected Resources**

#### *Alternative A*

Under the No Action alternative, the Service could not collaborate with partners, including the water management districts, to implement plans and projects focused on improving water quality or conserving lands and wetlands that contribute to maintaining good water quality throughout the Conservation Area. Further, the Service will be unable to protect land to prevent urbanization. The urbanization projected to occur within the Conservation Area could overload water resources with sediments and pollutants, increasing sediment load, eutrophication, algal blooms, fecal bacteria concentration, nutrient loads, and pH (Nagy et al. 2011, Freeman et al. 2019). It is still being determined whether water quality improvement practices and projects within the Study Area, coupled with the decrease in agriculture and associated reduction in nutrient runoff, will offset the adverse impacts of urbanization on water quality.

#### *Alternative B*

The water quality found within the Conservation Area is generally felt to be sufficient to achieve our objectives and this Alternative is expected to result in benefits to water quality in the Conservation Area. The combination of fee-title and less-than-fee-title lands will protect from future development.

In general, it is believed that any negative consequences to water quality resulting from the Conservation Area will be limited to increased sediment loads during wetland restoration activity resulting in minor negative impacts. These effects could be minimized or eliminated by conducting construction during the dry season (November through May).

Under Alternative B, there may be some impacts to water quality resulting from new construction, Conservation Area operations, and visitor use. The construction of office and visitor-use buildings, parking areas, trails, and other facilities and infrastructure needed for operations and public use programs will cause some vegetation clearing, soil disturbance, and associated runoff. Best management practices will be used to minimize these effects if construction of an office, visitor use buildings, parking area, trails, and other facilities occur on fee-title owned lands up to 10% of the total Conservation Area. Runoff from roads and parking lots will cause some oils, grease, and other materials from vehicles to leach into soils or be carried as runoff into low-lying areas. Stormwater retention/detention ponds will help mitigate most of the water quality impacts associated with runoff.

Prescribed fires and clearing of nonnative plants will cause some vegetation to be removed, leaving soils exposed to runoff and erosion. In general, it is expected that runoff will be buffered by vegetated areas and will likely not contaminate waterbodies. If nonnative plant removal operations were to occur in riparian zones, best management practices will help ensure that impacts to water quality were kept to a minimum. Use of approved herbicides for controlling nonnative plants could cause some of these chemicals to leach into the groundwater or make their way into surface waters. Adherence to product usage guidelines and Service requirements will keep any of these adverse effects to water quality at a minimum.

Public use will include hunting, with some associated trampling of vegetation. This is expected to be a minimal impact, given that hunter densities will likely be sufficiently low to reduce the chances of foot paths from becoming established. Erosion associated with wildlife watching will be minimized by limiting these activities to trails, and possibly, overlooks and observation towers. For anglers, some improved access (e.g., boardwalks and docks) to fishing areas will likely be constructed, minimizing erosion to shorelines. In general, it is believed that any negative consequences to water quality will be minor.

## *NOISE*

### **Affected Environment**

Due to the large size of the Conservation Area, noise levels will vary, ranging from natural areas with little to no human-related noise pollution to urban areas dominated by human noise sources.

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

The Service is unaware of any other environmental trends or planned actions that will adversely impact noise, including the Preferred alternative. No significant adverse or beneficial short-term, long-term, or cumulative impacts will be anticipated for noise.

### **Impacts of Affected Resources**

### *Alternative A*

The soundscape of the Conservation Area is not expected to benefit under the No Action Alternative. Other federal agencies, State agencies, Tribal Nations, and non-governmental organizations could conserve land within the Conservation Area, reducing the introduction of new noise sources within the Conservation Area. The Service will be unable to reduce the introduction of human noise sources within the Conservation Area, such as the noises associated with urbanization. Wildlife will likely be impacted by new noise sources, with possible responses and effects including altered vocal behaviors, reduced abundance in noisy habitats, changes in vigilance and foraging behaviors, and negative impacts on individual fitness and the structure of ecological communities (Shannon et al. 2016).

### *Alternative B*

The Service could collaborate with partners to buy fee-title properties, conservation easements, or accept land donations, thereby reducing the introduction of new noise sources within the Conservation Area. Reducing new noise sources within the Conservation Area, such as the noises associated with urbanization, will benefit wildlife by minimizing their exposure to disruptive noise levels and preventing behavioral responses that could negatively impact their fitness. Sources of noise from farm machinery, heavy traffic, and industrial operations will not occur within Service-acquired lands in the Conservation Area, providing minor benefits to this resource.

Some noise will be associated with use of vehicles by Service staff and the visiting public on Service fee-title lands. Because high levels of speed will not be permitted, associated noise levels will be kept to a minimum. Hunting will cause some noise disturbance, but the frequency and duration will be at levels that will keep it at minimal levels. On less-than-fee-title lands, there will be some landowner and public uses that will generate noise. It is not expected that these will have any significant effects on the area's soundscape as they are similar to what currently occurs on many of the lands. Overall, it is expected that the Conservation Area have a minor negative impact on this resource.

## **BIOLOGICAL ENVIRONMENT**

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

The following environmental trends, planned actions, and cumulative impacts will affect and apply to all species within the biological environment. The most important ecological threats and problems facing the Conservation Area are directly related to the rapidly growing human population and associated use and development of the landscape. From 2010 to 2070, the South Florida population is expected to grow 68% percent to 11.67 million, with the most dramatic growth occurring in Collier and Lee counties (Carr and Zwick 2016a). Associated use and development of the landscape is likely to increase in intensity over the next several decades, leading to further habitat fragmentation and urban development, altered ecological processes, invasive species, and impacts from global climate change.

Climate change is one of the most compelling conservation challenges. Accelerated climate change will be expected to amplify current resource management challenges involving habitat fragmentation, degradation, and loss, as well as urbanization, invasive species, disease, parasites, and water management. As rising temperatures affect the dynamics of complex natural systems, the potential exists for mass species extinctions and disruptions. Fortunately, the Service is in a unique position to help wildlife and ecosystems adapt.

Greenhouse gas emissions caused by human activities have caused the Earth to warm, with the global surface temperature increasing faster since 1970 than in any other 50-year period over at least the last 2000 years (IPCC 2023). From 2011–2020, the global temperature was 1.1°C higher than from 1850–1900. Larger increases have



occurred over land (1.59°C) than over the ocean (0.88°C) (IPCC 2023). The primary sources of greenhouse gas emissions include unsustainable energy use, land use and land-use change, and consumption-based lifestyles (IPCC 2023).

Increasing temperatures have contributed to glacial melting and the thermal expansion of ocean water, resulting in sea level rise. Historically, the average rate of global sea level rise was 1.3 mm per year between 1901 and 1971, increasing to 1.9 mm per year between 1971 and 2006, and further increasing to 3.7 mm per year between 2006 and 2018 (IPCC 2023). Human influence is certain to be the main driver of these increases since at least 1971 (IPCC 2023). Florida is extremely vulnerable to the effects of sea-level rise due to a combination of low land elevations, a high-water table, peninsular geography of being surrounded by ocean on three sides, susceptibility to tropical cyclones, and a large and growing human population that is mostly concentrated along the coasts (Noss et al. 2014). Sea-level rise and increased intensity of storm surges in Florida are leading to the erosion and saltwater inundation of beaches and barrier islands, greater property damages, saltwater intrusion into drinking water supplies, and adverse impacts on coastal ecosystems and species (Noss 2011). The National Oceanic and Atmospheric Administration (NOAA) estimates that by 2060, sea level off the coasts of Naples and Fort Myers will rise by 1.4 ft under their intermediate scenario and 1.9 ft under their intermediate-high scenario (NOAA 2023). Scientists are confident sea levels will continue to rise during the coming decades, likely worsening these impacts.

Human-induced climate change has caused substantial damage to Earth's terrestrial and aquatic ecosystems. Mass wildlife mortality events have been recorded worldwide on land and in the ocean, while ecosystems have experienced increasingly irreversible changes. Florida's species are vulnerable to these climate change impacts and out of 1,200 species tracked by the Florida Natural Areas Inventory, housed within the Florida Resources and Environmental Analysis Center at Florida State University, 25% are likely to lose at least half of their current habitat due to sea level rise alone (Stys et al. 2017). Florida's wildlife populations and ecosystems are likely to experience many challenges related to climate change, including but not limited to the inability of species to migrate inland due to human modification of the landscape Noss et al. (2014); negative impacts from phenological changes, such as mistimed migrations (Robinson et al. 2009); changes in the population dynamics of species with temperature-dependent sex determination (Laloë et al. 2016); disruption of synchronized co-evolutionary relationships, like that between plants and their pollinators; enhanced fitness and range shifts of invasive species (Rahel et al. 2008, Bellard et al. 2013); vegetation root zone saltwater intrusion (Miller et al. 2003); and habitat migration and alteration (Pearlstine et al. 2010, Koch et al. 2015, Nungesser et al. 2015). The negative impacts on Florida's wildlife and habitats associated with climate change are expected to increase as warming continues.

Global warming is also leading to changes in Florida's precipitation patterns (Miller et al. 2022). Annual precipitation has increased by 5% since 1900 in southwest Florida (U.S. Global Change Research Program 2018). Since the 1970's, heavy downpours have increased in frequency and intensity by 27% and are increasing flooding along barrier islands, coastal beaches, and in low-lying areas. Model simulations predict changes in seasonal precipitation for southwest Florida with increases in dry season rainfall up to 20% and decreases in wet season rainfall up to 30% (NOAA 2017). A decrease in wet season rainfall will lead to lower water levels and increased droughts during a time that plants are water-dependent for growing and flowering and wetland bird species are foraging. The change in timing of rainfall will stress ecosystems and cause changes in vegetation types. An increase in dry season rainfall will increase water levels and hydroperiods during the important time of year when many birds are preparing to breed and nest, migratory birds are stopping over to forage, alligators are preparing nesting holes, and plants are becoming more dormant (Miller et al. 2022).

The impacts associated with climate change are not restricted to wildlife and ecosystems. Because humans are intimately intertwined with the environment, climate change also affects humans and human systems. Changes in freshwater availability and the productivity of agriculture, livestock, and fisheries have been observed, resulting in food and water insecurity (IPCC 2023). Climate change has also caused adverse impacts on human health and well-being related to infectious diseases (Lafferty 2009), heat stress, respiratory illnesses (Barnes et al. 2013), cardiovascular issues (De Blois et al. 2015, Giorgini et al. 2017), malnutrition (Lieber et al. 2022), mental health (Berry et al. 2010, Cianconi et al. 2020), and displacement (Warner et al. 2009). In addition, economic damages from climate change have been detected (Stanton and Ackerman 2007, Hsiang et al. 2017, Auffhammer 2018) in climate-exposed sectors, such as realty, agriculture, forestry, fishery, energy, and tourism (IPCC 2023). Further, urban infrastructure, including transportation, water, sanitation, and energy systems, has been compromised by climate-related events (IPCC 2023). These documented impacts are concentrated amongst economically and socially marginalized urban residents and are driven by changes in multiple physical climate conditions, which are increasingly attributed to human influence (IPCC 2023).

## *FOCAL NATURAL COMMUNITIES*

### **Affected Environment**

The six land cover class types used to characterize the Conservation Area (EA Figure 5), dry prairie, freshwater forested wetland, hardwood forested upland, high pine and sand scrub, pine flatwoods, and wet prairie and freshwater marsh, were created by lumping land cover classes from the Florida Land Cover Map (Florida Fish and Wildlife Commission and Florida Natural Areas Inventory 2022). For a complete description of how land cover classes were developed for this document, see Appendix D.

#### **Dry Prairie**

Dry prairie is a treeless community of low shrubs and grasses occupying vast, level expanses and is associated with sand soils over an organic or clay hardpan. Common shrubs and herbs include wiregrass, dwarf live oak, stunted saw palmetto, bottlebrush threeawn, and broomsedge bluestem. Fires occur every one to two years. This land cover class also includes palmetto prairies, which are found in seldom-flooded dry sand areas in which saw palmetto is the dominant vegetation. Common associates of saw palmetto in this cover type are fetterbush, tar flower, gallberry, wire grass, and brown grasses. There are 78,965 acres of the dry prairie land cover class within the Conservation Area.

#### **Freshwater Forested Wetland**

The freshwater forested wetland land cover class is a combination of several habitats: baygall, swamp bay, south Florida bayhead, cypress/pine/cabbage palm mixed wetland hardwood, other hardwood wetland, and hydric hammock. There are 203,770 acres of the freshwater forested wetland land cover class within the Conservation Area. The habitats that comprise the freshwater forested wetland land cover class are characterized as follows:

- Baygall habitats consist of slope or depression wetlands with peat substrate, usually saturated and occasionally inundated. Common vegetation includes a closed canopy of evergreen trees, loblolly bay, sweetbay, swamp bay, titi, and fetterbush. Naturally occurring fire is rare or absent.
- Bay swamp consists of large or small peat-filled depressions. The depressions are forested and dominated by bay species.
- South Florida bayhead is found on tree islands in glades marshes on peat substrate, south of Lake Okeechobee in the central and southern peninsula. This habitat may have an open or closed canopy containing swamp bay, sweetbay, dahoon, coastal plain willow, and coco plum.

- Cypress/pine/cabbage palm communities include cypress, pine, and cabbage palm in combinations where no species dominates. This habitat typically forms a transition between moist upland and hydric sites.
- Mixed wetland hardwoods are hardwood communities composed of various hardwood species tolerant of hydric conditions yet exhibiting an ill-defined mixture of species.
- Other hardwood wetlands are a mix of hydrophytic hardwood trees that experience a short hydroperiod. Cypress or tupelo may be occasional or infrequent in the canopy.
- Hydric hammocks are composed of lowlands with sand, clay, and organic soil over limestone. This mesic-hydric habitat experiences occasional to rare fires and contains diamond-leaved oak, live oak, cabbage palm, red cedar, and mixed hardwoods.

### **Upland Hardwood/Hammock**

Hardwood forested uplands, comprising 67,816 acres of the proposed Conservation Area, consist of several habitats: cabbage palm hammock, cabbage palm forest, live oak forest, mesic hammock, prairie mesic hammock, oak-cabbage palm forests, mixed hardwoods, and upland hardwood forests. The habitats included in the hardwood forested uplands land cover class are characterized as follows:

- Cabbage palm hammock is defined as any forested (over 25% canopy closure) wetland community where cabbage palms are the dominant tree species.
- Cabbage palm forest is purely or predominantly cabbage palm and is found on sandy soil. Other tree species associated with cabbage palm forests include various large and small hardwoods. In South Florida, cabbage palm forests may be strongly associated with slash or longleaf pine.
- Live oak forest is also considered an upland temperate hammock in which live oak is either pure or predominant. This habitat type, which may contain sweetgum, magnolia, holly, and laurel oak, is common along the upper banks of Florida's lakes and streams.
- Mesic hammock consists of flat land with sand and organic soil; is primarily in the central peninsula; experiences occasional or rare fire; and typically has live oaks, cabbage palms, southern magnolias, pignut hickories, and saw palmettos.
- Prairie mesic hammock is an isolated stand within a matrix of pyrogenic vegetation; experiences occasional fire; and contains live oaks, cabbage palms, and saw palmettos.
- Oak-cabbage palm forest has a closed canopy of hardwood species, primarily live oak and cabbage palm, that is naturally protected from fire. Human activity has heavily impacted this habitat, primarily through clearing for agriculture and urbanization. Canopy closure must be 25% or more with at least 67% dominance by a combination of live oak and cabbage palm to be included in this habitat.
- Mixed hardwoods are a hardwood community that includes any combination of large and small hardwood tree species, none of which can be identified as dominating the canopy.
- Upland hardwood forests are found in the panhandle and central peninsula. They are composed of a closed deciduous or mixed deciduous and evergreen canopy, with associated species including American beech, southern magnolia, hackberry, swamp chestnut oak, white oak, horse sugar, flowering dogwood, and mixed hardwoods. Fire is rare or absent in upland hardwood forests.

### **High Pine and Sand Scrub**

The high pine and sand scrub land cover class accounts for 16,566 acres within the Conservation Area and is comprised of scrub habitat, including oak scrub and sand pine scrub, and sandhill habitat. The habitat types included in this land cover class are characterized as follows:

- Scrub habitat contains open or dense shrubs with or without a pine canopy, sand pine, scrub oaks, or Florida rosemary. It is a fire-maintained system and is found statewide except in the extreme southern peninsula and the Florida Keys.

- Oak scrub is a dry hardwood community typically consisting of clumped patches of low-growing oaks interspersed with bare areas of white sand. This community occurs in areas of deep, well-washed, sterile sands, and it is the same understory complex of scrubby oaks and other ground cover species that occurs in the sand pine scrub community. It is usually dominated by shrubby oaks, myrtle oak, Chapman's oak, and sand live oak.
- Sand pine scrub is found on ridges throughout the State; has a canopy of sand pine; and has an understory of the three shrubby oaks, including myrtle oak, Chapman's oak, sand live oak, or less commonly, Florida rosemary.
- Sandhill is an upland habitat with a deep sand substrate, occurring from the panhandle to the central peninsula. It experiences frequent fire every one to three years and has an open canopy of longleaf pine or turkey oak with a wiregrass understory.

### **Pine Flatwoods**

The pine flatwoods land cover class, occurring on 414,616 acres in the Conservation Area, contains wet flatwoods, cabbage palm flatwoods, hydric pine flatwoods, hydric pine savanna, mesic flatwoods, and scrubby flatwoods. The habitats used in this cover class are characterized as follows:

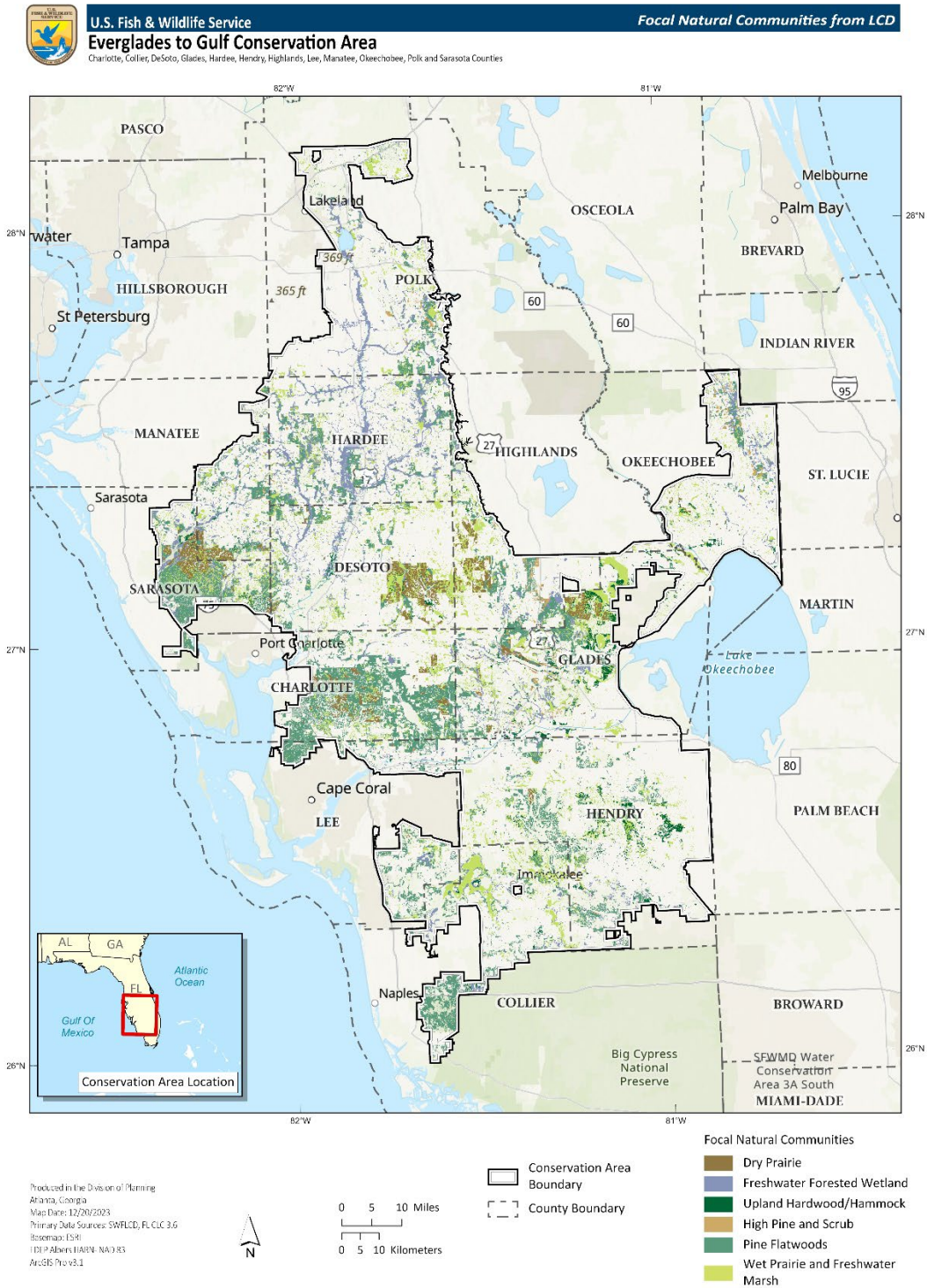
- Wet flatwood habitat consists of flat land with a sand substrate that is seasonally inundated. It is found statewide except in the extreme southern peninsula and Keys. Fire occurs every two to four years in grassy wet flatwoods and every five to 10 years in shrubby wet flatwoods. A closed-to-open pine canopy with a grassy or shrubby understory is typical. Associated species include slash pine, pond pine, large gallberry, fetterbush, sweetbay, cabbage palm, wiregrass, and toothache grass.
- Cabbage palm flatwoods are located on shelly sand or where limestone is near the surface. It has a pine canopy over a cabbage palm understory.
- Hydric pine flatwoods are open forest communities with sparse canopies of longleaf or slash pines and ground covers of grasses, forbs, and wetland shrubs.
- Mesic flatwoods consist of flat land with a sand substrate. This moderately wet habitat is found statewide except in the extreme southern peninsula and the Keys. It experiences frequent fire every two to four years and has an open pine canopy with a layer of low shrubs and herbs. Associated species include longleaf pine or slash pine, saw palmetto, gallberry, dwarf live oak, and wiregrass.
- Scrubby flatwoods are composed of flat land with a sand substrate, are considered xeric-mesic, and are found statewide except extreme southern peninsula Keys. Occasional fire occurs every three to 15 years. Vegetation in scrubby flatwoods consists of widely scattered pine canopy over saw palmetto and scrub oaks, longleaf pine, sand live oak, myrtle oak, Chapman's oak, saw palmetto, and wiregrass.

### **Wet Prairie and Freshwater Marsh**

The wet prairie and freshwater marsh land cover class consists of prairies and bogs (including wet prairie) and marshes (including isolated freshwater marshes). This land cover class occurs on 325,534 acres in the Conservation Area. The habitats contained in the wet prairie and freshwater marsh land cover class are characterized as follows:

- Prairies and bogs have a short hydroperiod and are dominated by grasses, sedges, and titi.
- Wet prairie consists of flat land or slope with sand or clayey sand substrate. It is usually saturated but only occasionally inundated and is found statewide, excluding the extreme southern peninsula. Prairies and bogs experience frequent fire every two to four years. This habitat is treeless and has a dense herbaceous community with few shrubs, wiregrass, blue maidencane, cutthroat grass, wiry beaksedges, flattened pipewort, toothache grass, pitcher plants, and yellow-eyed grass.
- Marshes have long hydroperiods and are dominated by grasses, sedges, broadleaf emergents, floating aquatics, or shrubs.

- Isolated freshwater marshes are typically small and are considered isolated when there is no apparent surface water connection to perennial rivers and streams, estuaries, or the ocean.



**EA Figure 5. Focal Natural Communities**



EA Table 2 summarizes the general types and amounts of lands defined as Focal Natural Communities in the LCD within the Conservation Area. Numerous habitats could benefit from large-scale management (Figure 5).

**EA Table 2. Focal Natural Communities**

CA Map Unit	SWFLCD Focal Natural Community	Protected (acres)	Unprotected (acres)	Total
Dry Prairie	Dry Prairie	55,680	23,285	78,965
Freshwater Forested Wetland	Bay Wetland	2,959	4,733	7,692
Freshwater Forested Wetland	Cypress/Pine/Cabbage Palm	4,543	18,991	23,534
Freshwater Forested Wetland	Freshwater Hardwood Wetland	37,700	131,621	169,321
Freshwater Forested Wetland	Hydric Hammock	6,823	4,092	10,915
Upland Hardwood/Hammock	Upland Hammock	21,281	44,802	66,083
Upland Hardwood/Hammock	Upland Hardwoods	497	1,236	1,733
High Pine and Scrub	Sandhill	641	12	653
High Pine and Scrub	Scrub	4,904	11,009	15,913
Pine Flatwoods	Hydric Flatwoods	48,880	27,753	76,633
Pine Flatwoods	Mesic Flatwoods	150,616	171,746	322,362
Pine Flatwoods	Scrubby Flatwoods	6,974	8,647	15,621
Wet Prairie and Freshwater Marsh	Freshwater Marsh	67,272	186,455	253,727
Wet Prairie and Freshwater Marsh	Wet Prairie	23,926	47,881	71,807

**Land Cover**

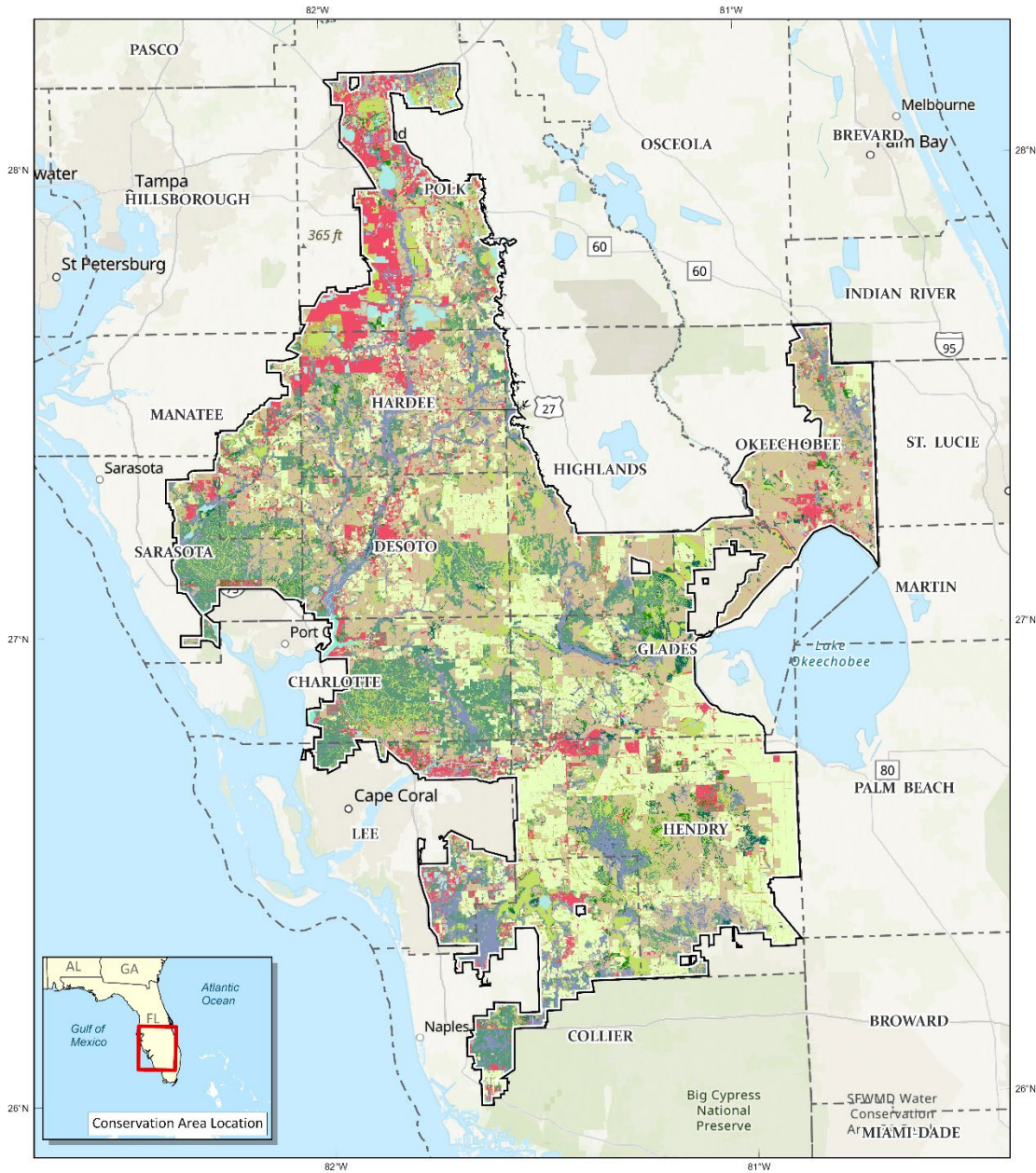
There are 172 different land covers (FWC and Florida Natural Areas Inventory 2022) within the approximately 4,045,268-acre Conservation Area. In this document, these have been combined into 13 land cover categories for the purpose of analysis in this document (EA Table 3). EA Figure 6 shows similarly grouped land uses within the Conservation Area. Although there are many land covers, approximately 79 percent of the Conservation Area is comprised of only 20 land uses (EA Table 8).



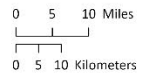
**U.S. Fish & Wildlife Service**  
**Everglades to Gulf Conservation Area**

Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk and Sarasota Counties

*Landcover*



Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 12/18/2023  
 Primary Data Sources: SW LDC, FLCLC 1.6  
 Basemap: ESRI  
 FDEP Abers HAW- NAD 83  
 ArcGIS Pro v3.1



- |                                     |                                  |
|-------------------------------------|----------------------------------|
| Proposed Conservation Area Boundary | Exotic Plants                    |
| County Boundary                     | Forested Wetland                 |
| <b>Landcover</b>                    | Mixed Forest                     |
| Agriculture                         | Open Water                       |
| Barren                              | Pasture                          |
| Coastal Wetland                     | Scrub/Shrub                      |
| Developed                           | Upland Hardwood Hammock          |
| Dry Prairie and Pine Flatwoods      | Wet Prairie and Freshwater Marsh |

**EA Figure 6. Landcover Types**

**EA Table 3. Landcover within the Conservation Area.**

<b>Land Cover Type</b>	<b>Acres in Conservation Area</b>	<b>Percent</b>
Agriculture	837,712	20.7
Barren	501	0.0
Coastal Wetland	7,200	0.2
Developed	409,155	10.1
Dry Prairie and Pine Flatwoods	493,582	12.2
Exotic Plants	7,623	0.2
Forested Wetland	408,636	10.1
Mixed Forest	68,559	1.7
Open Water	95,887	2.4
Pasture (Improved, Unimproved, Woodland)	1,066,582	26.4
Scrub/Shrub (Including High Pine and Brushland)	60,011	1.5
Upland Hardwood/Hammock	68,797	1.7
Wet Prairie and Freshwater Marsh	520,023	12.9
<b>Total</b>	<b>4,045,268</b>	<b>100.0</b>

**Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

In addition to the Environmental Trends, Planned Actions, and Cumulative Impacts under Biological Resource above and based on the information presented in the Florida 2070 Report (Carr and Zwick 2016b), the Service anticipates that existing native and natural habitats will be lost to residential and agricultural development. The water resources of the upper basin will be impacted by increased stormwater runoff from the increase in impervious surfaces (e.g., roads, parking lots), leading to a deterioration of water quality of the area lakes and streams (stormwater runoff can contain pollutants such as nutrients, pesticides, endocrine disrupters, garbage, and petrochemicals). The loss of groundwater recharge (due to increased impervious surfaces) and the increase in residential and agricultural water consumption will increase the frequency of drying events of these water bodies and could reduce or disrupted. The Service also knows that landowners within the project area have expressed interest in converting their pasture habitat, which supports federally listed species, to bio-fuel production facilities. This will reduce or eliminate the habitat quality for many species. The loss of this and similar pasture or rangeland habitats will limit the ability of land managers to protect, conserve, or restore the dry prairie ecosystem that once existed there. Besides these rare and unique habitats, the Service will expect overall losses of other ecologically valuable habitats (e.g., pine flatwoods, hardwood hammocks, forested and herbaceous wetlands, and pastures) as they are converted to residential and more intensive agricultural uses. Additional adverse effects from urbanization will be related to increased roads and traffic leading to a higher likelihood of road-killed animals and a higher incidence of feral cats that could prey on native animal species.

The Service and adjacent conservation land managers will continue conservation management activities to protect and manage habitats and vegetation on the Conservation Area and in the surrounding landscape. Habitats and vegetation will continue to be impacted by outside factors, including human population increases and associated development patterns, climate change, and invasive species, and land management practices on lands in the Conservation Area. This will result in altered habitats, and with a rapidly growing human population, impacts to habitats are only anticipated to increase. Ditching for infrastructure, residential and



agricultural development has altered natural hydrology, and has promoted generally drier soils. As a result, many of the ecological communities and processes have been negatively impacted. The long-term ecological health is inextricably linked to hydrology and fire, which are the two major ecosystem drivers that maintain and enhance ecosystem integrity on habitats within the Conservation Area.

### **Impacts of Affected Resources**

#### *Alternative A*

Under the No Action Alternative, uncertainty exists as to the potential for beneficial impacts to native habitats and species. Although adverse impacts to native habitats and species are anticipated under the No Action Alternative, additional conservation efforts could be undertaken by public, private, and/or governmental organizations. However, given past actions and trends, it is anticipated that human population growth and development will continue, and that further development of the landscape will continue to convert native habitats and natural systems to developed lands, resulting in continued loss of these resources and further fragmenting remaining natural lands and waters.

At least some habitats will be developed under the No Action Alternative. In addition to development, further damage to habitat will be expected from feral hog (*Sus scrofa*) rooting and other invasive species, including coral ardisia (*Ardisia crenata*), Chinese privet (*Ligustrum sinense*), camphor tree (*Cinnamomum camphora*), Japanese climbing fern (*Lygodium japonicum*), and heavenly bamboo (*Nandina domestica*) (Florida Natural Areas Inventory 2010); logging, and incompatible recreation. It is also probable that habitat will experience more fragmentation from road construction. Some inland scrub habitats will also likely be converted into intensely managed pine plantations, pasture, or citrus groves (Weekley et al. 2008). Fire suppression will degrade some inland scrub, transforming it into woodland. Further degradation will likely occur from resource extraction, incompatible recreation and forestry practices, road construction, and invasive species and be made worse by temperature and precipitation impacts caused by climate change (FWC 2016).

#### *Alternative B*

With implementation of Alternative B, the Conservation Area will become a more connected and functional landscape that may allow habitats and species to shift in response to climate and human demographic change. A large addition to the conservation landscape will build larger linkages to the fragmented landscape of this area which currently limits habitat use, migration, and dispersal of a variety of species. The existing and projected loss or fragmentation of habitats could still be problematic at the broader landscape level; however, Alternative B will alleviate more localized habitat in the Conservation Area.

The Conservation Area will provide an important link for migratory birds and important habitat for both rare and common wildlife. Habitat management will complement the management of adjacent and nearby conserved lands, both public and private, thus enhancing the Service's wildlife management contribution to the regional landscape and helping to make the entire landscape a more functional conservation.

With the implementation of Alternative B, habitats and adjacent wetlands will be afforded additional protection, and the Service expects benefits to natural habitats. At this time, the Service cannot predict the relative amounts of different habitats that will eventually make up the Conservation Area, but it will conceivably have more forested and wetland ratio to what is found in the overall currently.

Protecting the adjacent buffer areas will be critical to the long-term conservation. These vegetated areas help protect water resources that are important to the waterways. Forests, for instance, can absorb and slowly

release water; providing a flow of water that sustains the river up-stream, even during some droughts. Conversely, vegetated lands help prevent sedimentation and limit flash floods.

Working lands could be moderately affected if acres were removed from availability; however, lands other than agricultural are considered within the Conservation Area. Prime agricultural lands will likely not be for sale and purchasing of substantial acreage of land from willing landowners by the Service will take decades to accomplish, therefore the impact will be gradual and considered minimal.

The Service anticipates that existing natural habitats could also be lost to urban development under the Proposed Alternative. This will fragment remaining natural lands and waters. However, the Service expects that the distribution of these impacts might change if the Proposed Alternative was implemented. For example, a frequent real estate selling point is the ability to own land where there are fewer neighbors, and some people may desire to live adjacent to a protected natural area. This could entice residential development around the lands not already protected. In this event, the periphery of these areas could be affected by adjacent landowners (human disturbance) and wildlife connectivity could be reduced. In the interim, the price for these adjacent lots may also increase due to their anticipated desirability. That increase in cost, may make it more difficult for the Service or other conservation organizations or entities to buy additional lands or easements in those areas. In general, the Service expected impacts to habitats under this alternative to be minor.

## *FISH AND WILDLIFE*

### **General Wildlife Diversity**

#### **Affected Environment**

More than 500 amphibian, reptile, bird, and mammal species have been identified providing habitat for a variety of resident and migratory birds within the Conservation Area. Over 200 of these birds are considered migrant, either utilizing habitat in the project area as stopover sites as they migrate or residing locally for a portion of the year.

Blue-winged teal and mottled duck are the two most commonly observed waterfowl species, with many other species of waterfowl noted throughout the winter period including green-winged teal (*Anas crecca*), hooded merganser (*Lophodytes cululus*), and wood duck (*Aix sponsa*). The American wigeon (*Anas americana*), northern pintail (*A. acuta*), northern shoveler (*A. clypeata*), ring-necked duck (*Aythya collaris*), and black-bellied whistling duck (*Dendrocygna autumnalis*) are present but are not regularly observed (SFWMD 2010).

Arthropods are also abundant on and near the Conservation Area. There are a large number of endemic insects including the emerald moth (*Nemouria outina*) which feeds solely on rosemary, the bee fly (*Bombyliidae* sp.) which is the primary pollinator for the scrub balm, and the scrub millipede (*Floridobolus penneri*). The scarab beetle (*Scarabaeidae* sp.) and gopher cricket (*Gryllus* sp.) are both obligate commensals that are only found in gopher tortoise burrows.

Aquatic invertebrates are an integral component of the food web within the Conservation Area linking different trophic levels. Riverine water bodies support mayflies and caddisflies, while more lacustrine water bodies are dominated by crustaceans, midges, beetles, and dragonflies. Grazing invertebrates such as the grass shrimp (*Palaemonetes paludosus*) comprise a large portion of the aquatic invertebrate biomass. The Florida apple snail (*Pomacea paludosa*) is also important because it is eaten by many animal species including the endangered Everglade snail kite.

A wide variety of wildlife species can be found throughout the Conservation Area footprint. Game species such as bobwhite quail (*Colinus virginianus*), wild turkey (*Meleagris gallopavo*), raccoon (*Procyon lotor*), white-tailed deer (*Odocoileus virginianus*), grey squirrel (*Sciurus carolinensis*), and rabbit (*Sylvilagus spp.*) occur in abundance, providing ample hunting and wildlife observation opportunities. The feral hog, although a nonnative and nuisance species, is also considered a game species and can be found in overabundance in many areas throughout Florida.

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

See Environmental Trends, Planned Actions, and Cumulative Impacts under Biological Resource above.

### **Impacts of Affected Resources**

#### *Alternative A*

Under the No Action Alternative, there will be no benefits to native fish or wildlife populations on unprotected lands within the Conservation Area with the possible exception of those species that can tolerate some urbanization. These could include species such as gray squirrel, opossum (*Didelphis virginiana*), blue jay (*Cyanocitta cristata*), mockingbird (*Mimus polyglottos*), black racer (*Coluber constrictor*), Cooper's hawk (*Accipiter cooperii*), white ibis (*Eudocimus albus*), Brazilian free-tailed bat (*Tadarida brasiliensis*), and various insects (e.g., love bug (*Plecia nearctica*), mosquito (*Culicidae spp.*), and cockroach (*Periplaneta americana*). As native and natural habitats continue to decline in quality and spatial extent, and as habitat patches become more fragmented, the animal species that use these habitats will decline in numbers or fitness. The No Action Alternative will promote this decline in Florida's fauna and because some of these species are endemic or greatly restricted in their distribution, it may contribute to the future listing of species under the Endangered Species Act. Additionally, nonnative animal species (e.g., starling (*Sturnus vulgaris*), Cuban tree frog (*Osteopilus septentrionalis*), fire ant (*Solenopsis spp.*), and pollution tolerant fishes like blue tilapia (*Oreochromis aureus*), or Asian swamp eel (*Monophterus albus*) may become more prevalent furthering the disruption of the native ecosystems.

#### *Alternative B*

All of these species will be expected to use the Conservation Area under Alternative B. There are approximately 500 non-listed fish, amphibian, reptile, bird, and mammal species potentially present in the Conservation Area that will benefit under Alternative B. These additional lands acquired by the Service within the Conservation Area will provide additional habitat for these non-listed species. Under Alternative B, the largest benefit will be to those species that occupy primarily pastures, grasslands, prairies, wetlands, or pine flatwoods.

### **Birds of Conservation Concern/Peninsular Florida**

#### **Affected Environment**

The Conservation Area lies within Bird Conservation Region 31 (Peninsular Florida). Though these birds are protected under the Migratory Bird Treaty Act, they have also been identified as those that are most likely to become listed species unless additional conservation measures are implemented. There are 22 species (EA Table 4) that fall within the Conservation Area. Bird species with a sport-hunting season, listed species under the Endangered Species Act, and any bird listed as accidental or introduced by humans will not be considered for Birds of Conservation Concern status.

#### **EA Table 4. The common names, scientific names, and status of Birds of Conservation Concern within the Conservation Area (USFWS 2021a).**

<b>Common Name</b>	<b>Scientific Name</b>
American Kestrel (Southeast)	<i>Falco sparverius Paulus*</i>
American Oystercatcher	<i>Haematopus palliatus*</i>
Bachman's Sparrow	<i>Aimophila aestivalis</i>
Black Skimmer	<i>Rynchops niger</i>
Chimney Swift	<i>Chaetura pelagica</i>
Dunlin	<i>Calidris alpina</i>
Florida Burrowing Owl	<i>Athene cunicularia floridana*</i>
Gull-billed Tern	<i>Gelochelidon nilotica</i>
Henslow's Sparrow	<i>Ammodramus henslowii</i>
King Rail	<i>Rallus elegans</i>
Least Tern (Atlantic/Interior)	<i>Sternula antillarum antillarum/athalassos*</i>
Lesser Yellowlegs	<i>Tringa flavipes</i>
Mangrove Cuckoo	<i>Coccyzus minor</i>
Pectoral Sandpiper	<i>Calidris melanotos</i>
Prairie Warbler (Florida)	<i>Dendroica discolor</i>
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>
Semipalmated Sandpiper	<i>Calidris pusilla</i>
Short-Billed Dowitcher	<i>Limnodromus griseus</i>
Swallow-tailed Kite	<i>Elanoides forficatus</i>
Whimbrel	<i>Numenius phaeopus</i>
Willet	<i>Tringa semipalmata</i>
Yellow Rail	<i>Coturnicops noveboracensis</i>

\*State threatened in Florida.

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

See Environmental Trends, Planned Actions, and Cumulative Impacts under Biological Resource above.

### **Impacts of Affected Resources**

#### *Alternative A*

The No Action Alternative there could be decline in Florida's fauna and because some of these species are endemic or greatly restricted in their distribution, it may contribute to the future listing of species under the Endangered Species Act.

#### *Alternative B*

All of these species will be expected to use the Conservation Area under Alternative B. There are approximately 22 species potentially present in the Conservation Area that will benefit under Alternative B. These additional lands acquired by the Service within the Conservation Area will provide additional habitat for these Conservation Birds Of Concern.

### **FEDERAL/STATE LISTED AND PRIORITY AT-RISK SPECIES**

#### **Federally Endangered, Threatened, and Candidate Species**

## BIRDS

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

See Environmental Trends, Planned Actions, and Cumulative Impacts under Biological Resource above.

#### **Audubon's Crested Caracara**

##### **Affected Environment**

The federally threatened Audubon's crested caracara (*Polyborus plancus audubonii* or *Caracara plancus cheriway*) is a large species of raptor that occurs in south-central Florida, including all or parts of Brevard, Charlotte, Collier, De Soto, Glades, Hardee, Hendry, Highlands, Indian River, Manatee, Martin, Okeechobee, Osceola, Palm Beach, Polk, and St. Lucie counties (Dwyer 2010), especially on privately owned cattle ranches (Morrison and Humphrey 2001) and in wet prairies with cabbage palms. It may also be found in open or semi-open grasslands, pastures, pampas, palm savannas, deserts, river edges, and sometimes in marshes and open woodlands (Morrison and Dwyer 2021). Unlike the breeding season, crested caracaras sometimes use citrus groves during the non-breeding season (Morrison and Dwyer 2021). Based on current knowledge of over 150 nest sites within a limited portion of the bird's range in Florida, over 500 individuals inhabit Florida (USFWS 2009). However, abundance estimates have been dubious and remain problematic due to the bird's low detectability and surveyors' limited access to suitable habitats on private lands (Humphrey and Morrison 1997). In addition, population trends are difficult to interpret because of the bird's long lifespan, site fidelity, and the lack of data on the recruitment rates of young (Morrison 1996).

Habitat loss, vehicle collisions, hydrologic changes, and sea level rise threaten crested caracaras. A population viability analysis demonstrated that while it may be stable under present conditions, Florida's crested caracara population is sensitive to even modest habitat loss (Root and Barnes 2007). Habitat loss and degradation due to agriculture, urban development and disrupted fire regimes have significantly reduced available habitat (Morrison 2006). Vehicle strikes are also a major threat, causing substantial mortality among immature birds (Morrison 1996). Hydrological changes can negatively impact crested caracaras, with egg laying and food availability being tied to rainfall cycles (Morrison 1999). Restoration projects focused on restoring historical hydrology, especially those involving constructing large reservoirs, pose a substantial threat to suitable habitat availability (USFWS 2009). In addition, climatic changes and sea level rise may result in the loss of suitable habitat through inundation or vegetative composition changes. Finally, stochastic events, like environmental disasters, could significantly reduce the caracara population because of its isolation and reliance on a specific habitat.

This proposal will support the following action items in the *South Florida Field Office Multi-Species Recovery Plan* (USFWS 1999), which includes the crested caracara:

- Encourage landowners to maintain habitat for caracara and other prairie species.
- Encourage landowners to protect caracara and their nesting sites by providing incentives.
- Establish habitat management guidelines to protect nests and nesting pairs of caracara.
- Encourage the purchase of unprotected lands that support Audubon's crested caracaras.
- Maintain and enhance habitat on acquired lands or lands under easement/agreement.
- Conduct prescribed burns at periodic intervals.
- Maintain pastures in native vegetation to the extent possible.
- Locate active caracara territories in Glades, DeSoto, Highlands, Okeechobee, and Osceola Counties.
- Inform landowners of presence of caracara on their property.
- Monitor caracara on public lands to evaluate management actions.

- Use conservation easements and other non-fee-title ownership options to maintain habitat.
- Do not allow reforestation of prairies.
- Establish appropriate burn seasonality.
- Expand caracara habitat in occupied areas.
- Restore habitat in currently unoccupied areas.
- Determine why certain caracara habitat areas are not used.
- Determine which elements to modify to make unused areas suitable for caracara.
- Inform the public.
- Locate and map caracara potential habitat that can be restored for reintroductions.
- Encourage natural colonization of restored habitats by caracara.
- Compile caracara data into a central database at one location.
- Increase public awareness of the biology, ecology, status, and trends of the caracara.

### **Impacts of Affected Resources**

#### *Alternative A*

Under the No Action Alternative, at least some development and degradation of prairie habitat within the Conservation Area will be expected, reducing the suitable habitat available to Audubon's crested caracara. A reduction in suitable habitat will adversely impact the reproduction potential of the species, possibly negatively affecting its population trends.

The further loss of this species' preferred habitat (dry or wet prairies and pastures) along with the anticipated reduction in its wetland-dependent prey-base may reduce the distribution of this species in the Conservation Area. The Service will expect that entire territories could be lost due to development (habitat fragmentation) and this would, therefore, reduce the reproductive potential of the species.

#### *Alternative B*

Habitats within the Conservation Area include pastures, dry prairie, herbaceous wetlands, and shrub and brushland. Protected contiguous habitats under Alternative B could support many caracara home ranges. If the habitat quality is optimal (either now or after restoration of uplands and wetlands), then Alternative B could possibly support more caracara home ranges and should increase the forage base for local caracaras.

### **Black Rail**

#### **Affected Environment**

Black rails (*Laterallus jamaicensis*) are secretive marsh birds reported in 32 counties and on 45 named properties in Florida (Watts 2016). They have been reported using diverse habitats, including tidal salt marshes, interior freshwater wetlands, abandoned mines and impoundments, grassy fields, and coastal prairies (Watts 2016). Likely the greatest threats to the species are factors that alter hydrology, such as groundwater withdrawal (Watts 2016), habitat loss, tidal flooding, increases in storm frequency and intensity, sea level rise, and incompatible land management.

### **Impacts of Affected Resources**

#### *Alternative A*

Some suitable habitats for black rails will likely be lost to commercial, industrial, agricultural, and residential development, with road construction causing further fragmentation. Increased urbanization and agriculture will

likely degrade remaining suitable habitats by increasing runoff pollutants, fragmenting the landscape, and altering hydrology. Without proper management, the salt and brackish marshes used by this species could become dominated by invasive species, altering the food web and decreasing available habitat. These adverse effects will likely decrease black rail populations in southwest Florida.

#### *Alternative B*

Foraging and nesting habitat for the black rail will increase under Alternative B. Important habitats such as, salt and brackish marsh, will be potentially available to be protected and actively managed if owned by the Service. Where appropriate, fee-title lands could further be actively managed to restore proper hydrology improving foraging and potential nesting habitat. Invasive species management will also benefit the black rail under Alternative B. Conservation easements will also benefit the black rail, further restricting commercial, residential, industrial, and agricultural development. Water quality will also increase with acquisition of important habitat within the Conservation Area.

### **Everglade Snail Kite** **Affected Environment**

The federally endangered Everglade snail kite (*Rostrhamus sociabilis plumbeus*), a medium-sized raptor, is a food specialist that feeds almost entirely on apple snails (*Pomacea* spp.). These snails are found in palustrine emergent, long-hydroperiod wetlands, lakes, streams, canals, and ditches. The current distribution of the snail kite in Florida is limited to six large freshwater ecosystems including the Upper St. Johns marshes, Kissimmee River Basin, Lake Okeechobee, Loxahatchee Slough, Everglades, and Big Cypress basin (USFWS 2019a) within the central and southern portions of the State. Although the snail kite forages in various surface water types, droughts and water management practices have degraded suitable snail kite habitat. Water quality degradation, particularly phosphorus runoff from agricultural and urban sources, and the loss of wetlands also threaten the species.

Recovery Plan for the Endangered Everglade Snail Kite (2019a) states: "The principal threat to the snail kite is the loss, fragmentation, and degradation of wetlands (Factor A). Hydrologic conditions, both natural and unnatural (i.e., water management), may adversely affect snail kite nest success and juvenile survival both directly (e.g., increased predation) and indirectly (e.g., decreased foraging opportunities). For example, rapid recession rates during the dry (breeding) season and associated low water levels can allow nests to become accessible to land-based predators, resulting in decreased nest success. Extremely low water levels and rapid recession rates can limit foraging opportunities for juvenile and nesting adult snail kites, both of which require a sufficient forage base in the vicinity of the nest. Snail kite foraging on this larger nonnative snail was thought to be a problem a few years ago, but evidence now seems to indicate that all size classes of this snail are available to the kites.

This proposal will support the listed recovery actions for snail kites.

- Estimate population size and survival through mark/resighting of banded snail kite.
- Monitor population size and survival over time through long-term mark/resighting of banded snail kite.
- Control or remove exotic vegetation in wetlands.
- Use controlled burns to open up areas of overly dense vegetation in lake littoral zones and marshes.
- Prevent cultural eutrophication of lakes and marshes.
- Reverse the expansion of cattails in portions of the Everglades.
- Investigate, plan, and carry out restoration projects for snail kites in the Kissimmee, Okeechobee, and Everglades watershed.

- Monitor snail kite habitat and ecological processes.
- Expand and refine existing information on movements and distribution of snail kites, particularly related to drought.
- Expand information on survival of juvenile and adult snail kites.
- Monitor contaminants in snail kites and apple snails.
- Increase public awareness of ecological relationships, environmental stressors, and restoration activities in south Florida.
- Increase public awareness of snail kites.

### **Impacts of Affected Resources**

#### *Alternative A*

Some commercial, residential, industrial, and agricultural development will be expected to occur in the shallow freshwater marshes and shallow grassy lake shorelines used by the Everglade snail kite. A decrease in water quality from polluted runoff will likely accompany the increase in development. In addition to increased water pollution, the development will likely alter the landscape's natural hydrology. Further, invasive species could spread under the No Action Alternative due to a lack of management. These adverse impacts could negatively impact this species' population trends in southwest Florida. Finally, the Service could not acquire any of the critical habitat within the Conservation Area.

#### *Alternative B*

Foraging and nesting habitat for the snail kite will increase under Alternative B. These important long hydroperiod wetlands and open water habitats will be potentially available to be protected and actively managed if owned by the Service. Where appropriate, fee-title lands could further be managed with fire to open densely vegetated areas improving foraging and potential nesting habitat. Invasive species management will also benefit the snail kite under Alternative B. Conservation easements will also benefit the snail kite, further restricting commercial, residential, industrial, and agricultural development. Water quality will increase with acquisition of critical habitat within the Conservation Area.

### **Florida Grasshopper Sparrow**

#### **Affected Environment**

The federally endangered Florida grasshopper sparrow (*Ammodramus savannarum floridanus*) is a habitat specialist, occupying only native fire-maintained dry prairie. It has been extirpated from many counties in Florida and now only occurs in Highlands, Okeechobee, Osceola, and Polk counties (USFWS 2023). As of 2022, there are five known breeding aggregations with 102 confirmed Florida grasshopper sparrow breeding pairs, which include 136 singing males (USFWS 2023). The five breeding aggregations are Three Lakes, Kissimmee Prairie, Avon Park, Deluca Preserve, and Corrigan Ranch (USFWS 2023). Significant threats to this species include habitat loss, predation, and extreme weather events (USFWS 2023).

Furthermore, the following goals in *the South Florida Multi-Species Recovery Plan* (USFWS 1999), which includes the Florida grasshopper sparrow, are supported by this proposal:

- Continue prescribed burns at periodic intervals.
- Determine the distribution and abundance of Florida grasshopper sparrows.
- Maintain and enhance Florida grasshopper sparrow habitat on acquired lands or lands under conservation easement or agreement.
- Encourage purchase of lands to protect Florida grasshopper sparrows.



- Discourage changes in present level of cattle grazing where conducive to Florida grasshopper sparrows.
- Maintain pastures in native vegetation to the extent possible.
- Do not allow reforestation of prairies.
- Identify areas of suitable unoccupied habitat for Florida grasshopper sparrows.
- Continue research on Florida grasshopper sparrow /habitat interactions.
- Develop information on Florida grasshopper sparrow biology, including genetic/ecological studies.
- Continue winter ecology studies of Florida grasshopper sparrows.
- Develop a reserve design for Florida grasshopper sparrows.
- Monitor Florida grasshopper sparrows on public land to evaluate management actions.
- Restore selected areas for Florida grasshopper sparrows as needed.
- Expand Florida grasshopper sparrow habitat in occupied areas, locate and restore habitat in unoccupied areas.
- Encourage natural colonization of restored habitat by Florida grasshopper sparrows.
- Monitor the success of reintroduced Florida grasshopper sparrows.
- Increase public awareness of and provide information on the biology, ecology, and status of the Florida grasshopper sparrows.

In an attempt to stem the population decline, a draft Action Plan was developed in August 2012. Of the ten total objectives in the draft Action Plan, five specific objectives could be supported by the proposal, as listed.

Objective 3: Confirm Florida grasshopper sparrow status and identify additional locations occupied by Florida grasshopper sparrow.

Objective 4: Increase acreage of dry prairie habitat managed for the Florida grasshopper sparrow.

Objective 7: Determine need and feasibility of captive propagation and reintroduction of Florida grasshopper sparrow.

Objective 9: Manage fire ant populations and directly evaluate their effects on Florida grasshopper sparrow populations.

Objective 10: Increase public knowledge of the status of the Florida grasshopper sparrow and engage communities in actions to prevent extinction.

### **Impacts of Affected Resources**

#### *Alternative A*

Additional loss of suitable habitat from development, especially the conversion of open prairie habitat into agricultural fields, will likely continue. Further, the Service will be unable to collaborate with its partners to restore Florida grasshopper sparrow habitat within the Conservation Area. Because of this species' extremely small population size, the continued destruction of suitable habitats coupled with a lack of restoration could lead to extinction.

#### *Alternative B*

Within the Conservation Area restoration of improved pasture habitat providing important nesting and foraging habitat for this species. Management actions including, fire, will also be able to be utilized on lands owned by the Service to improve habitat. Collaboration with partners to restore Florida grasshopper sparrow habitat and working with private landowners within the Conservation Area will also be possible under Alternative B.

### **Florida Scrub-Jay**

### **Affected Environment**

The federally threatened Florida scrub-jay (*Aphelocoma coerulescens*) is a territorial habitat specialist found only in peninsular Florida in low-growing oak scrub with well-drained sandy soils (Woolfenden and Fitzpatrick 2020). Florida scrub-jays historically occurred from Levy, Gilchrist, Alachua, Clay, and Duval counties southward but have been extirpated from many counties, now only occurring from Flagler, Marion, and Citrus counties south to Collier, Glades, and Palm Beach counties (Woolfenden and Fitzpatrick 2020). Considerable evidence exists that the extant populations of Florida scrub-jays have declined to less than 10% of their pre-European settlement numbers (Boughton and Bowman 2011). There were approximately 4,000 breeding pairs or family groups range-wide as of 1993 (Woolfenden and Fitzpatrick 2020). More recent estimates suggest 3,400 to 3,600 range-wide, suggesting the population is declining (USFWS 2019b). Florida scrub-jays are vulnerable to direct habitat loss due to commercial, residential, and agricultural development; habitat fragmentation; and habitat degradation from fire suppression (USFWS 2019b). Additional threats include catastrophic disease outbreaks, suburban demographic sinks, inbreeding and loss of genetic diversity, extirpation of small populations, climate change, and road mortality (USFWS 2019b).

The specific recovery strategy outlined in this species' recovery plan (USFWS 2019c) is described as follows "A successful recovery strategy for the Florida Scrub-Jay requires incorporating representation (genetic and ecological diversity), resiliency (sufficient population size), and redundancy (sufficient number of populations) into a plan to realize a stable or increasing overall population capable of withstanding both catastrophic events (including disease outbreaks, unusually intense and widespread fires, protracted periods of poor land management) and reductions in local population viability caused by inbreeding. The recovery strategy emphasizes creating and maintaining viable Florida Scrub-Jay populations across most of the 5 species' remaining range of genetic variability. To accomplish this, the strategy prioritizes large landscapes that provide optimal opportunities for long-term persistence of Florida Scrub-Jay populations within a majority of their distinct genetic units. Within these large landscapes, the strategy also emphasizes maintaining and improving connectivity to facilitate dispersal among local populations within their respective genetic unit. The strategy incorporates a core ecological premise of species representation, resiliency, and redundancy by identifying landscapes within genetic units that still have potential networks of connected habitat patches capable of supporting large Florida Scrub-Jay populations. These areas, referred to as "focal landscapes," were developed from a comprehensive range-wide habitat mapping exercise. The analysis utilized the best available habitat data to identify areas capable of supporting potential local populations. The areas were categorized and prioritized based on the amount and connectivity of potential habitat. The Florida Scrub-Jay Species Status Assessment expounds on the rationale and decision process justifying the identification, development, and metrics for the focal landscapes. The strategy also incorporates specific requirements for habitat management on all landscapes deemed to have potential for long-term persistence. Without active habitat management, even the largest, best protected, and seemingly most viable Florida Scrub-Jay populations decline and eventually go extinct. (Revised 2019) that this proposal would support include those listed."

### **Impacts of Affected Resources**

#### *Alternative A*

Some portions of the scrubby flatwood habitat within the Conservation Area will likely be converted into agricultural, industrial, residential, and commercial development, resulting in less habitat for the Florida scrub-jay. Because scrub-jays require a minimum of five hectares per territory (USFWS 2019b), development-induced fragmentation could render some territories uninhabitable if this threshold is not maintained. With an increase in residential development, the feasibility of conducting the prescribed fire necessary to maintain optimal scrub-jay habitat will decrease, resulting in habitat degradation. The loss and degradation of suitable habitat could lessen

this species' reproductive and dispersal success, negatively impacting its population trends and altering its spatial distribution.

#### *Alternative B*

Restoration and protection of scrub-jay habitat within the Conservation Area will benefit this species by increasing population numbers and improving preferred habitats. Where appropriate, fee-title lands could further be managed with prescribed fire to open densely vegetated areas improving foraging and potential nesting habitat. Invasive species management will also benefit the scrub jay under Alternative B. Conservation easements will benefit the scrub jay, further restricting commercial, residential, industrial, and agricultural development. Water quality will increase with acquisition of important habitat within the Conservation Area.

### **Piping Plover**

#### **Affected Environment**

The piping plover (*Charadrius melodus*) is a small shorebird federally listed as threatened. Piping plovers do not breed in Florida but spend much of the year wintering there. In the 2011 International Piping Plover Census, 206 piping plovers were counted in Florida, with 83 on the Atlantic Coast and 223 on the Gulf Coast (Elliot-Smith 2015). In late March and early April, they leave for breeding grounds that consist of sandy beaches, sand flats, and mudflats in coastal areas. Piping plovers are threatened by beach development, which has reduced the amount of suitable wintering habitat. In addition, frequent human disturbance has been shown to impact plovers, resulting in decreased body mass (Gibson et al. 2018). Other threats include predation from raccoons, skunks, and foxes.

#### **Impacts of Affected Resources**

#### *Alternative A*

Coastal development, including shoreline hardening, will likely continue within the Conservation Area, decreasing suitable habitat availability and fragmenting the landscape. Habitat loss and fragmentation will likely cause a reduction in the carrying capacity of coastal habitats, with an associated decrease in population. Without management, exotic species could degrade suitable habitats limiting wintering habitat for this species. Incompatible recreation will likely reduce shorebirds' overwintering and foraging success through disturbance.

#### *Alternative B*

Protection and restoration within the Conservation Area of key piping plover habitats from development, disturbance, fragmentation will benefit this species. Management using time and space zoning for wildlife-dependent recreational activities will also increase protection of this species from disturbance and increase foraging success.

### **Red-Cockaded Woodpecker**

#### **Affected Environment**

The red-cockaded woodpecker (RCW) (*Picoides borealis*) is a federally endangered species in the southeastern United States that has been extirpated from parts of its northern range. The U.S. Fish and Wildlife Service estimated a range-wide population of 7,800 active clusters as of 2020, up from an estimated 4,694 clusters in 1993 (USFWS 2020a) due to successful conservation and management to increase the population. Thus, the red-cockaded woodpecker is a conservation-reliant species.

They prefer extensive mature open longleaf pine (*Pinus palustris*) forest maintained by frequent (1–5-year intervals) fire. However, they may use loblolly (*Pinus taeda*), slash (*Pinus elliottii*), shortleaf (*Pinus echinata*),

Virginia (*Pinus virginiana*), pond (*Pinus serotina*), and pitch (*Pinus rigida*) pines. There are an estimated 3.3 million acres of longleaf pine forests in the southeastern United States, representing a decline of approximately 88 million acres compared to historical estimates (Oswalt et al. 2012). Therefore, this species is primarily threatened by habitat loss compounded by fire suppression, resulting in insufficient suitable habitat. Several other risk factors influence red-cockaded woodpecker populations, including southern pine beetle outbreaks, sea level rise, land use changes, invasive species, kleptoparasitism, and management dependence (e.g., artificial cavities and prescribed fire) (USFWS 2020). In addition, stochastic events, such as wildfires, drought, and extreme storm events, can affect these birds (USFWS 2020).

### **Impacts of Affected Resources**

#### *Alternative A*

Within the Conservation Area, some of the mature longleaf pine habitats preferred by red-cockaded woodpeckers will likely be developed, possibly forcing this species into using less-than-optimal habitats and lowering their reproductive success. Fire suppression will become more common and prescribed fire less feasible as development increases, especially residential development. A lack of prescribed fire and invasive species management will likely result in hardwood intrusion, degrading the quality of the longleaf pine habitat available to red-cockaded woodpeckers.

#### *Alternative B*

Sandhill and pine flatwoods habitats within the Conservation Area will contain suitable habitat for nesting RCWs. Foraging and nesting habitat for RCWs will increase under Alternative B. These important habitats will be potentially available to be protected and actively managed if owned by the Service. Where appropriate, fee-title lands could further be managed with fire to open densely vegetated areas improving foraging and potential nesting habitat. Invasive species management will also benefit this species under Alternative B. Conservation easements will further restrict commercial, residential, industrial, and agricultural development.

### **MAMMALS**

#### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

See Environmental Trends, Planned Actions, and Cumulative Impacts under Biological Resource above.

#### **Florida Bonneted Bat**

##### **Affected Environment**

The endangered Florida bonneted bat (*Eumops floridanus*) is endemic to Florida and is the State's largest bat species. They primarily roost in tall, mature trees or artificial structures and use various habitats, including pine, flatwoods, scrubby flatwoods, pine rocklands, royal palm hammocks, mixed and hardwood hammocks, cypress, and sand pine scrub. The bats also roost in buildings, under bridges, and in bat houses and forage over ponds, streams, and wetlands (Marks and Marks 2008). The destruction of natural roost sites threatens the Florida bonneted bat. Because its range is so small, natural disasters, such as hurricanes, also pose a significant risk to the species.

In general, open, freshwater and wetlands provide prime foraging areas for bats. During the dry season, bats become more dependent on remaining ponds, streams, and wetland areas for foraging. The presence of roosting habitat is also critical (e.g., tree cavities and spaces under roof tiles). The population size is not known, and no population viability analyses are available. Anecdotal evidence from the 1950s and 1960s suggests that this species was more common along Florida's southeast coast compared with the present. Collaborative

conservation efforts have focused on: (1) conducting acoustic surveys within the species' historic range to better understand movements and threats, and to refine delineation of the range; (2) locating natural roosts and identifying factors influencing roost selection; (3) evaluating impacts to individuals living in and around urban areas; (4) using various techniques to accurately and safely monitor existing populations; and (5) increasing public awareness of this endangered species.

In 2022, the Service designate critical habitat in approximately 1.2 million acres across nine units in 13 counties throughout central and south Florida. Critical habitat, as defined by the ESA, is a specific geographic area that contain features essential to the conservation of a threatened or endangered species that may require special management and protection. Critical habitat may include areas that are not currently occupied by the species but are essential for its conservation.

### **Impacts of Affected Resources**

#### *Alternative A*

An increase in development could increase the number of potential roost sites. However, whether the increase in the artificial roost sites will be less than, equal to, or surpass the number of natural roost sites lost to development will depend on where the development occurred.

The Service will be unable to work with conservation partners to protect any of the critical habitat designated for Florida bonneted bat within the Conservation Area. The continued degradation of quality aquatic resources will reduce the foraging habitat available to this species, while the loss of trees will decrease the availability of suitable roosting locations. Because this bat species only produces one pup per breeding season, losing potential roost sites will likely be especially devastating. However, information about this species is limited. Therefore, it is difficult to predict further the adverse impacts of the No Action Alternative on the Florida bonneted bat.

#### *Alternative B*

The Conservation Area lies within areas where the Florida bonneted bat and designated critical habitat is known to occur. Through fee-title acquisition and conservation easements, habitat that supports the Florida bonneted bat will be protected resulting in positive impacts to the species. The Service expects this proposal will support the Florida bonneted bat, especially in areas where pine flatwoods exist.

### **West Indian Manatee**

#### **Affected Environment**

West Indian manatees (*Trichechus manatus*) are one of North America's largest coastal marine mammals. The U.S. Department of Interior downlisted the West Indian manatee in 2017 from endangered to threatened under the federal Endangered Species Act. Manatees are protected under the Endangered Species Act and the Marine Mammal Protection Act. Manatees migrate through fresh, brackish, and marine water, maintaining a seasonal distribution based on water temperatures. They can be found in many waterways throughout Florida and within the Conservation Area. Distribution is affected by aquatic vegetation availability, proximity to channels of at least 2 m in depth, and the location of freshwater sources. Because of their low speed and high buoyancy, manatees are often killed by vessels, which is the primary cause of human-related mortality. Manatees are also negatively impacted by changing water temperatures and red tides.

Intensive coastal development throughout Florida poses a long-term threat to the Florida manatee. There are three major approaches to address this problem listed in the recovery plan (USFWS 2001).

1. FWS, FWC, Georgia Department of Natural Resources (GDNR), and other recovery partners review and comment on applications for federal and State permits for construction projects in manatee habitat areas and to minimize their impacts. Under section 7 of the ESA, FWS annually reviews hundreds of permit applications to the COE for construction projects in waters and wetlands that include or are adjacent to important manatee habitat. FWC and GDNR provide similar reviews to their respective State's environmental permitting programs.
2. The development of county manatee protection plans. The provisions of these plans are anticipated to be implemented through amendments to local growth management plans under the Florida's Local Government Comprehensive Planning and Land Development Regulation Act of 1985. In addition to boat speed rules, manatee protection plans are to include boat facility siting policies and other measures to protect manatees and their habitat.
3. Both FWS and the State of Florida have taken steps to acquire and add new areas containing important manatee habitat to federal and State protected area systems. Both the State of Florida and FWS are continuing cooperative efforts with a view towards establishing a network of important manatee habitats throughout Florida.

### **Impacts of Affected Resources**

#### *Alternative A*

The Service could not collaborate with its partners to protect important acreage within the Conservation Area from commercial, industrial, residential, and agricultural development, which will likely result in the continued degradation of water resources and decreased quality of the aquatic habitat available to manatees. Decreased water quality could alter aquatic plant composition and abundance, reducing this species' food availability. If decreasing water quality were to be accompanied by an increase in turbidity, it might make it difficult for boaters to spot manatees, likely increasing vessel-related injuries and mortalities.

#### *Alternative B*

The Preferred Action Alternative will support the three major approaches to address threats to manatee populations in Florida resulting in positive benefits. Working with partners and collaboration to address threats to manatees in the Conservation Area will improve habitat quantity and quality for this species. Water quality and restoration of water resources through conservation and protection under Alternative B will improve habitat and food availability.

### **Florida Panther**

#### **Affected Environment**

The federally Endangered Florida panther (*Puma concolor coryi*) once roamed much of the southeastern United States but has been extirpated from most of its historical range. It is now restricted to less than 5% of its former range (Frakes et al. 2015), with remaining Florida panthers comprising a small population in southwest Florida.

Historically occurring throughout the southeastern United States, the Florida panther today is restricted to one breeding population located in south Florida. The panther population has increased from an estimated 12-20 (excluding kittens) in the early 1970s to an estimated 120 to 230 in 2023. Florida panthers use wetlands, swamps, upland forests, and stands of saw palmetto and are wide-ranging, requiring large, contiguous areas of suitable habitat to satisfy their energetic, reproductive, and social needs (USFWS 2008). Panther habitat continues to be

lost to urbanization, residential development, conversion to agriculture, and mining (USFWS 2008), making habitat loss, degradation, and fragmentation among its greatest threats. Florida panthers are also susceptible to traffic-related mortality (Schwab 2006), with 25 deaths being attributed to vehicle mortality in 2022 (FWC n.d.a). Using telemetry data collected from 2004 to 2013, Frakes et al. (2015) identified 5579 km<sup>2</sup> of suitable breeding habitat remaining in southern Florida, 1399 km<sup>2</sup> of which is in non-protected private ownership.

The recovery strategy for the Florida panther is to maintain, restore, and expand the panther population and its habitat in south Florida, expand this population into south-central Florida, reintroduce at least two additional viable populations within the historic range outside of south and south-central Florida, and facilitate panther recovery through public awareness and education.

The 2008 Panther Recovery Plan indicates that delisting would be considered when:

- Three viable, self-sustaining populations of at least 240 individuals (adults and subadults) each have been established and subsequently maintained for a minimum of twelve years; and
- Sufficient habitat quality, quantity, and spatial configuration to support these populations is retained/protected or secured for the long-term.

The recent conservation acquisitions of key properties along the north and south bank of the Caloosahatchee River have occurred to secure a key corridor that panthers can use to extend the population's range northward into South-central Florida.

### **Impacts of Affected Resources**

#### *Alternative A*

The No Action Alternative will prevent the Service from collaborating with its partners to protect, manage, and restore panther habitat within the Conservation Area, leaving millions of acres vulnerable to commercial, industrial, agricultural, and residential development. Development will lead to habitat loss, fragmentation, and degradation, reducing the panther's available range and food sources and increasing the risk of human-panther conflicts. Development also increases the human population density, leading to more vehicle injuries and fatalities among panthers.

#### *Alternative B*

The Conservation Area is a key link to the recovery of the panther in south Florida. The Conservation Area will secure a conservation corridor that will allow panthers to extend the existing core population from its current restricted range to suitable habitats increasing the range and size of the population.

## REPTILES

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

See Environmental Trends, Planned Actions, and Cumulative Impacts under Biological Resource above.

### **Blue-Tailed Mole Skink and Sand Skink**

#### **Affected Environment**

The blue-tailed mole skink (*Eumeces egregius lividus*) is a small, fossorial lizard that occupies dry upland habitats and is federally listed as threatened. The blue-tailed mole skink is one of five subspecies differentiated by coloration and morphology. It only occurs in Osceola County and on the southern Lake Wales Ridge in Polk

and Highlands counties (USFWS 2021b). Because they spend much of their time beneath the surface of the sand, they are relatively difficult to study. Therefore, most studies have merely looked for presence or absence and have not provided population estimates or densities, so it is difficult to make inferences or conclusions about population or demographic trends (USFWS 2021b). Its habitat comprises dry upland communities, including rosemary and oak-dominated scrub, turkey oak barrens, dry and longleaf pine savanna, and dry hammocks. Habitat loss, fragmentation, and land use change threaten the species, and active management is necessary to maintain suitable habitats. Fire suppression, improper stand management, competition by invasive plant species, and loss of genetic diversity also threaten the existence of the bluetail mole skink.

The sand skink (*Neoseps reynoldsii*) is federally listed as threatened and is a small, fossorial lizard that occurs on the sandy ridges of interior central Florida from Marion County south to Highlands County (USFWS 1999). The sand skink is widespread in native dry uplands with sandy substrates (USFWS 1999). Due to the fossorial nature of this species, it is difficult to obtain population estimates. Commonly occupied native habitats include Florida scrub and scrubby flatwoods and high pine communities that include sandhill, longleaf pine/turkey oak, turkey oak barrens, and dry hammock. The species is threatened by habitat loss, fragmentation, and land use change, and active management is necessary to maintain suitable habitats. Fire suppression, improper stand management, competition by invasive plant species, and loss of genetic diversity also threaten the existence of the sand skink.

Because these skinks live a fossorial or underground lifestyle and are difficult to study, the Service lacks the demographic information necessary to complete a population viability analyses. Except for a few locations, the Service has little information about status and trends. Most skink studies have documented skink presence or absence or have estimated densities at specific locations but have not provided population estimates. Because of the ongoing habitat loss and degradation within the Conservation Area, it is likely that overall populations of both species are declining. Habitat conversion has reduced skink habitat and populations of both skinks are declining. The limiting factor for skink recovery is an adequate amount of suitable habitat. Potentially suitable habitat has experienced degradation through fire exclusion. Skinks require early successional habitat that has many open sandy patches; fire suppression causes the vegetation to grow dense and fill in the sandy patches.

This proposal will support the listed recovery plan goals for the sand skink and bluetail mole skink.

- Control exotic species.
- Compile distribution data for sand skinks from all available sources.
- Protect sand skinks on public lands.
- Protect sand skinks on private lands.
- Develop standardized survey techniques.
- Continue federal acquisition efforts for the sand skink.
- Support State acquisition efforts.
- Encourage acquisition by non-governmental organizations.
- Develop scrub habitat management guidelines.
- Develop cooperative scrub management programs.
- Control off-road access.
- Control overgrowth.
- Conduct research to determine habitat needs for this species.
- Monitor status of sand skink habitat.
- Increase public awareness of the scrub ecosystem.
- Conduct distribution surveys to determine additional sites in need of protection.



- Control pesticide use in or adjacent to sand skink habitat.
- Support studies of reproduction, fecundity, and longevity.
- Monitor sand skink populations.
- Increase public awareness of sand skinks.

### **Impacts of Affected Resources**

#### *Alternative A*

Pike et al. (2008) indicated that skinks can occupy degraded or converted habitats, including overgrown scrub, pine plantations, citrus groves, old fields, or pastures, if soil types are suitable regardless of vegetation cover. However, it is unclear if the skink densities and reproductive success in these altered habitats are like those of native skink habitats.

Under the No Action Alternative, the continued development of xeric soils and scrub habitats along with agriculture; incompatible forestry practices, unplanned fire, recreational activities, and resource extraction; road construction; and invasive species (FWC 2016) will likely reduce the quality of and fragment native skink habitat.

#### *Alternative B*

The sandhill, scrub, and scrubby pine flatwoods habitats within the Conservation Area still contain many patches of open sand that are suitable for maintaining skink populations. Under Alternative B, protecting and managing suitable habitat will likely increase, decreasing invasive species and fragmentation of habitats. Appropriate management activities on fee-title lands within the Conservation Area will also improve habitat, increasing reproductive success and native habitats for this species.

### **Eastern Indigo Snake**

#### **Affected Environment**

The federally threatened eastern indigo snake (*Drymarchon couperi*) is the longest non-venomous snake in North America, reaching 8.5 feet. It is currently declining (USFWS 2019d). This snake is a habitat generalist and does not require any specific habitat. It is often found in close association with gopher tortoise burrows. This snake's range has been reduced to portions of southern Georgia and Florida. In Florida, the eastern indigo snake has been documented throughout the State (Enge et al. 2013, USFWS 2019e). Suitable habitat includes pine flatwoods, scrubby flatwoods, high pine (dry and longleaf pine savanna), dry prairie, tropical hardwood hammock, the edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats. Threats to this species include the loss, degradation, and fragmentation of habitat and vehicle mortality.

The specific recovery actions include:

- Delineate populations.
- Acquire and/or manage necessary habitat.
- Determine habitat needs.
- Study population ecology, movements, and food habits.
- Prohibit gassing tortoise burrows on public land.
- Evaluate pesticide effects.
- Develop population monitoring methods.
- Monitor population and habitat trends.

- Produce and distribute educational materials.
- Seek cooperation of owners and leaseholders of large tracts of sandhill habitat.

The *Recovery Plan for the Eastern Indigo Snake* (USFWS 2019f) includes the following recovery actions that will be supported by this project:

- Initiate and continue long-term monitoring on selected protected sites across the range of the species.
- Protect habitat via land acquisition along corridors of known occupied habitats, such as the river corridors of southeastern Georgia and the central ridge systems of Florida.
- Promote habitat restoration and appropriate management on occupied lands in public ownership.

### **Impacts of Affected Resources**

#### *Alternative A*

Habitat modification and destruction of the eastern indigo snake habitats within the Conservation Area will likely continue. Eastern indigo snakes have large home ranges and travel great distances, especially males; therefore, habitat fragmentation may be especially troublesome (USFWS 2019d). As urbanization of natural areas progresses, fragmented habitat patches will become smaller, probably sustaining fewer snakes and creating islands of fragmented habitat with little or no connectivity in a landscape of unsuitable habitat. The increased traffic associated with development will likely cause more vehicle-related fatalities, potentially negatively affecting this species' population (Godley and Moler 2013). This development will also negatively impact the gopher tortoise, the burrows of which eastern indigo snakes use for breeding, feeding, and sheltering. Thus, a decrease in the availability of these burrows will likely adversely affect eastern indigo snake populations.

#### *Alternative B*

The Conservation Area provides substantial natural and semi-natural habitats that support the eastern indigo snake and gopher tortoises. Protecting native upland habitats as well as improving public awareness will support recovery goals of this species. Dry prairie, scrub and sandhill, pine flatwoods and mesic temperate hammock habitats currently in private ownership in the Conservation Area that could possibly be acquired will assist in the recovery of indigo snakes.

#### *State/ At-Risk Species*

### BIRDS

#### **Black-Whiskered Vireo**

##### **Affected Environment**

In the U.S., the black-whiskered vireo's (*Vireo altiloquus*) breeding range is limited to southern Florida's coastal mangroves and hardwood forests. In Florida, this species is most abundant in mangrove forests, probably due to the lack of suitable areas of lowland subtropical and dry limestone forests (Chace et al. 2020). Black-whiskered vireos may be susceptible to brood parasitism by the shiny cowbird (*Molothrus bonariensis*) (Chace et al. 2020). High parasitism rates on the black-whiskered vireo in many portions of its range have led to concerns about the negative impact of parasitism on the black-whiskered vireo's reproductive success. These birds are also vulnerable to habitat loss and may be sensitive to urbanization (Bancroft et al. 1995).

## **Impacts of Affected Resources**

### *Alternative A*

The No Action Alternative will likely result in these species' mangrove swamp habitat being adversely impacted by several threats, including coastal development; harmful algal blooms; incompatible recreation, industrial operations, beach nourishment, impoundments, and dam operations; invasive species; surface and groundwater withdrawal; the construction of roads, bridges, and causeways; and nutrient loading caused by urbanization (FWC 2016). The adverse impacts of these threats will likely decrease the availability of suitable habitats, resulting in population decreases.

### *Alternative B*

Under Alternative B, protecting and managing suitable habitat within the Conservation Area will likely increase, decreasing invasive species and fragmentation of habitats. Appropriate management activities on fee-title lands within the Conservation Area will also improve habitat, increasing reproductive success and native habitats for this species.

## **Florida Burrowing Owl**

### **Affected Environment**

The Florida burrowing owl (federal bird of conservation concern and State species of special concern) is a small, ground-nesting owl that prefers well-drained open habitats, such as dry prairie and rangeland. The Florida burrowing owl often nests in abandoned gopher tortoise burrows. Individuals of this species are widely distributed throughout the State. Historically, Florida burrowing owls (*Athene cunicularia floridana*) lived in treeless, open areas with little understory vegetation and well-drained, loose soils suitable for burrows, sometimes using burrows built by gopher tortoises (*Gopherus polyphemus*). However, clearing for development, the conversion of woodland into pastures, and the draining and filling of wetlands have facilitated the movement of this species into suburban areas (Millsap and Bear 2000, Millsap 2002). Recent population estimates for this species are lacking. In 1990, Millsap and Bear (1990) estimated that the adult population numbered between 3,000 and 10,000. The main threat to this species is habitat loss, though predation, heavy flooding, harassment, and vehicle strikes are also detrimental.

## **Impacts of Affected Resources**

### *Alternative A*

The No Action Alternative will likely result in more development in southwest Florida. Some development like airports, golf courses, and pastures could create additional habitat for this species. However, whether this additional habitat will be less than, equal to, or greater than the amount of habitat destroyed by development is unknown.

The No Action Alternative will negatively impact the Florida burrowing owl population, mainly from habitat destruction, degradation, and fragmentation. The construction of residential, commercial, and industrial, areas will likely decrease the habitat available to this species. Road construction and the associated increase in traffic will fragment suitable habitats and likely cause more vehicle-related injuries and fatalities. Further, incompatible recreation and human disturbance could negatively impact Florida burrowing owls. Lastly, fire suppression could make understory vegetation denser, making it difficult for this species to construct the underground burrows they use for sheltering and breeding.

### *Alternative B*

The Conservation Area contains large areas of native prairie and improved pasture containing gopher tortoise burrows that provide excellent nesting opportunities for this small owl. Under Alternative B, protecting and managing suitable habitat will likely increase, decreasing invasive species and fragmentation of habitats. Appropriate management activities on fee-title lands within the Conservation Area will also improve habitat, increasing reproductive success and native habitats for this species.

## **Florida Sandhill Crane**

### **Affected Environment**

The Florida sandhill crane (*Grus canadensis pratensis*) is a federal bird of conservation concern and State threatened. It is the non-migratory subspecies of the sandhill crane (*Grus canadensis*), a large wading bird that nests in freshwater marshes or wet prairies surrounded by open water to protect the nest from terrestrial predators. The Florida sandhill crane forages in the wetlands and adjacent native prairie and improved pasture. Nesbitt and Hatchitt (2008) estimated the statewide population of Florida sandhill cranes at 4,594 individuals in 2003. Nesbitt and Hatchitt (2008) also estimated that suitable habitat declined by 16.6% during each ten-year increment from 1974 to 2003, making habitat loss one of the primary threats to this species.

### **Impacts of Affected Resources**

#### *Alternative A*

Continued habitat loss and modification due to commercial, residential, industrial, and agricultural development will be expected. These activities will likely cause a decrease in wetland quality from runoff pollution. Increasing road construction and traffic volumes associated with expanding urbanization could cause more vehicle collisions because sandhill cranes sometimes forage in grassy areas along transportation routes.

#### *Alternative B*

The Conservation Area contains large amounts of wetland and upland habitats suitable for Florida sandhill crane nesting and foraging. Under Alternative B, protecting and managing suitable habitat will likely increase, decreasing invasive species and fragmentation of habitats. Appropriate management activities on fee-title lands within the Conservation Area will also improve habitat, increasing reproductive success and native habitats for this species.

## **Mangrove Cuckoo**

### **Affected Environment**

Mangrove cuckoos (*Coccyzus minor*) occupy mangrove forests in southern Florida. Due to their secretive nature and the inaccessibility of mangrove forests, the mangrove cuckoo is extremely understudied. In Florida, the restriction of this species to coastal areas makes it highly susceptible to habitat loss, fragmentation, and human encroachment (Karim 2007). Thus, an overall decline in density is likely due to the continued removal of mangroves and coastal plant communities for residential and recreational development. Mangrove cuckoos may also be vulnerable to catastrophic disease outbreaks, with significant declines between 2000 and 2008 in the Ten Thousand Islands possibly caused by West Nile virus (Lloyd and Doyle 2011). Climate change could also negatively impact this bird's low-lying habitat.

## **Impacts of Affected Resources**

### *Alternative A*

The No Action Alternative will likely result in these species' mangrove swamp habitat being adversely impacted by several threats, including coastal development; harmful algal blooms; incompatible recreation, industrial operations, beach nourishment, impoundments, and dam operations; invasive species; surface and groundwater withdrawal; the construction of roads, bridges, and causeways; and nutrient loading caused by urbanization (FWC 2016). The adverse impacts of these threats will likely decrease the availability of suitable habitats, resulting in population decreases.

### *Alternative B*

Under Alternative B, protecting and managing suitable habitat within the Conservation Area will likely increase, decreasing invasive species and fragmentation of habitats. Appropriate management activities on fee-title lands within the Conservation Area will also improve habitat, increasing reproductive success and native habitats for this species.

## **Swallow-Tailed Kite**

### **Affected Environment**

The swallow-tailed kite (*Elanoides forficatus*) is a black and white raptor with a forked tail that arrives in Florida to breed in early March. They require tall trees in open pine woods near marsh or prairie, cypress swamps, or other riverside swamp forests with abundant prey. Historically, the swallow-tailed kite's breeding range covered most southeastern states, extending north to the Great Lakes. However, their range has been restricted to the southeastern Atlantic and Gulf coast states since the 1940s (Meyer 2020). The biggest threat to this bird is habitat loss, which forces them to nest in flimsy trees, making their nests susceptible to wind damage.

Once widespread, the swallow-tailed kite (federal bird of conservation concern) has disappeared from much of its historic range because of forested wetland loss resulting from excessive logging. Migrating between South America and the United States, many swallow-tailed kites nest in Florida. These kites require mature forested wetlands and pinelands for nesting and pre-migration roosting, and marshes and prairies for foraging. The Fisheating Creek Basin is known to host one of the most important roost sites for this species.

## **Impacts of Affected Resources**

### *Alternative A*

Some destruction and degradation of the wetland forests used by swallow-tailed kites will be expected due to residential, commercial, industrial, and agricultural development. Habitat destruction will likely force swallow-tailed kites on flimsy trees, resulting in lower reproductive success due to wind throw. Further, the development will likely alter hydrology and increase the volume of polluted runoff entering wetland forests. Invasive species could also become problematic without appropriate management.

### *Alternative B*

The Conservation Area offers multiple opportunities for habitat protection and management (including thinning and prescribed fire), which could improve and enhance use by swallow-tailed kites. The Conservation Area provides nesting habitat (i.e., mature cypress trees) for swallow-tailed kites. But more importantly, there is a communal roost in the southern end of the Conservation Area that serves as a staging and foraging area for approximately 60 percent of the overall kite population prior to their annual migration to the Yucatan Peninsula. The quantity and quality of the insect forage base here is critical for the successful migration across hundreds

of miles of ocean. By improving overall conditions in this area for insect production (i.e., through wetland restoration), and protection or restoration of cypress wetlands, the proposal will increase the number of swallow-tailed kites in Florida.

## **Wading Bird Guild**

### **Affected Environment**

Thirteen species of long-legged wading birds may occur in the Conservation Area, including the American bittern (*Botaurus lentiginosus*), least bittern (*Ixobrychus exilis*), glossy ibis (*Plegadis falcinellus*), white ibis (*Eudocimus albus*), great egret (*Ardea alba*), snowy egret (*Egretta thula*), great blue heron (*Ardea herodias*), green heron (*Butorides virescens*), little blue heron (*Egretta caerulea*), tricolored (Louisiana) heron (*Egretta tricolor*), black-crowned night-heron (*Nycticorax nycticorax*), yellow-crowned night-heron (*Nyctanassa violacea*), and roseate spoonbill (*Platalea ajaja*). These species are indicators of the overall health of ecosystems because they require shallow water with abundant prey for foraging and shrubs or trees for nesting.

### **Impacts of Affected Resources**

#### *Alternative A*

The No Action Alternative will leave suitable wetland habitats, which wading birds rely on for feeding, breeding, and sheltering, vulnerable to development. Urban and agricultural development will likely alter hydrological patterns and reduce the availability of suitable habitats. Urbanization and agriculture could also cause increased predation by urban-dwelling predators (e.g., raccoons) and more pollutants to enter the watershed, degrading wetland habitats. Further, incompatible recreation could decrease wading birds' foraging and reproductive success due to repeated disturbance.

#### *Alternative B*

Protection and restoration of key wetland habitats within the Conservation Area from development, disturbance, fragmentation will benefit these species. Management using time and space zoning for wildlife-dependent recreational activities on Service-owned fee-title lands will also increase protection of this species from disturbance and increase nesting and foraging success.

## **Mammals**

### **Big Cypress Fox Squirrel and Southeastern Fox Squirrel**

#### **Affected Environment**

The Big Cypress fox squirrel (*Sciurus niger avicennia*) is a mostly ground-dwelling species. It can be found in natural and human-dominated landscapes, including live oak woods, coastal broadleaf evergreen hammocks, tropical hardwood forests, slash pine savannah, mangrove swamps, golf courses, suburban neighborhoods, and parks (Williams and Humphrey 1979, Humphrey and Jodice 1992, Hafner et al. 1998). This species inhabits the Everglades region in Lee County to the southern part of Dade County. Big Cypress fox squirrels are vulnerable to squirrel pox virus, land use change, and fire suppression.

Southeastern fox squirrels (*Sciurus niger niger*) are found throughout Florida, occupying open, fire-maintained longleaf pine, turkey oak, sandhills, and flatwoods. They eat longleaf pine seeds and turkey oak acorns but will also eat fungi, fruit, and buds. Fox squirrels are an important ecosystem component, dispersing seeds, serving as a food source to predators, and eating ectomycorrhizal fungi (Johnson 1996). This species is mainly threatened by habitat loss, fire suppression, and vehicular mortality.

## **Impacts of Affected Resources**

### *Alternative A*

Some of the habitats used by the Big Cypress and southeastern fox squirrel within the Conservation Area will likely undergo land use change, being converted into residential, commercial, agricultural, and industrial areas. Incompatible management, like fire suppression, will allow understory growth and make previously suitable habitats uninhabitable. Without appropriate management, viruses like squirrel pox could become more common in the squirrel population. Under the No Action Alternative, we will expect additional losses of the Big Cypress fox squirrel and southeastern fox squirrel habitat [sandhills, high pine (dry, longleaf pine savanna), pine flatwoods, pastures, and other open, ruderal habitats with scattered pines and oaks]. If the overall abundance of oak trees decreases with the No Action Alternative, these squirrels will lose some of their important seasonal food and nesting materials.

### *Alternative B*

The Service will collaborate with partners to strategically conserve habitats used by these species within the Conservation Area, increasing management, restoration, and enhancement through use of prescribed fire and other mechanical tools. Further, the Service could conduct research to help inform decisions regarding these species and coordinate with other federal agencies, State agencies, non-governmental organizations, and Tribal Nations to implement landscape-scale conservation efforts.

## **Everglades Mink**

### **Affected Environment**

The Everglades mink (*Mustela vison evergladensis*) is a midsized member of the weasel family that is not well understood. It inhabits shallow, freshwater marshes in southern Florida (Humphrey and Setzer 1989, Humphrey 1992) and feeds on small mammals, snakes, and insects (Humphrey 1992). The Everglades mink faces many threats, including habitat loss and degradation due to development, logging, pesticide use, and wetland modification (Humphrey and Zinn 1982, Humphrey 1992). In addition, the introduction of Burmese pythons (*Python bivittatus*) and canine distemper into mink habitat could result in increased mortality.

## **Impacts of Affected Resources**

### *Alternative A*

Land use change, including agricultural, commercial, residential, and industrial development, will likely destroy some of the shallow freshwater habitats used by minks within the Conservation Area. Such development could alter hydrology and increase runoff pollution, adversely affecting this species. Wetland drainage, road construction, canal construction, and logging will likely further alter the hydrology of some shallow freshwater habitats, negatively impacting the Everglades mink population in southwest Florida. In addition, a lack of management could increase invasive species like the Burmese python, wherein more predations will be expected. Finally, a lack of management could also increase the prevalence of canine distemper, a deadly virulent disease affecting the mink's central nervous, respiratory, and digestive systems.

### *Alternative B*

The Service could collaborate with partners to strategically conserve habitats within the Conservation Area used by these species, decreasing chances of development and its associated negative impacts. The Service will also be able to manage, restore, and enhance habitats to benefit these species and the habitats on which they depend. Under Alternative B, protecting and managing suitable habitat will likely increase, decreasing

invasive species and fragmentation of habitats. Appropriate management activities on fee-title lands within the Conservation Area will also improve habitat, increasing water quality and management.

## **Reptiles**

### **Eastern Diamondback Rattlesnake**

#### **Affected Environment**

The eastern diamondback rattlesnake (*Crotalus adamanteus*), a solitary ambush predator, is the largest rattlesnake species in the United States by length and weight. This species is currently under review for federal listing. Its range includes eastern Louisiana, southern Mississippi, Alabama, Georgia, eastern South Carolina, southern North Carolina, and all of Florida. This species, whose pre-settlement habitat was longleaf pine (Means 2006), is declining (Martin and Means 2000, Timmerman and Martin 2003) due to habitat loss. Eastern diamondback rattlesnakes also use pine flatwoods, wiregrass areas, and turkey oak habitats. They avoid inclement weather by sheltering in gopher tortoise burrows, armadillo holes, stump holes, and root channels.

#### **Impacts of Affected Resources**

##### *Alternative A*

The development of the diamondback rattlesnake's preferred habitat, which includes longleaf pine savannas, pine flatwoods, wiregrass areas, and turkey oak habitats, will be expected. Urbanization will make it difficult to conduct the prescribed fire necessary to prevent the growth of oaks and other hardwood trees and promote the germination of pine trees and plants, leading to habitat degradation. An increase in development will also create more traffic, which could lead to more vehicle fatalities.

##### *Alternative B*

The Conservation Area provides substantial natural and semi-natural habitats that support this snake species. Protecting native upland habitats as well as improving public awareness will support recovery goals of this species. Management of longleaf pine habitats currently in private ownership in the Conservation Area will assist in the recovery of the rattlesnake.

### **Gopher Tortoise**

#### **Affected Environment**

The federally threatened gopher tortoise (*Gopherus polyphemus*) belongs to a group of land tortoises that originated in North America 60 million years ago, making it one of the oldest living species. It can be found throughout Florida and in the southern portions of Georgia, South Carolina, Mississippi, Alabama, and the tip of eastern Louisiana. Gopher tortoises require well-drained, sandy soils for burrowing and nest construction (Landers et al. 1980, Auffenberg and Franz 1982). Longleaf pine and oak uplands, dry hammock, sand pine and oak ridges (beach scrub), and ruderal (disturbed) habitats most often provide the conditions necessary to support gopher tortoises (Auffenberg and Franz 1982). Gopher tortoises' burrows provide homes for other animals, including indigo snakes, gopher frogs, mice, foxes, skunks, opossums, rabbits, quail, armadillos, burrowing owls, snakes, lizards, frogs, toads, and other invertebrates (up to about 250 other species of animals).

Recovery actions for those populations that will be supported by this proposal include those listed.

- Protection and management of publicly owned habitat.
- Population survey.
- Assess range-wide status.



- Law enforcement strategy.
- Protection and management of private lands.
- Cooperative agreements.
- Research population viability.
- Telemetry studies.
- Relocate reproductively isolated tortoises.

### **Impacts of Affected Resources**

#### *Alternative A*

Gopher tortoise habitat within the Conservation Area will likely continue to be developed and modified to accommodate commercial, residential, agricultural, and industrial uses. Although gopher tortoises can sometimes survive in disturbed areas, such habitats support lower population densities than undisturbed habitats. Thus, population declines will be expected due to habitat destruction and modification from these activities. Because upwards of 350 other species rely on gopher tortoise burrows for feeding, breeding, and sheltering, decreasing gopher tortoise populations will likely negatively impact the broader ecosystem.

#### *Alternative B*

The preferred alternative will positively impact gopher tortoise, allowing the Service to collaborate with partners to conserve, restore, and manage upland habitats; manage upland invasive species; enhance and manage wildlife-dependent recreational uses; and educate the public about gopher tortoise life history.

### **Florida Scrub Lizard Affected Environment**

The Florida scrub lizard (*Sceloporus woodi*) is under review for federal listing. They are endemic to Florida, with three disjunct populations within the peninsula. Florida scrub lizards occur in dry upland habitats with open, sandy areas near vegetation that provide shade, cover, and perch sites. Scrub habitat is naturally fragmented, but agriculture and development have caused significant additional fragmentation, threatening the species (Adkins Giese et al. 2012). In addition, fire suppression, which can transform scrub habitats into dry hammocks or sand pine forests with unfavorable conditions (Greenberg et al. 1994, Tiebout and Anderson 2001), is also a threat.

### **Impacts of Affected Resources**

#### *Alternative A*

Within the Conservation Area, some dry uplands, such as scrub, sandhill, and scrubby flatwoods, will be converted into commercial, industrial, residential, and agricultural areas, reducing the habitat available to this species. As development spreads, conducting the prescribed burning necessary to maintain the Florida scrub lizard's optimal habitat conditions will be more challenging, resulting in habitat degradation.

#### *Alternative B*

Dry uplands that this species uses will be managed and protected under Alternative B. Prescribed fire could be utilized on lands acquired by the Service resulting in habitat enhancement for this species. The Service could work with partners to further protect this species and habitat within the Conservation Area.

## **Gopher Frog**

### **Affected Environment**

The gopher frog is currently under review for listing. The gopher frog (*Lithobates capito*) is endemic to upland, fire-maintained pine forests in the southeastern coastal plain and requires open, isolated wetlands for breeding and often shelters in gopher tortoise burrows. They occupy the coastal plains of Georgia, South Carolina, North Carolina, and most of Florida. Gopher frogs face various threats, including habitat loss and alteration, off-road vehicles, climate change, predation, and disease.

### **Impacts of Affected Resources**

#### *Alternative A*

Some of the longleaf pine, xeric oak, sandhills, and ponds used by gopher frogs within the Conservation Area will likely be converted into residential, commercial, agricultural, or industrial areas. The accompanying increase in runoff pollutants could decrease water quality and reduce this species' reproductive success. Further, without proper management, off-road vehicles could degrade suitable habitats, and the accidental or intentional introduction of predatory fish into otherwise predator-free ponds could also adversely affect reproductive success. In addition, incompatible management like fire suppression will likely alter habitats, making suitable habitats unsuitable. These impacts will also affect the gopher tortoise, whose burrows the gopher frog depends on for survival.

#### *Alternative B*

The Service could use less-than-fee conservation easements and fee-title acquisitions within the Conservation Area to reduce residential, commercial, and industrial development and prevent the destruction, degradation, and fragmentation of suitable gopher frog habitat. By decreasing development, the Service will contribute to conserving the gopher frog by reducing the introduction of new pollution sources that could degrade water quality and adversely affect gopher frog populations. The Service could also conduct management activities, such as prescribed fire, to maintain and restore gopher frog habitat. In addition, the Service could manage the use of off-road vehicles on its fee-title properties, which will benefit the gopher frog by preventing habitat degradation and direct mortality. These actions will also benefit the gopher tortoise, which creates burrows used by gopher frogs.

## **Short-Tailed Snake**

### **Affected Environment**

The short-tailed snake (*Lampropeltis extenuata*) is a small and slender snake adapted to digging and living underground and is currently under review for listing. This species is endemic to Florida and primarily inhabits longleaf pine and dry oak sandhills from the Suwannee River south to Highlands County. The diet of the short-tailed snake primarily consists of small smooth-scaled snakes, notably crowned snakes (*Tantilla relicta*). The clear-cutting of longleaf pine and turkey oak in their habitat negatively impacts this species by decreasing suitable habitat and prey availability.

### **Impacts of Affected Resources**

#### *Alternative A*

Habitat loss, degradation, and development will likely occur in the short-tailed snake's dry upland habitats, resulting in less suitable habitat availability. As development increases, it becomes less feasible to conduct prescribed burns, which are needed to maintain this species' habitat in optimal condition.

### *Alternative B*

The Service could collaborate with partners to conserve dry upland habitat, protecting suitable habitat for the short-tailed snake and decreasing development and its associated negative impacts within the Conservation Area. The Service could also conduct active management activities, such as prescribed burns, to maintain or restore optimal short-tailed snake habitat.

## **Hognose Snake**

### **Affected Environment**

The southern hognose snake (*Heterodon simus*) is a small, heavy-bodied colubrid that lives in sandy, upland habitats, such as fire-dependent longleaf pine habitats. This snake is still common on the Brooksville Ridge and along the Suwannee River in upland habitat. It is also present on Eglin Air Force Base (FWC n.d.b). However, populations are scarce or extirpated in Orange, Seminole, and Pinellas counties, which have undergone extensive urban development (FWC n.d.b). This species is vulnerable to habitat loss and road mortality.

### **Impacts of Affected Resources**

#### *Alternative A*

Development, including residential, commercial, agricultural, and industrial, will likely occur in the southern hognose snake's preferred sandhill and open, grassy ruderal habitats. Such development will destroy, degrade, and fragment this species' preferred habitat, likely increasing road mortality and negatively impacting population trends. Without proper oversight, people will likely continue collecting hognose snakes and keeping them as pets.

#### *Alternative B*

Through less-than-fee conservation easements and fee-title acquisitions, the Service could protect the southern hognose snake's preferred habitats, including sandhill and open grassy ruderal habitats. Such easements and acquisitions will reduce the predicted residential, commercial, and industrial development within the Conservation Area (Carr and Zwick 2016a), decreasing the destruction, degradation, and fragmentation of suitable habitat. The Service could also manage fee-title properties to benefit hognose snakes. In addition, the Service could educate the public about the importance of hognose snake conservation to reduce the instances in which the snakes are retrieved from the wild to be kept as pets.

## **At-Risk Species**

The U.S. Fish and Wildlife Service Southeast Region defines at-risk species as:

- Species petitioned for listing under the Endangered Species Act
- Candidate species for listing under the Endangered Species Act (species that warrant listing but have not been listed due to higher listing priorities and limited resources)
- Species proposed for listing under the Endangered Species Act (species with a proposed draft rule published in the federal Register)

At-risk species status and occurrence information provides a snapshot in time. Animal and plant populations move across landscapes, appearing in areas where conditions are favorable for life history needs to reproduce, grow, and shelter, and disappearing where threats appear. At-risk species knowledge and actual species status and occurrence constantly change and evolve over time and space.

**Federal, State, and At-risk Listed Species**

**EA Table 5. Common names, scientific names, type, and statuses for Federal and State-listed species (FWC 2021, USFWS 2023b).**

State Legal Status: Animals: FT = federally threatened, FE = federally endangered, ST = state-threatened, SE- state endangered, S/A = similarity of appearance, N= Not Listed, FXN=. Plants: E=endangered, T=threatened, N=not listed

Common Name	Scientific Name	Type	Federal Status	State Status
American Bird's Nest Fern	<i>Asplenium serratum</i>	Plant	Not Listed	E
American Bumble Bee	<i>Bombus pensylvanicus</i>	Insect	At-Risk	NA
American Crocodile	<i>Crocodylus acutus</i>	Reptile	Threatened	FT
American Oystercatcher	<i>Haematopus palliatus</i>	Bird	Not Listed	ST
Ashe's Savory	<i>Calamintha ashei</i>	Plant	Not Listed	T
Audubon's Crested Caracara	<i>Polyborus plancus audubonii</i>	Bird	Threatened	FT
Avon Park Harebells, Avon Park Rabbit-Bells	<i>Crotalaria avonensis</i>	Plant	Endangered	E
Banded Wild-Pine	<i>Tillandsia flexuosa</i>	Plant	Not Listed	T
Beautiful Pawpaw	<i>Deeringothamnus pulchellus</i>	Plant	Endangered	E
Big Cypress Fox Squirrel	<i>Sciurus niger avicennia</i>	Mammal	Not Listed	ST
Blue Calamintha Bee	<i>Osmia calaminthae</i>	Insect	At-Risk	N
Bluetail Mole Skink	<i>Eumeces egregius lividus</i>	Reptile	Threatened	FT
Britton's Beargrass	<i>Nolina brittoniana</i>	Plant	Endangered	E
Carter's Mustard, Carter's Warea	<i>Warea carteri</i>	Plant	Endangered	E
Clamshell Orchid	<i>Prosthechea cochleata</i>	Plant	Not Listed	E
Coastal Vervain	<i>Glandularia maritima</i>	Plant	Not Listed	E
Cowhorn Orchid	<i>Cyrtopodium punctatum</i>	Plant	Not Listed	E
Cutthroatgrass	<i>Coleataenia abscissa</i>	Plant	Not Listed	E
Delicate Ionopsis	<i>Ionopsis utricularioides</i>	Plant	Not Listed	E
Dukes' Skipper	<i>Euphyes dukesi calhouni</i>	Insect	At-Risk	N
Eastern Beard Grass Skipper	<i>Atrytone arogos arogos</i>	Insect	At-Risk	N
Eastern Black Rail	<i>Laterallus jamaicensis jamaicensis</i>	Bird	Threatened	FT
Eastern Diamondback Rattlesnake	<i>Crotalus adamanteus</i>	Reptile	At-Risk	N
Eastern Indigo Snake	<i>Drymarchon couperi</i>	Reptile	Threatened	FT
Edison's Ascyrum	<i>Hypericum edisonianum</i>	Plant	At-risk	N
Everglade Snail Kite	<i>Rostrhamus sociabilis plumbeus</i>	Bird	Endangered	FE
Everglades Mink	<i>Neovison vison evergladensis</i>	Mammal	Not Listed	ST

Common Name	Scientific Name	Type	Federal Status	State Status
Fakahatchee Guzmania, West Indian Tufted Air plant	<i>Guzmania monostachia</i>	Plant	Not Listed	E
Florida Beargrass	<i>Nolina atopocarpa</i>	Plant	Not Listed	T
Florida Bonamia	<i>Bonamia grandiflora</i>	Plant	Threatened	E
Florida Bonneted Bat	<i>Eumops floridanus</i>	Mammal	Endangered	FE
Florida Burrowing Owl	<i>Athene cunicularia floridana</i>	Bird	Not Listed	ST
Florida Golden Aster	<i>Chrysopsis floridana</i>	Plant	Endangered	E
Florida Grasshopper Sparrow	<i>Ammodramus savannarum floridanus</i>	Bird	Endangered	FE
Florida Leafwing Butterfly	<i>Anaea troglodyta floridalis</i>	Insect	Endangered	FE
Florida Loosetrife, Lowland Loosestrife	<i>Lythrum flagellare</i>	Plant	At-Risk	N
Florida Manatee	<i>Trichechus manatus latirostris</i>	Mammal	Threatened	N
Florida Panther	<i>Puma concolor coryi</i>	Mammal	Endangered	FE
Florida Perforate Cladonia, Perforate Reindeer Lichen	<i>Cladonia perforata</i>	Lichen	Endangered	E
Florida Pinesnake	<i>Pituophis melanoleucus mugitus</i>	Reptile	At-Risk	ST
Florida Prairie-Clover	<i>Dalea carthagenensis floridana</i>	Plant	Endangered	E
Florida Sandhill Crane	<i>Antigone canadensis pratensis</i>	Bird	Not Listed	ST
Florida Scrub Lizard	<i>Sceloporus woodi</i>	Reptile	At-Risk	N
Florida Scrub-Jay	<i>Aphelocoma coerulescens</i>	Bird	Threatened	FT
Florida Spiny-Pod	<i>Matelea floridana</i>	Plant	Not Listed	E
Florida Willow	<i>Salix floridana</i>	Plant	At-Risk	N
Florida Ziziphus	<i>Ziziphus celata</i>	Plant	Endangered	E
Fuzzy-wuzzy Air Plant	<i>Tillandsia pruinosa</i>	Plant	Not Listed	E
Garrett's Mint	<i>Dicerandra christmanii</i>	Plant	Endangered	E
Ghost Orchid	<i>Dendrophylax lindenii</i>	Plant	At-Risk	N
Golden Leather Fern	<i>Acrostichum aureum</i>	Plant	Not Listed	T
Gopher Frog	<i>Lithobates capito</i>	Amphibian	At-Risk	N
Gopher Tortoise	<i>Gopherus polyphemus</i>	Reptile	Threatened	ST
Hammock Rein Orchid	<i>Habenaria distans</i>	Plant	Not Listed	E
Hand Fern	<i>Cheiroglossa palmata</i>	Plant	Not Listed	E
Hartwrightia	<i>Hartwrightia floridana</i>	Plant	At-Risk	N
Highlands Goldenaster	<i>Chrysopsis highlandsensis</i>	Plant	Not Listed	E
Highlands Scrub Hypericum	<i>Hypericum cumulicola</i>	Plant	Endangered	E
Incised Groove-Bur	<i>Agrimonia incisa</i>	Plant	Not Listed	T

Common Name	Scientific Name	Type	Federal Status	State Status
Large-flowered Rosemary	<i>Conradina grandiflora</i>	Plant	Not Listed	T
Large-plumed Beaksedge	<i>Rhynchospora megaplumosa</i>	Plant	Not Listed	E
Least Tern	<i>Sternula antillarum</i>	Bird	Delisted	ST
Lewton's Polygala	<i>Polygala lewtonii</i>	Plant	Endangered	E
Little Blue Heron	<i>Egretta caerulea</i>	Bird	Not Listed	ST
Many-flowered Grass-Pink	<i>Calopogon multiflorus</i>	Plant	Not Listed	T
Meadow Jointvetch	<i>Aeschynomene pratensis</i> var. <i>pratensis</i>	Plant	At-Risk	T
Monarch Butterfly	<i>Danaus plexippus</i>	Insect	Candidate	N
Needleleaf Waternymph, Narrowleaf Naiad	<i>Najas filifolia</i>	Plant	At-Risk	T
Night-scented Orchid	<i>Epidendrum nocturnum</i>	Plant	Not Listed	E
Nodding Pinweed	<i>Lechea cernua</i>	Plant	Not Listed	T
Okeechobee Gourd	<i>Cucurbita okeechobeensis okeechobeensis</i>	Plant	Endangered	E
Papery Whitlow-Wort, Paper-Like Nailwort	<i>Paronychia chartacea</i>	Plant	Threatened	T
Piedmont Jointgrass	<i>Coelorachis tuberculosa</i>	Plant	Not Listed	T
Pigeon Wings, Scrub Pigeon-Wing	<i>Clitoria fragrans</i>	Plant	Threatened	T
Pine Pinweed	<i>Lechea divaricata</i>	Plant	Not Listed	E
Pineland Jacquemontia	<i>Jacquemontia curtissii</i>	Plant	Not Listed	T
Pinewoods Bluestem	<i>Andropogon arctatus</i>	Plant	Not Listed	T
Powdery Catopsis	<i>Catopsis berteroniana</i>	Plant	Not Listed	E
Pygmy Fringe-Tree	<i>Chionanthus pygmaeus</i>	Plant	Endangered	E
Ray Fern	<i>Schizaea pennula</i>	Plant	Not Listed	E
Red-Cockaded Woodpecker	<i>Picoides borealis</i>	Bird	Endangered	FE
Reddish Egret	<i>Egretta rufescens</i>	Bird	Not Listed	ST
Redmargin Zephyrlily	<i>Zephyranthes simpsonii</i>	Plant	Not Listed	T
Roseate Spoonbill	<i>Platalea ajaja</i>	Bird	Not Listed	ST
Sand Skink	<i>Neoseps reynoldsi</i>	Reptile	Threatened	FT
Sandlace, Small's Jointweed	<i>Polygonella myriophylla</i>	Plant	Endangered	E
Scrub Blazingstar, Florida Blazing Star	<i>Liatris ohlingerae</i>	Plant	Endangered	E
Scrub Bluestem	<i>Schizachyrium niveum</i>	Plant	Not Listed	E
Scrub Buckwheat	<i>Eriogonum longifolium</i> var. <i>gnaphalifolium</i>	Plant	Threatened	T
Scrub Lupine	<i>Lupinus aridorum</i>	Plant	Endangered	E

Common Name	Scientific Name	Type	Federal Status	State Status
Scrub Mint	<i>Dicerandra frutescens</i>	Plant	Endangered	E
Scrub Plum	<i>Prunus geniculata</i>	Plant	Endangered	E
Scrub Spurge	<i>Euphorbia rosescens</i>	Plant	Not Listed	E
Scrub Stylisma	<i>Stylisma abdita</i>	Plant	Not Listed	E
Short-leaved Rosemary	<i>Conradina brevifolia</i>	Plant	Endangered	E
Short-tailed Snake	<i>Stilosoma extenuatum</i>	Reptile	At-Risk	N
Sleeping Beauty Waterlily	<i>Nymphaea jamesoniana</i>	Plant	Not Listed	E
Small's Flax	<i>Linum carterivar. smallii</i>	Plant	Not Listed	E
Snakeroot, Wedge-Leaved Button-Snakeroot	<i>Eryngium cuneifolium</i>	Plant	Endangered	E
Southeastern American Kestrel	<i>Falco sparverius paulus</i>	Bird	Not Listed	ST
Southern Ladies'-Tresses	<i>Spiranthes torta</i>	Plant	Not Listed	E
Southern Plains Bumblebee	<i>Bombus fraternus</i>	Insect	At-Risk	N
Tailed Strap Fern	<i>Campyloneurum costatum</i>	Plant	Not Listed	E
Tampa Vervain	<i>Glandularia tampensis</i>	Plant	Not Listed	E
Tricolored Heron	<i>Egretta tricolor</i>	Bird	Not Listed	ST
West Indian Manatee	<i>Trichechus manatus</i>	Mammal	Threatened	FT
Wide-Leaf Warea	<i>Warea amplexifolia</i>	Plant	Endangered	E
Wireweed, Florida Jointweed	<i>Polygonella basiramia</i>	Plant	Endangered	E
Wood Stork	<i>Mycteria americana</i>	Bird	Threatened	FT

### **Impacts of Affected Resources**

#### *Alternative A*

The no action alternative will negatively impact the 17 federally at-risk species that occur in the Conservation Area. The projected urbanization within the Conservation Area (Southeast Conservation Adaptation Strategy 2022) and its associated effects will likely destroy, degrade, and fragment some habitats used by at-risk species. Further, fire suppression and a lack of landscape-scale management could result in lesser-quality habitat. The Service will be unable to collaborate with partners to conserve, restore, or enhance habitats used by at-risk species. Conservation of such species will depend entirely on other conservation entities.

#### *Alternative B*

The Service could collaborate with partners to strategically conserve habitats used by the 17 at-risk species, decreasing development and its associated negative impacts in the Conservation Area. The Service will also be able to manage, restore, and enhance habitats to benefit at-risk species and the habitats on which they depend. Further, the Service could conduct research to help inform decisions regarding at-risk species and coordinate

with other federal agencies, State agencies, non-governmental organizations, and Tribal Nations to implement landscape-scale conservation efforts.

#### *FEDERALLY PROTECTED PLANTS*

##### **Environmental Trends, Planned Actions, and Cumulative Impacts**

See Environmental Trends, Planned Actions, and Cumulative Impacts under Biological Resource above.

##### **Affected Environment**

The recovery plans for these plants are based primarily on preserving existing habitat (because their distribution is limited) or acquiring lands where they historically existed with the intent of reintroducing them into former areas.

The other recovery actions supporting listed plants that the proposal will support include the listed items.

- Control invasive species.
- Conduct controlled burns at appropriate times and frequencies.
- Conduct research for species needs and population stability.
- Educate and inform the public.
- Monitor species survival and distribution.
- Enforcement of illegal removal of plants.
- Develop management plans that limit access where necessary.

See EA Table 5 for the common names, scientific names, types, and statuses of federally listed plants and lichens within the Conservation Area (USFWS 2023c).

##### **Impacts of Affected Resources**

###### *Alternative A*

The Service could not contribute to the conservation of rare plant species within the Conservation Area by collaborating with partners, acquiring less-than-fee and fee-title properties, or conducting active or passive natural resource management. Development within the Conservation Area will likely destroy some habitats important to listed plant species. In addition, invasive species will continue to spread and degrade habitat. Finally, fire suppression will negatively impact listed plant species that require fire to thrive. Plant conservation within the Conservation Area will depend entirely on other conservation entities.

###### *Alternative B*

Under Alternative B, the Service could collaborate with partners to protect and restore listed plant species and their habitats by fee-title and less-than-fee-title. The Service could use various strategies, including passive and active management, to conserve vulnerable plants, such as controlling invasive species, conducting prescribed fire or allowing natural fire to return to the area, periodically monitoring plant populations to identify population and distribution trends, enforcing laws regarding the illegal removal of plants; and educate the public about the area's rare plants.

#### *FISHERY RESOURCES*

##### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

In addition to the information from Environmental Trends, Planned Actions, and Cumulative Impacts under Biological Resource above, Florida is expected to become hotter and drier and experience climate instability



(including increasing temperatures, higher high temperatures, lower low temperatures, increased heat waves, increased extreme drought, increased extreme flooding, and increased intensity and occurrence of hurricanes and other extreme weather events). Additionally, the State will see changes in water temperatures and chemistry, habitat and species assemblages, landforms and geomorphic processes, land use, human health, air temperature and chemistry, and human infrastructure and economy (Beever et. al. 2009). Near term consequences of climate change and sea level rise in Florida include: increased saltwater intrusion, likely decreased availability of freshwater for potable use, and increased risk of flooding during major rain events, while other impacts likely to be seen include more extreme precipitation patterns; shorter, wetter rainy season; extremely dry winters; increased likelihood of multi-year drought; increased risk of ground and surface water contamination from flooding; heat stress on humans and wildlife; dehydration of soils and plants' greater wildfire risk; harmful algal blooms; increased risks of impacts from insects and insect-borne diseases; and reduction of water available to human and natural systems (Heimlich et al. 2009).

**Affected Environment**

**Recreational, Non-Recreational, and Subsistence Fisheries**

The fishery resources within the Conservation Area can be generally divided into recreational (or sport) fisheries, non-recreational fisheries, subsistence fisheries, and nonnative aquatic species. EA Table 6 lists the fish species within the Conservation Area.

Non-recreational fish species add to the diversity in the Conservation Area. Some of these smaller species are important as forage for larger fish, wading birds, alligators, otters, and other predators. They are represented by the following families: sunfish (*Centrarchidae*), shad (*Clupeidae*), minnow (*Cyprinidae*), and killifish (*Cyprinodontidae*). Anywhere the public has access, there is also likely to be some subsistence fishing (including for nonnative species such as *Tilapia* spp. and other cichlids).

**EA Table 6. Fish species list occurring in the Conservation Area.  
Updated August 2023; Nonnative species are noted with an asterisk.**

<b>Common Name</b>	<b>Scientific Name</b>
African jewelfish*	<i>Hemichromis letourneuxi</i>
Amazon sailfin catfish*	<i>Pterygoplichthys pardalis</i>
American eel	<i>Anguilla rostrata</i>
Asian swamp eel*	<i>Monopterus albus</i>
Atlantic needlefish	<i>Strongylura marina</i>
Blue tilapia*	<i>Oreochromis aureus</i>
Black acara*	<i>Cichlasoma bimaculatum</i>
Black crappie	<i>Pomoxis nigromaculatus</i>
Blackchin tilapia*	<i>Sarotherodon melanotheron</i>
Bluefin killifish	<i>Lucania goodei</i>
Bluegill	<i>Lepomis macrochirus</i>
Bowfin	<i>Amia calva</i>
Brown bullhead	<i>Ameiurus nebulosus</i>

<b>Common Name</b>	<b>Scientific Name</b>
Brown hoplo*	<i>Hoplosternum littorale</i>
Brook silverside	<i>Labidesthes sicculus</i>
Bluespotted sunfish	<i>Enneacanthus gloriosus</i>
Butterfly peacock bass*	<i>Cichla ocellaris</i>
Clown knifefish*	<i>Chitala ornate</i>
Chain pickerel	<i>Esox niger</i>
Channel catfish	<i>Ictalurus punctatus</i>
Dollar sunfish	<i>Lepomis marginatus</i>
Everglades pygmy sunfish	<i>Elassoma evergladei</i>
Florida gar	<i>Lepisosteus platyrhincus</i>
Flagfish	<i>Jordanella floridae</i>
Gizzard shad	<i>Dorosoma cepedianum</i>
Golden shiner	<i>Notemigonus crysoleucas</i>
Golden silverside	<i>Labidesthes vanhyningi</i>
Golden topminnow	<i>Fundulus chrysotus</i>
Grass carp*	<i>Ctenopharyngodon Idella</i>
Green swordtail*	<i>Xiphophorus helleri</i>
Hogchocker	<i>Trinectes maculatus</i>
Inland silverside	<i>Menidia beryllina</i>
Lake chubsucker	<i>Erimyzon sucetta</i>
Least killifish	<i>Heterandria Formosa</i>
Longnose gar	<i>Lepisosteus osseus</i>
Lined topminnow	<i>Fundulus lineolatus</i>
Largemouth bass	<i>Micropterus salmoides</i>
Mayan Cichlid	<i>Cichlasoma urophthalmus</i>
Mozambique tilapia*	<i>Oreochromis mossambicus</i>
Eastern mosquitofish	<i>Gambusia holbrooki</i>
Nile tilapia*	<i>Oreochromis niloticus</i>
Okefenokee pygmy sunfish	<i>Elassoma okefenokee</i>
Orinoco sailfin catfish*	<i>Pterygoplichthys multiradiatus</i>
Oscar*	<i>Astronotus ocellatus</i>
Pirate perch	<i>Aphredoderus sayanus</i>
Pond loach*	<i>Misgurnus anguillicaudatus</i>
Pugnose minnow	<i>Opsopoedus emiliae</i>
Redbreast sunfish	<i>Lepomis auratus</i>
Redear sunfish	<i>Lepomis microlophus</i>
Redface topminnow	<i>Fundulus rubrifrons</i>
Redfin pickerel	<i>Esox americanus</i>

<b>Common Name</b>	<b>Scientific Name</b>
Red drum	<i>Sciaenops ocellatus</i>
Sailfin molly	<i>Poecilia latipinna</i>
Seminole killifish	<i>Fundulus seminolis</i>
Sheepshead minnow	<i>Cyprinodon variegatus</i>
Common snook	<i>Centropomus undecimalis</i>
Spotted sunfish	<i>Lepomis punctatus</i>
Spotted tilapia*	<i>Tilapia mariae</i>
Striped mullet	<i>Mugil cephalus</i>
Suckermouth catfish*	<i>Hypostomus plecostomus</i>
Swamp darter	<i>Etheostoma fusiforme</i>
Tadpole madtom	<i>Noturus gyrinus</i>
Taillight shiner	<i>Notropis maculatus</i>
Tarpon	<i>Megalops atlanticus</i>
Threadfin shad	<i>Dorosoma petenense</i>
Vermiculated sailfin catfish*	<i>Pterygoplichthys disjunctivus</i>
Walking catfish*	<i>Clarias batrachus</i>
Warmouth	<i>Lepomis gulosus</i>
White catfish	<i>Ameiurus catus</i>
Yellow bullhead	<i>Ameiurus natalis</i>

### **Impacts of Affected Resources**

#### *Alternative A*

The Service will be unable to collaborate with partners to protect aquatic species, including listed fish; manage, protect, or restore aquatic habitat essential to vulnerable fish species; manage invasive species; engage with the public regarding conserving aquatic resources and preventing the spread of aquatic invasive species; or expand aquatic-based recreational uses. Development will occur within the Conservation Area, negatively impacting aquatic resources by decreasing water quality. As urbanization within the Conservation Area continues, incompatible aquatic recreational uses may become more common. Further, invasive species could spread due to a lack of management. The conservation, management, and restoration of aquatic resources within the conservation will depend on other federal agencies, State agencies, non-governmental organizations, and Tribal Nations.

#### *Alternative B*

The Conservation Area will positively impact fisheries resources, allowing the Service to collaborate with partners to conserve aquatic species; conserve, restore, and enhance aquatic habitat; manage aquatic invasive species; enhance recreational uses of aquatic resources; improve water quality; and educate the public about limiting the spread of aquatic invasive species.

## *NONNATIVE AND INVASIVE ANIMALS AND PLANTS*

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

In addition to the information in Environmental Trends, Planned Actions, and Cumulative Impacts under Biological Resource above, the IPCC estimates that 20-30 percent of plant and animal species will be at risk of extinction if temperatures climb more than 1.5° to 2.5°C (Riebeek 2010). Computer models suggest that the overall climate of Florida may warm, resulting in more frequent extremely hot summer days and a longer growing season (U.S. Environmental Protection Agency undated). A warmer climate could allow heat-loving exotic plant species, such as the invasive *Melaleuca*, *Lygodium*, and cogon grass to expand their ranges. However, warmer winters lead to fewer frosts, consequently, tropical plants and trees that are vulnerable to cold temperatures may also benefit.

Facing the climate change challenge requires working on a landscape level to integrate the Service efforts with partners from other federal, State and Tribal Nations, conservation groups, academic institutions, private landowners, and recreational users. Moving forward, the Service will engage partners in a dialogue about working together to apply our resources with the best science to ensure landscapes are resilient and capable of sustaining America's fish and wildlife for generations to come.

### **Affected Environment**

The transport of species beyond their native ranges by human actions is breaking down biogeographical barriers and resulting in the global reorganization of plants and animals (Capinha et al. 2015; van Kleunen et al. 2015). More people and goods are moving further and more frequently via many different trade and transport networks under current globalization trends. These networks can play a major role in the introduction of exotic species to new locations, with global trade networks having been identified as key pathways for the unintended entry and spread of many invasive species (Hulme 2009, Chapman et al. 2017).

Florida has the second worst invasive exotic plant problem in the United States. Over 25,000 exotic plants have been introduced to Florida since the New World was discovered. With its subtropical climate, south Florida provides ideal growing conditions for the introduction and spread of non-native exotic plants. Often when these non-native plants arrive in areas where they did not ecologically evolve, there are no natural enemies or other plants that can limit their growth and spread. Without natural limits to their expansion in new environments, these non-native plants invade and dominate areas quickly, and often result in monotypic stands of non-native vegetation.

Most of the non-native plant and animal species introduced to a new area are relatively benign, pose only negligible impacts, or are beneficial (Mack et al. 2000, Aukema et al. 2010, Schlaepfer et al. 2011); yet the minority of introduced species that are invasive cause billions of dollars of damage annually (Pimental et al. 2005, Lovell et al. 2006, Aukema et al. 2011, Paini et al. 2016). Further, invasive plants and animals can alter ecosystems and ecosystem processes (Gordon 1998, Dukes and Mooney 2004, Vilà et al. 2011); negatively impact vulnerable species (Dueñas et al. 2021), including federally threatened and endangered species (Dove et al. 2011); and change biodiversity and native species abundances (Dorcas et al. 2012, Gallardo et al. 2015).

Of the approximately 4,878 plant species growing without cultivation in Florida, 1,562 are non-native (Wunderlin et al. 2023). Many non-native plants were originally introduced as garden ornamentals, crops, forages, or soil stabilizers. Others were accidentally introduced as contaminants of seed or as hitchhikers on animals or materials. Approximately 79 non-native plant species in central and south Florida have been identified as Category 1 invasives by the Florida Exotic Pest Plant Council (Florida Exotic Pest Plant Council [FLEPPC] 2019) and 83 as category 2 (EA Table 6). Category 1 invasives are exotics that are altering native plant communities by

displacing native species, changing community structures or ecological functions, or hybridizing with natives (FLEPPC 2019). In contrast, Category 2 invasives have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category 1 species (FLEPPC 2019).

Accurate statistics regarding the number of non-native fish and wildlife species documented in Florida are unavailable in the literature; however, the South Florida Water Management District (2018) and Florida Fish and Wildlife Conservation Commission (2022) suggest there are 130 or more invasive animal species reproducing in the wild in Florida. Some of the more prolific invasive fish and wildlife species are listed in EA Table 7.

The following are some of the more problematic non-indigenous, invasive animals that occur in the Conservation Area. These species can disrupt ecosystems by changing the structure of plant and animal communities or displacing native species.

#### Feral Hog

Feral hog impact native habitats through soil and vegetation disturbance by rooting, interspecific competition for resources, and predation of native flora and fauna. This species is present throughout the Conservation Area. Feral hog populations are managed through hunts and removal programs to help minimize the impacts to native wildlife and habitat.

#### Cane Toad (Marine Toad, Giant Toad)

Breeding populations of the cane toad (*Rhinella marina*) have been established in most of central and south Florida since the early 1970s; however, the cane toad is mainly associated with disturbed agricultural and residential areas. This species is a threat to native fauna. Its large size and aggressive nature allow the cane toad to out-compete and prey on native species. The toxicity of the cane toad makes it unpalatable to most potential predators; consequently, there is little predator control of the species.

#### Cuban Treefrog

The Cuban tree frog is established in all counties in the Conservation Area. It has been observed to prey on native frogs and toads. The species has the potential to disrupt and displace native species in natural habitats, and therefore, is viewed as a potential problem for restoration of native herpetofaunal communities in this landscape.

#### Non-native Apple Snails

Nonnative apple snails, Island apple snail (*Pomacea insularum*), Channeled applesnail (*P. canaliculate*), Spike-topped apple snail (*P. diffusa*), and Titan applesnail (*P. haustrum*) are present in all counties within the Conservation Area except Hardee County and Desoto County (FWC n.d.c, EDDMapS 2023). This species has potential to reduce abundance of the native Florida apple snail (*P. paludosa*), the primary food source of the endangered Everglade snail kite. Snail kite foraging on this larger nonnative snail was thought to be a problem a few years ago, but evidence now seems to indicate that all size classes of this snail are available to the kites.

**EA Table 6. Category 1 and 2 invasive species in central and south Florida. Data source: Florida Exotic Pest Plant Council (FLEPPC 2019).**

Common Name	Scientific Name	Zone	Category
Rosary Pea	<i>Abrus precatorius</i>	Central, South	1
Ear-leaf Acacia	<i>Acacia auriculiformis</i>	Central, South	1
Mimosa, Silk Tree	<i>Albizia julibrissin</i>	North, Central	1

Common Name	Scientific Name	Zone	Category
Woman's Tongue	<i>Albizia lebeck</i>	Central, South	1
Coral Ardisia	<i>Ardisia crenata</i>	North, Central, South	1
Shoe Button Ardisia	<i>Ardisia elliptica</i>	Central, South	1
Asparagus Fern	<i>Asparagus aethiopicus</i>	North, Central, South	1
Orchid Tree	<i>Bauhinia variegata</i>	Central, South	1
Bishop Wood Tree	<i>Bischofia javanica</i>	Central, South	1
Santa Maria	<i>Calophyllum antillanum</i>	South	1
Australian-Pine	<i>Casuarina equisetifolia</i>	North, Central, South	1
Suckering Australian-Pine	<i>Casuarina glauca</i>	Central, South	1
Elephant Grass, Napier Grass	<i>Cenchrus purpureus</i>	North, Central, South	1
Camphor-Tree	<i>Cinnamomum camphora</i>	North, Central, South	1
Wild Taro	<i>Colocasia esculenta</i>	North, Central, South	1
Latherleaf	<i>Colubrina asiatica</i>	South	1
Carrotwood	<i>Cupaniopsis anacardioides</i>	Central, South	1
Japanese False Spleenwort	<i>Deparia petersenii</i>	North, Central	1
Winged Yam	<i>Dioscorea alata</i>	North, Central, South	1
Air Potato	<i>Dioscorea bulbifera</i>	North, Central, South	1
Cat's-Claw Vine	<i>Dolichandra unguis-cati</i>	North, Central, South	1
Water-Hyacinth	<i>Eichhornia crassipes</i>	North, Central, South	1
Surinam Cherry	<i>Eugenia uniflora</i>	Central, South	1
Laurel Fig	<i>Ficus microcarpa</i> <sup>1</sup>	Central, South	1
Hydrilla	<i>Hydrilla verticillata</i>	North, Central, South	1
Green Hygro	<i>Hygrophila polysperma</i>	North, Central, South	1
West Indian Marsh Grass	<i>Hymenachne amplexicaulis</i>	North, Central, South	1
Cogon Grass	<i>Imperata cylindrica</i>	North, Central, South	1
Water-Spinach	<i>Ipomoea aquatica</i>	Central	1
Gold Coast Jasmine	<i>Jasminum dichotomum</i>	Central, South	1
Brazilian Jasmine	<i>Jasminum fluminense</i>	Central, South	1
Lantana, Shrub Verbena	<i>Lantana strigocamara</i>	North, Central, South	1

Common Name	Scientific Name	Zone	Category
Glossy Privet	<i>Ligustrum lucidum</i>	North, Central	1
Chinese Privet	<i>Ligustrum sinense</i>	North, Central, South	1
Japanese Honeysuckle	<i>Lonicera japonica</i>	North, Central, South	1
Peruvian Primrose Willow	<i>Ludwigia peruviana</i>	North, Central, South	1
Black Mangrove	<i>Lumnitzera racemosa</i>	South	1
Tropical American Watergrass	<i>Luziola subintegra</i>	South	1
Japanese Climbing Fern	<i>Lygodium japonicum</i>	North, Central, South	1
Old World Climbing Fern	<i>Lygodium microphyllum</i>	North, Central, South	1
Sapodilla	<i>Manilkara zapota</i>	South	1
Melaleuca, Paper Bark	<i>Melaleuca quinquenervia</i>	Central, South	1
Natal Grass	<i>Melinis repens</i>	Central, South	1
Serpent Fern, Wart Fern	<i>Microsorium grossum</i>	South	1
Catclaw Mimosa	<i>Mimosa pigra</i>	Central, South	1
Heavenly Bamboo, Nandina	<i>Nandina domestica</i>	North, Central	1
Asian Sword Fern	<i>Nephrolepis brownii</i>	Central, South	1
Sword Fern	<i>Nephrolepis cordifolia</i>	North, Central, South	1
Burma Reed	<i>Neyraudia reynaudiana</i>	South	1
Crested Floating Heart	<i>Nymphoides cristata</i>	Central, South	1
Sewer Vine	<i>Paederia cruddasiana</i>	South	1
Skunk Vine	<i>Paederia foetida</i>	North, Central, South	1
Torpedo Grass	<i>Panicum repens</i>	North, Central, South	1
Water-Lettuce	<i>Pistia stratiotes</i>	North, Central, South	1
Strawberry Guava	<i>Psidium cattleianum</i>	Central, South	1
Guava	<i>Psidium guajava</i>	Central, South	1
Kudzu	<i>Pueraria montana</i> var. <i>lobata</i>	North, Central, South	1
Downy Rose-Myrtle	<i>Rhodomyrtus tomentosa</i>	Central, South	1
Mexican Petunia	<i>Ruellia simplex</i>	North, Central, South	1
Water Spangles	<i>Salvinia minima</i>	North, Central, South	1
Beach Naupaka, Half-Flower	<i>Scaevola taccada</i>	North, Central, South	1
Schefflera, Umbrella Tree	<i>Schefflera actinophylla</i>	Central, South	1

Common Name	Scientific Name	Zone	Category
Brazilian Pepper	<i>Schinus terebinthifolia</i>	North, Central, South	1
Wright's Nut Rush	<i>Scleria lacustris</i>	Central, South	1
Tropical Nut Rush	<i>Scleria microcarpa</i>	Central, South	1
Christmas Senna, Climbing Cassia	<i>Senna pendula</i> var. <i>glabrata</i>	Central, South	1
Wetland Night Shade	<i>Solanum tampicense</i>	Central, South	1
Tropical Soda Apple	<i>Solanum viarum</i>	North, Central, South	1
West Indian Dropseed	<i>Sporobolus jacquemontii</i>	Central, South	1
Arrowhead Vine	<i>Syngonium podophyllum</i>	North, Central, South	1
Java Plum	<i>Syzygium cumini</i>	Central, South	1
Incised Halberd Fern	<i>Tectaria incisa</i>	South	1
Jeweled Maidenhair Fern	<i>Thelypteris opulenta</i>	South	1
Seaside Mahoe	<i>Thespesia populnea</i>	Central, South	1
Small-Leaf Spiderwort	<i>Tradescantia fluminensis</i>	North, Central	1
Oyster Plant	<i>Tradescantia spathacea</i>	Central, South	1
Chinese Tallow-Tree	<i>Triadica sebifera</i>	North, Central, South	1
Caesar's Weed	<i>Urena lobata</i>	North, Central, South	1
Para Grass	<i>Urochloa mutica</i>	North, Central, South	1
Red Sandalwood	<i>Adenanthera pavonina</i>	South	2
Sisal Hemp	<i>Agave sisalana</i>	Central, South	2
Devil Tree	<i>Alstonia macrophylla</i>	South	2
Alligator Weed	<i>Alternanthera philoxeroides</i>	North, Central, South	2
Coral Vine	<i>Antigonon leptopus</i>	North, Central, South	2
Calico Flower	<i>Aristolochia elegans</i>	North, Central, South	2
Ganges Primrose	<i>Asystasia gangetica</i>	Central, South	2
Wax Begonia	<i>Begonia cucullata</i>	North, Central, South	2
Paper Mulberry	<i>Broussonetia papyrifera</i>	North, Central, South	2
Large-Leafed Mangrove	<i>Bruguiera gymnorrhiza</i>	South	2
Inch Plant	<i>Callisia fragrans</i>	Central, South	2
River Sheoak	<i>Casuarina cunninghamiana</i>	Central, South	2
Trumpet Tree	<i>Cecropia palmata</i>	South	2
Mission Grass	<i>Cenchrus polystachios</i>	South	2
Fountain Grass	<i>Cenchrus setaceus</i>	South	2



Common Name	Scientific Name	Zone	Category
Day Jessamine	<i>Cestrum diurnum</i>	Central, South	2
Bamboo Palm	<i>Chamaedorea seifrizii</i>	South	2
Japanese Clematis	<i>Clematis terniflora</i>	North, Central	2
Coconut Palm	<i>Cocos nucifera</i>	South	2
Redflower Ragleaf	<i>Crassocephalum crepidioides</i>	Central, South	2
Madagascar Rubber Vine	<i>Cryptostegia madagascariensis</i>	Central, South	2
Umbrella Plant	<i>Cyperus involucratus</i>	Central, South	2
Dwarf Papyrus	<i>Cyperus prolifer</i>	Central, South	2
Durban Crow's-Foot Grass	<i>Dactyloctenium aegyptium</i>	Central, South	2
Indian Rosewood, Sissoo	<i>Dalbergia sissoo</i>	Central, South	2
Spurge-Creeper	<i>Dalechampia scandens</i>	South	2
Spanish Arbor Vine, Wood-Rose	<i>Distimake tuberosus</i>	Central, South	2
Bowstring Hemp	<i>Dracaena hyacinthoides</i>	Central, South	2
Silverthorn, Thorny Olive	<i>Elaeagnus pungens</i>	North, Central	2
Pothos	<i>Epipremnum pinnatum</i> cv. Aureum	Central, South	2
Chinese Crown Orchid	<i>Eulophia graminea</i>	Central, South	2
Council Tree, False Banyan	<i>Ficus altissima</i>	South	2
Governor's Plum	<i>Flacourtia indica</i>	South	2
Limpo Grass	<i>Hemarthria altissima</i>	Central, South	2
Redwing	<i>Heteropterys brachiata</i>	South	2
Jaragua	<i>Hyparrhenia rufa</i>	North, Central, South	2
Shrub Morning-Glory	<i>Ipomoea carnea subsp fistulosa</i>	Central, South	2
Mother Of Millions	<i>Kalanchoe x houghtonii</i>	North, Central, South	2
Life Plant	<i>Kalanchoe pinnata</i>	Central, South	2
Flame Gold Tree	<i>Koelreuteria elegans</i> subsp. <i>formosana</i>	Central, South	2
Spotted Duckweed	<i>Landoltia punctata</i>	North, Central, South	2
Lead Tree	<i>Leucaena leucocephala</i>	North, Central, South	2
Asian Marsh Weed	<i>Limnophila sessiliflora</i>	North, Central, South	2
Chinese Fan Palm	<i>Livistona chinensis</i>	Central, South	2
Wild Bush Bean	<i>Macroptilium lathyroides</i>	North, Central, South	2
Bottlebrush	<i>Melaleuca viminalis</i>	Central, South	2
Chinaberry	<i>Melia azedarach</i>	North, Central, South	2
Molasses Grass	<i>Melinis minutiflora</i>	Central South	2
Mile-A-Minute Vine	<i>Mikania micrantha</i>	South	2

Common Name	Scientific Name	Zone	Category
Balsam-Apple	<i>Momordica charantia</i>	North, Central, South	2
Orange-Jessamine	<i>Murraya paniculata</i>	South	2
Eurasian Water-Milfoil	<i>Myriophyllum spicatum</i>	North, Central, South	2
Twin-Flowered Passion Vine	<i>Passiflora biflora</i>	South	2
Senegal Date Palm	<i>Phoenix reclinata</i>	Central, South	2
Golden Bamboo	<i>Phyllostachys aurea</i>	North, Central	2
Taiwanese Cheese Wood	<i>Pittosporum pentandrum</i>	South	2
Staghorn Fern	<i>Platynerium bifurcatum</i>	South	2
Praxelis	<i>Praxelis clematidea</i>	Central	2
Chinese Brake, Ladder Brake	<i>Pteris vittata</i>	North, Central, South	2
Solitary Palm	<i>Ptychosperma elegans</i>	South	2
Large Flower Mexican Clover	<i>Richardia grandiflora</i>	North, Central, South	2
Castor Bean	<i>Ricinus communis</i>	North, Central, South	2
Dwarf Rotala, Roundleaf Toothcup	<i>Rotala rotundifolia</i>	South	2
Green Shrimp Plant	<i>Ruellia blechum</i>	North, Central, South	2
Rattlebox	<i>Sesbania punicea</i>	North, Central, South	2
Mata-Pasto	<i>Sida planicaulis</i>	Central, South	2
Twinleaf Nightshade	<i>Solanum diphyllum</i>	North, Central, South	2
Turkey Berry	<i>Solanum torvum</i>	North, Central, South	2
Shrubby False Button Weed	<i>Spermacoce verticillata</i>	Central, South	2
Wedelia	<i>Sphagneticola trilobata</i>	North, Central, South	2
Nettle-Leaf Porter Weed	<i>Stachytarpheta cayennensis</i>	South	2
Queen Palm	<i>Syagrus romanzoffiana</i>	Central, South	2
Malabar Plum, Rose-Apple	<i>Syzygium jambos</i>	North, Central, South	2
Mahoe, Sea Hibiscus	<i>Talipariti tiliaceum</i>	Central, South	2
Tropical-Almond	<i>Terminalia catappa</i>	Central, South	2
Australian-Almond	<i>Terminalia muelleri</i>	Central, South	2
Puncture Vine, Burr-Nut	<i>Tribulus cistoides</i>	North, Central, South	2
Guinea Grass	<i>Urochloa maxima</i>	North, Central, South	2

Common Name	Scientific Name	Zone	Category
Tung-Oil Tree	<i>Vernicia fordii</i>	North, Central, South	2
Simple-Leaf Chaste Tree	<i>Vitex trifolia</i>	Central, South	2
Washington Fan Palm	<i>Washingtonia robusta</i>	Central, South	2
Chinese Wisteria	<i>Wisteria sinensis</i>	North, Central	2
Malanga, Elephant Ear	<i>Xanthosoma sagittifolium</i>	North, Central, South	2

**EA Table 7. Invasive wildlife species found in Florida.**

Common Name	Scientific Name	Type
African Clawed Frog	<i>Xenopus laevi</i>	Amphibian
African Sacred Ibis	<i>Threskiornis aethiopicus</i>	Bird
Argentine Black and White Tegu	<i>Salvator merianae</i>	Reptile
Asian Clam	<i>Corbicula fluminea</i>	Invertebrate
Burmese Python	<i>Python molurus bivittatus</i>	Reptile
Cane Toad	<i>Rhinella marina</i>	Amphibian
Cuban Treefrog	<i>Ostepilus spetentrionalis</i>	Amphibian
Egyptian Goose	<i>Alopochen aegyptiaca</i>	Bird
Feral Hog	<i>Sus scrofa</i>	Mammal
Gambian Pouched Rat	<i>Cricetomys gambianus</i>	Mammal
Giant African Land Snail	<i>Lissachatina fulica</i>	Invertebrate
Green Iguana	<i>Iguana iguana</i>	Reptile
Island Apple Snail	<i>Pomacea insularum</i>	Invertebrate
Muscovy Duck	<i>Cairina moschata</i>	Bird
New Guinea Flatworm	<i>Platydemus manokwari</i>	Invertebrate
Nile Monitor	<i>Varanus niloticus</i>	Reptile
Red-Bellied Squirrel	<i>Rubrisciurus rubriventer</i>	Mammal

### **Impacts of Affected Resources**

#### *Alternative A*

Invasive species management within the Conservation Area will depend on other federal agencies, State agencies, non-governmental organizations, and Tribal Nations. The Service will be unable to collaborate with partners within the Conservation Area to prevent the introduction and spread of invasive species, implement early detection and rapid response efforts, reduce the likelihood of new infestations, control or eradicate established invasive species, or improve invasive species data management and research to inform decision-making.

#### *Alternative B*

The establishment of the Conservation Area will allow the Service to work with partners to prevent the introduction and spread of invasive species into and within the Conservation Area; implement early detection and rapid response efforts in coordination with other federal agencies, State agencies, Tribal Nations, and non-

governmental organizations to reduce the likelihood of new infestations becoming established; cost-effectively control or eradicate established invasive species populations to reduce negative impacts and help restore ecosystems; and improve invasive species data management and research to inform decision-making.

The Service anticipates that nonnative invasive species will be controlled on lands acquired by the Service under Alternative B. This will serve to improve the overall ecology of the Conservation Area by limiting further spread of these species. Some of the nonnative species (feral hogs, tilapia, and other cichlid fishes) are sport and subsistence species. The reduction of these species' abundance may represent a minor adverse effect to some people utilizing the species for sport and subsistence; however, it is unlikely that we will ever completely eradicate these species under Alternative B. The expectation is that we will provide improved habitat conditions for native species that could replace these nonnative species.

### **SOCIOECONOMIC ENVIRONMENT**

The Conservation Area is located across a 12-county area located in southwest and central Florida, as listed.

Charlotte County	Glades County	Highlands County	Okeechobee County
Collier County	Hardee County	Lee County	Polk County
DeSoto County	Hendry County	Manatee County	Sarasota County

The socioeconomic section compares aggregated data at the county, 12-county Conservation Area level, State, and national scales to develop an understanding of socioeconomic conditions and trends and to analyze the Preferred Action.

#### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

Although Florida's natural landscape has been negatively impacted by development, agriculture, and resource extraction, the State has protected and restored some of its lands. Florida has been identified by government agencies, non-governmental organizations, and Tribal Nations as a conservation target due to its subtropical location, peninsular geography, many endemic and imperiled species, and rapid development (Volk et al. 2017). Today, Florida has a substantial portion of its lands conserved through various methods. As of 2017, local, State, and federal partners have protected approximately 9.5 million acres through fee-title ownership and another 760,400 acres under conservation easements, equaling 29.4% of the State (Volk et al. 2017). Further, conservation entities have worked with the agricultural industry to protect agricultural lands that support species like grassland birds.

#### **Affected Environment**

##### *POPULATION*

In 2021, the combined population of these 12 diverse counties was 3.1 million, while the Florida population was over 21 million. The 2021 population in the 12 counties ranged from 12,183 to 752,251 with six of the counties each having populations of about 100,000 or less and five counties each having populations over 350,000. Net migration accounted for 92.6% of the population change from 2010 to 2021 for the 12 counties, which was slightly lower than for the rest of Florida (94.5%). The population change from 2000 to 2021 for the 12 counties was 50.7%, which was well above the rates for the US (17.6%) and Florida (35.7%). Further, from 1970 to 2021, the population for the 12 counties grew from 709,875 to 3.1 million, a 356% increase, which was greater than the 218% increase for the State of Florida. (Based on U.S. Department of Commerce American Community Survey data, Headwaters Economics 2023)

Medium range population projections based on US Census Bureau and the Florida Bureau of Economic and Business Research data show a predicted 44.25% population increase for the State of Florida from 2010 to 2070 to 33.7 million, while the 12 counties in the Conservation Area show a slightly larger 49.18% population increase in that time to over 5.2 million. For these 12 counties, the data show a range of predicted population growth from 2010 to 2070 of -2.32% (DeSoto County) to 60.1% (Lee County) with three counties (DeSoto, Hardee, and Hendry counties) showing less than 10% population growth and with four counties (Lee, Collier, Manatee, and Polk counties) showing greater than 50% population growth over that time frame (Carr and Zwick 2016b).

Median age in 2021 for the 12 counties ranged from 35.1 to 59.7 years old. The median ages for Hendry and Hardee counties were younger than the US (38.4) and Florida (42.3); the median ages for Okeechobee, Polk, and DeSoto counties were older than the US, but younger than for Florida; and the median ages for Charlotte, Collier, Glades, Highlands, Manatee, Lee, and Sarasota counties were older than the US and Florida. From 2010 to 2021, all 12 counties saw an increase in the median age with increases ranging from 0.7 to 4.9 years; only Polk County had an increase below the US (1.5 years) and only Okeechobee County had an increase similar to the US but below Florida (2 years), while the remaining 10 counties saw increases in median age greater than the US and Florida. (Based on U.S. Department of Commerce American Community Survey data, Headwaters Economics 2023)

In 2021, the total minority population for the 12 counties ranged from 17% to 69.4% with an average of 34.1%, which is below the US (40.6%) and Florida (47.4%). Hendry County had a total minority population of 69.4% in 2021, while Hardee County had 54%, DeSoto County had 46%, Polk County had 44%, and Glades County had 41.2%. Seven counties (Charlotte, Collier, Highlands, Lee, Manatee, Okeechobee, and Sarasota counties) had lower percentages of total minority population in 2021 compared to the US and Florida. DeSoto, Glades, and Polk counties had percentages of total minority population between the US and Florida, while Hardee (54%) and Hendry (69.4%) counties had percentages well above the US and Florida. When looking at race, in 2021 the 12 counties averaged more white and less black or African American, ranging from 67.7% to 87.9% (averaging 78.1%) for white alone and ranging from 4.3% to 15% (averaging 9%) for black or African American alone compared to the US (68.2% and 12.6%, respectively) and Florida (67.7% and 15.7%, respectively). When looking at the Hispanic or Latino population of any race in 2021, the 12 counties ranged from 7.8% to 55.1% (averaging 21.1%) Hispanic or Latino of any race with nine of the counties above 20% compared to the US (18.4%) and Florida (26.2%). Hendry County had 55.1% Hispanic or Latino of any race in 2021 with Hardee County at 44.3%, DeSoto County at 31.9%, Collier County at 28.5%, and Okeechobee County at 26.4%. In 2021, the percentage of people reporting speaking English less than very well ranged from 3.4% to 21.6% with an average of 8.5% for the 12 counties with Collier, Hardee, and Hendry counties above the US (8.2%) and Florida (11.8%); with DeSoto, Glades, Lee, Okeechobee, and Polk counties between the US and Florida; and with Charlotte, Highlands, Manatee, and Sarasota counties below the US and Florida. (Based on U.S. Department of Commerce American Community Survey data, Headwaters Economics 2023)

### *EMPLOYMENT AND INCOME*

Per capita income in 2021 ranged from \$19,673 to \$51,296 with most of the counties (DeSoto, Glades, Hardee, Hendry, Highlands, Okeechobee, and Polk counties) below the US (\$37,638) and Florida (\$35,216), while Charlotte, Lee, and Manatee counties were similar to the US and Florida, and while Sarasota and Collier counties were above the US and Florida. In 2021, median household income ranged from \$38,088 to \$75,543 with most of the counties (Charlotte, DeSoto, Glades, Hardee, Hendry, Highlands, Okeechobee, and Polk counties) below the US (\$69,021) and Florida (\$61,777), while Lee and Manatee counties were above Florida and below the US, while Sarasota County was above Florida and similar to the US, and while Collier County was above both the US and Florida. As expected, the median household income was greater for the coastal counties compared to the inland

counties. (Based on U.S. Department of Commerce American Community Survey data, Headwaters Economics 2023)

For all 12 counties, the percentage of families below the poverty line in 2021 ranged between 5.2% and 23.4% with a combined average of 8.6%, which is lower than for Florida (9.3%) and similar to the US (8.9%). While five counties (Charlotte, Collier, Lee, Manatee, and Sarasota counties) were below the US and Florida with a smaller percentage of families below the poverty line, seven counties (DeSoto, Glades, Hardee, Hendry, Highlands, Okeechobee, and Polk counties) had a higher percentage of families below the poverty line. Similarly, for all 12 counties, the percentage of single mother families below the poverty line in 2021 ranged from 1.5% to 10% with a combined average of 3%, which is lower than for the US (3.9%) and Florida (3.6%). While Glades County was similar to the US and Florida, compared to the US and Florida, six counties (Charlotte, Collier, Highlands, Lee, Manatee, and Sarasota counties) had a lower percentage of single mother families below the poverty line and five counties (DeSoto, Hardee, Hendry, Okeechobee, and Polk counties) had a higher percentage. Within the 12 counties, poverty rates in 2021 were higher for black or African Americans (21%) and Native American Indians (21.2%) compared to other races and ethnicities. While the poverty rate was similar to the US (21.7%) and Florida (20.5%) for black or African Americans, it was higher than both the US (5.1%) and Florida (18.2%) for Native American Indians. For Hispanic or Latino of any race, poverty rates in 2021 for the 12 counties was 19%, which was greater than for the US (17.7%) and Florida (15.9%). (Based on U.S. Department of Commerce American Community Survey data, Headwaters Economics 2023)

The unemployment rate for the 12 counties in 2021 was 4.5%, which was similar to Florida (4.6%) and below the US (5.3%). Since 1976, the unemployment rate has trended downwards in the 12 counties with a low of 2.5% in 2006 and a high of 11.7% in 2010. From 1970 to 2021, employment in the 12 counties grew from 290,187 to over 1.6 million, a 480% increase, which is greater than the 356% population increase over the same time period for the 12 counties, and which is greater than the State's employment increase of 346% over the same time period. Also, from 1970 to 2021, personal income in the 12 counties grew 955% from \$21,246.6 million to \$224,173.3 million, which was at a greater rate than for the State (588%) (adjusted for inflation). From 2000 to 2021, the 12 counties have seen personal income increase by 102.9%, which was greater than for the US (56.4%) and Florida (82.3%); employment increase by 53.3%, which was greater than the US (21.6%) and Florida (48.9%); average earnings per job increase by 9.2%, which was less than the US (13.1%) but higher than Florida (5.7%); and per capita income increase 34.6%, which was slightly higher than for the US (32.9%) and Florida (34.3%). However, average earnings per job in 2021 for the 12 counties was \$57,291, which was lower than for both the US (\$76,669) and Florida (\$62,449). (Based on U.S. Department of Commerce American Community Survey data, Headwaters Economics 2023)

### *TOURISM*

Florida's tourism industry generated \$105.1 billion in 2021 with \$101.9 billion contributing back to the Florida economy. Approximately 51% (\$52.3 billion) of total value added was attributed to businesses that directly support tourism activity and the remaining 49% (\$49.6 billion) came from economic activity generated by the tourism supply chain and other downstream businesses. Florida retained nearly 97 cents of every tourism dollar spent in the State in 2021. The industry supported nearly 1.7 million jobs ranking it the 4<sup>th</sup> largest industry in the State in 2021. This includes the more than 1.1 million jobs directly supported by visitors, another 251,000 jobs supported by tourism supply industries and 336,000 jobs supported through the impact of employees in those industries spending wages on various goods and services in the State. Tax revenue generated \$15.9 billion in federal tax and \$13.6 billion from State and local tax. In 2021, Counties in the Conservation Area ranked among the top 20 by value added included Lee, Sarasota, Collier, Manatee, and Polk Counties. Counties in the

Conservation Area ranked among the top 20 by visitor spending includes Lee, Collier, Sarasota, Polk, and Manatee Counties (Rockport Analytics 2022).

#### *WILDLIFE-DEPENDENT RECREATION*

*Banking on Nature 2017: The Economic Contributions of National Wildlife Refuge Recreational Visitation to Local Communities*, (Caudill and Carver 2019) examined the local economic contributions of recreational visits to 162 national wildlife refuges in 47 states and 1 territory for the fiscal year (FY) 2017 (October 1, 2016 – September 30, 2017). According to the report, approximately 53.6 million people visited national wildlife refuges generating almost \$3.2 billion in total economic activity and supported over 41,000 jobs, generating about \$1.1 billion in employment income. Additionally, recreational spending on refuges generated nearly \$229 million in tax revenue at the local, county, State, and federal levels.

Florida's outdoor recreation providers can be classified into five categories: federal government, State government, county government, municipal government, and private sector providers. Both federal and State agencies are concerned with areas and facilities designed to accommodate the demand for resource-based outdoor recreation. County and municipal governments are the primary suppliers of the public facilities needed for user-oriented recreation, although some also provide areas and facilities to meet part of the need for resource-based outdoor recreation. Outdoor recreation, both resource-based and user-based, contributed an estimated \$145 billion to the State's economy in 2017 (FDEP 2019).

#### *ECOSYSTEM SERVICES*

##### **Payment for Ecosystem Services (PES)**

The term "ecosystem services" describes an ecosystem management approach that is focused on linking ecosystem structure and function with the production of specific services and benefits (de Groot et al. 2010). Payments for ecosystem services (PES) is a strategy that pays landowners for the services and benefits produced by ecosystems on their land (Ferraro and Kiss 2002). The approach is "market-based" when trade negotiations about service provision are made between ecosystem service provider(s) and buyer(s) (Ferraro 2008). In the United States, the ecosystem service provider is typically a landowner, with enforceable private property rights, who can control how the land is used and thereby ensure that certain ecosystem services are provided. The buyer is typically a government agency representing public demand for ecosystem service benefits. The negotiations between the provider and the buyer center on the conditions set out in the conservation contract. Conditions typically pertain to payment levels, how payments are linked with quantified levels of ecosystem services, and monitoring/enforcement procedures that guarantee delivery of service.

The USDA's Natural Resources Conservation Service (NRCS) provides technical and financial assistance for conservation practices that improve Florida panther habitat through the Regional Conservation Partnership Program-Conservation Stewardship Program (RCPP-CSP). Although more than 20,000 acres are enrolled in this RCPP-CSP project, NRCS struggles to find participants. Many of the ranchers within the panther range are not enrolled in the RCPP-CSP program due to the Adjusted Gross Income (AGI) limitation on this program. The ranchers not already enrolled represent the majority of landowners in panther range. When considering appropriate land use classifications within the Primary and Dispersal Zones of the Panther Focus Areas located north of I-75 in Collier, Lee, Hendry and Glades Counties and focusing on lands that contain desirable panther habitat within this area, FWC estimates there are approximately 190,000 acres of private lands that they will like to enroll in a PES program. Consequently, FWC is embarking on its own PES Pilot Program that will complement the RCPP-CSP program and compensate landowners who provide panther habitat and manage for panther occupancy. The program will also create an additional opportunity for ranchers to be compensated for panther depredations. In 2022, the Service awarded FWC a \$430,000 grant under Section 6 of the ESA. This grant assists

with funding the PES Pilot Program. The Conservation Area can contribute to PES initiatives by raising awareness of the need to promote the PES program and continuing to engage in identifying possible funding mechanisms to advance the Program.

### **Depredation Compensation and Florida Panthers**

A panther depredation occurs when a panther kills or injures domestic animals such as goats, sheep, calves, dogs or house cats. Panthers are carnivores that primarily prey on white-tailed deer, hogs and raccoons but they are opportunistic hunters, and their diet varies. Any unsecured domestic animal may be at risk to depredation. The best way to protect household pets and backyard hobby animals is to keep them indoors or in a predator-resistant enclosure, especially at night. In order for an enclosure to provide adequate protection against panthers, it must be totally enclosed. Many large ranches provide quality habitat for native wildlife. Because cattle typically roam across expansive landscapes, panther depredations are difficult to prevent or even detect. Due to their size, adult cattle are not typically preyed on but calves up to 300 pounds have been killed by panthers. A study conducted by the University of Florida's Department of Wildlife Ecology and Conservation found that calf losses due to panther depredation ranged from one to five percent annually on two ranches in southwest Florida. The U.S. Department of Agriculture's Farm Services Administration has a Livestock Indemnity Program that offers partial payment for livestock losses caused by animals protected by Federal law, such as the Florida panther. The Bergeron Everglades Foundation offers compensation for calves lost to panthers, upon verification by panther biologists. While livestock-guard animals, particularly certain breeds of dogs, have been used in other parts of the world for other predators, they have not been studied or evaluated in Florida in regard to panthers. Various agencies and organizations offer assistance programs depending on the particular set of circumstances. The Conservancy of Southwest Florida and Defenders of Wildlife offer cost share programs to help individuals acquire a predator resistant enclosure to secure their pets and hobby livestock. Additionally, The Conservancy has a compensation program intended for small-scale cattle farmers with herds up to 300 head who have lost calves due to panther predation. Large-scale commercial cattle ranchers can apply for compensation for livestock losses caused by federally protected animals (such as the Florida panther) through the U.S. Department of Agriculture's Farm Services Administration Livestock Indemnity Program.

The Conservation Area can contribute to this initiative by raising awareness of the need to promote actions that prevent and reduce negative panther and people interactions and raise awareness of these methods through strategic communication and environmental education and interpretive efforts by the Service. The Conservation Area can provide staffing that can support agencies and partners in the collective effort to compensate cattle farmers for their losses. As urban sprawl and the associated infrastructure of roads and services advance into rural areas, opportunities for wildlife to roam without interaction with people, pets, and livestock decrease. The Conservation Area can contribute to the preservation and protection of landscape scale wildlife corridors which can provide safe passage for species and enable little to no interaction with people and livestock.

### ***LAND USE***

The three largest industry sectors across the 12 counties in 2021 were retail trade (191,926 jobs), health care and social assistance (178,762 jobs), and government (137,471 jobs), which generally reflected the State's top three (health care and social assistance, retail trade, and government). From 2001 to 2021, the three industry sectors that added the newest jobs in the 12 counties were real estate and rental and leasing (72,032 new jobs), health care and social assistance (71,053 new jobs), and transportation and warehousing (59,237 new jobs). For the 12 counties in 2021, employment jobs break out into service jobs (77.5%), non-service jobs (14.3%), and government jobs (8.2%), which is generally similar to the US (73.5%, 14.5%, and 12%, respectively) and Florida (80%, 11%, and



9%, respectively). (Based on U.S. Department of Commerce American Community Survey data, Headwaters Economics 2023)

Farming continues to be an important industry in Florida and in the 12 counties in the Conservation Area. In the U.S. Department of Agriculture's (USDA's) 2017 Census of Agriculture, the State of Florida's agriculture sales in 2017 were 78% crops and 22% livestock, poultry, and products. The market value of Florida's agricultural products was over \$7 billion with farm-related income of over \$328 million and net cash farm income of over \$1.2 billion in 2017. In 2017, the top crops in Florida, by acres, were on over 1.66 million acres out of a total of 9.7 million acres of agriculture for the State: forage (hay/haylage, 422,551 acres), oranges (422,421 acres), sugarcane for sugar (386,428 acres), vegetables harvested (245,375 acres), and peanuts for nuts (186,803 acres). Agriculture activities occurred in 2017 in the 12 counties on a total of over 3.3 million acres, ranging from 71,165 acres in Sarasota County to 487,128 acres in Polk County. Only two of the 12 counties had less than 100,000 acres each in agriculture with one county at nearly 300,000 acres and with six counties at over 300,000 acres each in 2017. Average farm size for the State of Florida was 204 acres in 2017. For the 12 counties in 2017, average farm size ranged from 109 acres to 1,211 acres with a combined average of 383 acres per farm (greater than the State average) on 8,730 farms and with 558 farms at 1,000 acres or greater. The 12 counties varied widely in the breakdown of sales by crops versus livestock, poultry, and products, ranging from 14% to 97% crops and 3% to 86% livestock in 2017. However, all except Okeechobee County, had 60% or more of sales in crops in 2017. The total market value of agriculture products sold in 2017 for the 12 counties was over \$2.2 billion (30.3% of the State's total) with farm-related income of over \$64 million and net cash farm income of over \$262 million. For the 12 counties in 2017, the percentage of farms by use (cropland, pastureland, or woodland) varied from 10% to 63% for croplands (with only Collier County at greater than 50% croplands), 19% to 69% pasturelands (with a total of five counties with greater than 50% in pasturelands and with a total of 10 counties with 30% or more in pasturelands), and 7% to 42% woodlands (with 10 counties at 20% or less in woodlands). (USDA 2019)

Land ownership in the 12 counties in 2021 was 75.8% private and 9.7% Federal (of which 0.7% is the USFWS), which reflects the State of Florida at 73.7% private and 10.8% Federal (of which 0.7% is the USFWS), but which is lower than the US at 61.1% private and 27.5% Federal (of which 3.9% is USFWS). The percentage of land ownership in the 12 counties in 2021 ranged from 34.2% to 96.8% private and 0% to 49.5% Federal, with all counties above 75% private, except Charlotte and Collier counties. Charlotte County, which includes Babcock Ranch Preserve, Fred C. Babcock/Cecil M. Webb Wildlife Management Area, Charlotte Harbor Preserve State Park, Cape Haze Aquatic Preserve, and Gasparilla Sound-Charlotte Harbor Aquatic Preserve, had 61.6% private and 0% Federal land ownership in 2021. Standing apart from the other counties, Collier County, which includes Big Cypress National Preserve, Picayune Strand State Forest, Fakahatchee Strand State Preserve, Big Cypress Wildlife Management Area, Florida Panther NWR, and Audubon's Corkscrew Swamp, was 34.2% private and 49.5% Federal (of which 3.6% is the USFWS) in 2021. USFWS payments to local counties in the Conservation Area totaled \$294,066 in 2021: \$9,321 to Highlands County, \$10,599 to Polk County, \$77,895 to Lee County, and \$196,251 to Collier County reflecting J.N. "Ding" Darling, Matlacha Pass, Caloosahatchee, Pine Island, Island Bay, Florida Panther, Lake Wales Ridge, and Everglades Headwaters NWRs. (Based on U.S. Department of Commerce American Community Survey data, Headwaters Economics 2023)

Florida has experienced significant land cover and land use changes since pre-European settlement. Land use trends throughout the State's history have been directly influenced by the natural resources, geomorphology, and climate that exist within the State (Volk et al. 2017). Population growth has also substantially impacted land use patterns and required new development and expanded infrastructure, such as railroads and highways, to accommodate the growing population. Further, land cover and land use patterns in Florida have been heavily impacted by the agriculture and resource extraction industries, which have caused the fragmentation,

degradation, and destruction of some of Florida's natural landscapes and disrupted natural ecosystem processes; however, some portions of Florida's landscape have been protected and restored.

There are 172 different land covers (based on the Florida Cooperative Landcover v3.6 data) within the boundary of the Conservation Area. These have been combined into 13 land cover categories for the purpose of analysis in this document ( EA Table 3). EA Figure 6 shows similarly grouped land uses within the Conservation Area. Although there are many land covers, approximately 79 percent of the Conservation Area is comprised of only 20 land uses (EA Table 8).

**EA Table 8. Primary Land Uses within the Conservation Area**

<b>Landcover Type</b>	<b>Acres in Conservation Area</b>	<b>Percent of Conservation Area</b>
Improved Pasture	990,490	24.49
Mesic Flatwoods	322,362	7.97
Citrus	303,528	7.50
Marshes	181,622	4.49
Mixed Wetland Hardwoods	164,379	4.06
Sugarcane	149,962	3.71
Orchards/Groves	127,218	3.14
Irrigated Row Crops	116,754	2.89
Mixed Scrub-Shrub Wetland	85,725	2.12
Unimproved/Woodland Pasture	76,090	1.88
Transportation	76,253	1.89
Dry Prairie	74,086	1.83
Isolated Freshwater Marsh	72,105	1.78
Wet Prairie	71,807	1.78
Coniferous Plantations	68,717	1.70
Residential, Low Density	67,166	1.66
Rural Open	65,285	1.61

<b>Landcover Type</b>	<b>Acres in Conservation Area</b>	<b>Percent of Conservation Area</b>
Cypress	59,956	1.48
Extractive	56,559	1.40
Mixed Hardwood-Coniferous	50,834	1.26

### *TRANSPORTATION FACILITIES AND UTILITY CORRIDORS*

Transportation facilities within the Conservation Area include numerous roadways and highways, airports, railroad lines, and utility lines.

#### **Roads and Highways**

The most noticeable transportation facility within the Conservation Area is the network of roads and highways. U.S. Highway 17, also known as the Coastal Highway, runs north to south and extends from Winchester, Virginia down to Punta Gorda, Florida and crosses the Conservation Area in Polk, Hardee, DeSoto, and Charlotte Counties. Numerous highways and Interstates (e.g., I-4, SR 60, US 98, SR 70, SR 80, and I-75) cut east-west across the Conservation Area. All these roads serve to fragment natural and native habitats and the high rates of traffic on these roads cause animal mortality.

#### **Airports**

There are 74 airports within the Conservation Area. Eleven of the airports are municipal or county operated airports available to the public. The remainder are private airports, most of which are small grass airports (less than 15 acres). Identifying the locations of the airports within the Conservation Area is important due to Federal Aviation Association guidelines that limit wetland restoration (or other bird attractants) within 2,000 feet of runways.

#### **Railroad Lines**

There are multiple railways within the Conservation Area. Amtrak operates passenger lines that cross the Conservation Area in Okeechobee and Polk Counties. CSX Transportation operates Class 1, Class 2, and Class 3 freight lines within the Conservation Area.

#### **Utility Corridors**

Florida Gas Transmission Company operates two natural gas pipelines in the Conservation Area, one of which runs parallel to SR 70 in DeSoto, Highlands, and Okeechobee Counties. The other runs north-south through Polk, Hardee, DeSoto, Charlotte and Lee Counties. The Gulfstream Natural Gas Systems, LLC, also operates a natural gas pipeline that runs east-west across Manatee, Hardee, Polk and Highlands Counties within the Conservation Area. The pipeline rights-of-way are maintained as low-cut herbaceous ground cover and vary from 50 to 200 feet wide.

#### **Impacts of Affected Resources**

##### *Alternative A*

Under the No Action Alternative, natural areas will continue to be lost due to increased population growth, demand for biofuels, and mineral extraction. Under the No Action Alternative, many natural lands in the Conservation Area are at risk of being converted to urban and other uses largely incompatible with wildlife conservation (Zwick and Carr 2006). Present uses will continue, and development may also occur on lands suitable for conservation easements or fee-title acquisition.

### *Alternative B*

Significant adverse socioeconomic impacts are not predicted as a result of the Preferred Action. There will be an overall positive effect on the socioeconomic environment as a result of the outline in the LPP. Positive benefits for communities in Florida will include: increased property values, increased watershed protection, increased opportunities for public use activities, and increased revenues for local businesses from visitors who participate in hunt, fishing, and wildlife observation. *Banking on Nature 2017: The Economic Contributions of National Wildlife Refuge Recreational Visitation to Local Communities*, (Caudill and Carver 2019) examined the local economic contributions of recreational visits to 162 national wildlife refuges in 47 states and 1 territory for the fiscal year (FY) 2017 (October 1, 2016 – September 30, 2017). According to the report, approximately 53.6 million people visited national wildlife refuges generating almost \$3.2 billion in total economic activity and supported over 41,000 jobs, generating about \$1.1 billion in employment income. Additionally, recreational spending on refuges generated nearly \$229 million in tax revenue at the local, county, State, and federal levels.

Units of the National Wildlife Refuge System connect visitors to their natural resource heritage and seek to provide them with an understanding and appreciation of fish and wildlife ecology that serves a foundational role in the environment. Wildlife-dependent recreation on refuge units also generates economic benefits to local communities.

Opportunities for outdoor recreation draw millions of people each year to national wildlife refuges, boosting local economies. Many visitors take part in heritage sports such as hunting and fishing. Others enjoy hiking, paddling, wildlife viewing or nature photography. All these activities offer visitors a chance to unplug from the stresses of modern life and reconnect with the natural surroundings. A 2012 study *Amenity Values of Proximity to National Wildlife Refuges* determined that refuges can have a positive effect on nearby home values (Taylor et al. 2012).

The potential exists for some adverse impacts, namely a potential decline in tax revenue to local governments (as lands come under Service ownership). However, this decline may or may not occur, since those lost tax revenues will be offset by the Federal Government. The Refuge Revenue Sharing Act of June 15, 1935, as amended (16 U.S.C. 715s), requires the Service to make payments to local taxing authorities, typically counties, to offset the loss of local tax revenues due to federal ownership. The Service makes annual payments to local taxing authorities, based on the estimated values of lands that the Service owns located in those jurisdictions. Money for these payments comes from the sale of oil and gas leases, timber sales, grazing fees, the sale of other Refuge System resources, and from congressional appropriations, which are intended to make up the difference between the net receipts from the refuge Revenue Sharing Fund and the total amount due to local taxing authorities. The actual refuge Revenue Sharing payment does vary from year-to-year because Congress may or may not appropriate sufficient funds to make full payment. For the nearby Everglades Headwaters NWR and CA, 2021 Refuge Revenue Sharing payments were: \$16,257 for 3,313 acres in Okeechobee County and \$5,700 for 1,854 acres in Polk County, while 2020 Refuge Revenue Sharing payments were: \$9,005 for 2,000 acres in Okeechobee County and \$5,749 for 1,854 acres in Polk County.

Under Alternative B, the total area of protected lands used for habitat and wildlife conservation and compatible wildlife-dependent recreation will increase in the Conservation Area on fee-title lands generating additional revenue for the local economy. Currently, approximately 3-million-acres of the land in the Conservation Area are unprotected. Many of these acres of unprotected lands, have been altered for intensive agriculture, urban use, transportation/utility corridors, and mining/spoil sites. In addition, the Conservation Area contains open water in the form of lakes, rivers, canals, and stormwater retention ponds. It must be noted that lands currently not substantially altered for urban, transportation, or agricultural uses include areas of unknown size that have been degraded by past uses or are fragments isolated from larger contiguous protected lands. A potential adverse effect under Alternative B is the loss of land available for agriculture, urban development, and other non-conservation uses. On fee-title lands the Service will make Refuge Revenue Sharing payments for fee-title lands within the Conservation Area.

## **CULTURAL RESOURCES**

### **Description of Environmental Trends, Planned Actions, and Cumulative Impacts**

Water management has been a critical factor in altering and controlling the Conservation Area's landscape. The earliest efforts are seen at Belle Glade sites, such as Fort Center, and represent a specialized adaptation to area's wetlands, savannahs, and hammocks (1000 BCE-1715 CE). Belle Glade sites are characterized by elaborate earthworks, which include ponds, borrow pits, ditches, canals, and linear and annular embankments. The Federal Swamp Act of 1850 transferred federal wetlands and overflowed lands to the states with caveat that proceeds of any sales go to drainage and land reclamation. Florida created the Trustees of the Internal Improvement Trust Fund in 1855 to handle such sales and to oversee drainage and reclamation projects. Following the American Civil War, the Internal Improvement Trust Fund sought to re-invigorate the land reclamation process and contracted Hamilton Disston in 1881, to drain extensive areas in the Kissimmee and Caloosahatchee Basins. Disston will procure rights or titles to alternate sections of land along his canals. His first major drainage and water transportation project was a series of canals connecting Lake Kissimmee, Lake Hatchineha, Cypress Lake, and Lake Tohopekaliga and a canal from Lake Okeechobee west to Lake Hicpochee and to Lake Flirt. To deal with the increased amount of water flowing into Lake Okeechobee, Disston cut canals into the Caloosahatchee, Miami, and St. Lucie Rivers. Levee construction was planned to contain rivers in banks and to prevent water from re-flooding drained marsh areas. The Everglades Drainage District was established in 1913. The District extended just north of Lake Okeechobee south to the end of the peninsula and was charged with permanently lowering the Lake's water levels and preventing overflow into the Everglades. Its primary objective was the expansion of agricultural lands, primarily for sugar cane cultivation. The District was bankrupt and out of business by 1928. Beginning in the late 1930s, the Central and South Florida Flood Control Project, under the direction of USACE, sought further to tame the watershed and its surrounding area for flood control and to ensure a supply of freshwater for human consumption and agriculture. The USACE channelized the sinuous Kissimmee River and constructed a network of canals, levees, and control structures. The USACE's flood control and water storage projects achieved these objectives but have led to extensive damage of wetlands heavily used by migratory waterfowl, decreased water quality, and the eutrophication of Lake Okeechobee (Poplin et al. 1996).

### **Affected Environment**

Section 106 of the National Historic Preservation Act of 1966, as amended, and Section 14 of the Archaeological Resources Protection Act require the Service to evaluate the effects of any of its actions on cultural resources (e.g., historic, architectural, and archaeological) that are listed or eligible for listing in the National Register of Historic Places (NRHP). In accordance with these regulations, the Service has initiated consultation of this undertaking with the Florida State Historic Preservation Office and the Tribal Historic Preservation Offices for

the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, the Seminole Nation, the Muscogee Nation, and the Poarch Band of Creeks.

The body of federal historic preservation laws has grown dramatically since the enactment of the Antiquities Act of 1906. Several themes recur in these laws, their promulgating regulations, and more recent executive orders. They include: (1) Each agency is to systematically inventory the historic properties on its holdings and to scientifically assess each property’s eligibility for the National Register of Historic Places; (2) federal agencies are to consider the impacts to cultural resources during the agencies’ management activities and seek to avoid or mitigate adverse impacts; (3) the protection of cultural resources from looting and vandalism are to be accomplished through a mix of informed management, law enforcement efforts, and public education; and (4) the increasing role of consultation with groups, such as Native American tribes, in addressing how a project or management activity may impact specific archaeological sites and landscapes deemed important to those groups. The Service, like other federal agencies, is legally mandated to inventory, assess, and protect cultural resources located on those lands that the agency owns, manages, or controls. The Service’s cultural resource policy is delineated in 614 FW 1-6 and 126 FW 1-2. In the Service’s Southeast Region, the cultural resource review and compliance process is initiated by contacting the Regional Historic Preservation Officer/Regional Archaeologist (RHPO/RA). The RHPO/RA will determine whether the undertaking has the potential to impact cultural resources, identify the “area of potential effect,” determine the appropriate level of scientific investigation necessary to ensure legal compliance, and initiate consultation with the pertinent State Historic Preservation Office (SHPO) and federally recognized tribes.

The cultural resources discussion which follows will provide a thumbnail sketch of the cultural history of this portion of Florida. Using the LCD Study Area base map as a guide, the Service reviewed the Florida Master Site Files (FMSF) to identify the number and type of historic properties, as well as available technical reports. EA Table 9 provides an initial breakdown.

**EA Table 9. Initial review of the Florida Master Site Files. Source: Florida Master Site Plan.**

Descriptor	Number
Number of 24-minute quadrangles	160
Total number of recorded historic properties	19,213
Archaeological sites	3,580
Archaeological with burials/human remains	296
Structures	14,729
Cemeteries	150
Bridges	174
Resource Groups	589
National Register-listed properties/historic districts	221
Technical Reports	1940

EA Table 10 provides a partial breakdown of 2,015 archaeological sites by type. Several of the type categories identified on the site forms have been combined due to similarity.

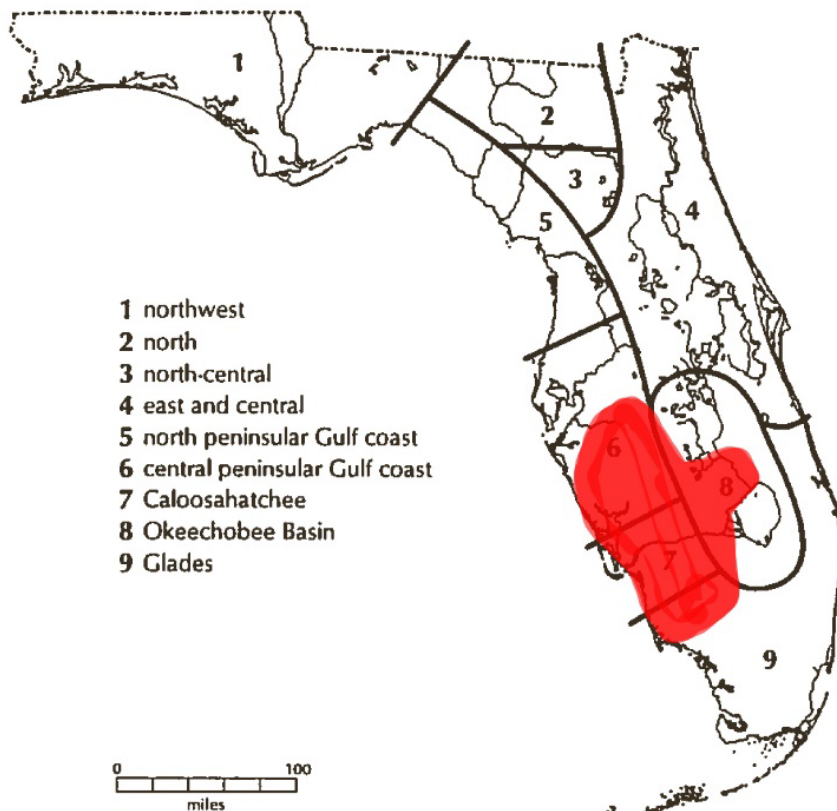
**EA Table 10. Site Type**

Site Type	Number
Unknown Aboriginal Occupation	34

Non-cultural	6
Isolated Finds	111
Artifact Scatter [varying density; includes lithic, ceramic, faunal and shell]	529
Aboriginal Open-Air Habitation Sites	525
Shell Middens	135
Shell Rings	1
Shell Works	19
Faunal Middens	30
Pre-Contact Earthworks [including mounds]	201
Burial Mounds	89
Tree Island Sites	2
Cave/Sink/Rock Shelter Sites	5
Aboriginal Log Boats	10
Historic Period Scatters	80
Historic Towns	19
Architectural Ruins	58
Homestead Sites	93
Historic Farm Sites	37
Ranching-related Sites	4
Abandoned Fields/Groves	5
Historic Fort Sites	18
WWII- or post-war military sites	23
Historic Earthwork	17
Submerged Sites [All time periods]	156

A more detailed cultural resources management plan, which includes sections describing recorded historic properties and past historical and archaeological investigations, will be drafted at a future date if needed, and/or cultural resources will be further detailed in a comprehensive conservation plan and a subsequent step-down plan. These plans will include, but are not limited to, identification of relevant historic contexts, reviews of the Florida Master Site Files and available technical literature, oral history interviews, Phase I archaeological and historical surveys of lands acquired in fee-title by the Service, and follow-up testing of identified historic properties to ascertain their eligibility for inclusion on the National Register of Historic Places.

The Study Area spans four cultural regions, each with their own cultural chronology. The regions include the Central Peninsular Gulf Coast, the Caloosahatchee, the Okeechobee, and the Glades (Figure 7). The following brief discussion reflects the eastern portion of the Study Area near Lake Okeechobee.



Post-500 B.C. regions of precolumbian Florida.

**EA Figure 7 Cultural regions of pre-contact Florida. The LCD Study Area spans portions of the Central Peninsular Gulf Coast, the Caloosahatchee, the Okeechobee Basin, and the Glades regions.**

Although the earliest known human occupation in Florida dates to the Paleoindian Period (ca. 10,000-8,000 BCE), the first widespread human settlement in the Kissimmee watershed and Lake Okeechobee basin occurs during the Belle Glade I Period (800 BCE-200 CE). In the Caloosahatchee region, which is west of Lake Okeechobee and extends to Florida’s Gulf Coast, widespread occupation occurs during the Caloosahatchee I Period (500 BCE – 500 CE). Earlier sites, such as the Nalcrest Site, Harney Flats, Little Salt Springs, and Warm Mineral Springs, have been recorded in the Study Area. The Nalcrest Site is a Late Paleoindian/Early Archaic lithic workshop, which included a variety of microlithic tools and cores likely used for leatherworking and/or processing plant fibers for cordage and basketry (Milanich 1994). Geological evidence indicates that the Kissimmee River is a relatively young river that did not consistently flow prior to 3000 BCE, which may account for the sparseness of Paleoindian and Archaic Period sites (Osborn et al. 2008). Warm Mineral Springs and Little Salt Springs are wet sites associated with sinkholes and springs that yielded extensive information on animals heavily exploited by Paleoindian populations. These animals included many extinct species, such as giant land tortoise, sloth, tapir, horse, camelids, and mammoths, as well as modern species such as white-tailed deer, fish, turtles, shellfish, rabbit, wood ibis, racoon, and panther (Milanich 1994).

The Belle Glade Period spans 1000 BCE to 1715 CE and is divided into five discrete subperiods. Sites dating to this time period often have elaborate earthworks that include mounds, burrows, ponds, ditches, canals, and linear and annular embankments. One of the better known and most elaborate Belle Glade sites is Fort Center,



which was excavated by Sears (1982). Smaller and less elaborate sites are seen throughout the basin close to rivers and on hammocks along deep water sloughs, marshes, and seasonal ponds (Newman et al. 2000). Belle Glade Plain and Glade Plain wares dominate the early cultural sequence. Decorated wares and St. Johns types appear later. Belle Glade populations exploited a range of plants and animals, though they may have modified wet areas for use as gardens or agricultural fields. Sears (1982) recovered maize pollen from several locations at Fort Center; the earliest date is ca. 450 BCE coming out of the fill of circular ditches. As Milanich (1994) noted, it is undetermined now whether maize constituted a major component of the diet or a highly specialized commodity for specific high-status residents (Poplin et al. 1996).

The Caloosahatchee region is west of the Okeechobee Basin and the Belle Glade culture. The Caloosahatchee River served as a major “canoe” highway connecting the coastal populations with groups in the Okeechobee Basin. The coastal zone, stretching from Charlotte Harbor south to the Ten Thousand Islands region, provided access to rich estuarine and marine fisheries and shellfish. Extensive shell mounds and shellwork sites can be found along the coast, such as Mound Key in Estero Bay; Pineland Site on Pine Island; and Dismal Key, Pumpkin Key, and Fakahatchee Key in the Ten Thousand Islands (Schwadron 2010; Schwadron et al. 2020). Throughout this period, evidence of sea level and salinity fluctuations can be seen in changing site locations and types of shellfish being exploited. By Caloosahatchee III [ca. 1200 – 1350 CE], St. Johns Checked Stamped wares appear in the assemblage. Belle Glade Plain wares declined in popularity between 1350 CE and European contact. The area’s ceramic assemblage during this period mirrors that seen in the Glades region. Most of the pottery is undecorated with Glades Tooled wares present in both regions. The Europeans encountered the Calusa, the dominant indigenous polity in the region. The Calusa were a complex maritime/estuarine hunter-gatherer chiefdom with ties to over 50 to 70 towns scattered across southwestern Florida. Ethnohistoric accounts describe the polity as a sedentary, highly socially stratified chiefdom led by Carlos, a cacique or paramount chief, with a hereditary elite group of principal men and second group of vassals and commoners (Schwadron 2010; Marquardt 1992).

European explorers and colonists stayed primarily along Florida’s coastal margins, though at least one group of Spanish soldiers based in Tampa Bay traveled inland meeting Urriaparocoxi in 1539 near Lake Apopka. Urriaparocoxi was the paramount chief of the Tampa Bay region. The LCD Study Area was part of Florida referred to by the Spanish as “la rinconada,” which loosely translated as corner or nook. Several tribes were mentioned in and around this area, such as the Jororo, the Ais, the Guacata, and the Jaega (Swanton 1979). Two Jororo sites – the Goodnow Mound near Sebring in Highlands County and the Philip Mound near Lake Marian in Polk County – have yielded 17<sup>th</sup> century Spanish artifacts, though it is unclear whether this represents direct contact between the Jororo and the Spanish or a movement of goods through an existing trade network. The Jororo were described by the Spanish as hunter-gatherers heavily reliant on fishing and wild plants. Their language was different from the Timucuan of the coastal and St. Johns basin (Osborn et al. 2008). By the late 1700s, most of Florida’s indigenous groups had been devastated by European-introduced diseases, conflicts with European settlers, and cultural disruption. The LCD Study Area remained largely unknown and unmapped by European and, later American, settlers until the mid-19<sup>th</sup> century (Newman et al. 2000).

In the early 18<sup>th</sup> century, the Spanish encouraged the Lower Creeks to move into northern Florida. The Spanish called these groups “cimarrones” or “wild ones.” As the “cimarrones” moved further into the Florida peninsula and away from the Creek sphere of influence, they emerged as the Seminoles (Weisman 1999). The history and archaeology of the Seminole and Miccosukee Tribes have been the subject of numerous investigations (MacCauley 1887; Fairbanks 1978; Wright 1986; Kersey 1987; Carr and Steele 1993; Covington 1993; Weisman 1999, 2000). The reader is referred to these well-written and accessible volumes. The LCD Study Area has and continues to play an important role in Seminole history, ethos, and sovereignty. Village and campsites

associated with Chief Jumper, Sam Jones, Chipco, and Tallahassee; “old Indian fields” and pastures for cattle; Green Corn Dance grounds; and sites and battlefields associated with the Seminole Wars are scattered throughout five counties of the LCD Study Area. Six Seminole reservations are scattered across this area and include the Brighton, Big Cypress, Immokalee, Hollywood, and Tampa Reservations (Masson et al. 1987; Carr and Steele 1993; Mahoney 2017; Mullins 2017; Weisman 1999). The Miccosukee’s lands are primarily along Alligator Alley and adjacent to the Big Cypress Natural Preserve.

The Armed Occupation Act of 1842 and the Federal Swamp Act of 1850 opened the Kissimmee watershed to American settlement. Ranchers and cattle herds spread over the vast prairies east of the central Florida ridge. During the American Civil War, ranchers provided beef to both the Confederate and Union forces. After the war, they found new markets first in Cuba and then locally. Other industries, such as commercial citrus groves, phosphate mining, timber and naval stores’ production, formed the foundation of the area’s economy. By the mid-19<sup>th</sup> century, cattle families, such as the Streaty Parker, Benjamin and Joseph Guy, A. E. Godwin, John M. Pearce, Mitchell Alderman, and Eli Morgan, ran cattle first on open range lands along the Kissimmee River. Open range gave way to fenced pasturage following the early 20<sup>th</sup> century outbreak of the fever or “Texas” tick. In 1924 Florida enacted a law making cattle dipping compulsory. The State provided funding for dipping vats, as well as financial incentives for each cow dipped. During the tick epidemic, cattlemen needed to treat their cattle every eleven days. Dipping vats became centers of social activities during this period. In addition to dipping vats, other traces of the cattle industry can be found throughout the LCD Study Area. These traces include remains of cow pens, farmsteads, ranch houses, cattle camps, and fence lines (Newman et al. 2000; Hughes and Groover 1999). Akermen (2007) provides a detailed account of Florida’s cowmen and the cattle business.

### **Impacts of Affected Resources**

#### *Alternative A*

There could be some cumulative adverse impacts to cultural resources under the No Action Alternative. Less land will be protected from development, increasing the risk of disturbance or destruction of cultural resources.

#### *Alternative B*

Under Alternatives B, beneficial effects will occur because of increased land protection. The Service believes that the acquisition of lands will have no adverse effect on any known or yet-to-be identified NRHP-eligible cultural resources. However, in the future, if the Service plans or permits any actions that might affect eligible cultural resources, it will carry out appropriate site identifications, evaluations, and protection measures as specified in the regulations and in Service directives and manuals. In addition, increased field surveys will likely be conducted on Service-owned lands to identify and protect any sites discovered. Project-related and research-driving investigations will help elucidate the area’s history, cultural adaption to changing ecological and climatic conditions, and paleoecology. The Conservation Area spans 12 counties and encompasses the northwestern Everglades, the northern margin of Lake Okeechobee and the watersheds of the Caloosahatchee River, Fisheating Creek, Peace River, and Myakka River. Given the history of this area, cultural resource sites are expected to be encountered. Further, the Conservation Area encompasses numerous sites of interest to the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, and the Seminole Nation. Sites that might be encountered within the Conservation Area include green corn dance sites, villages, camps, cemeteries, and historic landscapes. Additional consultation will be conducted with the Tribal Elders and the Tribal Historic Preservation Offices to identify sites and landscapes of significance to the individual Tribes, as well as to provide context. This consultation provides the foundation for sharing information on the Tribes’ past and current cultural practices and landscape management throughout the area. A component of these consultation is the establishment of protocols to protect each Tribe’s intellectual property. Partnering with Tribal Nations will

aid in identify and protection sites, cultural landscapes, and specific biota of importance to the Tribes. Planned interpretation and environmental education programs will continue to promote public understanding and appreciation of the area’s rich cultural resources.

## **ENVIRONMENTAL JUSTICE**

### **Description of Cumulative Impacts, Environmental Trends, and Planned Actions**

The Service is unaware of any other environmental trends or planned actions that will adversely impact environmental justice, including the Preferred Action. No significant adverse or beneficial short-term, long-term, or cumulative impacts will be anticipated for environmental justice.

### **Affected Environment**

The changing demographics of urban areas, loose permitting requirements, and exclusionary zoning laws have funneled racial and ethnic minorities into areas with greater environmental degradation and reduced support (Taylor 2014). When urban areas were developing across the U.S., zones reserved exclusively for residential purposes were often expensive. Meanwhile, mixed-use zones were more affordable but allowed residential and industrial buildings to be built side by side. These zoning practices led to a higher population density in areas closer to environmental hazards (Taylor 2014). Residents of environmentally degraded areas cannot or will not move because of a lack of financial resources, ownership of current land, and a sense of place (Taylor 2014).

In response to such environmental injustices, Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” directs federal agencies to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations,” including tribal populations.

This section examines low-income populations, people of color populations, and thirteen environmental justice indexes within the counties that comprise the Conservation Area using the U.S. Environmental Protection Agency’s (EPA) EJScreen tool (EPA 2023). EJScreen is an environmental justice mapping and screening tool that provides federal agencies with a nationally consistent dataset and approach for combining environmental and demographic indicators. The EPA defines low-income as the percentage of a population with household incomes less than or equal to twice the federal poverty level. People of color are defined as individuals who list their racial status as a race other than white alone or their ethnicity as Hispanic or Latino.

Some counties that are partially or entirely within the Conservation Area have a substantial number of low-income and people of color populations, according to EJScreen. Nine out of 12 counties scored higher than the 50th percentile for people of color populations compared to the U.S. (EA Table 11; EPA 2023), meaning nine counties have people of color populations greater than 50% of the counties in the United States. Further, 10 out of 12 counties scored higher than the 50<sup>th</sup> percentile for low-income populations (EPA 2023). Polk, Hendry, and Hardee counties had the three highest percentiles for people of color populations at 78th, 77th, and 69th, respectively (EA Table 11; EPA 2023). The three highest percentiles for low-income populations were Hendry (86th), Desoto (85th), and Hardee (80th) counties (EA Table 11; EPA 2023).

Thirteen environmental justice indexes, including particulate matter 2.5, ozone, diesel particulate matter, air toxics cancer risk, air toxics respiratory hazards index, traffic releases to air, traffic proximity, lead paint, Risk Management Plan facility proximity, hazardous waste proximity, superfund proximity, underground storage tanks, and wastewater discharge, were evaluated for all 12 counties. Each environmental justice index combines two demographic factors, low-income and people of color populations, with a single environmental

factor. The indexes are further explained in EA Table 12. Five indexes had an average (12-county average) score greater than the 50th percentile: ozone, diesel particulate matter, air toxics respiratory hazards index, traffic proximity, and underground storage tanks; however, individual counties scored significantly higher than the 50th percentile for many indexes, which are summarized in EA Table 13 (EPA 2023).

**EA Table 11. Socioeconomic indicator scores for people of color and low-income populations reported by county. Socioeconomic indicator scores are reported as U.S. percentile. Scores over the 50th percentile are underlined. Source: EJScreen (EPA 2023).**

Socioeconomic Indicator (U.S. %tile)	Charlotte	Collier	DeSoto	Glades	Hardee	Hendry	Highlands	Lee	Manatee	Okechobee	Polk	Sarasota	Avg
People of Color Pop.	34	57	63	59	69	77	54	54	49	57	78	35	57
Low-Income Pop.	52	49	85	79	80	86	70	55	52	73	68	41	66

**EA Table 12. Descriptions, data sources, and data retrieval years for EJScreen’s 13 environmental justice indexes (EPA 2023).**

Index	Description	Data Source	Data Year
Particulate matter 2.5 (PM <sub>2.5</sub> )	Annual average of PM <sub>2.5</sub> air levels	EPA's Office of Air and Radiation	2019
Ozone	Average of the annual top ten daily maximum 8-hour ozone concentrations in air	EPA's Office of Air and Radiation	2019
Diesel Particulate Matter	Diesel particulate matter air level	EPA Hazardous Air Pollutants	2019
Air Toxics Cancer Risk	Lifetime cancer risk from air toxics inhalation	EPA Hazardous Air Pollutants	2019
Air Toxics Respiratory Hazard Index	Ratio of exposure concentration to health-based reference concentration	EPA Hazardous Air Pollutants	2019
Toxic Releases to Air	Risk-Screening Environmental Indicators model of toxicity-weighted air concentrations of chemicals listed by the Toxics Release Inventory	2021 Risk-Screening Environmental Indicators Geographic Microdata	2019

Index	Description	Data Source	Data Year
Traffic Proximity and Volume	Count of vehicles at major roads within 500 meters divided by distance in meters	2020 U.S. Department of Transportation	2021
Lead Paint	Percent of housing units built pre-1960	U.S. Census Bureau American Community Survey	2020
Superfund Proximity	Count of proposed or listed superfund sites within 5 km (or nearest one beyond 5 km) divided by distance in kilometers	EPA Comprehensive Environmental Response, Compensation, and Liability Information System	2017–2021
Risk Management Plan Facility Proximity	Count of Risk Management Plan facilities within 5 km (or nearest one beyond 5 km), each divided by distance in kilometers	EPA Risk Management Plan database	2022
Hazardous Waste Proximity	Count of hazardous waste facilities (Treatment, Storage, and Disposal Facilities and Large Quantity Generators) within 5 km (or nearest beyond 5 km), each divided by distance in kilometers	Treatment, Storage, and Disposal Facilities data calculated from the EPA's RCRA Info database	2022
Underground Storage Tanks and Leaking Underground Storage Tanks	Count of leaking underground storage tanks (multiplied by a factor of 7.7) and the number of underground storage tanks within a 1,500-foot buffered block group	EPA Underground Storage Tank Finder	2022
Wastewater Discharge	Risk-Screening Environmental Indicators-modeled toxic concentrations at stream segments within 500 meters divided by distance in kilometers	Risk-Screening Environmental Indicators-modeled toxic concentrations to stream reach segments	2022

**EA Table 13. EJScreen environmental index scores for 13 variables measured by county. Environmental index scores are reported as U.S. percentile. Scores over the 50th percentile are underlined. Source: EJScreen (EPA 2023)**

<b>EJ Index (U.S. %tile)</b>	<b>Charlott</b>	<b>Collier</b>	<b>DeSoto</b>	<b>Glades</b>	<b>Hardee</b>	<b>Hendry</b>	<b>Highlands</b>	<b>Lee</b>	<b>Manatee</b>	<b>Okeechobee</b>	<b>Polk</b>	<b>Sarasota</b>	<b>Avg</b>
Particulate Matter 2.5	30	33	50	36	53	49	37	43	43	35	70	28	42
Ozone	36	32	60	53	68	63	58	48	62	43	77	42	54
Diesel Particulate Matter	40	54	59	29	41	53	40	52	61	48	87	46	51
Air Toxics Cancer Risk	31	58	31	29	30	33	37	63	42	28	76	35	41
Air Toxics Respiratory HI	44	54	67	63	67	85	59	54	51	64	88	42	62
Toxic Releases to Air	2	46	9	28	46	57	16	16	42	12	85	6	30
Traffic Proximity	40	50	57	35	57	60	45	53	55	46	71	42	51
Lead Paint	22	19	61	47	65	55	42	23	36	34	25	27	38
Superfund Proximity	6	3	17	23	37	30	15	3	49	44	58	19	25
RMP Facility Proximity	39	52	33	36	36	65	37	49	57	70	61	34	47

EJ Index (U.S. %tile)	Charlott	Collier	DeSoto	Glades	Hardee	Hendry	Highlands	Lee	Manatee	Okeechobee	Polk	Sarasota	Avg
Hazardous Waste Proximity	2	39	3	5	22	10	32	37	49	11	57	17	24
Underground Storage Tanks	43	59	73	64	71	78	58	57	64	67	74	49	63
Wastewater Discharge	30	NA	65	3	71	NA	21	68	38	9	40	32	38

### **Impacts of Affected Resources**

#### *Alternative A*

Under the No Action Alternative, the Service will not establish the Conservation Area and will be unable to purchase fee-title properties or conservation easements. The Service could not collaborate with partners and community members to address environmental justice issues within the Conservation Area by conserving land and reducing development that could worsen environmental injustices, such as industrial development. Communities within the Conservation Area subjected to environmental injustices will likely experience worsening conditions, such as heightened exposure to pollution and corresponding health risks, limited access to adequate environmental services, and loss of land and resource rights.

#### *Alternative B*

Under the preferred alternative, the Service will establish the Conservation Area and be authorized to purchase land and conservation easements from willing landowners. Establishing the Conservation Area will not disproportionately adversely impact low-income or minority communities. Conversely, establishing a Conservation Area may improve environmental justice by providing equitable access to nature, reducing the disproportionate impact of pollution on communities of color and economically disadvantaged communities, and addressing the legacies of racism and injustice in natural resource protection. Additionally, the acquisition of fee-title lands may contribute to providing additional cultural, traditional, and medicinal use opportunities to Tribal Nations.

However, the Service's land acquisition program focuses on acquiring high-quality habitat, often under the assumptions that areas with low habitat fragmentation are more desirable than areas with high fragmentation, large blocks of contiguous habitat are better than small blocks, and areas close together are more beneficial than areas separated by great distances. These assumptions will likely lead the Service to focus on less densely populated areas, which are less likely to be in the proximity of minority or low-income communities. High-quality habitat is also often near other already protected lands because of the high conservation values of the area (Loucks et al. 2008; McDonald and Boucher 2011). Acquisition of habitat in such an area will add more conservation lands to communities that already benefit from nearby protected lands and may not address the inequitable pattern where minority and low-income communities contain fewer and lower-quality natural areas (Landau et al 2020).

## **UNAVOIDABLE ADVERSE EFFECTS**

Unavoidable adverse effects are the effects of those actions that could cause harm to the human environment and that cannot be avoided, even with mitigation measures. There will be some minor, localized unavoidable adverse effects under all the alternatives. All will be mitigated, so there will in fact be no significant unavoidable adverse impacts under any of the alternatives.

### *Alternative A*

The No Action Alternative will maintain the status quo for development and growth, thus contributing to the unavoidable effects of such development (e.g., increased air emissions, increased impervious surface and stormwater runoff, increased noise).

### *Alternative B*

Under Alternatives B, there could be, for example, localized adverse effects of building a new headquarters and upgrading access roads. There will be property tax losses to towns and increased visitation that could be unavoidable effects in those years that revenue sharing payments are less than local property taxes. However, none of these effects rises to the level of significance.

## **RELATIONSHIP BETWEEN SHORT-TERM USES OF THE HUMAN ENVIRONMENT AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

### *Alternative A*

The No Action Alternative is expected to diminish the long-term productivity and sustainability of natural resources in the Conservation Area.

### *Alternative B*

Alternatives B will strive to maintain or enhance the long-term productivity and sustainability of natural resources on fee-title lands in the Conservation Area. This alternative will strive to conserve federal trust species and State listed species and the habitats they depend on, as evidenced by management activities described in the Conceptual Management Plan (Appendix B and C). This alternative also outlines outreach and environmental education activities that will encourage visitors to be better stewards of the environment.

## **POTENTIAL IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES**

Alternative A will have no long-term effect on potential irreversible and irretrievable commitments of federal financial resources. Establishing a Conservation Area with a combination of fee-title and less-than-fee-title lands, as described under Alternatives B, may contribute to irreversible and irretrievable commitments of federal financial resources. For example, the possible construction or modification of an office and associated visitor facility and access road(s) is a viable consideration. These activities typically require long-term commitments of resources. Another irreversible commitment of resources impacting local communities is Service land acquisition. Once the lands are purchased, it is unlikely that they will revert back to private ownership.

## **SUMMARY**

Southwest Florida contains abundant natural resources, including physical and biological resources, such as unique geomorphological characteristics, various water resources, diverse habitats, and many wildlife species. Examples of federally threatened and endangered species likely in southwest Florida include the Florida panther, Audubon's crested caracara, Everglade snail kite, Florida grasshopper sparrow, and red-cockaded woodpecker. Florida's subtropical climate and diverse habitats support these and many other species; however,



southwest Florida's natural resources are being negatively impacted by numerous threats, including climate change; residential, commercial, industrial, and agricultural development; invasive species; the suppression of natural processes; and the loss of genetic diversity.

Through coordination with State and other federal agencies, Tribal Nations, non-profit organizations, local governments, universities, and the public, the U.S. Fish and Wildlife Service has strategically identified an approximately four-million-acre area in southwest Florida that contains high-quality priority resources, the protection of which will benefit humans and wildlife. The Service will collaborate with partners to achieve various goals, including but not limited to protecting, managing, and restoring habitats for fish and wildlife; implementing science-driven landscape-level conservation; conserving important lands and waters for the benefit of all people; and promoting conservation partnerships that use adaptive tools and strategies to achieve conservation.

To achieve these goals, the Service proposes using a combination of less-than-fee and up to 10% fee-title acquisitions to protect land within the Conservation Area. Fee-title acquisitions will be prioritized based on ecological importance, landscape connectivity and presence of wildlife corridors, wetland restoration opportunities and contributions to water quality maintenance, and existing and anticipated threats. The Service will manage fee-title properties to benefit wildlife and maintain or create high-quality habitat. In addition, the Service will consider wildlife-dependent recreation opportunities on fee-title lands when appropriate and compatible.

Based on the nature of the project, the location of the site and the current land use, the preferred alternative (Alternative B) will not have any significant effects on the quality of the human environment including public health and safety. Further, because the purpose of the project is to protect, conserve, maintain, and where possible, enhance the natural habitat of the lands within the conservation area, the project is not expected to have any significant adverse effects on the area's wetlands and floodplains, pursuant to Executive Orders 11990 and 11988.

Implementation of the preferred alternative is unlikely to involve any highly uncertain, unique, unknown, or controversial effects on the human environment. The preferred alternative will not establish a precedent for future actions with significant effects, nor will it represent a decision in principle about a future consideration. No cumulatively significant impacts on the environment are anticipated.

In addition, the project will not significantly affect any unique characteristic of the geographic area, such as historical or cultural resources, wild and scenic rivers, or ecologically critical areas. The project will not significantly affect any site listed in or eligible for listing in the National Register of Historic Places, nor will it cause loss or destruction of significant scientific, cultural, or historic resources. The area's cultural resources will be protected under the regulations of the National Historic Preservation Act of 1966, as amended, the Archaeological Resources Protection Act, and the Advisory Council on Historic Preservation (36 CFR 800). The Florida State Historic Preservation Office will be contacted whenever any future management activities have the potential to affect cultural resource sites.

All tracts acquired by the Service in fee-title will be removed from local real estate tax rolls, because federal government agencies are not required to pay state or local taxes. However, the Service makes annual payments to local governments in lieu of real estate taxes, as required by the Refuge Revenue Sharing Act (Public Law 95-469). Payment for acquired land is computed on whichever of the following formulas is greatest: (1) Three-fourths of 1 percent of the fair market value of the lands acquired in fee-title; (2) 25 percent

of the net refuge receipts collected; or (3) 75 cents per acre of the lands acquired in fee-title. The estimated annual revenue-sharing payment that will be made to the individual county will depend on the amount of acreage acquired in fee-title. No actions will be taken that will lead to a violation of federal, state, or local laws imposed for the protection of the environment. Consistent with the Act, payments are prorated based on available funding.

### **RECOMMENDATION**

The Service has selected Alternative B, as the preferred alternative, because it better serves the outlined purpose and need, stated goals and objectives, and vision and purposes of the Conservation Area. Through the establishment of Everglades to Gulf Conservation Area, as described in Alternative B, the Service will be able to fully participate with other conservation partners in the management and protection of the wildlife and habitats within the project area. Connectivity between existing conservation lands will be enhanced, movement corridors will be protected, and threatened and endangered species will receive additional management attention. Opportunities for wildlife-dependent recreational activities and cultural, traditional, and medicinal use opportunities will be increased on fee-title acquired lands, and the existing rural working landscape will receive further protection from development pressure. Further, any cultural resources found within the Service-owned lands in the Conservation Area will be afforded protection by the Service.

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**STATE COORDINATION**

To serve shared visions, missions, goals, and objectives, the Service and the State of Florida will continue to work closely together to conserve and manage the fish and wildlife resources of the nation under a variety of laws, regulations, and policies. Key State conservation agencies in this landscape include the FWC, FFS, FDACS, FDEP, SFWMD, and SWFWMD.

Management of State fish and wildlife resources is administered by FWC, FDACS, and FDEP for the long-term well-being and benefit of people. FWC protects and manages habitats for more than 575 species of wildlife, more than 200 native species of freshwater fish, and more than 500 native species of saltwater fish; while balancing these species' needs with the needs of over 22 million residents (U.S. Census Bureau n.d.) and the 122 million annual visitors (Florida Department of Transportation 2021) who share the land and water with Florida's wildlife.

The FWC responsibilities include:

- Law Enforcement – to protect fish and wildlife, keep waterways safe for millions of boaters, and cooperate with other law enforcement agencies providing homeland security.

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- Research – to provide information for the FWC and others to make management decisions based on the best science available involving fish and wildlife populations, habitat issues, and the human-dimension aspects of conservation.
  - Management – to manage the State’s fish and wildlife resources based on the latest scientific data to conserve some of the most complex and delicate ecosystems in the world along with a wide diversity of species.
  - Outreach – to communicate with a variety of audiences to encourage participation and responsible citizenship and stewardship of the State’s natural resources.

FWC, FDACS, and FDEP manage State lands and waters. FWC directly manages 6.07 million acres of Wildlife Management Areas. FDEP manages 175 State parks covering nearly 800,000 acres 42 aquatic preserves, three National Estuarine Research Reserves, and the Florida Key National Marine Sanctuary: totaling over 5 million acres of submerged lands and coastal uplands.

FFS manages over 1.2 million acres of State forests in Florida for multiple public uses including timber, recreation, and wildlife habitat. Operating from 15 districts throughout the State, FFS maintains a mission to protect and manage the forest resources of Florida, ensuring that they are available for future generations. Wildfire prevention and suppression are key components in FDOF’s efforts. FFS is also the permitting agency responsible for authorizing prescribed burns throughout Florida including federal lands.

The SFWMD and SWFWMD are two of five State water management agencies. The Districts are responsible for water management, water supply, and the conservation and protection of water resources, while providing environmental, economic, and recreational benefits in all or part of 29 south and southwest Florida counties. Together, the SFWMD and SWFWMD along with their partners manage more than 1.452 million acres (SFWMD 2023, SWFWMD 2023) for the purposes of protecting, supplying, and conserving the region’s water resources.

The State’s participation and contribution throughout this land protection process will provide for ongoing opportunities and open dialogue to improve the ecological sustainment of fish and wildlife in the State of Florida

### **TRIBAL COORDINATION**

The Service and Tribal Nations recognize the need for strong, healthy communication and relationships so that we can work together to improve and enhance conservation of fish and wildlife resources and shared natural and cultural resource goals and objectives. The Service’s engagement with and responsibilities to Tribal Nations are guided primarily by doctrines of reserved rights, statutes, treaties, judicial mandates, Executive Orders, Presidential proclamations, and Secretary’s Orders. The United States’ trust responsibility is a well-established legal obligation that originates from the unique, historical relationship between the United States and Tribal Nations. The trust responsibility consists of the highest moral obligations that the United States must meet to ensure the protection of Tribal Nations and individual Indian lands, assets, resources, and treaty and similarly recognized rights.

The Federal Government recognizes the valuable contributions of the Indigenous Knowledge (also called Indigenous Traditional Knowledge, Traditional Knowledge, Traditional Ecological Knowledge, and Native Science) that Tribal Nations and Indigenous Peoples have gained and passed down from

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generation to generation. Indigenous Knowledge combines observations, oral and written knowledge, innovations, practices, and beliefs over long terms and spanning generations, interweaving biological, physical, social, cultural, and spiritual systems. The Federal Government's consideration and inclusion of Indigenous Knowledge is guided by respect for the sovereignty and self-determination of Tribal Nations, the Nation-to-Nation relationship between the United States and Tribal Nations and the United States' trust responsibility, and the need for the consent of and honest engagement with Tribal Nations and Indigenous Peoples. For any particular effort, the Tribal Nation(s) or Indigenous People(s) involved clearly drive whether or not to share Indigenous Knowledge and whether or not their Indigenous Knowledge should be applied in Federal contexts; the Federal Government respects these decisions. Indigenous Knowledge offers critical insight into the historic and scientific significance of an area, providing an important foundation for understanding, analysis, and decision making. Consultation and collaboration with Tribal Nations and Indigenous Peoples is critical to ensuring that Indigenous Knowledge is considered and applied in a manner that respects Tribal sovereignty and achieves mutually beneficial outcomes. Indigenous Knowledge can play a key role in relation to the Federal Government's planning, analysis, decision making, and compliance under a variety of laws, regulations, and policies, importantly the Endangered Species Act (16 U.S.C. §§1531-1544), National Environmental Policy Act (42 U.S.C. §§4321 et seq. and 40 CFR Chapter V Subchapter A), Marine Mammal Protection Act (16 U.S.C. Chapter 31), Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. Chapter 38), National Historic Preservation Act (Title 54 U.S.C.), and Native American Graves Protection and Repatriation Act (25 U.S.C. §§3001-3013).

Tribal Nations are also important partners in the Greater Everglades landscape. The Service works with the Tribal Nations to ensure timely and effective cooperation and collaboration. During the planning for this project, the Service engaged with Tribal Nations, including the Seminole Nation of Oklahoma, Poarch Band of Creek Indians, Miccosukee Tribe of Indians of Florida, Seminole Indian Tribe of Florida, and the Muscogee Nation early in the scoping process. At the request of the Miccosukee Tribe of Indians of Florida, a follow-up meeting occurred between the Service and the Miccosukee Tribe to discuss the Landscape Conservation Design (Morris et al. 2017) and the planning process. The Service and the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida met and discussed the role of the Service in land protection and opportunities in Southwest Florida and opportunities for the Service and Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida to collaborate on conservation objectives. The Seminole Tribe of Florida and Miccosukee Tribe of Indians of Florida contributed as active members of the planning team to develop this proposal.

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## *APPENDIX B. CONCEPTUAL MANAGEMENT PLAN*

### **INTRODUCTION**

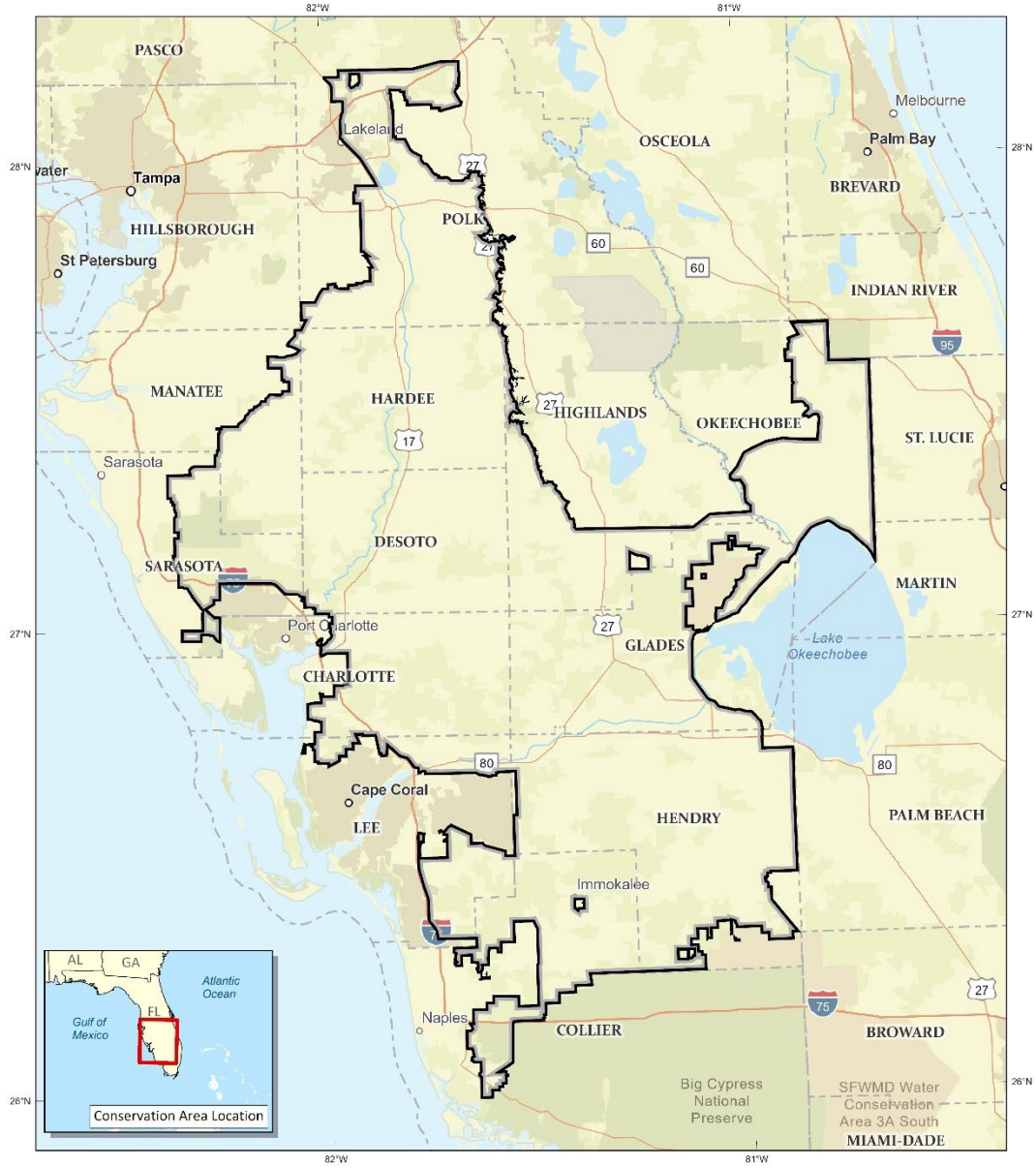
This plan for the Everglades to Gulf Conservation Area presents a general outline on how the fee-title acquisition lands within the Conservation Area will be operated and managed. As a conceptual plan, it does not provide extensive detail, pinpoint exactly where facilities will be, or show where public use will be allowed. Those details will be included in the formal refuge management planning with input from the public and in accordance with the National Environmental Policy Act, as well as the appropriateness and compatibility requirements in the National Wildlife Refuge System Administration Act and the Refuge Recreation Act. This Plan seeks to address and should help answer many of the questions commonly asked by interested parties.



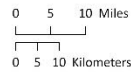
**U.S. Fish & Wildlife Service**  
**Everglades to Gulf Conservation Area**

Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk and Sarasota Counties

*Conservation Area Boundary*



Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 12/6/2023  
 Primary Data Sources: USFWS  
 Base map: ESRI  
 FDEP Atlas: 4499N-14D-85  
 ArcGIS Pro v.3.1



Conservation Area Boundary  
 County Boundary

**CMP Figure 1 Conservation Area.**

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## GOALS OF THE NATIONAL WILDLIFE REFUGE SYSTEM

The mission of the Refuge System, as defined by the National Wildlife Refuge System Improvement Act of 1997 is:

“...to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

The wildlife and habitat vision for national wildlife refuges stresses that wildlife comes first; that ecosystems, biodiversity, and wilderness are vital concepts in refuge management; that refuges must be healthy, and growth must be strategic; and that the refuge system serves as a model for habitat management with broad participation from others.

Actions were initiated in 1997 to comply with the direction of this new legislation, including an effort to complete comprehensive conservation plans for all refuges. These plans are completed with full public involvement and help guide the future management of refuges by establishing natural resource and outdoor recreation/environmental education programs. Consistent with the National Wildlife Refuge System Improvement Act (Improvement Act), approved plans serve as guidelines for refuge management over a 15-year period. The Improvement Act states that each refuge shall be managed to:

- Fulfill the mission of the Refuge System;
- Fulfill the individual purposes of each refuge unit;
- Consider the needs of wildlife first;
- Fulfill requirements of comprehensive conservation plans that are prepared for each unit of the Refuge System;
- Maintain the biological integrity, diversity, and environmental health of the Refuge System;
- Recognize that wildlife-dependent recreation activities including hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation are legitimate and priority public uses; and
- Allow refuge managers authority to determine compatible public uses.

National Wildlife Refuges connect visitors to their natural resource heritage and seek to provide them with an understanding and appreciation of fish and wildlife ecology that serves a foundational role in the environment. Wildlife-dependent recreation on refuges also generates economic benefits to local communities. The report, *Banking on Nature 2017: The Economic Contributions of National Wildlife Refuge Recreational Visitation to Local Communities*, (Caudill and Carver 2019) examined the local economic contributions of recreational visits to 162 national wildlife refuges in 47 states and 1 territory for the fiscal year (FY) 2017 (October 1, 2016 – September 30, 2017). According to the report, approximately 53.6 million people visited national wildlife refuges generating almost \$3.2 billion in total economic activity and supported over 41,000 jobs, generating about \$1.1 billion in employment income. Additionally, recreational spending on refuges generated nearly \$229 million in tax revenue at the local, county, State, and federal levels.

Other findings also validate the belief that communities near refuges benefit economically. A 2012

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study *Amenity Values of Proximity to National Wildlife Refuges* determined that refuges can have a positive effect on nearby home values (Taylor et al. 2012).

The Improvement Act stipulates that CCPs be prepared in consultation with federal and State governmental agencies and adjoining private landowners and that the Service develop and implement a process to ensure an opportunity for active public involvement in the preparation and revision (every 15 years) of the CCPs. All lands of the National Wildlife Refuge System will be managed in accordance with an approved CCP that will guide management decisions and set forth strategies for achieving refuge unit purposes. Each CCP will be consistent with sound resource management principles, practices, and legal mandates including Service compatibility standards and other Service policies, guidelines, and planning documents (602 FW 1).

### **LAWS GUIDING THE NATIONAL WILDLIFE REFUGE SYSTEM**

A number of laws, policies and regulations, including the following, govern the acquisition and management of land, including the Improvement Act, the National Wildlife Refuge System Administration Act, Endangered Species Act, and Migratory Bird Treaty Act.

#### **National Wildlife Refuge System Improvement Act of 1997**

The Improvement Act guides the development and operation of the Refuge System. It clearly identifies the mission of the Refuge System; requires the Secretary of the Interior to maintain the biological integrity, diversity, and environmental health of refuge lands; mandates a “wildlife first” policy on refuges; and requires comprehensive conservation planning. It also designates the following six wildlife-dependent recreational uses as priority public uses of the Refuge System: hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation. The Improvement Act amended the National Wildlife Refuge System Administration Act of 1966, which continues to serve as the parent legislation for the Refuge System.

#### **National Wildlife Refuge System Administration Act of 1966**

This Act defines the Refuge System, including refuges, areas for the protection and conservation of fish and wildlife threatened with extinction, wildlife ranges, wildlife management areas, and waterfowl production areas. It also authorizes the Secretary of the Interior to permit any use of an area, provided the use is compatible with the major purposes for establishing the area.

#### **Endangered Species Act of 1973 (as amended)**

The Endangered Species Act (ESA) directs all federal agencies to participate in endangered species conservation by protecting threatened and endangered species and restoring them to a secure status in the wild. Section 7 of the Act charges federal agencies to aid in the conservation of species listed as threatened or endangered under the ESA and requires federal agencies to ensure that their activities will not jeopardize the continued existence of ESA-listed species or adversely modify designated, critical habitats.

#### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act protects all migratory birds and their parts (including eggs, nests, and feathers) from illegal trade. The Migratory Bird Treaty Act is a domestic law that acknowledges the United States' involvement in four international conventions (with Canada, Japan, Mexico, and Russia) for the protection of a shared migratory bird resource. The bird resource is considered shared because these birds migrate between countries at some point during their annual life cycle.

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#### National Environmental Policy Act of 1969

The National Environmental Policy Act requires that all federal agencies consult fully with the public in planning any action that may significantly affect the quality of the human or natural environment.

#### Land and Water Conservation Act

The Land and Water Conservation Fund uses funds from certain user fees, the proceeds from the disposal of surplus federal property, the federal tax on motorboat fuels, and oil and gas lease revenues (primarily Outer Continental Shelf oil monies) to fund matching grants to states for outdoor recreation projects and to fund land acquisition for various federal agencies.

#### Migratory Bird Conservation Act

The Migratory Bird Conservation Act provides for the acquisition of suitable habitats for use as migratory bird refuges, and the administration, maintenance, and development of these areas, under the administration of the Secretary of the Interior.

#### Archaeological Resources Protection Act of 1979

The Archaeological Resources Protection Act provides protection for archeological resources on public lands by prohibiting the "excavation, removal, damage or defacing of any archeological resource located on public or Indian lands," and sets up criminal penalties for those acts. It also encourages the increased cooperation and exchange of information between governmental authorities, the professional archeological community, and private individuals having archeological resources or data obtained before 1979.

#### National Historic Preservation Act of 1966

The National Historic Preservation Act requires all federal agencies to consider the effects of their undertaking on properties meeting criteria for the National Register of historic places and ensures that historic preservation fully integrates into the ongoing programs and missions of federal agencies.

### **PURPOSE OF ESTABLISHMENT AND LAND ACQUISITION AUTHORITY**

Emphasizing migratory birds, listed species, and wetlands, while protecting the important fish and wildlife resources of this landscape, the listed purposes have been developed for the establishment of the Conservation Area.

"... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. 668dd(a)(2) (National Wildlife Refuge System Administration Act)

"...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." 16 U.S.C. 1534 (Endangered Species Act of 1973)

"...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

"...to conserve and protect migratory birds..., including species that are listed...as endangered

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species or threatened species, and to restore or develop adequate wildlife habitat.” 16 U.S.C. §715i (Migratory Bird Conservation Act)

“...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude...” 16 U.S.C. 742f(b)(1) “...for the development, advancement, management, conservation, and protection of fish and wildlife resources...” 16 U.S.C. 742f(a)(4), (Secretarial powers to implement laws related to fish and wildlife) (Fish and Wildlife Act of 1956)

"...suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. 460k-2 [Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended]

## **VISION FOR THE EVERGLADES TO GULF CONSERVATION AREA**

The vision for Everglades to Gulf Conservation Area is:

Together with our partners, we will preserve wildlife corridors containing a mosaic of natural communities and working lands with rich cultural history and traditions for the benefit of all people. All species and habitats will be protected and contain the resiliency to facilitate adaption due to the impacts of climate change and development. Additionally, protection and management actions within the Everglades to Gulf Conservation Area will improve water quality and water storage, provide wildlife dependent recreational opportunity, and support Florida’s family farms and ranches.

## **GOALS AND OBJECTIVES FOR THE EVERGLADES TO GULF CONSERVATION AREA**

Four overarching goals were developed for the Conservation Area. The goals are intentionally broad, descriptive statements of the desired future conditions. They embrace the purposes and vision statement. The goals address a functional conservation landscape; habitat for fish and wildlife; water quality, quantity, and storage; opportunities for Tribal Nations; and wildlife-dependent recreation, as listed.

**1. Protect, Restore, and Manage Habitats for Fish and Wildlife.** The Conservation Area will aid in the maintenance and recovery of Florida panther populations and protect many rare and endemic species, including over 100 Federally and State-listed Threatened and Endangered species, such as the Florida scrub-jay, Audubon’s crested caracara, wood stork, Florida bonneted bat, Everglade snail kite, Eastern indigo snake and sand skink, thereby protecting natural communities found only in south Florida and species adapted to Florida’s unique subtropical environment. In addition, the Service will conserve important rural landscape mosaics, including ranchlands, to combat habitat fragmentation and protect wildlife corridors essential to many species’ viability and adaptation responses to climate change. Important wildlife corridors essential for listed species viability and adaptation opportunities in response to climate change will be provided. The Conservation Area will also provide opportunities to restore important wetlands, provide water storage, and improve water quality for the Greater Everglades, Myakka River, Peace River, Fisheating Creek, and Caloosahatchee River watersheds, and coastal estuaries including Charlotte Harbor.

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**2. Provide Science-Driven Landscape-Level Conservation.** The Conservation Area will contribute to protection of a functional conservation landscape composed of a mosaic of natural communities and ranchlands that will prevent further habitat fragmentation, provide functional habitat for wide-ranging listed species, and facilitate watershed and prescribed fire management. The Conservation Area will allow the Service to protect and restore water resources within multiple watersheds to improve water quality and quantity; maintain and enhance ecological integrity, recreation, and the economy; and improve and secure water supplies, benefiting humans and wildlife. The landscape-scale ecological priorities within the Conservation Area are identified with the best available ecological and spatial data based on conservation science, landscape ecology, tribal indigenous knowledge, and spatial analysis.

**3. Conserve Important Lands and Waters for the Benefit of All People.** Visitors to the Conservation Area fee-title lands will enjoy opportunities for compatible wildlife-dependent recreation which may include hunting, fishing, wildlife observation, photography, environmental education, and interpretation, while increasing knowledge of and support for conservation. Fee-title lands could also provide cultural, traditional, and medicinal use opportunities. Willing landowners could protect their private land through conservation easements and stewardship programs while providing important ecosystem services for all people. The Everglades and southwest Florida watersheds require protection of remaining functional wetlands and floodplains, and restoration of hydrology to avoid further impairment and improve water quality and supply including Charlotte Harbor, an essential economic engine for south and southwest Florida.

**4. Promote Conservation Partnerships Working with Adaptive and Flexible Tools and Strategies.** Collaboration in science, education, research, and land acquisition (including conservation easements) will facilitate the development of new partnerships and strengthen existing partnerships with natural resource organizations, private landowners, government agencies, Tribal Nations, and local decision-makers. The partnerships will help inform land management decisions and encourage continued responsible stewardship of natural and rural landscapes essential for listed species protection, associated natural resources, while facilitating resiliency and adaptation to climate change.

Objectives associated with the Conservation Area would:

- Assist with the restoration of the Everglades.
- Enhance the viability and recovery of the Florida Panther and over 100 other threatened and endangered species and 17 At-risk species.
- Protect and restore watersheds and coastal estuaries for ecological integrity, water supply, recreation, and the economy especially the Caloosahatchee River watershed,

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Fisheating Creek watershed, the Peace River watershed, the Myakka River watershed, Okaloacoochee Slough, Corkscrew Swamp, and Charlotte Harbor.

- Maintain unique natural communities and species adapted to the unique subtropical environment.
- Conserve habitat diversity and complexity.
- Improve and increase resiliency.
- Facilitate protection of a regional scale wildlife corridor through the protection of a functional landscape mosaic of natural communities and ranchlands.
- Facilitate resiliency and adaptation to climate change through protection and restoration of freshwater flows into coastal wetlands and protecting coastal to inland connectivity to provide a functional retreat for coastal species.
- Complement other conservation initiatives.
- Foster existing partnerships and seek new partnerships.
- Conserve cultural sites and landscapes.
- Provide cultural, traditional, and medicinal use opportunities on fee-title lands.
- Provide wildlife dependent recreational opportunities on fee-title lands.

## **MANAGEMENT OF THE EVERGLADES TO GULF CONSERVATION AREA**

### *ADMINISTRATION*

The Conservation Area will be a unit of the National Wildlife Refuge System. The Everglades Headwaters Complex currently located in Vero Beach, FL will provide oversight of refuge administration and management.

The Conservation Area may be managed as part of a refuge complex and later as stand-alone refuge unit. Further, management functions such as a prescribed fire program will be supported by area refuges such as Everglades Headwaters NWR and Conservation Area, Merritt Island NWR, Arthur R. Marshall Loxahatchee NWR, and Florida Panther NWR. As part of a refuge complex, the Conservation Area will have no on-site staff initially and will share staff and equipment with one or more other refuges. As the management and operational needs of the Conservation Area grow in size and complexity, the Conservation Area may become a stand-alone refuge unit. Initially, refuge staff of the Everglades Headwaters NWR and Conservation Area will have the responsibility for managing the newly established Conservation Area. During the interim period, the Service will seek funding for refuge staff within the Conservation Area. Generally, a stand-alone refuge unit has dedicated staff and equipment and is based in local facilities. The Conservation Area may also require additional staff to administer conservation easement program.

As lands are acquired, the Conservation Area may be delineated into management units that will align with the four watersheds (Myakka, Peace, Fisheating, and Caloosahatchee).

The refuge manager will not initiate or permit a new use of a national wildlife refuge unit or expand, renew, or extend an existing use of a National Wildlife Refuge unit unless it has been determined that the use is appropriate and compatible with the mission of the National Wildlife Refuge System and the purposes of each specific refuge unit. Further, the same use may be deemed compatible on some refuge units, but not others due to refuge-specific differences.

### *FACILITIES*



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As no actual lands have been acquired, it is difficult to discuss specifics of facilities and improvements that may be appropriate to effectively manage the Conservation Area. This document will discuss general approaches adopted on other units of the National Wildlife Refuge System as well as unique partnership opportunities that may present themselves in this landscape. As such, the Service may opt for the listed facilities when and where appropriate and compatible.

Conversion of existing trails and roads to public use and/or refuge management access corridors may occur. Such roads may also be abandoned to limit access to sensitive habitats and protected species. Roads and trails may only be open during certain times of year or may have other restriction to protect wildlife resources or to provide access for visitor programs, such as hunting activities. Vehicle access to Service resources will only be allowed on designated roads and trails. Small areas may also be constructed to provide for adequate and safe parking of vehicles in potential public use area.

Because of the potential wide geographic distribution of fee-title lands across this landscape, one or more headquarters and visitor contact stations may be established through the adaptive reuse of buildings acquired through land acquisition (e.g., farmhouse or hunt lodges may be used as an office or education facility). Additionally, shared facility use options may be available with interested partners who already have adequately sized facilities in the area and available space. Other potential future on-site improvements, including additional trails, improved access roads, observation platforms, photography blinds, and parking area may be discussed in a future comprehensive conservation plan and associated step-down plan. The construction of new facilities or conversion of existing structures is contingent upon availability of funds and acquisition of appropriate sites.

Where facility construction, operation, or maintenance may conflict with the conservation of federally listed species, appropriate measures (e.g., buffers and seasonal restrictions) will be identified and implemented to avoid adverse effects. This will be done in consultation with the Service's Ecological Field Office located in Vero Beach, FL.

Generally, public use areas will be open during daylight hours, unless a biological or safety justification supports closure. Some areas could be closed to the public and other (except for emergency, fire, and police response) seasonally or year-round if deemed necessary for protection of sensitive resources, property, and public, etc. Special use permits will be issued to researchers, education groups, and other on an as-need basis, providing that the activities are compatible with the Conservation Area purposes, goal, and objective, and contribute to the ecological understanding, biological survey, or baseline data needs.

### *FUNDING*

The Service will maintain a current inventory of management needs in appropriate Service database(s) and update the associated costs and priorities annually. Those databases provide a mechanism for each unit of the National Wildlife Refuge System to identify its essential staffing, mission-critical projects, and major needs and form a realistic assessment of the funding needed to meet each refuge unit's goals, objectives, and strategies.

No funding has yet been identified or approved to support management. Any funding will be dependent upon a variety of factors, including national and Regional budget priorities and allocations.

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The annual budget for the Conservation Area is estimated to be approximately \$500,000 to cover salaries, equipment maintenance, supplies, and routine equipment and construction material purchases. Large construction projects such as an office, shop facilities, a visitor center, large water control structures, and roads could total \$20 million over a 30-year period, or an average of approximately \$667,000 per year. Land acquisition funding will primarily be funded by the Land Water Conservation Fund (LWCF). Funding for acquisition under LWCF is appropriated annually by Congress and dedicated to specifically designated acquisition priorities.

### *STAFFING*

Staffing on units of the National Wildlife Refuge System is based on a number of factors including size and complexity, proximity to other refuges, and appropriated funding. Based on these and other factors, the Conservation Area may be managed as a unit of a refuge complex or as a stand-alone refuge unit. At this time, it is difficult to delineate staffing specifics, because of the uncertainties associated with the refuge's land acquisition activity, management program complexity, resource issues, funding, and other factors.

Initially, the Conservation Area will likely be managed as a unit under the supervision and management of the Everglades Headwaters Complex, which includes Everglades Headwaters NWR & Conservation Area, Lake Wales Ridge NWR, Archie Carr NWR, and Pelican Island NWR. Staff from nearby refuges may also be used to support needed staffing functions. The Service's Southeast Regional Office evaluates and determines staffing needs and priorities. A refuge manager, Federal Wildlife Officer, and equipment operator or maintenance position may be added as lands are acquired over time. Temporary employees during the field season could include biological aides and high school youth through the Youth Conservation Corps. In addition to technical expertise, refuge staff are selected based on their abilities to work effectively with the public and neighboring landowners. In the long term, the Service's Southeast Regional Office will evaluate the need for additional full-time staff based on management needs, project loads, public use activities, and other factors, and could move forward with providing additional staff when justified. The ability to fill staff positions will depend on availability of funds and Regional priorities. The Regional Office will also provide technical assistance on matters such as engineering, public use planning, and migratory bird management.

### *LAW ENFORCEMENT*

The Conservation Area will be supported by Federal Wildlife Officers assigned to both the South Florida Patrol District and the North Florida Patrol District. The Service will also establish formal, cooperative agreements with local law enforcement departments, the county sheriff's departments, and FWC to assist with protection and appropriate law enforcement response for the Conservation Area.

### *FIRE MANAGEMENT*

It is the policy of the Service to use prescribed fire treatments when it is the most appropriate management tool for reaching habitat objectives. Wildfires, however, will be managed utilizing the appropriate response to ensure the safety of firefighters and the public. The range of appropriate response options vary depending on the location of an unplanned fire. Options for managing these fires are outlined in the Conservation Area's Fire Management Plan.

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Refuge units generally have staff trained in fire management and an array of equipment for fire suppression. To supplement these capabilities, cooperative agreements and contracts with State agencies and local fire departments are usually put together to tap local firefighting expertise. This is especially important for structure fires since local fire departments have special training and experience in this type of firefighting.

#### *INVASIVE SPECIES MANAGEMENT*

In summary, working partnerships with surrounding landowners; conservation organizations; and municipal, State, and federal agencies will be critical to successful management of the Conservation Area and priority lands within the southwest Florida landscape. The Service will continue to cooperate with our conservation partners, all of whom are instrumental in helping to accomplish habitat management goals and objectives. It is clear that partnerships with the public; landowners; neighbors; conservation organizations; and Tribal Nations, State, municipal, and other federal agencies will be essential a successful Everglades to Gulf Conservation Area.

#### *POPULATION MONITORING*

Surveys will be conducted regularly to track population trends of wildlife species of interest. This information is the basis for habitat management decisions.

Many surveys will be done in cooperation with the FWC to tie into their existing data bases. Also, college, university, or other agency research will be encouraged to collaborate on gathering information on both plant and wildlife species.

#### *PUBLIC USE OPPORTUNITIES AND MANAGEMENT*

Visitors of all abilities will enjoy opportunities for hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation, while increasing knowledge of and support for conservation of the important landscape of the Conservation Area.

With the addition of Service-managed lands within the landscape, wildlife-dependent recreation and education opportunities will increase. The Service will work cooperatively with FWC and other partners to provide a variety of wildlife-dependent activities for the public.

The Improvement Act established six priority public uses on refuge units: hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation. Although these priority uses must receive consideration in planning for public use, they also must be compatible with the purposes for which a refuge unit is established and the mission of the National Wildlife Refuge System. Compatibility Determinations, which evaluate the effects of a particular use or activity in the context of species or habitats on a refuge, aid in making those decisions. As fee-title lands are acquired, compatibility determinations will be used to decide which, where, and how public use opportunities will be permitted.

Public use opportunities contribute to the long-term protection of wildlife resources by promoting understanding, appreciation, and support for wildlife conservation. The six priority public uses will be

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accommodated to the maximum extent possible, without significant negative effects on wildlife or habitat. All public use activities are contingent upon availability of staff and funding to develop and implement these programs. The Service will promote opportunities for volunteers and develop community interpretive materials and programs to enhance awareness of and appreciation for the area's resources. School and other group programs will be encouraged. An increase in public use on the acquired fee-title lands will be expected due to the development of new public facilities and programs including hunting, fishing, hiking trails, observation platforms and overlooks, and other support facilities (e.g., parking lots, trailheads, and visitor contact stations). Most public access will be limited to daylight-use only, but the Service will consider overnight access as a component of other public use activities.

The Federal Government recognizes the valuable contributions of the Indigenous Knowledge that Tribal Nations and Indigenous Peoples have gained and passed down from generation to generation. Indigenous Knowledge combines observations, oral and written knowledge, innovations, practices, and beliefs over long terms and spanning generations, interweaving biological, physical, social, cultural, and spiritual systems. The Service will review specific requests and provide reasonable access to Tribal Nations to fee-title lands and waters for gathering plants for ceremonial, religious, medicinal, and traditional purposes when the activity is appropriate and compatible or when existing treaties allow or require such access. The Service will work collaboratively with the Tribal Nations with a Memorandum of Agreement to facilitate these requests.

### **Access**

The Conservation Area will be easily accessible via State and local roads. Existing access roads on acquired properties will be evaluated for use depending on access needs, presence of sensitive species and/or habitats, public use, and other potential future needs. Some roads may be retained and improved, while others may be abandoned and removed. Legal access to inholdings and homes will be maintained.

### **Hunting and Fishing**

The Service will open designated tracts of newly acquired fee-title lands for hunting and fishing in accord with the State's regulations after reviewing and evaluating the biological, ecological, and human safety impacts. Hunting and fishing will open under the Federal Hunt and Sport Fishing Rulemaking process. Generally, newly acquired fee-title lands that have provided public (open to the general public) hunting and fishing opportunities may remain open, at their current level, under interim compatibility determinations until the Service has completed the planning process to formally open the unit, 3-5 years from acquiring lands suitable to sustain these opportunities. To this end, the Service will continue discussions with FWC regarding co-management opportunities of the hunting, fishing, and other recreational activities associated with the Conservation Area. If possible, the Service will provide American with Disabilities Act (ADA)-compliant hunts and youth hunt opportunities. Generally, the Service will allow hunting, based on State hunting seasons and consistent with the Hunt Plan (once developed). The Service will collaborate with FWC in establishing a State wildlife management area for hunting and fishing. Youth fishing opportunities will be encouraged.

### **Wildlife Observation, Photography, Environmental Education, and Interpretation**

The Conservation Area will provide opportunities for wildlife observation, wildlife photography, and environmental education and interpretation on lands acquired in fee-title. Working with State and local agencies (e.g., FWC), the Service will study the feasibility of connecting existing hiking, bicycling,

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and horseback riding trails through fee-title lands. The Conservation Area could also provide interpretive and environmental education programs and increase partnership opportunities to interpret the cultural and natural resources, including the role Native Americans and European settlers contributed to the environment of southwest Florida. Interpretive programs could focus on self-guiding facilities such as auto tour routes, signed trails, brochures, and interpretive signs along interesting features.

Environmental education, one of the six priority wildlife-dependent uses encouraged on fee-title lands, incorporates onsite, offsite, and distance-learning materials, activities, programs, and products that address the audience's course of study, the mission of the National Wildlife Refuge System, and the management purposes of the refuge unit. The goal of environmental education is to promote an awareness of the basic ecological foundations of the interrelationship between human activities and natural systems. Specific programs of study could include water quality and habitat restoration and the land stewardship of the ranching community. Through curriculum-based environmental education, on- and off-fee-title lands, staff, educators, and partners hope to motivate students and other persons interested in learning the role of management in the maintenance of healthy ecosystems, working landscapes, and conservation of fish and wildlife resources.

For years, national wildlife refuges have been connecting children with the land, teaching a conservation ethic. It is now apparent that such connections are of immense importance. The Service is committed to engaging children with nature for numerous reasons, including mental and physical health and awareness and understanding of the natural world.

The Service will attempt to work with local school districts to develop environmental education programs featuring the unique species and communities within the Conservation Area, including contributions of the ranching and farming culture in sustaining a healthy environment and economy. The Service will work with the partners to promote environmental education, thereby maximizing the use of resources and time commitments for each partner organization. The Service will also consider the role of the Service in other potential opportunities such as small habitat restoration projects through the use of our Partners for Fish and Wildlife program in and around local schools, docent-led trail walks, birding festivals, guest lectures, youth hunting and fishing efforts, and even simple monitoring of various forms of wildlife on and off fee-title lands.

## **PARTNERSHIPS**

The establishment of the Conservation Area is one component of larger landscape-scale, partnership-driven initiatives. The Service currently is facilitating discussions with multiple agencies and organizations. Partners in this landscape have programs that are complementary to one another, and that it is not only important, but critical for any individual agency or organization to work collaboratively toward conservation in this landscape. Examples of these partnership activities include those listed below.

### *INVASIVE SPECIES MANAGEMENT*

The Service collaborates with partners to contain the spread of invasive species including the Southwest Florida Cooperative Invasive Species Management Area, Southwest Florida Regional Invasive Plant Working Group, and the Sanibel Island Tri-partnership. These teams are composed of

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local land management agencies and organizations with an interest in the conservation of southwest Florida's natural resources. The Service will continue to collaborate in these efforts.

### *FIRE MANAGEMENT*

Fire activities are coordinated among agencies and organizations within this landscape, under the authorities granted in the Reciprocal Fire Protection Act. The Master fire agreement with all participating agencies is updated every 5 years and outlines the duties and responsibilities to be taken by each agency when assisting the host unit on a fire event.

### *LAW ENFORCEMENT*

The Service will establish formal, cooperative agreements with local law enforcement departments, the county sheriff's departments, and FWC to assist with protection and appropriate law enforcement response for the Conservation Area. Conservation law enforcement personnel from the Service and FWC will also likely patrol intermittently and monitor hunting, fishing, and other public use activities.

### *WILDLIFE-DEPENDENT RECREATIONAL OPPORTUNITIES*

The Service recognizes the need to provide increased opportunities for wildlife-dependent recreation and education and has included this as one of the primary goals lands acquired in fee-title. Hunting and fishing are two wildlife-dependent recreational activities that both the Service and FWC fully support. In an effort to continue and expand these opportunities for the public, the Service will discuss with FWC the opportunity to identify and manage lands that the Service might acquire in fee-title as wildlife management areas (WMAs). As the lead State agency for administering hunting programs, FWC has the expertise, experience, and established protocol for managing WMAs and the Service will explore the opportunity of entering into a cooperative agreement with FWC for the management of Service-owned lands as WMAs.

### *SUMMARY*

In summary, working partnerships with surrounding landowners; conservation organizations; and municipal, State, and federal agencies will be critical to successful management of the Conservation Area. The Service will continue to cooperate with conservation partners, all of whom are instrumental in helping to accomplish habitat management goals and objectives. It is clear that partnerships with the public; landowners; neighbors; conservation organizations; and Tribal Nations, State, municipal, and other federal agencies will an essential path to a successful Everglades to Gulf Conservation Area.

The rationale for each goal is summarized and described below.

<b><i>Goal 1.</i></b>
<b>Protect, Restore, and Manage Habitats for Fish and Wildlife.</b>
<b><i>Objectives:</i></b>
<ul style="list-style-type: none"><li>• Assist with the restoration of the Everglades.</li><li>• Enhance the viability and recovery of the Florida Panther and over 100 other threatened and endangered species and 17 At-risk species.</li></ul>

- Protect and restore watersheds and coastal estuaries for ecological integrity, water supply, recreation, and the economy especially the Caloosahatchee River watershed, Fisheating Creek watershed, the Peace River watershed, the Myakka River watershed, Okaloacoochee Slough, Corkscrew Swamp, and Charlotte Harbor.
- Maintain unique natural communities and species adapted to unique subtropical environment.
- Conserve habitat diversity and complexity.
- Improve and increase resiliency.
- Facilitate protection of a regional scale wildlife corridor through the protection of a functional landscape mosaic of natural communities and ranchlands.
- Facilitate resiliency and adaptation to climate change through protection and restoration of freshwater flows into coastal wetlands and protecting coastal to inland connectivity to provide a functional retreat for coastal species.

***Rationale***

The Conservation Area will aid in the maintenance and recovery of Florida panther populations and protect many rare and endemic species, including over 100 Federally and State-listed Threatened and Endangered species, such as the Florida scrub-jay, Audubon’s crested caracara, wood stork, Florida bonneted bat, Everglade snail kite, Eastern indigo snake and sand skink, thereby protecting natural communities found only in south Florida and species adapted to Florida’s unique subtropical environment. In addition, the Service will conserve important rural landscape mosaics, including ranchlands, to combat habitat fragmentation and protect wildlife corridors essential to many species’ viability and adaptation responses to climate change. Important wildlife corridors essential for listed species viability and adaptation opportunities in response to climate change will be provided. The Conservation Area will also provide opportunities to restore important wetlands, provide water storage, and improve water quality for the Greater Everglades, Myakka River, Peace River, Fisheating Creek, and Caloosahatchee River watersheds, and coastal estuaries including Charlotte Harbor.

***Goal 2.***

**Provide Science-Driven Landscape-Level Conservation.**

***Objectives:***

- Assist with the restoration of the Everglades.
- Improve and increase resiliency.
- Facilitate protection of a regional scale wildlife corridor through the protection of a functional landscape mosaic of natural communities and ranchlands.
- Facilitate resiliency and adaptation to climate change through protection and restoration of freshwater flows into coastal wetlands and protecting coastal to inland connectivity to provide a functional retreat for coastal species.
- Complement other conservation initiatives.

***Rationale***

The Conservation Area will contribute to protection of a functional conservation landscape composed of a mosaic of natural communities and ranchlands that will prevent further habitat fragmentation, provide functional habitat for wide-ranging listed species, and facilitate watershed and prescribed fire management. The Conservation Area will allow the Service to protect and restore water resources within multiple watersheds to improve water quality and quantity; maintain and enhance ecological integrity, recreation, and the economy; and improve and secure water supplies, benefiting humans and wildlife. Southwest Florida is particularly vulnerable to sea level rise associated with climate change because of its low and very gradual topographic gradient and high level of coastal development. Protecting connected landscape gradients from current coastline and natural coastal ecosystems to inland areas is essential for a resilient adaptation strategy for natural systems across the region. The landscape-scale ecological priorities within the Conservation Area are identified with the best available ecological and spatial data based on conservation science, landscape ecology, and spatial analysis. Within this landscape, 42 Focal Species and 16 Natural Communities exist based on habitat models from Florida Natural Areas Inventory, FWC, and University of Florida Center for Landscape Conservation Planning. The habitats include transitional zones from dry to wet extremes which are crucial for providing opportunities for species resiliency and adaptation. The Conservation Area contains one of the few regions in the eastern United States harboring a regional scale wildlife corridor relevant to the protection of many federal and State listed species including significant opportunities for range shifts in response to climate change. The Conservation Area ecological priorities overlap with many State program priorities which are based on the top ecological priorities of the Florida Ecological Greenways Network (FEGN), Florida Wildlife Corridor, and landscape priorities identified in the Critical Lands and Waters Identification Project (CLIP) Landscape Integrity Model and the FEGN Coastal Connectivity Model. The FEGN/CLIP individual components are valuable indicators of ecological priorities for both biodiversity, surface water resources, and other landscape-level conservation priorities.

**Goal 3.**

**Conserve Important Lands and Waters for the Benefit of All People.**

**Objectives:**

- Assist with the restoration of the Everglades.
- Protect and restore watersheds and coastal estuaries for ecological integrity, water supply, recreation, and the economy especially the Caloosahatchee River watershed, Fisheating Creek watershed, the Peace River watershed, the Myakka River watershed, Okaloacoochee Slough, Corkscrew Swamp, and Charlotte Harbor.
- Maintain unique natural communities and species adapted to unique subtropical environment.
- Conserve habitat diversity and complexity.
- Facilitate protection of a regional scale wildlife corridor through the protection of a functional landscape mosaic of natural communities and ranchlands.
- Facilitate resiliency and adaptation to climate change through protection and restoration of freshwater flows into coastal wetlands and protecting coastal to inland connectivity to provide a functional retreat for coastal species.
- Complement other conservation initiatives.
- Conserve cultural sites and landscapes.
- Provide cultural, traditional, and medicinal use opportunities on fee-title lands.
- Provide wildlife dependent recreational opportunities on fee-title lands.

**Rationale**



Visitors to the Conservation Area fee-title lands will enjoy opportunities for compatible wildlife-dependent recreation which may include hunting, fishing, wildlife observation, photography, environmental education, and interpretation, while increasing knowledge of and support for conservation. Willing landowners could protect their private land through conservation easements and stewardship programs while providing important ecosystem services for all people. The Greater Everglades and southwest Florida watersheds require protection of remaining functional wetlands and floodplains, and restoration of hydrology to avoid further impairment and improve water quality and supply including Charlotte Harbor, an essential economic engine for south and southwest Florida. The Conservation Area will be a unit of the network of lands in southwest Florida that are part of the National Wildlife Refuge System. This includes six national wildlife refuges, Florida Panther NWR, Ten Thousand Islands NWR, Ding Darling NWR, Caloosahatchee NWR, Matlacha Pass NWR, and Pine Island NWR, which provide over 1.5 million wildlife-dependent recreational opportunities to visitors annually.

<b>Goal 4.</b>
<b>Promote Conservation Partnerships Working with Adaptive and Flexible Tools and Strategies.</b>
<b>Objectives:</b>
<ul style="list-style-type: none"> <li>• Facilitate protection of a regional scale wildlife corridor through the protection of a functional landscape mosaic of natural communities and ranchlands.</li> <li>• Facilitate resiliency and adaptation to climate change through protection and restoration of freshwater flows into coastal wetlands and protecting coastal to inland connectivity to provide a functional retreat for coastal species.</li> <li>• Complement past, current, and future conservation efforts.</li> <li>• Foster existing partnerships and seek new partnerships.</li> <li>• Conserve cultural sites and landscapes.</li> <li>• Provide cultural, traditional, and medicinal use opportunities on fee-title lands.</li> <li>• Provide wildlife dependent recreational opportunities on fee-title lands.</li> </ul>
<b>Rationale</b>
<p>Collaboration in science, education, research, and land acquisition will facilitate the development of new partnerships and strengthen existing partnerships with natural resource organizations, private landowners, government agencies, Tribal Nations, and local decision-makers. For example, the Conservation Area is contained in the Resilient Lands and Waters Initiative, which is an effort to support collaborative landscape partnerships where federal agencies work with partners to conserve and restore important lands and waters and make them more resilient to changing climate. These partnerships will help inform land management decisions and encourage continued responsible stewardship of natural and rural landscapes essential for listed species protection, associated natural resources, and facilitating resiliency and adaptation to climate change. Southwest Florida is one of the most rapidly growing parts of the United States with an extreme level of human population growth, fast-pace and large scale of habitat loss due to new development, and rapidly expanding coastal developed areas that are moving further inland to threaten important habitats, watersheds, and a sustainable rural landscape. The region is home to many ranches providing very important landscape-scale conservation opportunities with willing landowners vitally interested in conservation easements.</p>

**ACQUISITION MANAGEMENT**

Working with willing landowners, the protection of lands will be accomplished by targeting less-than-fee-title acquisitions within the approximately 4,045,268-acre Conservation Area. Additionally, up to

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10% fee-title will be targeted throughout the Conservation Area. Less-than-fee-title acquisitions (e.g., conservation easements) will be acquired in perpetuity.

## **PUBLIC USE MANAGEMENT**

Newly acquired fee-title lands with existing wildlife-dependent recreational public uses may be deemed compatible and could continue on an interim basis until the completion of a Comprehensive Conservation Plan or associated Step-Down Plan. Such decisions must be based on the compatibility standards and procedures.

### **Interim Public Uses for Consideration**

Will these uses be provided during the interim phase?

**Hunting:** Yes, hunting could occur on those parcels acquired in fee-title where public (open to the general public) hunting is actively occurring prior to acquisition under current FWS policy and guidance. Interim use may occur until Hunt Plan and Opening Hunt Package is developed and approved (generally 3-5 years after fee-title acquisition to establish land base to support the use). Interim hunting may be limited by number of acres of fee-title lands acquired, Service policy, State hunting regulations, and potentially restricted access to address issues such as human safety, wildlife and/or habitat impacts, illegal activities, etc.

**Fishing :** Yes, fishing could occur on those parcels acquired in fee-title where public (open to the general public) fishing is actively occurring prior to acquisition under current FWS policy and guidance. Interim use may occur until a Sports Fishing Plan and Opening Sports Fishing Package is developed and approved (generally 3-5 years after fee-title acquisition to establish land and water base to support the use). Interim fishing may be limited by number of acres of fee-title lands acquired, Service policy, State fishing regulations, and potentially restricted access to address issues such as human safety, wildlife and/or habitat impacts, illegal activities, etc.

**Environmental Education and Interpretation:** Yes, limited due to staffing, partnership opportunities, and facilities.

**Wildlife Observation and Photography:** Yes, limited due to staffing, partnership opportunities, and facilities.

**Boating:** (Wind-driven, Human-powered, Motorized) Yes, in support of wildlife-dependent recreational uses limited due to staffing, partnership opportunities, and facilities. Also potentially limited by jurisdiction and location; State hunting and fishing regulations; motor type and size; and access to address issues such as human safety, wildlife and/or habitat impacts, illegal activities, etc.

**Bicycling:** Yes, in support of wildlife-dependent recreational uses. Generally restricted to improved roads or trails. Potentially limited by location and seasonality to address issues such as human safety, wildlife and/or habitat impacts, illegal activities, etc.

**Camping:** Yes, in support of hunting and environmental education, limited due to location, staffing, partnership opportunities, and facilities. Potentially limited by location and seasonality to address issues such as human safety, wildlife and/or habitat impacts, illegal activities, etc.

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**Horseback Riding:** Yes, in support of wildlife-dependent recreational uses. Generally restricted to improved roads or trails. Potentially limited by location and seasonality to address issues such as human safety, wildlife and/or habitat impacts, illegal activities, etc.

**Running and Jogging:** Yes, in support of wildlife-dependent recreational uses. Generally restricted to improved roads or trails. Potentially limited by location and seasonality to address issues such as human safety, wildlife and/or habitat impacts, illegal activities, etc.

**Hiking and Backpacking:** Yes, in support of wildlife-dependent recreational uses. Generally restricted to improved roads or trails. Potentially limited by location and seasonality to address issues such as human safety, wildlife and/or habitat impacts, illegal activities, etc.

**Off Road Vehicle use** Yes, on a case-by-case basis for Mobility Impaired Visitors participating in hunting; restricted to improved roads or trails.

### **CULTURAL RESOURCES**

Given the potential of cultural resources within the Conservation Area and given the importance of this landscape to both the Miccosukee Tribe of Indians of Florida and the Seminole Tribe of Florida, the Service will develop a Cultural Resources Management Plan for the Conservation Area. This Plan will include, but is not limited to, identification of relevant historic contexts, reviews of the Florida Master Site Files and available technical literature, oral history interviews, Phase I archaeological and historical surveys of lands acquired in fee-title by the Service, and follow-up testing of identified historic properties to ascertain their eligibility for inclusion on the National Register of Historic Places.

### **OPERATIONS AND PLANNING**

Units of the NWRS are managed according to an annual work plan that summarizes goals and objectives for the upcoming year. Specific actions for on-the-ground-work, such as operation procedures, wildlife inventory plans, habitat management actions, public use, and other management activities are covered in detail in management plans. An annual work plan may generally state, for example, that 1,000 acres of invasive plant species will be controlled within the Conservation Area, thus setting a target and goal for invasive species, control methods, timing of control, monitoring of effectiveness of the application, retreating areas, monitoring, and other actions for the year.

Long-term planning, outlined earlier, includes the preparation of a CCP and associated step-down plans, which describes the desired future conditions of a refuge and provides long-range guidance and management direction to achieve the purposes of the Conservation Area.

### **REFERENCES**

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### **Conceptual Management Plan Signatures:**

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**Refuge Supervisor:**

**KATHLEEN BURCHETT**

Digitally signed by KATHLEEN BURCHETT  
Date: 2024.01.08 13:44:46 -05'00'

**BRETT HUNTER**

Digitally signed by

Date: 2024.01.09 08:43:19 -

**Regional Chief:** \_\_\_\_\_

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*APPENDIX C. INTERIM COMPATIBILITY DETERMINATIONS*

**Compatibility Determination  
Title**

Interim Compatibility Determination for Wildlife Observation and Photography, Everglades to Gulf Conservation Area

**Refuge Use Category**

Wildlife Observation and Photography

**Refuge Use Type(s)**

Wildlife Observation and Photography

**Supporting Uses**

Bicycling, Boating (Wind-driven, Human-powered, and Motorized), Hiking and Backpacking, Running and Jogging, Horseback Riding

**Refuge**

Everglades to Gulf Conservation Area

**Refuge Purpose(s) and Establishing and Acquisition Authority(ies)**

"... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. 668dd(a)(2) (National Wildlife Refuge System Administration Act)

"...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." 16 U.S.C. 1534 (Endangered Species Act of 1973)

"...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

"...to conserve and protect migratory birds..., including species that are listed...as endangered species or threatened species, and to restore or develop adequate wildlife habitat." 16 U.S.C. §715i (Migratory Bird Conservation Act)

"...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude..." 16 U.S.C. 742f(b)(1) "...for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. 742f(a)(4), (Secretarial powers to implement laws related to fish and wildlife) (Fish and Wildlife Act of 1956)

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"...suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species..." 16 U.S.C. 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. 460k-2 [Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended]

### **National Wildlife Refuge System Mission**

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57; 111 Stat. 1252).

### **Description of Use**

Is this an existing use?

No

What is the use?

The uses are wildlife observation and wildlife photography. The supporting uses are bicycling, boating, hiking and backpacking, running and jogging, and horseback riding. The uses are defined as follows:

- Wildlife observation is the viewing of fish, wildlife, plants, or their habitats by visitors.
- Wildlife photography is visitation for the purpose of photographing natural or cultural resources (including fish, wildlife, plants, and their habitats) or public uses of those resources (not for commercial, news, or educational purposes). This compatibility determination does not cover photography for commercial or press use.
- Bicycling is riding a bicycle on or off roads, paths, or trails. Bicycling includes e-bikes as defined by Secretary Order 3376 and 15 U.S.C. § 2085 as follows:
  - i) "Class 1 electric bicycle" shall mean an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 20 miles per hour;
  - ii) "Class 2 electric bicycle" shall mean an electric bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 miles per hour; and
  - iii) "Class 3 electric bicycle" shall mean an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 28 miles per hour.
- Boating
  - Wind-driven boating is travel by sailboat, sailboard, surfboard, or similar boat with sail(s) or kite(s) powered by the wind.
  - Human-powered boating is travel by canoe, kayak, raft, rowboat, paddleboard, or

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similar boat propelled through the water by oars, paddles, poles, or other human-powered devices.

- Motorized boating is travel by boat powered by fossil fuel or electricity (including solar powered).
- Hiking and backpacking is the use of trails or back-country areas by hikers and backpackers (excludes interpretive trails or areas).
- Running and jogging is running or jogging on or off roads, paths, or trails.
- Horseback riding is riding a horse on or off designated trails.

Is the use a priority public use?

Yes

Where would the use be conducted?

These uses could be permitted on publicly accessible lands owned or managed by the U.S. Fish and Wildlife Service (Service) as part of the Everglades to Gulf Conservation Area.

When would the use be conducted?

These uses will be permitted year-round from sunrise to sunset unless otherwise specified by signage and on the Conservation Area's website.

How would the use be conducted?

Wildlife observation and photography are typically conducted on-foot by individuals or small groups and can be facilitated with trails, informational materials (e.g., brochures and signage), viewing areas, and wildlife observation programs. Brochures and maps detailing open trails, viewing areas, and hours of operation will be available on the Conservation Area's website. These uses will be allowed during open hours of the Conservation Area from sunup to sundown and will occur in areas open to the public. Requests for access outside of those areas and times will be assessed through a Special Use Permit (SUP) application and approved or denied by the refuge manager.

Bicycling, running and jogging, and horseback riding will only be permitted on designated roads, trails, and paths.

Boat use and launch will be permitted on areas managed by the Conservation Area and indicated on brochures and website.

Wildlife observation and photography and supporting activities conducted in groups larger than 10 will be allowed through issuance of a SUP by the Conservation Area manager.

Parking will be allowed only in indicated parking lots.

Why is this use being proposed or reevaluated?

Wildlife observation and photography are priority public uses as defined by the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57). Per the Improvement Act of 1997, these uses are to be prioritized over general uses. In addition, non-consumptive wildlife-dependent recreation provides

opportunities for the public to connect with the Conservation Area’s natural and cultural resources, fostering appreciation and support for the Refuge System and its mission.

### **Availability of Resources**

The resources necessary to provide and administer these uses are a rough estimation based on similar activities conducted at other units of the National Wildlife Refuge System. These uses will be open to the public when fee-title land has been acquired by the Service that allows for public access.

Personnel and supporting outreach materials requirements are estimated here. Any needs for infrastructure, should they arise, will be assessed at a later date.

The resources required will depend on the amount of publicly accessible land owned or managed within the Conservation Area. The Service is expected to have the resources necessary to administer these uses in a limited capacity. More extensive opportunities and amenities will depend on available funding (e.g., budget, grants, donations) and volunteers.

Refuge staff will be responsible for:

1. Onsite evaluations to resolve public use issues.
2. Monitoring and evaluating impacts.
3. Maintaining signs.
4. Meeting with adjacent landowners and interested public.
5. Recruiting volunteers.
6. Preparing and presenting interpretive programs.
7. Maintaining self-guided interpretive materials (e.g., refuge brochures, refuge specific handouts, wildlife cameras and other web-based activities).
8. Revising outreach materials and developing new ones.
10. Installing and maintaining kiosks and updating kiosk information.

**CMP Table 1. Estimated Costs for Implementing Wildlife Observation and Photography**

Identifier	Estimated Annual Cost
Staff (Maintenance Workers, Biologist, and Refuge Managers)	\$10,000
Developing and Producing Interpretive Materials	\$10,000
Maintain Signage	\$1,000
Total	\$21,000
Off-setting Revenue	\$0

### **Anticipated Impacts of the Use**

Potential impacts of a proposed use on the Conservation Area’s purpose(s) and the Refuge System mission

Wildlife-dependent recreation, such as wildlife observation and photography, introduces visitors to the Conservation Area and its resources and fosters environmental stewardship values. For example, nature-based activities can increase visitors' connection to nature (Rosa et al. 2019), inspiring participation in environmentally responsible behaviors (Lee and Jan 2015). Such connectedness and environmental awareness increase the public's support for the Refuge System and its mission.



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The effects and impacts of wildlife observation and photography and its supporting uses covered in this CD, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the uses. Resources that will not be more than negligibly impacted by the preferred action and have been dismissed from further analysis. The Service may modify or eliminate the uses at any time to address resource concerns, unacceptable impacts, and public safety needs or to adapt to changing conditions.

These uses directly support Goal 3 of the Conservation Area, Conserve Important Lands and Waters for the Benefit of All People and the mission of the National Wildlife Refuge System. By experiencing nature in person and viewing the natural resources of the Conservation Area, visitor will develop a greater appreciation for the natural world and increased conservation ethic.

### Short-term Impacts Applicable to Wildlife Observation and Photography and All Supporting Uses

#### I. Wildlife

Human presence, including recreationists, can negatively affect birds by causing them to alter behaviors necessary for survival. Birds exhibit various behavioral and physiological responses to human disturbance and may avoid areas with high levels of human activity (Burger 1981).

Physiological responses include the release of stress hormones (Müllner et al. 2004, Thiel et al. 2008) and increased heart rate (Weimerskirch et al. 2002). Behavioral responses include increased vigilance (Frid and Dill 2002), altered singing behavior (Gutzwiller et al. 1994), and flushing (Spahr 1990, Ikuta and Blumstein 2003, Beale and Monaghan 2004, Pease et al. 2005, McLeod et al. 2013, Livezey et al. 2016). Human disturbance can also cause birds to discontinue or avoid foraging (Burger and Gochfield 1998, Thomas et al. 2003, Yasue 2005, Martin et al. 2015) and instead spend more time displaying avoidance behaviors. Further, McNeil et al. (1992) suggested that some waterfowl and shorebird species may forage at night instead of during the day to avoid humans. These physiological and behavioral responses to human presence can force birds into suboptimal habitats, cause crowding in undisturbed habitat, leave eggs and chicks vulnerable to predators and heat stress, and increase intraspecific competition (Gill and Sutherland 2000, Frid and Dill 2002). Further, birds' responses to human activity cause birds to expend energy (Bélanger and Bédard 1990, Weimerskirch et al. 2002, Pease et al. 2005, Doherty et al. 2021) that will otherwise be used for survival, migration, and reproduction.

Mammals also exhibit avoidance behaviors in response to human activity (Hammit and Cole 1998). Bats expend more energy when disturbed by humans (Speakman et al. 1991), and mammalian species across the globe have become nocturnal to avoid people (Gaynor et al. 2018). Mammals likely to experience adverse impacts from human disturbance are those with limited available habitat; these animals are forced to remain in the disturbed habitat due to a lack of suitable alternatives and suffer the consequences of human disturbance.

Consistent with other species, reptiles, amphibians, and arthropods engage in avoidance behaviors when encountering human disturbance (Frid and Dill 2002, Huang et al. 2011, Selman et al. 2013). However, the short-term impacts of human disturbance on these species are not well-studied.

Visitors may intentionally or unintentionally leave litter on Service owned lands, decreasing aesthetics and potentially endangering wildlife who could choke on or become entangled in refuse. The Service will monitor areas where recreation occurs to ensure litter is not being left on-site.

Generally, the negative impacts of recreationists on wildlife vary in severity based on several factors but can be minimized. For example, the negative impacts of disturbance become more severe with

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decreasing distance between humans and animals (Skagen et al. 2001, Beale and Monaghan 2005, Pease et al. 2005, Trulio and White 2017). If adverse impacts occur, the Service will create buffers around sensitive species, which can minimize the effects of human disturbance (Rodgers and Smith 1997, Ikuta and Blumstein 2003). Impact severity can also vary depending on the number of people present, with increasing numbers associated with greater disturbance (Burger and Gochfield 1998, Thomas et al. 2003, Beale and Monaghan 2004b, Yasue 2005, Pearce-Higgins et al. 2007). Thus, the Service may limit group sizes to protect wildlife. Finally, the Service may temporarily or permanently close areas if minimization measures are insufficient to protect wildlife or habitats.

## II. Vegetation and Soil

Recreationists can trample vegetation on- and off-trail. A plant's response to trampling is heavily influenced by its morphological characteristics (Pescott and Stewart 2014, Marion et al. 2016). The brittle woody stems of shrubs and small trees and rigid stems of tall forbs are susceptible to trampling, which can damage buds and flowers and reduce seed production (Cole 1995, Cole and Monz 2002, Marion et al. 2016). Grasses, sedges, and low-growing herbs are more resistant due to flexible stems and underground perennating buds (Hill and Pickering 2009, Striker et al. 2011, Marion et al. 2016). Once trampling occurs, vegetation is slow to recover; however, studies have consistently shown that the most impact occurs with initial or low use, with a diminishing increase in impact associated with increasing traffic levels (Bostrom et al. 2021). The Service will restrict the uses to specific areas to reduce impact and continuously monitor vegetation for unexpected adverse impacts.

## III. Invasive Species

Recreationists can be vectors for invasive plants. Seeds or other propagules can be transferred from one area to another via clothing or personal belongings and spread to nearby areas through self-propagation (Pickering and Hill 2007). Once established, invasive plants can out-compete native plants, altering habitats and indirectly impacting wildlife. The Service will manage invasive plants and educate visitors about this issue.

## IV. Visitor Use, Safety, and Experience

Quantitative research documenting the impacts of multiple co-occurring uses on recreationists' experiences is scant. Crowding may deter some recreationists (Manning and Valliere 2001) from visiting the Conservation Area. However, appropriate management can minimize conflicts by separating competitive user groups (Marcouiller et al. 2009) by area.

## V. Law Enforcement

Law enforcement issues are possible, such as trespassing, disorderly conduct, and the illegal taking of fish and other species. The Conservation Area will be supported by Fish and Wildlife Officers assigned to both the South Florida Patrol District and the North Florida Patrol District.

### Short-term Impacts Applicable to Specific Uses

#### I. Wildlife

Wildlife observers and photographers can negatively impact birds. Korschen (1992) reported that birdwatching was the least disturbing among activities that disturb wildlife. However, Klein (1993) suggested that approaching birds on foot was the most disruptive among typical refuge activities. Photographers may be especially likely to cause disturbance by lingering in a sensitive area or using recorded calls. Still, wildlife observation can help people connect with and develop an appreciation for nature, while photography can increase engagement by creating images that appeal to people's

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emotions (Hanisch 2017). Further, wildlife observation and photography can have more severe impacts on birds during the breeding season, negatively affecting reproductive success. Human disturbance may result in abandoned nests and breeding attempts (Acosta et al. 2007) or a shift in nest locations (Skagen et al. 2001).

Where compatible, bike riding, including the use of electric bicycles (“e-bikes”), facilitates opportunities for wildlife observation, photography, hunting, and other wildlife-dependent recreational opportunities. This use may provide opportunities for visitors to observe and learn about wildlife and refuge lands firsthand and at their own pace in an unobstructed environment. Cycling may reduce impacts associated with car-dependent recreation, including congestion and emissions. In addition, this use promotes the national and regional priority, Connecting People to Nature, and other health-related initiatives.

Minor impacts may occur in association with bicycling, such as wildlife disturbance, littering, soil erosion and compaction, and off-trail riding. Cyclists can disturb wildlife that are resting, foraging, and/or breeding along trails, resulting in overall negative impacts on fitness. Studies by Blumstein (2003) and Blumstein et al. (2004) show that ‘flight-initiation-distance’ varies by species and intruder starting distance as well as by things such as flock size, angle of approach, time of year, time of day, reproductive state, distance to refuge, and type of disturbance. Such impacts are typically temporary, and mirror those associated with other trail uses (Bennett & Zuelke 1999; Pease et al. 2005). Disturbances are likely to be greatest directly along trails, and decrease proportionately with distance from the trail edge. Common species have been shown to have a higher tolerance for disturbance compared to rare species and songbirds (Trails and Wildlife Task Force 1998; Miller et al. 2001). Seasonal regulation of trail use may also decrease negative impacts during breeding and nesting seasons; for instance, Hammitt and Cole (1998) note that females (such as deer) with young are more likely to flee from a disturbance than those without young. This indicates increased sensitivity to human disturbance during the breeding season. Trails may facilitate nest predation by increasing opportunities for access by mammalian predators. However, these impacts are associated with the existence of the trail itself, rather than the trail uses.

Bicycle wheels can cause physical impacts on soil surfaces. Cessford (1995) notes the shearing action of wheels creates damage to trails, which increases when trail conditions are wet or when traveling up a steep slope. However, soil erosion is largely avoidable with good trail design and maintenance. Properly designed drainage features will divert water from the trail, where vegetation and organic litter can filter out sediments (Volpe 2021). Bicycling along the edges of the trail or off trail may also cause vegetation to be trampled. Complete loss of vegetation cover occurs more quickly in shady forested areas and less quickly in open areas with resistant grassy vegetation. Once trampling occurs, vegetation is slow to recover; however, studies have consistently shown that the most impact occurs with initial or low use with a diminishing increase in impact associated with increasing levels of traffic (Volpe 2021). Litter may be intentionally or incidentally deposited by trail users. Cyclists may also serve as vectors for invasive plant species when off-refuge seeds and plant material cling to clothing, footwear, equipment, and tires, and are deposited on the refuge. The threat of invasive plant establishment requires annual monitoring and treatment when necessary. Where designated public use trails are established in part to funnel visitors through approved areas and prevent impacts from occurring across larger areas of habitat, impacts related to soil compaction, litter, and transport of invasive plant material are similar to those associated with other trail user groups.

E-bikes and mountain bikes have similar impacts on trails. Studies on the impacts of e-bikes on wildlife are conflicting. Some studies suggest that e-bikes cause greater disturbance to wildlife than non-

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motorized bikes because they disrupt wildlife within a shorter distance. Other studies suggest that e-bikes cause less disturbance because they exit the area more quickly than non-motorized bikes (Nielson et al. 2019). If conflicts arise between e-bike users and non-motorized bicycle users, or if safety becomes an issue due to speed, the refuge may designate specific trails for specific user groups.

Since users engaged in bicycling travel at a faster rate than hikers, and may be more likely to disturb wildlife, this has potential to result in conflicts such as reducing the quality of experience for other visitors. The Service will monitor trails for impacts caused by e-bikes and modify the use should unanticipated impacts occur.

Disturbances to wildlife and other users by non-motorized boats are generally less severe than motorized activities (Graham and Cook 2008) due to the quiet nature of paddling or sailing and the generally low volume of non-motorized boats in any given area. Non-motorized boat disturbance is temporary and usually localized, with adverse impacts varying based on species (Batten 1977). However, non-motorized boats, such as kayaks and canoes, can approach wildlife more closely than larger, motorized vessels, which can greatly disturb roosting and nesting birds. Thus, the Service will ensure that sensitive wildlife sites, such as rookeries, are buffered.

Boating can cause short-term impacts on aquatic wildlife, including inducing physiological responses and behavioral changes and disrupting communication. Boat noise can cause sublethal stress responses in fish, increasing heart rate and decreasing stroke volume (Graham and Cooke 2008). Such physiological responses increase energy expenditure, which can have various adverse short-term impacts, such as increased susceptibility to predation and decreased foraging success. Other water-dwelling animals, like crustaceans, also exhibit behavioral and physiological stress responses to boat noise (Filiciotto et al. 2014). Boat-related disturbance has been shown to induce morphological and behavioral changes in the black bullhead (*Ameiurus melas*), resulting in observable changes to ciliary bundles and more time spent sheltering (Mickle et al. 2019). Some fish may spend less time guarding young in response to boat noise, exposing eggs and young to predation, which could influence the productivity of fish populations (Maxwell et al. 2018). Boat noise pollution can also disrupt communication among fish (Codarin et al. 2009), which may impede mate attraction, increase predation, and disorient the fish. The Service will restrict boating activities in areas with sensitive aquatic species to minimize the impacts of motorized boats on fish, crustaceans, and other water-dwelling organisms.

Boat strikes has been recognized as a significant danger to manatees (*Trichechus manatus latirostris*) in coastal Florida (Calleson and Frohlich 2007, USFWS 2001). At the development of the manatee recovery plan in 2001, boat strikes were recognized as the top threat to manatees causing an estimated 25% of mortality (USFWS 2001). Bassett et al. (2020) found that over 96% of adult manatees has watercraft related scars and that 1 in 4 manatees had scars from 10 or more encounters. Data showed that manatees on the west coast of Florida had more scars from those on the east coast. Actions including reducing boat speeds in manatee frequented areas and providing sanctuary areas for manatees at critical times of the year can be effective at reducing incidents of boat collisions.

Horseback riding can negatively impact wildlife species, including mammals, invertebrates, reptiles, amphibians, and birds. Horses can kill invertebrates and small animals by trampling them. They can also step on nests, destroying eggs or killing young who cannot flee. Littlemore and Barlow (2005) reported that heavy trampling can severely reduce the population densities of soil and litter-dwelling invertebrates by up to 89% in path centers and 57% at path margins when compared to undisturbed

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soil, suggesting that horses can negatively affect invertebrates. The Service will monitor horseback riding areas and modify the use when necessary to minimize the impacts of horseback riding on wildlife.

The seeds or other propagules of invasive plants could be transferred from one area to another via horses or their owners. However, the literature is inconsistent regarding the extent to which horses can transport invasive species. Some research suggests that horses are not major invasive species vectors (Landsberg et al. 2001, Gower 2008, Pickering 2010). Conversely, horses eat seeds that may be viable after ingestion, with studies confirming that such seed can germinate from horse dung in a range of environments (Mouissie et al. 2005, Törn et al. 2009). Further, the soil disturbance associated with horseback riding has been identified as contributing to establishing suitable environments for invasive species (Newsome et al. 2002). Additional research is required to understand horses' impacts on invasive species. The Service will monitor for invasive plants and educate the public about this issue.

## II. Vegetation and Soil

Boats can damage vegetation on- and off-shore. For example, boaters could damage vegetation and compact soil while hauling canoes and kayaks to and from launch sites. Boats can also damage aquatic vegetation, reducing vegetation cover and height (Hansen et al. 2019, Sagerman et al. 2020). The Service will not allow boating in areas with especially vulnerable aquatic vegetation.

Horse riding has been associated with heavy trampling of vegetation and soils (Weaver and Dale 1978, Landsberg et al. 2001, Littlemore and Barlow 2005). In addition, grazing by horses can damage grasses and other palatable species (Newsome et al. 2004, 2008; Cater et al. 2008).

## III. Visitor Use, Safety, and Experience

Horses may negatively impact visitors' experiences if visitors are uncomfortable around horses or if riders fail to clean up horse waste. Horses may also pose a safety threat to their riders and other visitors. The Service will only allow horseback riding on designated trails to protect visitors' safety and ensure horseback riding does not negatively impact other user groups' experiences.

## Long-term Impacts Applicable to Wildlife Observation and Photography and All Supporting Uses

### I. Wildlife

Without protective measures, continuous human disturbance can affect have long-term impacts on wildlife at the individual and population level. The possible effects of long-term disturbance on wildlife include changes in health, reproductive success, and distribution (Steven et al. 2011, Selman et al. 2013, Gibson et al. 2018, Doherty et al. 2021). A study in the southeastern United States showed that piping plovers at disturbed sites had lower body mass than birds at undisturbed sites (Gibson et al. 2018). Long-term disturbance also negatively impacts reptiles, with freshwater turtles at disturbed sites having poorer shell conditions than undisturbed sites (Selman et al. 2013). In addition, the continuous disturbances associated with nature-based recreation can reduce the number of nests built, eggs laid, and chicks hatched or fledged (Liddle 1997, Buckley 2004, Müllner et al. 2004, Liley and Sutherland 2007, Steven et al. 2011). Further, research has shown that human disturbance disrupts the movement patterns and distribution of various species, such as birds, mammals, reptiles, amphibians, fish, and arthropods (Doherty et al. 2021). Altered movement patterns can upset the balance between energy intake and the cost of travel, threatening reproductive rates, population viability, and ecosystem functions (Staggenborg et al. 2017, Perona et al. 2019). Although possible, these long-term

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impacts on the Conservation Area are unlikely because staff will monitor impacts regularly and modify the use accordingly.

## II. Vegetation and Soils

Invasive species can alter animal and plant composition, diversity, and abundance (Eiswerth et al. 2005, Davies and Sheley 2007). These changes may reduce native forage, cover, and water sources (Eiswerth et al. 2005). Certain invasive species may even impede access to other recreational activities, such as hydrilla, which blocks waterways.

Recreationists can trample vegetation, exposing soil and leading to long-term impacts. Once vegetation and organic litter are lost, exposed soils are subject to compaction, leading to increased erosion and wetland sedimentation (Cooke and Xia 2020). The consequences of compacted soil include increased temperatures, reduced moisture (Marion et al. 2016), reduced soil biota (Liddle 1997), and resistance to seed germination and penetration by plant roots (Alessa and Earnhart 2000). The Service will minimize soil compaction by restricting horseback riders to established trails and roads.

## III. Economy

Opportunities for outdoor recreation could benefit the local economy by attracting visitors interested in exploring the outdoors on foot. These visitors will likely stimulate the local economy by staying in hotels, dining in restaurants, and shopping at local establishments.

Units of the National Wildlife Refuge System can influence local economies. A report on economic contributions of units of the National Wildlife Refuge System was commissioned by the Service in 2017 (Caudill and Carver 2019). Results revealed that visitation to units of the National Wildlife Refuge System in 2017 had an economic impact of \$3.2 billion on local communities and supported more than 41,000 jobs nation-wide. Arthur R. Marshall Loxahatchee National Wildlife Refuge in south Florida specifically contributed about 202 jobs, \$8.6 million in employment income, \$1.6 million in total tax revenue, and \$24.6 million in economic output.

### Long-term Impacts Applicable to Specific Uses

#### I. Wildlife

Bicycling can have long-term impacts on wildlife and habitats, but with appropriate monitoring and minimization strategies, such impacts on the conservation area's resources can be minimized. For example, a study on bison (*Bison bison*), mule deer (*Odocoileus hemionu*), and pronghorn antelopes (*Odocoileus hemionu*) reported that these species exhibited the strongest responses to users above (at a higher elevation) versus users below them (Taylor & Knight 2003). These results suggest that informed trail design can minimize impacts. Further, a recent study in San Diego, California, found that wildlife positively responded to temporal closures of trails to hikers and cyclists, suggesting strategies to limit recreational use during breeding or other sensitive periods are effective (Larson et al. 2020).

#### II. Vegetation and Soils

Recreational boat traffic can have long-term impacts on submerged aquatic vegetation abundance in freshwater and coastal systems (Sagerman et al. 2020). Boating can reduce vegetation cover and height and alter its composition (Hansen et al. 2019). The loss and alteration of aquatic vegetation can affect its beneficial ecological functions. For example, several studies have shown that submerged vegetation's ability to reduce turbidity is related to its abundance and extent (Orth et al. 1999, Moore

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2004, Austin et al. 2017). Further, fish (Hansen et al. 2019) and macroinvertebrate abundance (Diehl and Kornijów 1998, Attrill et al. 2000) increase with increasing vegetation abundance. The loss or reduction of these ecological functions can degrade ecosystems. Informed management can reduce these negative impacts on submerged vegetation (Sagerman et al. 2020).

### III. Invasive Species

Small recreational boats can travel long distances, and their relatively low speeds make them ideal vectors for invasive species (Minchin et al. 2006), including invasive animals (Johnson et al. 2001, Power et al. 2004), plants (Buchan and Padilla 2000, Mullin et al. 2000), and algae (Chapman 1999, Farrell and Fletcher 2006). Recreational boaters often use their boats in more than one location, facilitating the spread of invasive species between water bodies. High-pressure washes in between uses effectively remove invasive species from boats, but many boaters do not wash their vessels regularly (Rothlisberger et al. 2010). Therefore, recreational boating may introduce new aquatic invasive species to the Conservation Area that could impact local flora and fauna.

### IV. Visitor Use, Safety, and Experience

An examination of impacts associated with hiking and mountain biking on bison, mule deer, and pronghorn antelope revealed the greatest disturbances when users passed tangentially above rather than below animals (Taylor and Knight 2003). The same study revealed alert behavior at greater distances when associated with off-trail use compared to users adhering to designated trail locations. Notably, this study revealed little difference in response to hikers compared to mountain bikers. Thus, long-term impacts may be mitigated through initial selection of appropriate trails for cycling and continued monitoring and enforcement to ensure compliance with trail regulations.

In some instances, habitat loss caused by bicycling and other recreational activities can cause species to abandon the habitat completely. A recent study in San Diego, California, found that wildlife positively responded to temporal closures of trails to hikers and cyclists, suggesting strategies to limit recreational use during breeding or other sensitive periods are effective (Larson et al. 2020). Users engaged in bicycling may be more likely to cause some wildlife species to flee; this may reduce the quality of experience for other users, such as wildlife observers and photographers. Bicyclists, especially e-bike users, often travel at high rates of speed, which poses a safety risk to other visitors. In addition, research has shown that visitors notice obvious forms of trail impact, such as excessive muddiness, ruts, and tree roots, and that such impacts can degrade the quality of visitor experiences (Roggenbuck et al. 1993, Vaske et al. 1993). Poor trail conditions also make it more difficult to travel and may threaten visitor safety. To ensure visitors' safety, the Service will only allow bikes on designated trails. If conflicts among user groups arise, the Service will modify the use accordingly.

### V. Visitor Use, Safety, and Experience

Boaters can endanger wildlife by intentionally or unintentionally polluting the water. Potential pollutants include exhaust gases, spilled fuel, and litter. Tightening engine bolts, replacing worn hydraulic lines, and using an oil tray or drip pan can prevent pollutants from entering the water. In addition, Sim et al. (2015) found that boating infrastructure alters local concentrations of pollutants. Areas near marinas, jetties, and boat ramps were found to have increased fine and moderate metal concentrations, with altered sediment faunal assemblages observed at adjacent sites. These effects were only observed within the structure's local vicinity and did not impact reference sites (Sim et al. 2015).

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## VI. Water Quality

Horse manure and urine contain nitrogen, phosphorous, and various heavy metals (Edwards et al. 1999, Westendorf 2009), which can have long-term impacts on water quality. Horse manure can introduce 1 g of phosphorus and 2.5 g of nitrogen into the ecosystem per horse per day (Westendorf 2009). These nutrients can runoff into local waterways, affecting riverbank and aquatic biota (Edwards et al. 1999, Westendorf 2009). Increased nutrient loads can also affect vegetation, allowing species that favor higher nutrient densities to dominate other species (Mouissie et al. 2005, Westendorf 2009).

With increased acquisition of fee-title land within the Conservation Area and added uses there can arise conflicts between user grounds. Often uses such as wildlife observation and photography can interfere with education and outreach or hunting for instance. Most user conflicts can be avoided or minimized with careful planning. Uses can be separated in time and space to allow for the highest quality of all experiences possible. Strategies that may be employed include limiting wildlife observation and photography on areas where hunting occurs during hunting seasons. Conversely, hunting might be allowed only in areas not frequented by visitors engaging in wildlife observation and photography. Service staff will evaluate each unit of the Conservation Area upon acquisition to determine the safest and most wildlife friendly structure of visitor uses.

### **Public Review and Comment**

The compatibility determination was available for public review and comment for 35 days. The public review and comment period for the Draft Land Protection Plan and Environmental Assessment for the Proposed Establishment of Everglades to Gulf Conservation Area began on September 26, 2023, with a U.S. Fish and Wildlife Service press release requesting public review and comment. The news release was distributed to over 300 media outlets and over 200 interested parties. The comment period ended on November 1, 2023. Four public meetings occurred during the public review and comment period, including two virtual meetings on October 20, 2023, and October 23, 2023. The Service also held two in-person meetings. The in-person meetings were on October 25, 2023, and October 26, 2023, in Wauchula, FL, and Immokalee, FL, respectively. Information regarding the dates and locations of the public meetings and how to register and submit comments was included in the Service's press release and posted to the project's website. The Service also posted a video presentation on the project website that was viewed over 300 times as of January 2024.

### **Determination**

Is the use compatible?

Yes

### **Stipulations Necessary to Ensure Compatibility**

To ensure the proposed use is compatible with the Refuge System and the Conservation Area's goals and objectives, wildlife observation and photography and its supporting uses will only occur with the following stipulations:

1. All visitors must remain on designated trails, roads, and designated public use areas. Only programs or visitors who obtain a Special Use Permit (SUP) allowing off-road or off-trail access may enter closed areas.
2. A special-use permit application must be submitted for groups or events involving ten or more



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people. The General Activity Special-Use Permit Application (FWS Form 3-1383G) and instructions on submitting a permit application can be found at <https://www.fws.gov/sites/default/files/documents/Form-3-1383-General-Special-Use.pdf>.

3. Fundraising cannot be conducted on-site.
4. Visitors are not permitted to use grills, stoves, or open flames.
5. Visitors must dispose of all garbage in the bins provided or pack all garbage to dispose of off-site.
6. E-bikes shall not exceed the speeds used to define each applicable Class of e-bike or speed limits posted on refuge roads and trails being traversed whichever is lower.
7. Horseback riders will be required to wear a helmet while on Service-owned property.
8. Horseback riders will be required to always maintain control of their horse.

### **Justification**

The stipulations outlined above will help ensure that the use is compatible with the purposes of the Conservation Area. As outlined in this compatibility determination, wildlife observation and photography and its supporting uses will not conflict with the national policy to maintain the Conservation Area's biological diversity, integrity, and environmental health. The Service has determined that wildlife observation and photography at the conservation area, in conjunction with the listed stipulations, will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose of the Conservation Area. Instead, wildlife observation and photography and its supporting uses will allow visitors to enjoy the Conservation Area's natural resources and develop an appreciation for the Refuge System and its mission.

### **Mandatory Reevaluation Date**

2039

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## Compatibility Determination

### Title

Interim Compatibility Determination for Environmental Education and Interpretation, Everglades to Gulf Conservation Area

### Refuge Use Category

Environmental Education and Interpretation

### Refuge Use Type(s)

Environmental Education and Interpretation

### Supporting Uses

Boating, Bicycling, Natural Resource Collecting (non-commercial Plant Gathering, Animal Product Gathering, Fossil collecting, Metal collecting, Rock collecting)

### Refuge

Everglades to Gulf Conservation Area

### Refuge Purpose(s) and Establishing and Acquisition Authority(ies)

"... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. 668dd(a)(2) (National Wildlife Refuge System Administration Act)

"...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." 16 U.S.C. 1534 (Endangered Species Act of 1973)

"...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

"...to conserve and protect migratory birds..., including species that are listed...as endangered species or threatened species, and to restore or develop adequate wildlife habitat." 16 U.S.C. §715i (Migratory Bird Conservation Act)

"...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude..." 16 U.S.C. 742f(b)(1) "...for the development, advancement, management, conservation, and protection of fish and wildlife resources...." 16 U.S.C. 742f(a)(4), (Secretarial powers to implement laws related to fish and wildlife) (Fish and Wildlife Act of 1956)

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"...suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. 460k-2 [Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended]

### **National Wildlife Refuge System Mission**

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57; 111 Stat. 1252).

### **Description of Use**

Is this an existing use?

No

What is the use?

The uses are environmental education and interpretation. This document defines environmental education as "on-refuge activities conducted by the Refuge System staff or authorized agents that use a planned process to foster awareness, knowledge, understanding, and appreciation in students about fish, wildlife, plants, ecology, natural sciences (such as astronomy), and refuge management." It defines wildlife interpretation as "on-refuge activities for refuge visitors conducted by National Wildlife Refuge System staff or authorized agents that are designed to foster an understanding and appreciation for natural and cultural resources, and associated management." On-refuge are lands owned in fee-title.

Boating is support of environmental education and interpretation to include the following use types:

**Boating (airboats and hovercraft).** Use of boats propelled by an airplane-like propeller(s) that allows travel in extremely shallow waters at high speed.

**Boating (wind-driven).** Travel by sailboat, sailboard, surfboard, or similar boat with sail(s) or kite(s) powered by the wind.

**Boating (human-powered).** Travel by canoe, kayak, raft, rowboat, paddleboard, or similar boat propelled through the water by oars, paddles, poles, or other human-powered devices.

**Boating (motorized).** Travel by boat powered by fossil fuel or electricity (including solar powered).

Bicycling in support of environmental education and interpretation is defined as: **Bicycling (including e-bikes).** Riding a bicycle on or off roads, paths, or trails.

Natural Resource collecting in support of environmental education and interpretation including:

**Plant gathering (non-commercial).** The collection of berries, fruits, grasses, marsh plants (e.g., cattails or sweet grass), seaweed, mushrooms, nuts, roots, wild rice or other plants, plant parts, or plant products for non-subsistence, non-research purposes.

**Animal product gathering (non-commercial).** The collection of shed antlers, owl pellets, seashells, bones or other animal parts or products for personal use or recreational purposes (does not include

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hunting, fishing, aquaculture, or other collection of living organisms).

**Fossil collecting (non-commercial).** The collection of fossils for personal use or recreational purposes (does not include collecting for research).

**Metal collecting (non-commercial).** The collection of metal using a metal detector that detects the presence of metal inclusions hidden within objects, or metal objects buried underground.

**Rock collecting (non-commercial).** Collecting of rocks or minerals by hand for personal use or recreational purposes (does not include collecting for research).

Is the use a priority public use?

Yes

Where would the use be conducted?

These uses could be permitted on publicly accessible lands owned or managed by the U.S. Fish and Wildlife Service (Service) as part of the Everglades to Gulf Conservation Area.

Boating and Bicycling will occur in areas open and accessible to the public as indicated through Conservation Area brochures and website to include waters managed by the National Wildlife Refuge System. Bicycling in support of these uses will occur on trails and roads managed by the National Wildlife Refuge System and indicated on brochures and the station website.

When would the use be conducted?

These uses will be permitted year-round from sunrise to sunset unless otherwise specified by signage and on the station website. Programs proposed for outside of open hours will be accessed individually.

How would the use be conducted?

Environmental education and interpretation will occur on lands owned in fee-title and could include presentations, demonstrations, guided tours, and special events led by staff, volunteers, and authorized agents. Environmental education and interpretation could also include exhibits, signage, and printed information (e.g., brochures). These uses are typically conducted on-foot, by boat, or by bicycle by individuals or small groups and can be facilitated with trails, informational materials (e.g., brochures and signage), viewing areas, and wildlife observation programs. Brochures and maps detailing open trails, viewing areas, and hours of operation will be available on the Conservation Area's website.

Natural resource collecting as described will occur only as part of a planned environmental education or interpretive program carried out by Service staff or agents of the Service. This assessment does not evaluate or extend to natural resource collection by individuals not associated with one of these programs. Any resources collected through implementation of these programs will remain as the property of the Service and will reside at a Service location unless laws and regulations governing those resources supersede this determination (e.g., Native American Artifacts).

Parking will be allowed only in indicated parking lots.

Why is this use being proposed or reevaluated?

Environmental education and interpretation are priority public uses as defined by the National Wildlife

Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57). Per the Improvement Act of 1997, these uses are to be prioritized over other general uses. In addition, environmental education and interpretation will provide the Conservation Area with opportunities to educate the public in settings that transcend the classroom and accommodate a variety of learning styles, encourage environmental stewardship, and foster enthusiasm for the Refuge System and its mission.

### **Availability of Resources**

Funding will be required for staff hours, interpretive materials (e.g., brochures, exhibits, etc.), basic infrastructure, and facilities. Personnel will be required to host educational events, create informational materials, and monitor event locations for adverse impacts. Basic infrastructure, such as access roads and parking lots, will be required to host large numbers of people. Facilities, like visitor contact stations and restrooms, will improve visitors’ experience.

The funding required to administer these uses will depend on the size and frequency of educational events and the number of interpretive exhibits constructed on the Conservation Area. The Service is expected to have the resources necessary to administer these uses in a limited capacity. More frequent events and amenities will depend on available funding (e.g., budget, grants, donations) and volunteers. An estimate is provided for implementation of a basic education and interpretation program for context.

**Table 1. Estimated Costs for Implementing Environmental Education and Interpretation**

<b>Identifier</b>	<b>Estimated Annual Cost</b>
Staff (Maintenance Workers, Visitor Service Specialists, and Refuge Managers)	\$70,000
Program Development and Implementation	\$10,000
Supporting Printed Materials and Web Support	\$3,000
Total	\$83,000
Off-setting Revenue	\$0

### **Anticipated Impacts of the Use**

Potential impacts of a proposed use on the Conservation Area’s purpose(s) and the Refuge System mission

Wildlife interpretation and environmental education activities introduce visitors to the Refuge System and its resources, fostering environmental stewardship values. For example, education and interpretation initiatives can increase visitors’ connectedness to nature, positively affecting their ecological knowledge and environmental attitude development (Ardoin 2006, Farmer et al. 2010, Ernst and Theimer 2011, Kudryavtsev et al. 2012). Such connectedness and environmental awareness increase public support for the Refuge System and its mission. These uses directly support Goal 3 of the Conservation Area, Conserve Important Lands and Waters for the Benefit of All People and the mission of the National Wildlife Refuge System. By experiencing nature in person and viewing the natural resources of the Conservation Area, visitors will develop a greater appreciation for the natural world and increased conservation ethic.

The effects and impacts of environmental education and wildlife interpretation covered in this CD,

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whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the use will not be more than negligibly impacted by the preferred alternative and have been dismissed from further analysis. The Service may modify or eliminate the uses at any time to address resource concerns, unacceptable impacts, and public safety needs or to adapt to changing conditions.

### Short-term impacts

Environmental education and interpretation can have positive and negative impacts on the Refuge System's resources. For example, educational and interpretive initiatives can increase the public's understanding of wildlife and their habitats and create opportunities for visitors to connect with the Conservation Area. However, environmental education and interpretation can disturb wildlife and negatively impact sensitive habitats. The severity of disturbance on wildlife depends on the frequency, duration, and size of events and varies among species.

Birds commonly exhibit an immediate physiological stress response (Müllner et al. 2004, Thiel et al. 2008) to human disturbance and flush (Livezey et al. 2016), sometimes avoiding places with high levels of human activity (Burger 1981, Klein et al. 1995). Large numbers of people (Burger and Gochfield 1998, Thomas et al. 2003, Yasue 2005, Pearce-Higgins et al. 2007) and decreasing distance between the bird and source of disturbance (Skagen et al. 2001, Beale and Monaghan 2005, Pease et al. 2005, Trulio and White 2017) often worsen negative impacts.

Human disturbance can sometimes cause birds to discontinue or avoid foraging (Burger and Gochfield 1998, Thomas et al. 2003, Yasue 2005, Martín et al. 2015). At Arthur R. Marshall Loxahatchee NWR in southeast Florida, common gallinule (*Gallinula galeata*), sora rail (*Porzana carolina*), glossy ibis (*Plegadis falcinellus*), little blue heron (*Egretta caerulea*) and Louisiana heron (*Egretta tricolor*) foraged less in the presence of humans (Burger and Gochfield 1998). Similarly, Martín et al. (2015) suggested that human presence caused resident shorebird species to spend less time foraging and more time displaying avoidance behavior. McNeil et al. (1992) found that many waterfowl species avoid disturbance by altering their feeding schedule, foraging at night instead of during the day.

Environmental education and interpretation can have more severe impacts on wildlife during the breeding season, negatively affecting reproductive success. Human disturbance may result in abandoned nests and breeding attempts (Acosta et al. 2007) or a shift in nest locations (Skagen et al. 2001). In addition, disturbances may affect the reproductive fitness of males by impeding territory defense and mate attraction and altering singing behavior (Ewald and Carpenter 1978, Arcese 1987, Gutzwiller et al. 1994).

The short-term effects of human disturbance on other species, such as reptiles, amphibians, and mammals, are less well-studied. Like birds, many types of wildlife, including mammals, reptiles, amphibians, fish, and arthropods, engage in avoidance behaviors when encountering human disturbance (Frid and Dill 2002, Huang et al. 2011, Selman et al. 2013). Some mammals have also become more nocturnal, foraging at night to avoid daytime disturbance (Gaynor et al. 2018).

Collectively, these avoidance behaviors can cause increased energy expenditure (Pease et al. 2005, Doherty et al. 2021), force birds into suboptimal habitats, cause crowding in undisturbed habitat, and increase intraspecific competition (Gill and Sutherland 2000, Frid and Dill 2002). However, several strategies can be used to minimize the effects of human disturbance. Adverse impacts typically become more common with decreasing distance between wildlife and the source of disturbance (Skagen et al. 2001, Beale and Monaghan 2005, Pease et al. 2005, Trulio and White 2017), suggesting that creating buffers around sensitive species will protect wildlife (Rodgers et al. 1997). In addition,

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impact severity depends on timing (Klein et al. 1995) and the number of people present, with increasing numbers associated with greater disturbance (Burger and Gochfield 1998, Thomas et al. 2003, Yasue 2005, Pearce-Higgins et al. 2007). When necessary, implementing seasonal closures has been shown to limit adverse impacts (Klein et al. 1995). Lastly, displaying informational signs will communicate the importance of respecting the Conservation Area's rules and regulations.

Visitors could trample vegetation on- and off-trail. A plant's response to trampling is heavily influenced by its morphological characteristics (Pescott and Stewart 2014, Marion et al. 2016). The brittle woody stems of shrubs and small trees and rigid stems of tall forbs are susceptible to trampling, which can damage buds and flowers and reduce seed production (Cole 1995, Cole and Monz 2002, Marion et al. 2016). Grasses, sedges, and low-growing herbs are more resistant due to flexible stems and underground perennating buds (Hill and Pickering 2009, Striker et al. 2011, Marion et al. 2016). The Service will restrict the use of sensitive habitat and continuously monitor vegetation for unexpected adverse impacts.

Short term impacts due to motorized and non-motorized boating in support of environmental education and interpretation may include wildlife disturbance, littering, vandalism, and aquatic vegetation disturbance. Damage to habitat by walking or dragging a canoe or kayak to and from the launch sites is typically minimal and temporary.

Disturbances to wildlife and other users by non-motorized boats are generally less than motorized activities due to the quiet nature of paddling or sailing, and generally low volume of use in any given area. This disturbance is temporary and generally localized and may vary depending on wildlife species or type of bird (e.g., Batten 1977). Accessing boat launching facilities utilizing refuge roads may cause a minor amount of wildlife disturbance. While it is clear that temporary adverse impacts to wildlife may occur, Service staff will monitor this use to quickly identify any changes that lead to significant adverse impacts to wildlife and habitat.

In a study by Graham and Cook (2008), it was determined that canoe paddles create the least amount of noise compared to combustion engines and electric motors and produced approximately half of the cardiac output compared to the effects of a combustion engine in largemouth bass. When analyzing combustion engines, electric motors and paddling, the study also determined that "Recovery time for cardiac output and heart rate was similar for all three treatments and slightly longer than stroke volume" (Graham and Cook 2008). Paddling creates less noise compared to motorized boating, and thus will result in faster recovery times for largemouth bass and other fish species compared to other methods of boating.

Temporary disturbance to wildlife, such as the flushing of feeding or resting birds, is inherent to boating activities. Motorized and non-motorized boats have the potential to affect birds in multiple ways including but not limited at launch sites and during operation. Much disturbance is focused at launch areas or boaters/visitors moving too close to birds. It is recommended to provide at least 300 feet of distance to prevent disturbance to nesting and roosting birds (University of Florida 2022). Kayaks, canoes, and other small vessels have the ability to "approach much closer and greatly disturb roosting and nesting birds" (University of Florida 2022). Measures to minimize impacts will include education to the public participating in these activities to increase prevention, establishment zones that restrict boating near known nesting sites, and enforcement of these closure areas.

Bike riding, including the use of electric bicycles ("e-bikes"), facilitates opportunities for environmental education and interpretation opportunities. This use may provide opportunities for visitors to observe and learn about wildlife and refuge lands firsthand and at their own pace in an

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unobstructed environment. Cycling may reduce impacts associated with motorized methods of travel, including congestion and emissions. In addition, this use promotes the national and regional priority, Connecting People to Nature, and other health-related initiatives.

Minor impacts may occur in association with bicycling, such as wildlife disturbance, littering, soil erosion and compaction, and off-trail riding. Cyclists can disturb wildlife that are resting, foraging, and/or breeding along trails, resulting in overall negative impacts on fitness. Studies by Blumstein (2003) and Blumstein et al. (2004) show that 'flight-initiation-distance' varies by species and intruder starting distance as well as by things such as flock size, angle of approach, time of year, time of day, reproductive state, distance to refuge, and type of disturbance. Such impacts are typically temporary, and mirror those associated with other trail uses (Bennett & Zuelke 1999; Pease et al. 2005). Disturbances are likely to be greatest directly along trails and decrease proportionately with distance from the trail edge. Common species have been shown to have a higher tolerance for disturbance compared to rare species and songbirds (Trails and Wildlife Task Force 1998; Miller et al. 2001). Seasonal regulation of trail use may also decrease negative impacts during breeding and nesting seasons; for instance, Hammitt and Cole (1998) note that females (such as deer) with young are more likely to flee from a disturbance than those without young. This indicates increased sensitivity to human disturbance during the breeding season. Trails may facilitate nest predation by increasing opportunities for access by mammalian predators. However, these impacts are associated with the existence of the trail itself, rather than the trail uses.

Bicycle wheels can cause physical impacts on soil surfaces. Cessford (1995) notes the shearing action of wheels creates damage to trails, which increases when trail conditions are wet or when traveling up a steep slope. However, soil erosion is largely avoidable with good trail design and maintenance. Properly designed drainage features will divert water from the trail, where vegetation and organic litter can filter out sediments (Volpe 2021). Bicycling along the edges of the trail or off trail may also cause vegetation to be trampled. Complete loss of vegetation cover occurs more quickly in shady forested areas and less quickly in open areas with resistant grassy vegetation. Once trampling occurs, vegetation is slow to recover; however, studies have consistently shown that the most impact occurs with initial or low use with a diminishing increase in impact associated with increasing levels of traffic (Volpe 2021). Litter may be intentionally or incidentally deposited by trail users. Cyclists may also serve as vectors for invasive plant species when off-refuge seeds and plant material cling to clothing, footwear, equipment, and tires, and are deposited on the refuge. The threat of invasive plant establishment requires annual monitoring and treatment when necessary. Where designated public use trails are established in part to funnel visitors through approved areas and prevent impacts from occurring across larger areas of habitat, impacts related to soil compaction, litter, and transport of invasive plant material are similar to those associated with other trail user groups.

E-bikes and mountain bikes have similar impacts on trails. Studies on the impacts of e-bikes on wildlife are conflicting. Some studies suggest that e-bikes cause greater disturbance to wildlife than non-motorized bikes because they disrupt wildlife within a shorter distance. Other studies suggest that e-bikes cause less disturbance because they exit the area more quickly than non-motorized bikes (Nielson et al. 2019). If conflicts arise between e-bike users and non-motorized bicycle users, or if safety becomes an issue due to speed, the refuge may designate specific trails for specific user groups.

Since users engaged in bicycling travel at a faster rate than hikers, and may be more likely to disturb wildlife, this has potential to result in conflicts such as reducing the quality of experience for other visitors. The Service will monitor trails for impacts caused by e-bikes and modify the use should

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unanticipated impacts occur.

Short-term and localized impacts associated with natural resource collecting as an aspect of environmental education and interpretation are similar to those described above including vegetation trampling or temporary displacement of wildlife in the area where natural resource collection is occurring. Refuge habitats and non-target fish and wildlife will remain largely unaffected by natural resource collection on Conservation Area land. Non-commercial natural resource collection in accordance with applicable State and Federal regulations is not anticipated to result in significant short-term or long-term adverse impacts to the Refuge.

#### Long-term impacts

Wildlife interpretation and environmental education activities can have long-term impacts on wildlife and habitats. However, some species can habituate to human disturbance (Samia et al. 2015). In addition, appropriate minimization strategies and continuous monitoring can ensure wildlife interpretation and environmental education occur without causing more than negligible long-term impacts on the Conservation Area's resources.

Animals experience various long-term effects due to disturbance. For example, male birds that respond to human intrusion by altering their singing behavior can suffer from lower reproductive fitness due to impaired territory defense and mate acquisition (Gutzwiller et al. 1994). Disrupted foraging behavior can cause decreased body mass (Gibson et al. 2018), increasing a bird's susceptibility to disease. Further, a literature review on the effects of nature-based recreation on birds reported that 28 out of 33 papers observed changes in abundance and reproductive success (Steven et al. 2011). Long-term disturbance also negatively impacts reptiles, with freshwater turtles at disturbed sites having poorer shell conditions than undisturbed sites (Selman et al. 2013). Mammals also suffer long-term consequences from human disturbance. Reed and Merenlender (2008) reported that human activity decreases carnivore density and shifts community composition from native to non-native species.

Visitors can introduce invasive plants, animals, and pathogens (Marion et al. 2006, Davies and Sheley 2007, Anderson et al. 2015) during interpretive and educational events. Seeds or other propagules can be transferred from one area to another via clothing or personal belongings and spread to nearby areas through self-propagation (Pickering and Hill 2007). Once present, invasive species can out-compete native plants and animals, thereby altering habitats (Marion et al. 2006, Anderson et al. 2015). Invasive species can alter animal and plant composition, diversity, and abundance (Eiswerth et al. 2005, Davies and Sheley 2007). These changes may reduce native forage, cover, and water sources (Eiswerth et al. 2005). Certain invasive species may even impede access to environmental education and wildlife interpretation sites, such as hydrilla, which blocks waterways.

Once vegetation and organic litter are lost to trampling, exposed soils are subject to compaction, leading to increased erosion and wetland sedimentation (Cooke and Xia 2020). The consequences of compacted soil include increased temperatures, reduced moisture (Marion et al. 2016), reduced soil biota (Liddle 1997), and resistance to seed germination and penetration by plant roots (Alessa and Earnhart 2000). The Service could minimize soil compaction by education and interpretation activities to established trails and roads.

Hansen et al. (2019) determined that "Recreational boating and related moorings are associated with altered species composition and reduced cover and height of aquatic vegetation that constitute important habitats for juvenile fish." Individual fish may be impacted if coming in contact directly with a boat propeller which can have long term impacts on that individual if wounds are sublethal or lethal.



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Boating can negatively affect wildlife through minor effects including water pollution from exhaust gases and spilled fuel. Measures should be implemented to prevent small spills such as proper maintenance on outboards/inboards and carrying appropriate supplies to effectively clean up unintended spills or leaks.

The Service plans to minimize the potential for these long-term impacts through limited use of these support uses in environmental education and interpretation programs and restricted use in sensitive wildlife areas.

Sim et al. (2019) found that boating infrastructure alters local environmental conditions. Areas near marinas, jetties, and boat ramps were found to have increased fine and moderate metal concentrations. Sediment faunal assemblages were also found to have changed when adjacent to these boating structures. However, these effects were only observed within the structure's local vicinity and did not impact reference sites. The Service can minimize the effects of boating infrastructure by concentrating infrastructure to fewer areas.

Boats are common vessels for transporting aquatic invasive species from one waterbody to another if not properly cleaned in-between uses. Boating may potentially introduce new aquatic invasive species to the Refuge that could have severe impacts on local flora and fauna. To prevent the spread of plants and animals to unwanted places, the Stop Aquatic Hitchhikers organization recommends cleaning all vessels and rinsing trailers with high pressure hot water when possible. Boats should also be drained of any excess water before leaving the water access area. Drying boats and equipment for at least 5 days in-between uses may also help prevent the spread of aquatic invasive species.

Without minimization measures in place, boating can cause direct impacts for bird populations, especially during nesting season. Audubon (2022) recommends landing and anchoring watercraft in a location away from nesting birds to prevent disturbance. Disturbance causing a bird to move away from its nest "makes chicks and eggs more vulnerable to predators and overheating" (Audubon 2022).

Bicycling can have long-term impacts on wildlife and habitats, but with appropriate monitoring and minimization strategies, such impacts on the conservation area's resources can be minimized. For example, a study on bison (*Bison bison*), mule deer (*Odocoileus hemionu*), and pronghorn antelopes (*Odocoileus hemionu*) reported that these species exhibited the strongest responses to users above (at a higher elevation) versus users below them (Taylor & Knight 2003). These results suggest that informed trail design can minimize impacts. Further, a recent study in San Diego, California, found that wildlife positively responded to temporal closures of trails to hikers and cyclists, suggesting strategies to limit recreational use during breeding or other sensitive periods are effective (Larson et al. 2020).

In some instances, habitat loss caused by bicycling and other recreational activities can cause species to abandon the habitat completely. A recent study in San Diego, California, found that wildlife positively responded to temporal closures of trails to hikers and cyclists, suggesting strategies to limit recreational use during breeding or other sensitive periods are effective (Larson et al. 2020). Users engaged in bicycling may be more likely to cause some wildlife species to flee; this may reduce the quality of experience for other users, such as wildlife observers and photographers. Bicyclists, especially e-bike users, often travel at high rates of speed, which poses a safety risk to other visitors. In addition, research has shown that visitors notice obvious forms of trail impact, such as excessive muddiness, ruts, and tree roots, and that such impacts can degrade the quality of visitor experiences (Roggenbuck et al. 1993, Vaske et al. 1993). Poor trail conditions also make it more difficult to travel

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and may threaten visitor safety. To ensure visitors' safety, the Service will only allow bikes on designated trails. If conflicts among user groups arise, the Service will modify the use accordingly.

Potential conflicts can occur due to overlapping uses in the same place and time for instance wildlife observation and environmental education occurring outdoors may not be compatible. The Service will separate conflicting uses based on potential impacts to ensure the best possible experience for visitors.

### **Public Review and Comment**

The compatibility determination was available for public review and comment for 35 days. The public review and comment period for the Draft Land Protection Plan and Environmental Assessment for the Proposed Establishment of Everglades to Gulf Conservation Area began on September 26, 2023, with a U.S. Fish and Wildlife Service press release requesting public review and comment. The news release was distributed to over 300 media outlets and over 200 interested parties. The comment period ended on November 1, 2023. Four public meetings occurred during the public review and comment period, including two virtual meetings on October 20, 2023, and October 23, 2023. The Service also held two in-person meetings. The in-person meetings were on October 25, 2023, and October 26, 2023, in Wauchula, FL, and Immokalee, FL, respectively. Information regarding the dates and locations of the public meetings and how to register and submit comments was included in the Service's press release and posted to the project's website. The Service also posted a video presentation on the project website that was viewed over 300 times as of January 2024.

### **Determination**

Is the use compatible?

Yes

### **Stipulations Necessary to Ensure Compatibility**

To ensure the proposed use is compatible with the Refuge System and the Conservation Area's goals and objectives, environmental education and interpretation will only occur with the following stipulations:

1. This use must be conducted in accordance with State and federal regulations (50 CFR) and any specific regulations published in the Conservation Area's Public Use Regulations brochure. Prohibited activities are discussed in 50 CFR Part 27.
2. Environmental education and interpretation are subject to modification if on-site monitoring by Service personnel or authorized agents reveals unanticipated negative impacts on natural or cultural resources.
3. Areas may be temporarily or permanently closed to protect resources or prevent unwanted disturbance.
4. Bicycles and e-bikes will be restricted to designated trails and roads.
5. E-bikes shall not exceed the speeds used to define each applicable Class of e-bike or speed limits posted on refuge roads and trails being traversed whichever is lower.
6. Should Native American artifacts be discovered during implementation of these activities, all activities will be halted, and program participants removed from the location. The Refuge

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Manager and the Regional Archeologist will be notified immediately and appropriate actions to protect and conserve initiated.

### **Justification**

The stipulations outlined above will help ensure that the use is compatible with the purposes of the Conservation Area. As outlined in this compatibility determination, environmental education and interpretation will not conflict with the national policy to maintain the Conservation Area's biological diversity, integrity, and environmental health. The Service has determined that environmental education and interpretation at the Conservation Area, in conjunction with the listed stipulations, will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose of the Conservation Area. Instead, environmental education and interpretation will allow visitors to enjoy the Conservation Area natural resources and develop an appreciation for the Refuge System and its mission.

### **Mandatory Reevaluation Date**

2039

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## Interim Compatibility Determination

### Title

Interim Compatibility Determination for Hunting, Everglades to Gulf Conservation Area

### Refuge Use Category

Hunting

### Refuge Use Type(s)

Hunting (Big Game, Upland Game, Waterfowl, Other Migratory Birds, and Special Events)

### Refuge

Everglades to Gulf Conservation Area

### Supporting Uses

Camping and Off-road and All-terrain Vehicles

### Refuge Purpose(s) and Establishing and Acquisition Authority(ies)

"... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. 668dd(a)(2) (National Wildlife Refuge System Administration Act)

"...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." 16 U.S.C. 1534 (Endangered Species Act of 1973)

"...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

"...to conserve and protect migratory birds..., including species that are listed...as endangered species or threatened species, and to restore or develop adequate wildlife habitat." 16 U.S.C. §715i (Migratory Bird Conservation Act)

"...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude..." 16 U.S.C. 742f(b)(1) "...for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. 742f(a)(4), (Secretarial powers to implement laws related to fish and wildlife) (Fish and Wildlife Act of 1956)



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"...suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. 460k-2 [Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended]

### **National Wildlife Refuge System Mission**

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57; 111 Stat. 1252).

### **Description of Use**

Is this an existing use?

No, the uses are interim uses for the Everglades to Gulf Conservation Area

What is the use?

The primary use is hunting, including big game, upland game, waterfowl, other migratory birds, and special events. The supporting uses are camping and off-road (ORV) or all-terrain (ATV) vehicles. For the purposes of this document, the uses are defined as:

- Big game hunting is the recreational hunting of big game (e.g., bear, feral pigs, and deer).
- Upland game hunting is the recreational hunting of upland game species (e.g., fox, quail, rabbit, squirrel, turkey, and others) and does not include hunting for predator control purposes.
- Waterfowl hunting is the recreational hunting of waterfowl species (e.g., ducks, geese, and swans).
- Other migratory bird hunting is the recreational hunting of migratory bird species other than waterfowl (e.g., dove, gallinule, pigeon, rail, snipe, and woodcock).
- Special events are educational or other special hunting events, including clinics and excluding tournament hunting.
- Camping is overnight primitive camping.
- Off-road or all-terrain vehicle use is the use of any motorized vehicle (except airboats, hovercraft, or personal watercraft) designed for, or capable of travel over land, water, sand, marsh, ice, or other natural terrain off designated routes of travel.

Is the use a priority public use?

Yes

Where would the use be conducted?

Because the Conservation Area has yet to be established, exactly where hunting, camping, and

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ORV/ATV use will occur is unknown; however, hunting, camping, and ORV/ATV use will only occur on fee-title properties open to public hunting immediately prior to service acquisition, determined to be conducive to a quality hunting experience, and large enough to support hunting activities. Each acquisition will be assessed for suitability to hunting activities.

When would the use be conducted?

Hunting will occur within seasons established by the State of Florida but may be more limited depending on species abundance, habitats, and other factors. Timing will depend on the species being hunted, other fish and wildlife species present, other public uses occurring in the area, habitats and vegetation present, and the size and geographical location of the fee-title property.

How would the use be conducted?

Hunting will be conducted through hunt permits issued by the Service and administered through the State permitting system. Limited quota hunts may be implemented on some fee-title lands as determined by species, property location, and demand. Implementation of the hunt program will be in consultation and coordination with the Florida Wildlife Resources Commission. Considerations for implementation includes species being hunted, other fish and wildlife species present, other public uses occurring in the area, habitats and vegetation present, and the size and geographical location of the fee-title property.

ORV/ATV use will only be permitted for people with mobility impairments and will require a special use permit.

Camping in support of hunting will occur on designated camping areas only. Upon each acquisition of fee-title land, the Service will assess if adequate locations and space is suitable for camp sites in support of hunting. Only primitive camping sites will be used with no supporting facilities and with a strict “pack in, pack out” operation. Special Use Permits associated with hunting permits will be issued for camping by the Service.

Why is this use being proposed or reevaluated?

Hunting is a priority public use as defined by the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57). Per the Improvement Act of 1997, these uses are to be prioritized over general uses. Wildlife-dependent recreation, such as hunting, provides opportunities for the public to connect with the conservation area’s natural resources, fostering appreciation and support for the Refuge System and its mission.

### **Availability of Resources**

A resource availability analysis cannot be completed because the Conservation Area has not been established, funded, or staffed. Such an analysis will be conducted before opening any property to hunting or its supporting uses; the Service will only open a property to hunting and its supporting uses if sufficient resources are available to administer the uses effectively.

The funding required to administer this use will depend on the number of acquisitions in fee-title that allow public hunting prior to acquisition. The Service is expected to have the resources necessary to administer these uses in a limited capacity. Hunting special events will depend on available funding. A

general estimate is provided based on a limited hunt program without infrastructure. Initially, the Service will not charge for permits. Appropriate analysis and procedures will have to be prepared to determine if fees will be needed and feasible.

**Table 1. Estimated Costs for Implementing Hunting**

Identifier	Estimated Annual Cost
Staff (Maintenance Workers, Biologist, and Refuge Managers)	\$5,000
Maintain Roads, Parking Lots, and Trails	\$2,000
Hunt Brochures	\$3,000
Law Enforcement	\$4,000
Total	\$14,000
Off-setting Revenue	\$0

### Anticipated Impacts of the Use

Potential impacts of a proposed use on the Conservation Area’s purpose(s) and the Refuge System mission

The effects and impacts of the proposed uses on the Conservation Area’s resources, whether adverse or beneficial, will be those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. Resources that will not be more than negligibly impacted have been dismissed from further analysis.

Hunting directly supports Goal 3 of the Conservation Area, Conserve Important Lands and Waters for the Benefit of All People and the mission of the National Wildlife Refuge System. Hunting has a long and lasting tradition in the United States and fosters appreciation of nature and a conservation ethic. Hunting considered in this compatibility determination is limited to those lands acquired by the Service in fee-title on which public hunting existed prior to Service acquisition.

#### Short-term and Long-term Impacts of Hunting

Hunting invariably results in some target animals being killed, and others will be wounded and succumb later. However, wildlife management is directed toward wildlife populations and not individuals. Direct effects of hunting to target species (bear, feral pig, deer, fox, quail, rabbit, squirrel, turkey, ducks, geese, and swans, dove, gallinule, pigeon, rail, snipe, and woodcock) include mortality, wounding, and disturbance of target and non-target species (De Long 2002). Hunting potentially can alter behavior (e.g., foraging time), population structure, general health (e.g., weight loss), and distribution patterns of all wildlife within the hunt area (Owens 1977, Raveling 1979, White-Robinson 1982, Thomas 1983, Bartelt 1987, Cole and Knight 1990, Madsen 1995). Other target and non-target species will be disturbed (De Long 2002), but such disturbance is temporary and short term and not considered pervasive enough to result in negative impacts to populations. Most displacement of wildlife is minor; animals typically will remain within their normal home ranges. Most hunting on the refuges occurs during times of the year when most wildlife are not nesting, birthing, or raising offspring. The likelihood of a threatened, endangered, or candidate species suffering mortality or the hunting activities causing disturbance rising to the level of take for federally-listed species occurring on the Conservation Area’s fee-title lands is remote.

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Other potential short-term impacts from hunting include damage to vegetation (primarily trampling), littering, minor surface damage on roads/trails from motor vehicles and ATV/UTVs. Occasional conflicts between hunters and between hunters and non-hunting visitors to the refuges could occur. These conflicts typically involve the disturbance of wildlife with which hunters and non-hunters are both trying to find. Hunting will reduce the number of migratory game birds using the Conservation Area based on the number killed during hunting season, but it is not expected to adversely affect their populations in the long term. The Service works closely with State and provincial governments, as well as with the public, in a joint effort to establish annual hunting regulations for migratory birds. The Service's Division of Migratory Birds establishes regulatory frameworks to manage all migratory bird hunting in the United States. These regulations establish limitations by which States can then create season lengths, bag limits and areas of migratory bird hunting. Refuges conduct waterfowl hunting within federal and State season frameworks and regulations.

Impacts to waterfowl and other species can be reduced by providing adjacent sanctuary areas where hunting does not occur and where birds can feed and rest relatively undisturbed. Sanctuaries or non-hunt areas have been identified as the most common solution to disturbance problems caused from hunting (Havera et. al 1992). In Denmark, hunting disturbance effects were experimentally tested by establishing two sanctuaries (Madsen 1995). Over a 5-year period, these sanctuaries became two of the most important staging areas for coastal waterfowl. Numbers of dabbling ducks and geese increased four- to 20-fold within the sanctuary (Madsen 1995). Thus, non-hunt areas apparently are very important to waterfowl populations subject to hunting as they ensure the continued presence of the affected species within the general vicinity of the hunt area, but perhaps more importantly, they allow waterfowl to minimize energy losses due to disturbance-caused movements and to forage, rest, and roost without interference.

Hunting will temporarily reduce numbers of upland game. However, the level of take of these species will not adversely affect their long-term population status. Florida Wildlife Resources Commission (FWRC) sets hunting seasons, bag limits, methods of take, and other regulations annually and the Conservation Area will operate within those parameters. Approval by FWRC is based on their monitoring of game harvests, population trends, and habitat and range occupancy throughout the State and assessment of hunter effort/participation, and the determination/acknowledgement that hunting seasons will not be detrimental to game species on a local, regional, or statewide scale.

Feral hogs are non-native, invasive species that compete with native wildlife species for habitat and food resources, damage wildlife habitat and habitat restoration areas, and can be vectors of disease to wildlife, domestic livestock, and humans (Arkansas Department of Agriculture 2020). The take of feral hogs on the Conservation Area will be restricted to incidental take during other hunts.

Providing carefully planned and managed hunting opportunities with restrictions that limit access to specific Conservation Area locations will generally minimize disturbance to wildlife populations, the environment, and non-consumptive users. Concerns are primarily centered on the possibility of impacting non-target species that are sensitive to disturbance.

Hunters and non-consumptive users will share many of the same areas of the Conservation Area. Hunting activity may conflict with other forms of priority wildlife-dependent recreation. Discharging firearms may disturb the peace and serenity that non-hunters seek.

Hunting may result in long-term beneficial impacts to the human environment. This use may increase the viewer's understanding and appreciation of fish and wildlife, their habitat needs, and the role of

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the Refuge System in their conservation. Experiences shared with others increase public awareness of the Conservation Area and, in turn, can help accomplish the mission of the Service.

#### Long-Term Impacts of Hunting

Incremental increases in activities by people engaged in the variety of allowed uses, including hunting, on the Conservation Area that continue unchecked potentially could result in cumulative detrimental consequences to wildlife and/or habitats. However, Service and FWC staff will monitor these activities to ensure wildlife and other refuge resources are not affected in a detrimental manner. Various methods are available to refuge managers that can readily be implemented to effectively manage participant numbers and activity patterns to maintain a compatible, high-quality, low-impact, and safe hunting program on the Conservation Area.

Hunting conducted in accordance with State and federal regulations is not expected to adversely affect wildlife populations that occur on the refuge and likely assists in maintaining the biological integrity, diversity, and environmental health of the refuges. Some species, such as white-tailed deer, now occur at population levels well above historical numbers. Left unchecked, high numbers of such species could adversely affect biological integrity, diversity, and environmental health. Hunting is a closely monitored and regulated wildlife management tool that aids in maintaining stability within wildlife populations and a healthy balance between wildlife populations and habitats. There will be no adverse cumulative effects to refuge plant or wildlife communities attributable to hunting.

In addition to environmental health, there also are other cumulative beneficial effects to hunting. Increased wildlife-dependent recreation (hunting, wildlife observation and photography, environmental education); beneficial use of renewable, sustainable wildlife resources; increased appreciation for wildlife conservation, and the role of national wildlife refuges in wildlife conservation, habitat management and restoration all ultimately result from hunting programs on national wildlife refuges. Additionally, increased revenues at the local, state, and national levels benefit economies and provide (federal) funding for wildlife research, habitat management, acquisition of wildlife habitats, supportive infrastructure, and educational programs designed to raise public awareness and support for wildlife conservation at the local, state, national, and international scales.

#### Short-term Impacts of Camping

The short-term impacts of camping on vegetation and soil can be locally severe but are usually restricted to a relatively small area within the campsite itself (Marion and Cole 1996). Short-term impacts on vegetation occur quickly, even with light use (Cole 1981) and may include the loss of ground vegetation cover. A plant's response to trampling is heavily influenced by its morphological characteristics (Pescott and Stewart 2014, Marion et al. 2016). The brittle woody stems of shrubs and small trees and rigid stems of tall forbs are susceptible to trampling, which damages buds and flowers and reduces seed production (Cole 1995a, Cole and Monz 2002, Marion et al. 2016). Grasses, sedges, and low-growing herbs are more resistant due to flexible stems and underground perennating buds (Hill and Pickering 2009, Striker et al. 2011, Marion et al. 2016). The extent of camping's impacts on vegetation is generally related to site use frequency, site durability, and group size (Cole 1995b). Most of the impact occurs when the campsite is opened and during the first year of use. Subsequent use of new campsites, even a few nights per year, is sufficient to prevent their recovery (Scherrer and Pickering 2006, Cole 2013).

The impacts of camping can be more substantial when campfires are permitted. Gathering wood may result in tree damage from broken or cut limbs, axe scars, or felling. Collecting downed wood may increase the trampling of surrounding vegetation and reduce the amount of downed wood available to

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wildlife, possibly negatively impacting small mammal, reptile, and terrestrial amphibian communities. Fire pits often become receptacles for trash and may negatively affect the experience of subsequent campers. Further, campers could inadvertently start a wildfire. Because of these potential impacts, campfires will not be permitted outside of designated fire rings.

Improperly disposed of human and pet waste at campsites may compromise water quality by introducing pathogens and negatively affecting campsite aesthetics. Human waste, food disposal, and dishwashing may increase aquatic nutrient loads. Soap from improper dishwashing, trash, and fish-cleaning waste may pollute water. Pit toilets near the water on shallow, permeable soils can sometimes introduce coliform bacteria into the water. However, camping generally does not affect water quality to the extent of creating a public health concern, even in areas that receive heavy use (Cole 1981). To minimize these potential impacts the Service will host only primitive campsites and adhere to a policy of campers packing in and packing out all food, waste, and supplies.

Camping can alter or destroy wildlife habitats or displace wildlife from preferred habitats or resources. Camping may also modify or disrupt wildlife behavior. Human disturbance causes animals to increase energy expenditures, depleting energy reserves that will otherwise be used for survival and reproduction. Nesting birds may leave the nest in response to disturbance, exposing eggs to unsafe temperatures and predators. Larger groups are generally more likely to disturb wildlife (Beale and Monaghan 2004). Group camping will not be allowed in support of hunting to minimize the possibility of these impacts.

Humans may intentionally or unintentionally supply food to wildlife through littering, accidental spillage, or improper food storage. Human food may be unhealthy for wildlife or promote scavenging behavior, which may increase the vulnerability of animals to predation. Rodent populations often increase at campsites in response to the increased availability of human food and can negatively affect nesting songbirds. Bears, raccoons, and other scavengers may be attracted to improperly stored food, possibly damaging property and threatening visitor safety. The Service will monitor these impacts associated with hunting and support activities and adjust the use if impacts are observed.

Overused, poorly maintained campsites are visually unappealing and may negatively impact visitor experience. Conflicts may arise between visitors because of litter, noise, and overcrowding from campers. The Conservation Area will modify the uses should conflicts arise among user groups.

#### Long-term Impacts of Camping

Once vegetation and organic litter are lost, exposed soils are subject to compaction, leading to increased erosion and wetland sedimentation (Cooke and Xia 2020). Erosion may expose tree roots, resulting in increased tree mortality due to wind throw. In addition, compacted soil can cause increased soil temperatures, reduced moisture (Marion et al. 2016), reduced soil biota (Liddle 1997), and resistance to seed germination and penetration by plant roots (Alessa and Earnhart 2000). Recovery of closed campsites is usually a slow process. Even on fertile soils, full recovery may take years (Cole and Marion 1988, Marion and Cole 1996).

If effective minimization strategies are not implemented, wildlife can suffer long-term consequences that vary by species. For example, male birds that respond to human intrusion by altering their singing behavior can suffer from lower reproductive fitness due to impaired territory defense and mate acquisition (Gutzwiller et al. 1994). Disrupted foraging behavior can cause decreased body mass (Gibson et al. 2018), increasing a bird's susceptibility to disease. Further, a literature review on the effects of nature-based recreation on birds reported that 28 out of 33 papers observed changes in

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abundance and reproductive success (Steven et al. 2011). Long-term disturbance also negatively impacts reptiles, with freshwater turtles at disturbed sites having significantly poorer shell conditions than undisturbed sites (Selman et al. 2013). Mammals also suffer long-term consequences from human disturbance. Reed and Merenlender (2008) reported that human activity decreases carnivore density and shifts community composition from native to non-native species. In order to minimize these impacts, group sizes will be limited to no more than six campers per site.

Campfires can have severe effects on soils in a localized area. Campfires destroy organic matter in soil and can change soil chemistry, effectively sterilizing a site. These effects can persist over a long period and make vegetation regrowth difficult. In some cases, recovery may take years. If a campfire ignites a large-scale forest fire, the effects could be devastating.

Visitors can introduce invasive plants, animals, and pathogens (Marion et al. 2006, Davies and Sheley 2007, Anderson et al. 2015) while engaging in camping activities. Once present, invasive species can out-compete native plants and animals, thereby altering habitats (Marion et al. 2006, Anderson et al. 2015). Invasive species can alter animal and plant composition, diversity, and abundance (Eiswerth et al. 2005, Davies and Sheley 2007). These changes may reduce native forage, cover, and water sources (Eiswerth et al. 2005). Certain invasive species may even impede access to other recreational activities, such as hydrilla, which blocks waterways.

#### Long-term Impacts of ORV and ATV Use

ORV and ATVs can affect all forms of wildlife if effective minimization strategies are not implemented. Research has shown that areas where ORV and ATV use occur have lower species richness, diversity, and abundance of benthic macroinvertebrate communities compared to areas where ORV and ATV use is restricted (Schlacher and Thompson 2007, Schlacher et al. 2008, Walker and Schlacher 2011, Davies et al. 2016, Bom and Colling 2020). In addition, ORV and ATV use has been shown to result in reduced bird abundance (Barton and Holmes 2007, Tarr et al. 2010), disturbance and corresponding behavioral changes (Janis and Clark 2002, St-Louis et al. 2013, Jones et al. 2017), direct mortality, and nest destruction (Godwin et al. 2021).

ORV and ATV traffic can alter habitat structure and function through changes in the physiochemical properties of soil, loss of vegetative cover, and alterations of plant community structure and function (Slaughter et al. 1990, Navas Romero et al. 2019, Sumanapala and Wolf 2019). For example, soils can be physically damaged through increased compaction, which may alter the success of certain plant species, impacting species diversity (Brown and Schoknecht 2001, Assaeed et al. 2019). While vegetation loss is common with ORV and ATV activity (Al-Awadhi 2013, Cheung et al. 2021), community-level vegetation responses have also been found, including alterations in species composition and conditions that may favor the introduction and spread of invasive plants (Milchunas et al. 2000, Assaeed et al. 2019, Navas Romero et al. 2019). Further, ORVs and ATVs cause rutting, which channels water into preferential flow paths, causing rill erosion. Rill erosion is soil removal due to the concentrated water flow and contributes to soil loss and increased stream sediment deposition (Meadows et al. 2008).

ORV and ATV operation in or near streams and waterways threatens water quality (Havlick 2002). ORV and ATV trails funnel water containing contaminants and sediment into streams, rivers, and lakes (Ouren et al. 2007). Contaminants can also be directly introduced into aquatic systems through oil and fuel spills, and emission particulates can be transported via wind, deposited onto vegetation, washed off vegetation surfaces by rain, and introduced into the watershed via runoff.

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Visitor use, experience, and safety can be negatively impacted by ORVs and ATVs due to noise, causing wildlife to flush and flee, or decreasing aesthetics. In a study conducted on the effects of ATV use on other user groups by Watkins and Poudyal (2021), results showed varying levels of conflict with substantial differences in satisfaction between recreation groups and activity types and differences in group consensus levels regarding encounter experiences. Results were consistent with the premise that non-motorized recreationists perceive greater levels of conflict from motorized recreationists than vice versa (Jackson et al. 2003, Gibson and Fix 2014, Schroeder et al. 2020).

Cumulative impacts potentially could occur from the combination of these uses on the Conservation Area including hunting, wildlife observation, photography, education, interpretation, habitat management and research. Programs that occur in the same space and time can cause decreased satisfaction from user groups and increase disturbance to wildlife from frequent human visitation, consumptive or non-consumptive. Management actions such as prescribed fire, water management and timber management are necessary aspects of refuge management, but the conduct of these activities may not be conducive to hunting activities occurring at the same time and location. Certain research activities may require areas free of public use/disturbance to accomplish research objectives. The Service considers all uses as activities that are planned/implemented on a yearly basis and programs are structured and administered to allow multiple uses to occur with minimal conflict. Conflicts are infrequent. Hunting seasons and locations will allow for hunters to pursue this public use while other uses may be located in other areas of the refuge or at other times to reduce potential conflicts.

### **Public Review and Comment**

The compatibility determination was available for public review and comment for 35 days. The public review and comment period for the Draft Land Protection Plan and Environmental Assessment for the Proposed Establishment of Everglades to Gulf Conservation Area began on September 26, 2023, with a U.S. Fish and Wildlife Service press release requesting public review and comment. The news release was distributed to over 300 media outlets and over 200 interested parties. The comment period ended on November 1, 2023. Four public meetings occurred during the public review and comment period, including two virtual meetings on October 20, 2023, and October 23, 2023. The Service also held two in-person meetings. The in-person meetings were on October 25, 2023, and October 26, 2023, in Wauchula, FL, and Immokalee, FL, respectively. Information regarding the dates and locations of the public meetings and how to register and submit comments was included in the Service's press release and posted to the project's website. The Service also posted a video presentation on the project website that was viewed over 300 times as of January 2024.

### **Determination**

Is the use compatible?

Yes

### **Stipulations Necessary to Ensure Compatibility**

The following stipulations will be necessary to ensure the uses are compatible:

1. Persons possessing, transporting, or carrying firearms on national wildlife refuges must comply with all provisions of federal, state, and local law. Persons may only use (discharge) firearms in accordance with Conservation Area's regulations.



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2. All applicable state hunting licenses, state permits, Conservation Area's CITES tags, federal stamps, and Refuge hunt permits must be in the possession of the hunter.
  3. Hunting programs will be administered as a state-managed WMA tract or a Service sponsored management program.
  4. For all hunts, weapon restrictions will be in accordance with State of Florida regulations.
  5. Vehicles will be restricted to existing designated roads and trails.
  6. Off-road vehicle (ORV) use may be allowed for access along designated roads and trails or as indicated in Conservation Area public access brochures or web site.
  7. Camping may be allowed to access remote areas during the hunting season.
  8. All hunts will be designed in cooperation with state biologists and managers, to provide quality user opportunities based upon estimated wildlife population levels and biological parameters.
  9. Hunt season dates and bag limits will be adjusted to meet current hunter densities and activities and may be adjusted as needed to achieve balanced population levels within carrying capacities, regardless of impacts to user opportunities.
  10. Taking of any plants or other wildlife is prohibited.
  11. As additional data are collected, Conservation Area-specific regulations or changes to the WMA could be implemented. These changes to the regulations could include, but may not be limited to the following: season dates that differ from those in surrounding state zones; permit requirements; and closed areas on a permanent or seasonal basis to reduce disturbance to specific wildlife species or habitats, such as bird rookeries, wintering waterfowl, or threatened or endangered species, as well as to provide for public safety. If evidence of unacceptable impacts begins to appear, it may be necessary to change the activity, move the activity, or eliminate the activity.
  12. Fire is not permitted outside designated campfire rings.
  13. The number of campers per campsite will be limited to six people or less.
  14. Campers will require an approved special use permit.
  15. Only tents will be permitted (i.e., no campers, RVs, etc.)
  16. Cutting tree limbs (for firewood, etc.) will be prohibited.

### **Justification**

The stipulations outlined above will help ensure that the uses are compatible with the purposes of the Conservation Area. As outlined in this compatibility determination, hunting and its supporting uses will not be permitted on a fee-title property if the uses conflicted with the national policy to maintain the Conservation Area's biological diversity, integrity, and environmental health. The Service has determined that considering the required analyses and the listed stipulations, future hunting opportunities will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose of the Conservation Area. Instead, hunting and its supporting uses will allow visitors to enjoy the Conservation Area's natural resources and develop an appreciation for the Refuge System and its mission.

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## Mandatory Reevaluation Date

2039

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## Interim Compatibility Determination

### Title

Interim Compatibility Determination for Fishing, Everglades to Gulf Conservation Area

### Refuge Use Category

Fishing

### Refuge Use Type(s)

Fishing (Non-commercial)

### Supporting Uses

Boating (Wind-driven, Human-powered, Motorized)

### Refuge

Everglades to Gulf Conservation Area

### Refuge Purpose(s) and Establishing and Acquisition Authority(ies)

"... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. 668dd(a)(2) (National Wildlife Refuge System Administration Act)

"...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." 16 U.S.C. 1534 (Endangered Species Act of 1973)

"...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

"...to conserve and protect migratory birds..., including species that are listed...as endangered species or threatened species, and to restore or develop adequate wildlife habitat." 16 U.S.C. §715i (Migratory Bird Conservation Act)

"...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude..." 16 U.S.C. 742f(b)(1) "...for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. 742f(a)(4), (Secretarial powers to implement laws related to fish and wildlife) (Fish and Wildlife Act of 1956)

"...suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. 460k-2 [Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended]

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## National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57; 111 Stat. 1252).

### Description of Use

Is this an existing use?

No, the use is an interim use for the Everglades to Gulf Conservation Area.

What is the use?

The use is fishing with boating as a supporting use. For the purposes of this document, fishing and boating are defined as follows:

- Fishing (non-commercial) is defined as the harvest of fish, shellfish, or other aquatic organisms for recreational purposes and/or personal consumption (includes collection of bait for personal use).
- Boating
  - Wind-driven boating is travel by sailboat, sailboard, surfboard, or similar boat with sail(s) or kite(s) powered by the wind.
  - Human-powered boating is travel by canoe, kayak, raft, rowboat, paddleboard, or similar boat propelled through the water by oars, paddles, poles, or other human-powered devices.
  - Motorized boating is travel by boat powered by fossil fuel or electricity (including solar powered).

Is the use a priority public use?

Yes

Where would the use be conducted?

Fishing will occur on Service owned fee-title waters and from the banks of fee-title lands within the Conservation Area. It will be limited to those waters that allow for public access by road or trail. Fishing will only occur on those waters open to public fishing prior to Service acquisition.

When would the use be conducted?

Fishing will occur from legal sunrise to legal sunset year-round within State established seasons. Restrictions may be made depending on the species being fished, other fish and wildlife species present, other public uses occurring in the area, habitats and vegetations present, and the size and geographical location of the waterbody.

How would the use be conducted?

Fishing will occur only on those areas of the Conservation Area that were open to public fishing prior to Service acquisition and indicated on Conservation Area maps and brochures. All State permitting requirements apply including licensing requirements and season, bag and size limits. The Service will consult with the State of Florida Fish and Wildlife Commission each year on regulations and additional management implementation.

Boating in support of fishing will be subject to State registration and licensing requirements. Launching of boats may only occur on officially designated boat ramps and parking of trailers will only be allowed in designated parking areas.

Why is this use being proposed or reevaluated?

Fishing is a priority public use as defined by the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57). Per the Improvement Act of 1997, these uses are to be prioritized over general uses. Wildlife-dependent recreation, such as fishing and boating, provide opportunities for the public to connect with the Conservation Area’s natural resources, fostering appreciation and support for the Refuge System and its mission.

### Availability of Resources

Fishing administration costs for the Conservation Area are difficult to determine prior to acquisition of sufficient fee-title properties to allow this use. However, an estimate is provided of typical costs associated with this use on an annual basis. Costs including salary, equipment, maintenance, monitoring, and communication with the public will be approximately \$15,000 annually. Off-setting costs may be implemented at a future date should demand and area be sufficient to require services above base operating costs for the Conservation Area.

**Table 1. Estimated Costs for Implementing Fishing**

Identifier	Estimated Cost
Staff (Maintenance Workers, Biologist, and Refuge Managers)	\$8,000
Maintain roads, parking lots, boat ramps	\$5,000
Brochures	\$1,000
Maintain Signage	\$1,000
Total	\$15,000

### Anticipated Impacts of the Use



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Potential impacts of a proposed use on the Conservation Area purpose(s) and the Refuge System mission

Fishing directly supports Goal 3 of the Conservation Area, Conserve Important Lands and Waters for the Benefit of All People and the mission of the National Wildlife Refuge System. Fishing has a long and lasting tradition in the United States and fosters appreciation of nature and a conservation ethic. Fishing considered in this compatibility determination is limited to those lands acquired by the Service in fee-title on which public fishing existed prior to Service acquisition.

The effects and impacts of the proposed use on the Conservation Area's resources, whether adverse or beneficial, will be those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use.

#### Short-term Impacts

Revenues generated by angler trip expenses, such as purchases of gear, supplies, and fishing licenses, provide local and state economic benefits through sales and fuel taxes, employment, and installation of boat ramps and other supportive infrastructure that benefit anglers and nonanglers. Federal excise taxes on recreational fishing tackle, trolling motors, fish finders, and other equipment used for recreational fishing, as well as Federal fuel taxes on motorboat/small engine fuels, generate funds that support State fisheries conservation, research, management, stocking, and educational efforts that benefit fish populations and habitats and consumptive users of fisheries resources. According to statistics in the 2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (U.S. Department of the Interior et al. 2018), freshwater anglers spent \$29.9 billion on freshwater fishing trips and equipment.

Fishing invariably results in some negative effects to habitat and wildlife. Fish are killed; most are taken for consumption. Some individuals that are caught, handled, and released also will succumb. However, fisheries management is directed toward populations and not individuals. Some fish and other aquatic and terrestrial wildlife along anglers' routes of travel and at recreational fishing sites will be disturbed and disrupted from their normal activities (Cole and Knight 1990), but this disturbance and displacement is temporary, dispersed in its occurrence, and is not pervasive enough to result in significant negative impacts to populations.

Littering is typically evident around recreational fishing sites and travel routes. Unfortunately, littering results from all uses of the Refuge System. Litter is aesthetically unappealing and can be injurious to wildlife and aquatic organisms. Lead sinkers lost during fishing could be ingested by wildlife, possibly causing lead poisoning. Conflicts between anglers and non-fishing visitors to the refuges could occur. These conflicts typically involve the spontaneous disturbance of wildlife and fish with which anglers and non-anglers are both seeking contact. Additionally, there may be competition for use of popular recreational fishing spots. These conflicts are managed by monitoring and signage at high use areas. Conflicting uses can be successfully managed by structuring use locations, times, and visitor numbers to allow for enjoyable experiences for all.

#### Short-term Impacts (Boating)

The short-term impacts of boating (human-powered, wind-driven, and motorized) are expected to be minimal. Possible short-term impacts include wildlife disturbance, littering, and vegetation disturbance, with motorized boats more likely to cause wildlife disturbance than non-motorized boats. Conversely, positive impacts include increased access to wildlife recreation, including the big six priority public uses, and opportunities for visitors to feel connected to the Conservation Area's

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habitats and wildlife.

Disturbances to wildlife and other users by non-motorized boats are generally less severe than motorized activities (Graham and Cook 2008) due to the quiet nature of paddling or sailing and the generally low volume of non-motorized boats in any given area. Non-motorized boat disturbance is temporary and usually localized, with adverse impacts varying based on species (Batten 1977). However, non-motorized boats, such as kayaks and canoes, can approach wildlife more closely than larger, motorized vessels, which can greatly disturb roosting and nesting birds.

Boating can cause short-term impacts on aquatic wildlife, including inducing physiological responses and behavioral changes and disrupting communication. Boat noise can cause sublethal stress responses in fish, increasing heart rate and decreasing stroke volume (Graham and Cooke 2008). Such physiological responses increase energy expenditure, which can have various adverse short-term impacts, such as increased susceptibility to predation and decreased foraging success. Other water-dwelling animals, like crustaceans, also exhibit behavioral and physiological stress responses to boat noise (Filiciotto et al. 2014). Boat-related disturbance has been shown to induce morphological and behavioral changes in the black bullhead (*Ameiurus melas*), resulting in observable changes to ciliary bundles and more time spent sheltering (Mickle et al. 2019). Some fish may spend less time guarding young in response to boat noise, exposing eggs and young to predation, which could influence the productivity of fish populations (Maxwell et al. 2018). Boat noise pollution can also disrupt communication among fish (Codarin et al. 2009), which may impede mate attraction, increase predation, and disorient the fish. The Service will restrict boating activities in areas with sensitive aquatic species to minimize the impacts of motorized boats on fish, crustaceans, and other water-dwelling organisms.

With boating activities, temporary disturbance to birds, such as the flushing of feeding or resting birds (Peters and Otis 2006, Chatwin et al. 2013, Livezey et al. 2016), is unavoidable. Motorized and non-motorized boats can affect birds at launch sites and during operation. Flushing causes birds to use more energy and alter site use, increasing predation and decreasing foraging success. The Service will create buffers around sensitive habitats and vulnerable species' nesting and roosting sites when necessary to lessen the negative impacts on birds and other wildlife species.

Boats can damage vegetation on- and off-shore. For example, boaters could damage vegetation and compact soil while hauling canoes and kayaks to and from launch sites. Boats can also damage aquatic vegetation, reducing vegetation cover and height (Hansen et al. 2019, Sagerman et al. 2020). The Service will not allow boating in areas with especially vulnerable aquatic vegetation.

Law enforcement issues are possible, such as trespassing, disorderly conduct, and the illegal taking of fish and other species. The Conservation Area will be supported by Fish and Wildlife Officers assigned to both the South Florida Law Enforcement District and the North Florida Law Enforcement District to ensure compliance with applicable laws and regulations when available.

#### Long-term Impacts

Recreational fishing could potentially cause negative impacts to fish populations if it occurs at unsustainably high levels or is not managed properly. Potential impacts to fish populations from fishing include direct mortality from harvest, injury to fish caught and released, changes in age and size class distribution, changes in reproductive capacity and success, loss of genetic diversity, altered behavior, and changes in ecosystems and food webs (Lewin et al. 2006, Kline 1993). While fishing does remove individuals from the population, we do not anticipate increased fishing opportunities will affect the fish population as a whole. Anglers must abide by the State's seasons, catch limits, and regulations, which

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were designed to protect the State's fish populations. Fishing pressure is projected to be minimal and sustainable.

Activities associated with fishing have caused mortality to manatees in Florida. The Florida Fish and Wildlife Conservation Commission has determined that marine debris including fishing line, buoys, trap lines, and tires are a serious source of harm to manatees in State waters. Reinart et al. (2017) reported that 11% of manatees necropsied over a 20-year period showed signs of entanglement or ingestion of marine debris. Education and enforcement of existing regulations are methods to reduce and prevent these impacts and will be employed through Conservation Area informational materials.

Effects that are minor when considered alone, but collectively may be important, are known as cumulative effects. Incremental increases in activities by people engaged in the variety of allowed uses, including recreational fishing that continue unchecked potentially could result in cumulative detrimental consequences to wildlife or habitats. The Service will monitor these activities to ensure wildlife and other refuge resources are not affected in a detrimental manner.

Various methods, such as spatial and temporal restrictions, monitoring, and signage, are available to refuge managers and can be readily implemented to effectively manage participant numbers and activity patterns to maintain a compatible, high-quality, low-impact, and safe recreational fishing program. Recreational fishing conducted in accordance with State and Federal regulations is not expected to adversely affect fish and wildlife populations and may assist in maintaining desirable age structure in fish populations and promoting the biological integrity, diversity, and environmental health of the refuges.

Cumulative impacts could occur from the combination of uses on Refuge System units including hunting, fishing, wildlife observation, photography, education, interpretation, habitat management, and research. Conflicting programs that occur in the same space and time can cause decreased satisfaction from user groups and increase disturbance to wildlife from frequent human visitation, consumptive or non-consumptive. The areas used by the public to fish and those areas frequented by users engaged in other activities are dispersed and often not overlapping temporally and spatially to such degree that there are any significant adverse cumulative effects to fish and wildlife and their habitat resources, public safety, or quality of the visitor experience.

Management actions, such as water management and research, are necessary aspects of refuge management; the conduct of these activities may not be conducive to fishing activities occurring at the same time and location. The Service considers all uses as activities that are planned and implemented on a yearly basis, and programs are structured to allow multiple uses to occur with minimal conflict. Recreational fishing seasons and locations allow for anglers to pursue this public use while other uses may be located in other areas or at other times to reduce potential conflicts.

In addition to environmental health, there are other cumulative beneficial effects to recreational fishing. Increased wildlife-dependent recreation (e.g., fishing, hunting, wildlife observation and photography, environmental education); beneficial use of renewable, sustainable aquatic resources; and increased appreciation for fish and wildlife conservation and the role of Refuge System Units in fish and wildlife conservation and habitat management and restoration are promoted through recreational fishing programs on National Wildlife Refuge System units. Additionally, increased revenues at the local, State, and national levels benefit economies and provide (Federal) funding for fisheries research, habitat management, acquisition of habitats, supportive infrastructure, and educational programs designed to raise public awareness and support for fisheries conservation at the local, State, and national levels.

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## Long-term Impacts (Boating)

Boating can have long-term impacts on wildlife and the habitats on which they depend, including the loss and degradation of aquatic vegetation, water pollution, the establishment of invasive species, and population effects on birds and other wildlife. However, long-term impacts can be minimized when conducted in accordance with established federal regulations, laws, and policies.

Recreational boating can directly impact bird populations, especially during nesting season. Boats can cause birds to flush (Peters and Otis 2006, Livezey et al. 2016); such flushing makes chicks and eggs more vulnerable to predators and overheating (Audubon n.d.). Audubon (n.d.) recommends landing and anchoring watercraft away from nesting birds to prevent disturbance.

Boating indirectly affects birds when users participate in other activities, such as fishing. If not disposed of properly, excess fishing lines and netting can become a hazard for birds when used as nesting material or when individuals get caught in the remnants. Education and communication are important to spread awareness and prevent behaviors detrimental to wildlife.

Boat strikes has been recognized as a significant danger to manatees (*Trichechus manatus latirostris*) in coastal Florida (Calleson and Frohlich 2007, USFWS 2001). At the development of the manatee recovery plan in 2001, boat strikes were recognized as the top threat to manatees causing an estimated 25% of mortality (USFWS 2001). Bassett et al. (2020) found that over 96% of adult manatees has watercraft related scars and that 1 in 4 manatees had scars from 10 or more encounters. Data showed that manatees on the west coast of Florida had more scars from those on the east coast. Actions including reducing boat speeds in manatee frequented areas and providing sanctuary areas for manatees at critical times of the year can be effective at reducing incidents of boat collisions.

Boaters can endanger wildlife by intentionally or unintentionally polluting the water. Potential pollutants include exhaust gases, spilled fuel, and litter. Tightening engine bolts, replacing worn hydraulic lines, and using an oil tray or drip pan can prevent pollutants from entering the water (National Oceanic and Atmospheric Administration 2020). In addition, Sim et al. (2015) found that boating infrastructure alters local concentrations of pollutants. Areas near marinas, jetties, and boat ramps were found to have increased fine and moderate metal concentrations, with altered sediment faunal assemblages observed at adjacent sites. These effects were only observed within the structure's local vicinity and did not impact reference sites (Sim et al. 2015).

Recreational boat traffic can have long-term impacts on submerged aquatic vegetation abundance in freshwater and coastal systems (Sagerman et al. 2020). Boating can reduce vegetation cover and height and alter its composition (Hansen et al. 2019). The loss and alteration of aquatic vegetation can affect its beneficial ecological functions. For example, several studies have shown that submerged vegetation's ability to reduce turbidity is related to its abundance and extent (Orth et al. 1999, Moore 2004, Austin et al. 2017). Further, fish (Hansen et al. 2019) and macroinvertebrate abundance (Diehl and Kornijów 1998, Attrill et al. 2000) increase with increasing vegetation abundance. The loss or reduction of these ecological functions can degrade ecosystems. Informed management can reduce these negative impacts on submerged vegetation (Sagerman et al. 2020).

Small recreational boats can travel long distances, and their relatively low speeds make them ideal vectors for invasive species (Minchin et al. 2006), including invasive animals (Johnson et al. 2001, Power et al. 2004), plants (Buchan and Padilla 2000, Mullin et al. 2000), and algae (Chapman 1999, Farrell and Fletcher 2006). Recreational boaters often use their boats in more than one location, facilitating the spread of invasive species between water bodies. High-pressure washes in between uses effectively remove invasive species from boats, but many boaters do not wash their vessels

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regularly (Rothlisberger et al. 2010). Therefore, recreational boating may introduce new aquatic invasive species to the conservation area that could impact local flora and fauna. The Service will educate the public about this issue to minimize the spread of invasive species.

### **Public Review and Comment**

The compatibility determination was available for public review and comment for 35 days. The public review and comment period for the Draft Land Protection Plan and Environmental Assessment for the Proposed Establishment of Everglades to Gulf Conservation Area began on September 26, 2023, with a U.S. Fish and Wildlife Service press release requesting public review and comment. The news release was distributed to over 300 media outlets and over 200 interested parties. The comment period ended on November 1, 2023. Four public meetings occurred during the public review and comment period, including two virtual meetings on October 20, 2023, and October 23, 2023. The Service also held two in-person meetings. The in-person meetings were on October 25, 2023, and October 26, 2023, in Wauchula, FL, and Immokalee, FL, respectively. Information regarding the dates and locations of the public meetings and how to register and submit comments was included in the Service's press release and posted to the project's website. The Service also posted a video presentation on the project website that was viewed over 300 times as of January 2024.

### **Determination**

Is the use compatible?

Yes

### **Stipulations Necessary to Ensure Compatibility**

The following stipulations will be necessary to ensure the use is compatible:

1. Users will be required to possess all applicable State licenses, stamps, permits, and a picture ID at all times while on Conservation Area fee-title lands.
2. Individuals utilizing the Conservation Area will be subject to inspections of permits, licenses, fishing equipment, bag limits, boats, and vehicles by law enforcement officers.
3. Areas may be closed during nesting seasons or other critical times for wildlife and will be noticed through signage and on the Conservation Area website.
4. Cleaning fish on the Conservation Area will be prohibited.
5. Commercial fishing is prohibited.
6. Frog gigging, cast nets, seines, trotlines, jugs, and yo-yos will be prohibited as they are largely non-selective for forage fish populations, are wasteful in removing critical forage biomass, exert deleterious mortality on forage fish, and promote unattended line fishing.

### **Justification**

The stipulations outlined above will help ensure that the use is compatible with the purposes of the Conservation Area. As outlined in this compatibility determination, fishing and boating will not be permitted on a fee-title property if the use conflicted with the national policy to maintain the Conservation Area's biological diversity, integrity, and environmental health. The Service has determined that considering the required analyses and the listed stipulations, future fishing and associated boating opportunities will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose of the Conservation Area. Instead, fishing and

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boating will allow visitors to enjoy the Conservation Area's natural resources and develop an appreciation for the Refuge System and its mission.

### **Mandatory Reevaluation Date**

2039

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**Approval of Compatibility Determinations**

The following signature approval is for the compatibility determinations considered within the Land Protection Plan and Environmental Assessment for the Everglades to Gulf Conservation Area. The following uses were evaluated: Wildlife Observation and Photography; Environmental Education and Interpretation; Hunting; and Fishing.

**Signature of Determination**

**KATHLEEN BURCHETT** Digitally signed by KATHLEEN BURCHETT  
Date: 2024.01.08 13:45:36 -05'00'

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Area Supervisor Signature and Date

**Signature of Concurrence**

**BRETT HUNTER** Digitally signed by BRETT  
HUNTER  
Date: 2024.01.09 08:47:01 -05'00'

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Refuge Chief Signature and Date

## APPENDIX D. LAND COVER CLASSIFICATION TABLE

There are 172 different land covers (based on the 2022 Florida Cooperative Landcover v3.6 data) within the Conservation Area. These have been combined into 13 land cover categories for the purpose of analysis in this document.

Map Category	Landcover Type	Landcover Subtype	Acres
Agriculture	Cropland/Pasture	Fallow Cropland	7,117
Agriculture	Cropland/Pasture	Field Crops	21,670
Agriculture	Cropland/Pasture	Irrigated Row Crops	116,754
Agriculture	Cropland/Pasture	Row Crops	13,975
Agriculture	Orchards/Groves	Citrus	303,528
Agriculture	Orchards/Groves	Fallow Orchards	11,479
Agriculture	Orchards/Groves	Fruit Orchards	1
Agriculture	Orchards/Groves	Orchards/Groves	127,218
Agriculture	Orchards/Groves	Pecan	331
Agriculture	Other Agriculture	Feeding Operations	4,576
Agriculture	Other Agriculture	Other Agriculture	361
Agriculture	Other Agriculture	Specialty Farms	3,684
Agriculture	Sugarcane	Sugarcane	149,962
Agriculture	Tree Plantations	Coniferous Plantations	68,717
Agriculture	Tree Plantations	Hardwood Plantations	4
Agriculture	Tree Plantations	Wet Coniferous Plantations	31
Agriculture	Vineyard and Nurseries	Ornamentals	2,092
Agriculture	Vineyard and Nurseries	Sod Farms	763
Agriculture	Vineyard and Nurseries	Tree Nurseries	3,735
Agriculture	Vineyard and Nurseries	Vineyard and Nurseries	2,712
Barren	Bare Soil/Clear Cut	Bare Soil/Clear Cut	355
Barren	Barren, Sinkhole, and Outcrop Communities	Bare Soil	13
Barren	Unconsolidated substrate	Unconsolidated Substrate	132
Coastal Wetland	Mangrove Swamp	Mangrove Swamp	3,481
Coastal Wetland	Salt Marsh	Salt Marsh	3,719
Developed	Communication	Communication	282
Developed	Cultural - Terrestrial	Cultural - Terrestrial	17
Developed	Cultural - Terrestrial	Highway Rights of Way	261
Developed	Cultural - Terrestrial	Mowed Grass	755
Developed	Cultural - Terrestrial	Vegetative Berm	112
Developed	Extractive	Extractive	56,559
Developed	Extractive	Oil & Gas Fields	8
Developed	Extractive	Reclaimed Lands	21,264
Developed	Extractive	Rock Quarries	3,524

<b>Map Category</b>	<b>Landcover Type</b>	<b>Landcover Subtype</b>	<b>Acres</b>
Developed	Extractive	Sand and Gravel Pits	6,421
Developed	Extractive	Spoil Area	231
Developed	Extractive	Strip Mines	518
Developed	High Intensity Urban	Commercial and Services	9,059
Developed	High Intensity Urban	High Intensity Urban	66
Developed	High Intensity Urban	Industrial	6,354
Developed	High Intensity Urban	Institutional	5,541
Developed	High Intensity Urban	Residential, High Density > 5 Dwelling Units/AC	7,177
Developed	High Intensity Urban	Residential, Med. Density - 2-5 Dwelling Units/AC	28,345
Developed	Low Intensity Urban	Ballfields	259
Developed	Low Intensity Urban	Cemeteries	166
Developed	Low Intensity Urban	Community rec. facilities	182
Developed	Low Intensity Urban	Golf courses	5,982
Developed	Low Intensity Urban	Grass	668
Developed	Low Intensity Urban	Low Intensity Urban	2,908
Developed	Low Intensity Urban	Parks and Zoos	435
Developed	Low Intensity Urban	Residential, Low Density	67,166
Developed	Low Intensity Urban	Urban Open Forested	1,812
Developed	Low Intensity Urban	Urban Open Land	17,830
Developed	Low Intensity Urban	Urban Open Pine	766
Developed	Rural	Rural Open	65,285
Developed	Rural	Rural Structures	15,399
Developed	Transportation	Rails	115
Developed	Transportation	Roads	1
Developed	Transportation	Transportation	76,253
Developed	Utilities	Utilities	7,432
Dry Prairie and Pine Flatwoods	Dry Prairie	Dry Prairie	74,086
Dry Prairie and Pine Flatwoods	Mesic Flatwoods	Mesic Flatwoods	322,362
Dry Prairie and Pine Flatwoods	Palmetto Prairie	Palmetto Prairie	4,880
Dry Prairie and Pine Flatwoods	Scrubby Flatwoods	Scrubby Flatwoods	15,621
Dry Prairie and Pine Flatwoods	Wet Flatwoods	Cabbage Palm Flatwoods	11
Dry Prairie and Pine Flatwoods	Wet Flatwoods	Hydric Pine Flatwoods	32,421
Dry Prairie and Pine Flatwoods	Wet Flatwoods	Hydric Pine Savanna	77

<b>Map Category</b>	<b>Landcover Type</b>	<b>Landcover Subtype</b>	<b>Acres</b>
Dry Prairie and Pine Flatwoods	Wet Flatwoods	Wet Flatwoods	44,124
Exotic Plants	Exotic Plants	Australian Pine	75
Exotic Plants	Exotic Plants	Brazilian Pepper	3,724
Exotic Plants	Exotic Plants	Exotic Plants	713
Exotic Plants	Exotic Plants	Exotic Wetland Hardwoods	1,803
Exotic Plants	Exotic Plants	Melaleuca	1,307
Forested Wetland	Basin Swamp	Basin Swamp	6,715
Forested Wetland	Baygall	Bay Swamp	2,620
Forested Wetland	Baygall	Baygall	5,048
Forested Wetland	Baygall	South Florida Bayhead	24
Forested Wetland	Cypress	Cypress	59,956
Forested Wetland	Cypress/Tupelo (including mixed Cypress/Tupelo)	Cypress/Tupelo (including mixed Cypress/Tupelo)	12,919
Forested Wetland	Cypress/Tupelo (including mixed Cypress/Tupelo)	Tupelo	17
Forested Wetland	Dome Swamp	Dome Swamp	4,109
Forested Wetland	Floodplain Swamp	Floodplain Swamp	16,727
Forested Wetland	Freshwater Forested Wetlands	Bottomland Forest	328
Forested Wetland	Freshwater Forested Wetlands	Cypress/Hardwood Swamps	86
Forested Wetland	Freshwater Forested Wetlands	Cypress/Pine/Cabbage Palm	23,534
Forested Wetland	Freshwater Forested Wetlands	Mixed Hardwood-Coniferous Swamps	46,828
Forested Wetland	Freshwater Forested Wetlands	Mixed Wetland Hardwoods	164,379
Forested Wetland	Hydric Hammock	Cabbage Palm Hammock	1,741
Forested Wetland	Hydric Hammock	Hydric Hammock	7,495
Forested Wetland	Hydric Hammock	Prairie Hydric Hammock	3,420
Forested Wetland	Isolated Freshwater Swamp	Isolated Freshwater Swamp	12,380
Forested Wetland	Non-vegetated Wetland	Non-vegetated Wetland	15
Forested Wetland	Other Coniferous Wetlands	Other Coniferous Wetlands	3,427
Forested Wetland	Other Coniferous Wetlands	Pond Pine	5
Forested Wetland	Other Hardwood Wetlands	Other Hardwood Wetlands	4,941
Forested Wetland	Strand Swamp	Strand Swamp	31,920
Mixed Forest	Mixed Hardwood-Coniferous	Mixed Hardwood-Coniferous	50,834
Mixed Forest	Mixed Hardwood-Coniferous	Successional Hardwood Forest	5,103
Mixed Forest	Rural	Rural Open Forested	11,396

<b>Map Category</b>	<b>Landcover Type</b>	<b>Landcover Subtype</b>	<b>Acres</b>
Mixed Forest	Rural	Rural Open Pine	1,227
Open Water	Alluvial Stream	Alluvial Stream	8
Open Water	Alluvial Stream	Blackwater Stream	769
Open Water	Alluvial Stream	Natural Rivers and Streams	4,318
Open Water	Alluvial Stream	Riverine Sandbar	27
Open Water	Alluvial Stream	Tidally-influenced Stream	3
Open Water	Cultural-Estuarine	Estuarine Ditch/Channel	69
Open Water	Cultural-Lacustrine	Aquacultural Ponds	499
Open Water	Cultural-Lacustrine	Artificial Impoundment/Reservoir	18,835
Open Water	Cultural-Lacustrine	Artificial/Farm Pond	757
Open Water	Cultural-Lacustrine	Cultural - Lacustrine	13,355
Open Water	Cultural-Lacustrine	Industrial Cooling Pond	237
Open Water	Cultural-Lacustrine	Quarry Pond	19,538
Open Water	Cultural-Lacustrine	Sewage Treatment Pond	252
Open Water	Cultural-Lacustrine	Stormwater Treatment Areas	504
Open Water	Cultural-Riverine	Canal	6,985
Open Water	Cultural-Riverine	Cultural - Riverine	3
Open Water	Cultural-Riverine	Ditch/Artificial Intermittent Stream	304
Open Water	Estuarine	Estuarine	5,227
Open Water	Estuarine	Oyster Bar	2
Open Water	Lacustrine	Lacustrine	2,038
Open Water	Marine	Marine	0
Open Water	Natural Lakes and Ponds	Clastic Upland Lake	2
Open Water	Natural Lakes and Ponds	Flatwoods/Prairie/Marsh Lake	149
Open Water	Natural Lakes and Ponds	Limnetic	2
Open Water	Natural Lakes and Ponds	Littoral	0
Open Water	Natural Lakes and Ponds	Natural Lakes and Ponds	19,313
Open Water	Natural Lakes and Ponds	River Floodplain Lake/Swamp Lake	1,543
Open Water	Natural Lakes and Ponds	Sandhill Lake	40
Open Water	Riverine	Riverine	1,015
Open Water	Tidal Flat	Tidal Flat	92
Pasture	Improved Pasture	Improved Pasture	990,490
Pasture	Rural	Unimproved/Woodland Pasture	76,090
Scrub/Shrub	Coastal Scrub	Coastal Scrub	1
Scrub/Shrub	High Pine and Scrub	Upland Coniferous	513
Scrub/Shrub	High Pine and Scrub	Upland Mixed Woodland	135
Scrub/Shrub	Sand Pine Scrub	Sand Pine Scrub	2
Scrub/Shrub	Sandhill	Sandhill	653
Scrub/Shrub	Scrub	Oak Scrub	1

<b>Map Category</b>	<b>Landcover Type</b>	<b>Landcover Subtype</b>	<b>Acres</b>
Scrub/Shrub	Scrub	Scrub	15,911
Scrub/Shrub	Shrub and Brushland	Shrub and Brushland	42,796
Upland Hardwood Hammock	Mesic Hammock	Cabbage Palm	9,192
Upland Hardwood Hammock	Mesic Hammock	Live Oak	5,028
Upland Hardwood Hammock	Mesic Hammock	Mesic Hammock	25,662
Upland Hardwood Hammock	Mesic Hammock	Pine - Mesic Oak	1,713
Upland Hardwood Hammock	Mesic Hammock	Prairie Mesic Hammock	4,311
Upland Hardwood Hammock	Rockland Hammock	Rockland Hammock	38
Upland Hardwood Hammock	Rural	Oak - Cabbage Palm Forests	20,149
Upland Hardwood Hammock	Upland Hardwood Forest	Mixed Hardwoods	13
Upland Hardwood Hammock	Upland Hardwood Forest	Upland Hardwood Forest	1,720
Upland Hardwood Hammock	Xeric Hammock	Xeric Hammock	970
Wet Prairie and Freshwater Marsh	Cultural-Palustrine	Clearcut Wetland	92
Wet Prairie and Freshwater Marsh	Cultural-Palustrine	Cultural - Palustrine	18,393
Wet Prairie and Freshwater Marsh	Cultural-Palustrine	Grazed Wetlands	1,497
Wet Prairie and Freshwater Marsh	Cultural-Palustrine	Impounded Marsh	2,772
Wet Prairie and Freshwater Marsh	Floodplain Marsh	Floodplain Marsh	12,485
Wet Prairie and Freshwater Marsh	Freshwater Non-Forested Wetlands	Floating/Emergent Aquatic Vegetation	3,943
Wet Prairie and Freshwater Marsh	Freshwater Non-Forested Wetlands	Slough	1,133
Wet Prairie and Freshwater Marsh	Freshwater Non-Forested Wetlands	Submergent Aquatic Vegetation	1
Wet Prairie and Freshwater Marsh	Freshwater Non-Forested Wetlands	Water Lettuce	1
Wet Prairie and Freshwater Marsh	Isolated Freshwater Marsh	Basin Marsh	18,547
Wet Prairie and Freshwater Marsh	Isolated Freshwater Marsh	Depression Marsh	34,743

<b>Map Category</b>	<b>Landcover Type</b>	<b>Landcover Subtype</b>	<b>Acres</b>
Wet Prairie and Freshwater Marsh	Isolated Freshwater Marsh	Isolated Freshwater Marsh	72,105
Wet Prairie and Freshwater Marsh	Marshes	Glades Marsh	7,496
Wet Prairie and Freshwater Marsh	Marshes	Marshes	181,622
Wet Prairie and Freshwater Marsh	Marshes	Sawgrass	786
Wet Prairie and Freshwater Marsh	Marshes	Slough Marsh	6,835
Wet Prairie and Freshwater Marsh	Prairies and Bogs	Cutthroat Seep	1
Wet Prairie and Freshwater Marsh	Prairies and Bogs	Marl Prairie	4
Wet Prairie and Freshwater Marsh	Prairies and Bogs	Mixed Scrub-Shrub Wetland	85,725
Wet Prairie and Freshwater Marsh	Prairies and Bogs	Seepage Slope	14
Wet Prairie and Freshwater Marsh	Prairies and Bogs	Shrub Bog	20
Wet Prairie and Freshwater Marsh	Prairies and Bogs	Wet Prairie	71,807

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*APPENDIX E. LANDSCAPE CONSERVATION DESIGN (2022)*





# Southwest Florida Landscape Conservation Design

Final Report

February 2022

Florida Conservation Group

University of Florida Center for Landscape Conservation Planning

National Wildlife Refuge Association



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## *Acknowledgements*

This Report was developed and completed by Julie Morris of the Florida Conservation Group and National Wildlife Refuge Association and Dr. Tom Hoctor of the University Florida Center for Landscape Conservation Planning funded through a Cooperative Agreement with the U.S. Fish and Wildlife Service.

Cover image courtesy of Carlton Ward

*Contents*

**A. Introduction..... 301**

**B. Rationale, Conservation Significance, and Threats ..... 304**

**C. Conservation Priorities Analysis..... 307**

**D. Protection Opportunities Analysis..... 319**

**E. Development Threats Analysis ..... 324**

**F. Comparison of LCD Ecological Priorities, Protection Opportunities, and Development Threats..... 325**

**G. Partnership Opportunities, Programs, and Recommendations ..... 333**

**H. Conclusion ..... 339**



## A. Introduction

The following is the final report for the Landscape Conservation Design for Southwest Florida (referred to herein as the SWFLCD or LCD), which incorporates the northwestern Everglades, Caloosahatchee River, Fisheating Creek, Peace River, and Myakka River watersheds. This document provides the scientific analysis needed to provide the justification to further explore the need for a future Southwest Florida National Wildlife Refuge and Conservation Area. The LCD includes identification of biodiversity and ecosystem service conservation priorities in the context of both protection opportunities and threats in one of the most important regional conservation landscapes in the United States. Southwest Florida fosters a unique set of species with significant threats from rapid human population growth and climate change. However, this region also harbors a large and largely intact rural landscape essential to the Florida panther and a host of other federal and state listed species. It also plays a very important role in the ecological integrity of both the Everglades and Charlotte Harbor watersheds. Significant opportunities still exist to protect large working landscapes and functional ecological connections between conservation areas to address many of the region's biodiversity and water resource conservation goals.

The LCD includes updated Florida panther conservation priorities using the newest available data on panther habitat and corridor conservation priorities from the U.S. Fish and Wildlife Service (USFWS) and the University of Florida Center for Landscape Conservation Planning (CLCP). The LCD also includes an assessment of habitat priorities for many additional focal species including federal and state listed species as well as other species considered important by experts based on their rarity, fragmentation sensitivity, indicator, or keystone status. The LCD team also developed a list of focal natural communities and identified all remaining sites for each of those natural communities using the best available data. Beyond panthers, assessment of ecological connectivity is also incorporated through use of new Major River Riparian Buffer Connectivity and Coastal Resilience Connectivity models that are part of the new Florida Ecological Greenways Network (FEGN) completed in June 2021. The LCD also incorporates relevant data on surface water conservation priorities as well as wetland restoration opportunities.

All these conservation priorities are compared to both protection opportunities and development threats to help identify the sites with greatest potential for future conservation as well as the greatest need for near term conservation based on threat of potential conversion to development. Collectively, the new LCD provides a thorough foundation for conservation planning in the region for the USFWS regarding National Wildlife Refuges and federally listed species, as well as for myriad federal, state, and local partners.

The SWFLCD study area incorporates almost 7 million acres of land and water from the northwestern Everglades north to the headwaters of the Peace River, west to incorporate the Myakka River watershed, and east to the Lake Wales Ridge, Fisheating Creek and the western half of Lake Okeechobee (**Figure 1**). Though the Everglades Headwaters National Wildlife Refuge and Conservation Area (EHW NWR&CA) project area was included in the ecological priority, conservation opportunity, and development threat analyses conducted in this project, it is a separate study area that borders the SWFLCD to the northeast and encompasses much of the Kissimmee River watershed and significant portions of the Lake Wales Ridge. The EHNWR project area boundary has been included for reference in all maps in this report. Collectively, the SWFLCD and EHNWR represent the current breeding range and best potential population expansion areas for the Florida panther, with over a million acres of unprotected habitat for other listed and focal species, unique natural communities, the heart of Florida's unique prairie ranching landscape, much of the Lake Okeechobee and Everglades watersheds, and the entire Peace River and Myakka river watersheds, which are essential for the health of Charlotte Harbor, a National Estuary and epicenter of natural resource based tourism and economic activity in southwest Florida (**Figure 2**). The SWFLCD region is also an essential keystone for the Florida Wildlife Corridor, which is delineated as the

top three priorities within the FEGN. The Florida Wildlife Corridor has recently become a statewide conservation priority for the Florida Legislature and Governor, who have expressed their commitment to its protection through a significant increase in conservation protection land funding for the Florida Forever and Rural and Family Lands Protection programs. The SWFLCD (and EHW NWR&CA) represent an unprecedented landscape-scale conservation opportunity essential to the Florida panther, many other listed species, and south Florida's watersheds with great potential for both large scale conservation funding and cooperative opportunities between federal, state, regional, and local partners. In fact, Florida's ecological and economic future is dependent on conservation success in this region.



Figure 1. Southwest Florida Landscape Conservation Design Study Area.



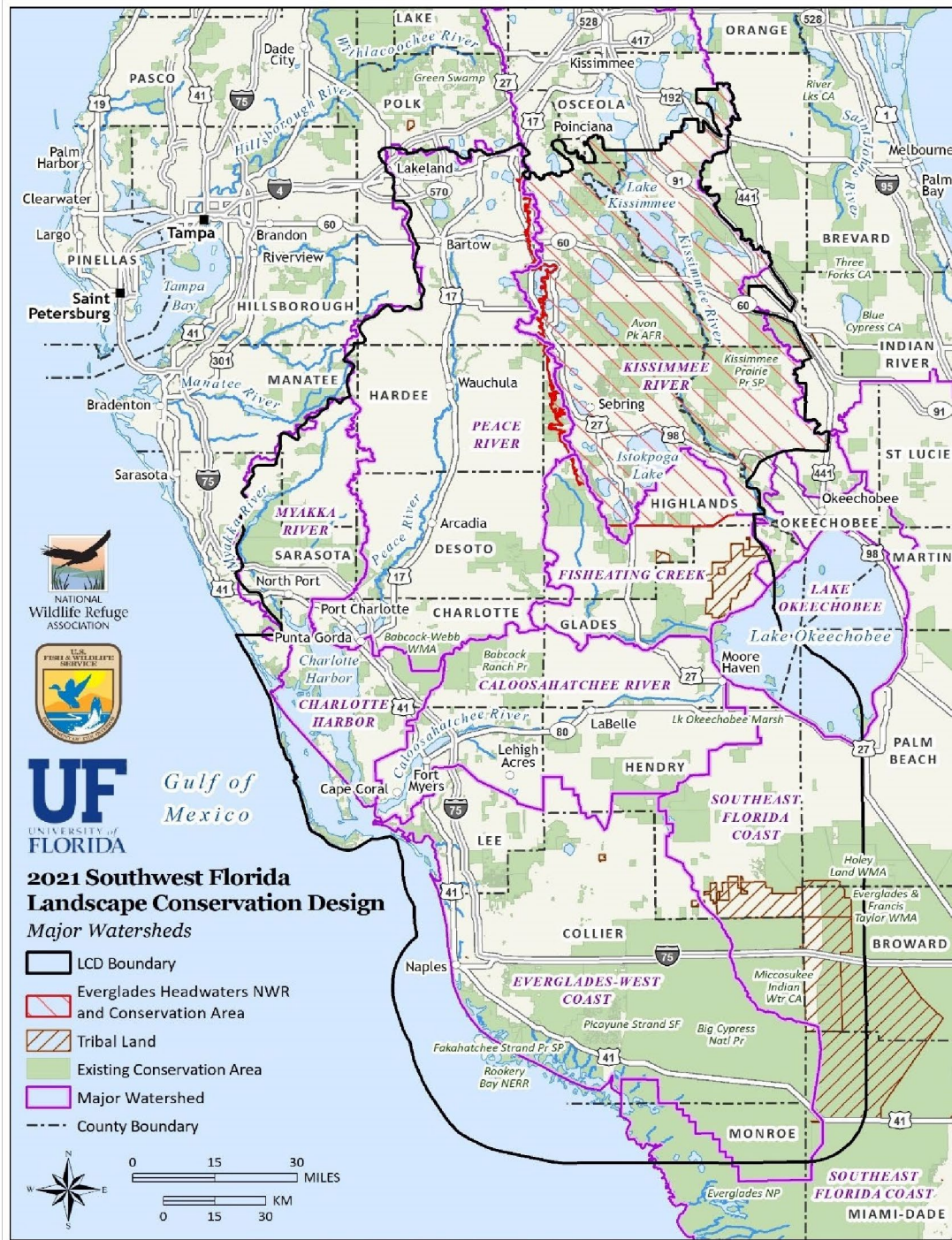


Figure 2. Major Watersheds in the Southwest Florida Landscape Conservation Design Study Area.

B. Rationale, Conservation Significance, and Threats

Southwest Florida has a combination of ecological significance, threats to ecological integrity, and conservation protection opportunities that make it unique in Florida and the United States. The region also has a long history of conservation planning and partnerships that make it “shovel ready” for regional landscape-scale conservation action through significantly enhanced fee simple and easement land



protection and restoration funding. Significant federal funding in partnership with recently expanded state funding could achieve large-scale land protection needed to:

- Restore the Everglades;
- Sustain and recover the Florida panther;
- Protect and restore watersheds and coastal estuaries for ecological integrity, water supply, recreation, and the economy;
- Maintain unique natural communities and species adapted to a unique subtropical environment; and
- Protect still vast rural landscape mosaics of natural and ranch land to combat habitat fragmentation and provide wildlife corridors essential for listed species viability and adaptation opportunities in response to climate change.

The following sections describe some of the unique characteristics of the region in more detail and highlight the need for expedited landscape-scale conservation:

### Ecological Significance

- Protects many rare and endemic species including 74 Federally and state listed Threatened and Endangered Species including Florida Panther, Florida Scrub-Jay, Crested Caracara, Woodstork, Bonneted Bat, and Everglade Snail Kite.
- Contains the habitat essential to the viability of the only existing breeding population of the Florida panther in the world.
- Protects watersheds essential to the health of the Everglades and the Charlotte Harbor National Estuary.
- Contains unique ecological transition zone from tropical to subtropical to temperate with very high diversity of natural communities and species with many natural communities and species found only in south Florida.
- Contains one of the few regions in the eastern United States harboring a regional scale wildlife corridor relevant to the protection of many federal and state listed species including significant opportunities for range shifts in response to climate change.
- Includes six national wildlife refuges (NWR) including: Florida Panther NWR, Ten Thousand Islands NWR, Ding Darling NWR, Caloosahatchee NWR, Matlacha Pass NWR, and Pine Island NWR.

### Threats

- Southwest Florida is one of the most rapidly growing parts of the United States with an extreme level of human population growth, fast-pace and large scale of habitat loss due to new development, and rapidly expanding coastal developed areas that are moving further inland to threaten important habitats, watersheds, and a sustainable rural landscape.
- The fresh and saltwater ecosystems of Southwest Florida are increasingly impacted by stormwater and nutrient pollution that is fueling blue-green algae blooms in Lake Okeechobee and the Caloosahatchee River (as well as other significant freshwater bodies) and increasingly frequent, severe, and longer duration red tide events in coastal estuaries and marine waters.

- Southwest Florida is particularly vulnerable to sea level rise associated with climate change because of its low and very gradual topographic gradient and high level of coastal development; Protecting connected landscape gradients from current coastline and natural coastal ecosystems to inland areas is essential for a resilient adaptation strategy for natural systems across the region.

### Conservation Opportunities

- Significant history of cooperative conservation efforts in the region including:
  - Served as the pilot project area for the Florida Fish and Wildlife Conservation Commission’s Cooperative Conservation Blueprint (Blueprint); a science and stakeholder driven multi-year project that USFWS can build upon;
  - Served as a focal area for the Peninsular Florida Landscape Conservation Cooperative;
  - Development of a smaller-scaled Southwest Florida Landscape Conservation Design in 2017;
  - Contained in the Resilient Lands and Waters Initiative, which is an effort to support collaborative landscape partnerships where federal agencies work with partners to conserve and restore important lands and waters and make them more resilient to changing climate.
- The region is home to many ranches providing very significant landscape-scale conservation opportunities with willing landowners vitally interested in conservation easements (many of these ranches have gone through the intensive state vetting process and provide immediate conservation opportunities to leverage state funding);
- The State’s new Florida Wildlife Corridor Initiative and land protection funding provides a large potential State match to potential priority wildlife corridor and refuge conservation projects occurring in much of the region

### Specific Water Threats and Opportunities

- The estuaries of Southwest Florida in the Caloosahatchee and Southwest Everglades watersheds are impacted by poor water quality due to excess nutrients, as well as the quantity and timing of water delivery from Lake Okeechobee; Increased water storage and treatment in the greater Everglades ecosystem is needed to achieve the goals of Everglades restoration.
- Protection and restoration of the Fisheating Creek watershed is essential for restoration of Lake Okeechobee and all downstream ecosystems.
- The Peace and Myakka River watersheds are crucial to a healthy Charlotte Harbor Estuary (an estuary of National Significance) and Gulf of Mexico.
- The Peace River and Myakka River watersheds are increasingly impacted by development, intensive agriculture, and phosphate mining, but there are also significant opportunities to protect remaining natural uplands, wetlands, and ranchlands that all contribute to water resource protection.
- Protection of lands within the Peace River watershed will help protect critical water resources – its significance to water resources becomes even more important given future mining impacts to the River and Charlotte Harbor.

- There are extensive opportunities for wetland restoration and dispersed water storage in the Fisheating, Peace, and Myakka watersheds; the NRCS Wetland Reserve Easement Program is a federal partner that can assist with needed land protection and restoration.

### C. Conservation Priorities Analysis

The conservation priorities analysis combines data from the Critical Lands and Waters Identification Project (CLIP), the 2021 update of the FEGN, and updated focal species habitat priorities. In addition, a conservation protection opportunities model was created to help assess the protection potential of currently unprotected lands based on their fit for criteria for existing land conservation programs. A threats GIS data layer was also created using existing data sources to identify potential threat of conversion to development for unprotected conservation priority areas.

This Report includes a description of the methods used and summary of the results identifying ecological priorities, conservation opportunities, and development threats using a series maps and statistics showing and characterizing the results. The ecological priorities model is intended to showcase the national significance of the conservation priorities and opportunities in southwest Florida that are deserving of concerted cooperative efforts by federal, state, and regional partners to protect additional conservation lands before these opportunities are lost in one of the fastest developing regions in the United States.

The ecological priorities model combines focal species habitat priority areas, relevant CLIP and FEGN data layers, and landscape-level conservation priorities into one GIS layer showing high, moderately high, and moderate conservation priorities. Conservation priority data used for this final synthesis include the following, grouped into four categories of conservation priority and using the best available GIS data from the Florida Geographic Data Library, Florida Natural Areas Inventory (FNAI), Florida Fish and Wildlife Conservation Commission (FWC), USFWS, and the University of Florida Center for Landscape Conservation Planning:

### Focal Species Priorities

Focal species priorities were identified beginning with the same list of species used in the 2017 version of the SWFLCD. However, due to the expanded study area, a few additional species were added. The most appropriate habitat model for each focal species was selected based on available habitat models from the Florida Natural Areas Inventory, FWC, and University of Florida Center for Landscape Conservation Planning. Focal species priority was based on the G, T, or S rank of each species (provided by NatureServe/FNAI) depending on what was considered most appropriate depending on taxonomic status and geography. In most cases, the G or T rank was used, with G rank being the Global status of the species and T rank the subspecific status where applicable. For example, *Puma concolor* has a G rank of 5 whereas the subspecies Florida panther (*Puma concolor coryi*) is a T1. In addition, there are some species found in Florida, such as the short-tailed hawk, that are more common in the tropics and subtropics but are rare in the United States. For such species with geographically isolated populations on the Florida peninsula the S (State status) rank was used instead of the G rank. The G/T/S ranks are described as follows (see also the following for more information

[https://help.natureserve.org/biotics/content/record\\_management/Element\\_Files/Element\\_Tracking/ET\\_RACK\\_Definitions\\_of\\_Heritage\\_Conservation\\_Status\\_Ranks.htm](https://help.natureserve.org/biotics/content/record_management/Element_Files/Element_Tracking/ET_RACK_Definitions_of_Heritage_Conservation_Status_Ranks.htm)):

G/T/S 1 = critically imperiled

G/T/S 2 = imperiled

G/T/S 3 = vulnerable

G/T/S 4 = apparently secure

G/T/S 5 = secure

The relevant G/T/S ranks were then converted to a numerical rank appropriate for developing a weighted priority index combining ranked potential habitat for each species and then all ranked natural communities into one raster GIS layer. Table 1 includes the list of focal species, their relevant G/T/S rank, the numerical weighted factor assigned, and the source of the habitat model for each species. Table 2 provides the same information for all focal natural communities. All habitat models were then added together and reclassified into two priority classes using the Quantile reclassification statistic in ArcGIS, with the areas in the top half of all summed rank scores identified as focal species priority areas.

Such areas have a combination of high ranked species and species habitat. The University of Florida Center for Landscape Conservation Planning can be contacted for more information on the various sources of habitat models and ranking methods.

Table 1. Selected Focal Species, status ranked used for prioritization, priority rank, and habitat model selected for creating the focal species and natural community priorities.

<b>Common Name</b>	<b>Status Rank</b>	<b>Priority Rank</b>	<b>Habitat Model Selected</b>
American Crocodile	G2	5	FWC potential habitat
Eastern Diamondback Rattlesnake	G3	4	FWC FEGN PEA model
Eastern Indigo Snake	G3	4	FNAI FEGN PEA model
Gopher Tortoise	G3	4	UF habitat model
Ornate Diamondback Terrapin	G4	3	UF New LCD habitat model
Florida Scrub Lizard	G2/G3	5	UF New LCD habitat model
Florida Grasshopper Sparrow	T1	6	FNAI habitat model
Mottled Duck	G4	3	FWC potential habitat
Florida Scrub-Jay	G2	5	FWC potential habitat
Limpkin	G5	2	FWC Maxent habitat model
Florida Burrowing Owl	T3	4	FWC Maxent habitat model
Short-tailed Hawk	S1	6	FWC FEGN PEA model
Crested Caracara	S2	5	FNAI FEGN PEA model
Piping Plover	G3	4	FNAI habitat model
Snowy Plover	G3	4	FWC Maxent habitat model
Mangrove Cuckoo	S3	4	FWC potential habitat
Swallow-tailed Kite	S2	5	FWC FEGN PEA model
Southeastern American Kestrel	T4	3	FWC potential habitat
Florida Sandhill Crane	T2	5	FWC FEGN PEA model
Bald Eagle	G5	2	FWC potential habitat
American Oystercatcher	G5	2	UF habitat model
Wood Stork	G4	3	FNAI habitat model
Red-cockaded Woodpecker	G3	4	UF New LCD habitat model
Everglade Snail Kite	S2	5	FNAI FEGN PEA model

Least Tern	G4	3	FNAI habitat model
Black-whiskered Vireo	S3	4	FWC potential habitat
Wading Bird Guild	S3	4	FWC potential habitat
Florida Bonneted Bat	G1	6	New UF model
Everglades Mink	T3	4	New UF model
Florida Panther	T1	6	USFWS FEGN PEA model
Big Cypress Fox Squirr	T2	5	FNAI habitat model
Southeastern Fox Squirrel	S3	4	FWC potential habitat
Florida Black Bear	T4	3	FWC FEGN PEA model
Gopher frog	G3	4	FWC Maxent habitat model
Short-tailed snake	G3	4	FWC Maxent habitat model
Blue-tailed mole skink	T2	5	FNAI habitat model
Sand skink	G3	4	FWC potential habitat
Pine snake	G4	3	FWC Maxent habitat model
Hognose snake	G2	5	FWC Maxent habitat model
Black rail	G3	4	FWC Maxent habitat model
Manatee	G2	5	FNAI FEGN PEA model
Florida mouse	G3	4	FWC Maxent habitat model

Priority Ranks: 6 is highest rank and 2 is lowest; FWC = Florida Fish and Wildlife Conservation Commission; PEA = Priority Ecological Area; FNAI = Florida Natural Areas Inventory; UF = University of Florida Center for Landscape Conservation Planning

### Focal Natural Communities

The Florida Cooperative Land Cover (CLC) version 3.4 dataset was used to identify all natural communities within the study area with State ranks from S1 to S4 as priorities for conservation efforts in the region.

The list of natural communities (with some lumped into more general classes than the CLC site level classes) are:

Upland Hardwood/Hammock  
Inland Scrub  
Coastal Scrub  
Sandhill  
Dry Prairie  
Mesic Flatwoods  
Scrubby Flatwood  
Coastal Grassland/Shrub  
Coastal Upland Hammock  
Wet Prairie  
Freshwater Marsh  
Cypress/Pine/Cabbage Palm Hydric  
Flatwoods  
Freshwater Hardwood Wetland  
Bay Wetland  
Hydric Hammock/Prairie Hammock

All such natural communities were given a rank of 1 and all other areas were given a rank of 0. The University of Florida Center for Landscape Conservation Planning can be contacted for more information on the various sources of habitat models and ranking methods.

## Study Area Focal Species and Natural Community Priorities

The focal species and focal natural community layers were combined with a Maximum model approach where any area receiving a priority rank of 1 for either of these resource layers was given a value of 1. Any areas containing no high priorities for any of these resources received a value of 0 in the cumulative model.

## FEGN and CLIP Ecological Priorities

The FEGN was updated in 2021 and is composed of many different Priority Ecological Area (PEA) and Ecological Connectivity models that are used to develop the base boundary of the FEGN. Critical Lands and Waters Identification Project (CLIP) data layers, many updated for inclusion in the recent FEGN update, are also relevant for identifying statewide biodiversity and water protection priorities. These FEGN/CLIP individual components are valuable indicators of ecological priorities for both biodiversity, surface water resources, and other landscape-level conservation priorities. The most applicable layers relevant to identify statewide biodiversity and surface water resources were selected for inclusion in this part of the ecological priorities model.

The biodiversity layers selected included:

- FEGN Florida Panther Priority Ecological Areas (based on USFWS Random Forest model)

- FEGN Florida Black Bear Priority Ecological Areas (based on new FWC Maxent habitat model)
- FEGN Landscape Species Priority Ecological Areas (based on combination of all landscape-dependent species habitat)
- FEGN Matrix Natural Communities Priority Ecological Areas (based on relevant natural communities in CLC v. 3.4)
- FEGN Air Force Priority Species Habitat Priority Ecological Areas
- CLIP/FEGN FNAI Rare Species Habitat Conservation Priorities
- CLIP/FEGN FNAI Under-Represented Natural Community Priorities
- CLIP/FEGN FWC Strategic Habitat Conservation Areas

The water resource protection priority layers selected included:

- FEGN Major River Riparian Buffer Connectivity
- CLIP/FEGN FNAI Priority Wetlands
- CLIP/FEGN FNAI Natural Floodplain
- CLIP Significant Surface Water Protection Priorities

Most of these layers were reclassified into values of 1 and 0 based on the FEGN PEA and Connectivity model methods. The exception is the CLIP Significant Surface Water Protection Priorities layer, which is not used in the FEGN modeling process. For CLIP Significant Surface Waters, the top two priorities (out of 7 priority levels) were given a value of 1 and all other areas were given a value of 0. Then all 12 of these layers were combined with a Maximum model approach where any area receiving a priority rank of 1 for any of these 12 resource layers was given a value of 1. Any areas containing no high priorities for any of these resources received a value of 0 in the cumulative model. For more information on CLIP data layers, please go to: <https://www.fnai.org/services/clip>. Contact the University of Florida Center for Landscape Conservation Planning for more information on the ranking methods for all layers used in the FEGN PEA or Connectivity modeling process.

## Florida Ecological Greenways Network and Other Landscape Priorities

The top priorities in the FEGN (P1, P2, P3), which are now also called the Florida Wildlife Corridor per Florida Law, along with two additional layers representing specific landscape priorities in Southwest Florida were used. The two other layers are an updated version of the CLIP Landscape Integrity model, which identifies landscape level conservation priorities based on land use intensity and habitat patch size, and the new FEGN Coastal Connectivity Model. The FEGN P1-P3 priorities were reclassified as a value of 1 with all other areas given a value of 0.

The Landscape Integrity layer, which is also part of CLIP, was updated to support the assessment of Priority Ecological Areas in the 2021 FEGN update. The Landscape Integrity index has values of 1-10 with a value of 10 representing the largest and most natural areas within the state. In this analysis, all areas with Landscape Integrity scores of 10 or 9 (the two highest priorities) were reclassified as a value of 1 with all other areas given a value of 0. More information about how the Landscape Integrity layer is created can be found at: <https://www.fnai.org/services/clip>.



The FEGN Coastal Connectivity Model represents the best opportunity for coastal species and natural communities to retreat from sea level rise. Though some of these areas are included in the FEGN, valuable areas for coastal retreat with more constraints from developed land uses usually are not within the FEGN. However, such areas are potentially significant for coastal focal species included in this analysis, and therefore merit inclusion as high landscape conservation priorities. Based on this, all areas within the FEGN Coastal Connectivity Model were given a value of 1 and all other areas were given a value of 0.

Finally, all three of these layers were combined with a Maximum model approach where any area receiving a priority rank of 1 for any of the three resource layers was given a value of 1. Any areas containing no high priorities for any of these resources received a value of 0 in the cumulative model.

### Cumulative Conservation Priorities Model

To create the final cumulative model, all models using a summing approach were added. This resulted in four values from 0 to 3 where:

- Value 3 = Priority for all three models = High priority
- Value 2 = Priority for two of the three models = Moderate-high priority
- Value 1 = Priority for one of the three models = Moderate priority
- Value 0 = Not a priority in any of the three models = No or low conservation priority

### Conservation Priority Land Category Statistics and Maps

Table 2 separates the high, moderate-high, and moderate ecological priorities into land categories including open water, existing conservation, proposed conservation (in Florida Forever or Rural and Family Lands Protection projects), and other private to indicate total protected ecological priorities and acres still needing protection. Based on Table 2 there are 1.1 million acres of unprotected high ecological priorities, 750,000 acres of unprotected moderate-high priorities, and 575,000 acres of unprotected moderate priorities. In addition, these statistics show that approximately 75% of proposed conservation lands are in high ecological priorities. The following maps (Figures 3-7) show each of the three individual components' ecological priority model results (Regional Focal Species and Natural Communities Priorities, CLIP and FEGN PEA Priorities, and Landscape Priorities), the cumulative final Ecological Priorities Model, and the Ecological Priorities Model compared to the Florida Wildlife Corridor.

Table 2. Land Categories and the SWFLCD Combined Ecological Priorities.

Land Category	Combined Priority Rank	Acres
Open Water	3-Highest	15,326
Existing Conservation	3-Highest	2,035,406
Proposed Conservation	3-Highest	332,958
Other Private	3-Highest	836,537
Open Water	2-Moderate-High	78,441

Existing Conservation	2-Moderate-High	163,049
Proposed Conservation	2-Moderate-High	94,944
Other Private	2-Moderate-High	661,378
Open Water	1-Moderate	423,271
Existing Conservation	1-Moderate	42,322
Proposed Conservation	1-Moderate	14,769
Other Private	1-Moderate	559,971

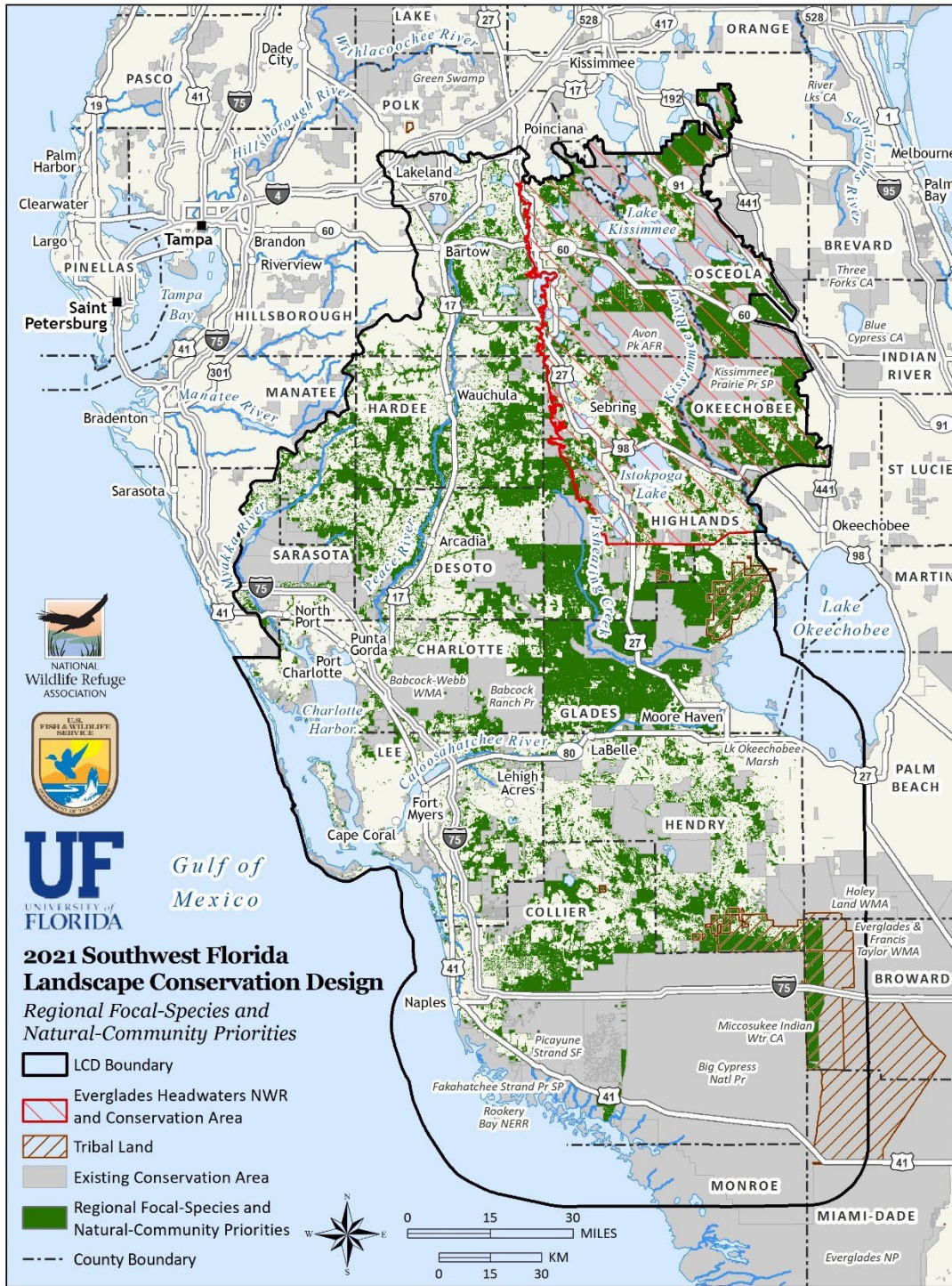


Figure 3. Focal Species and Natural Community Priorities



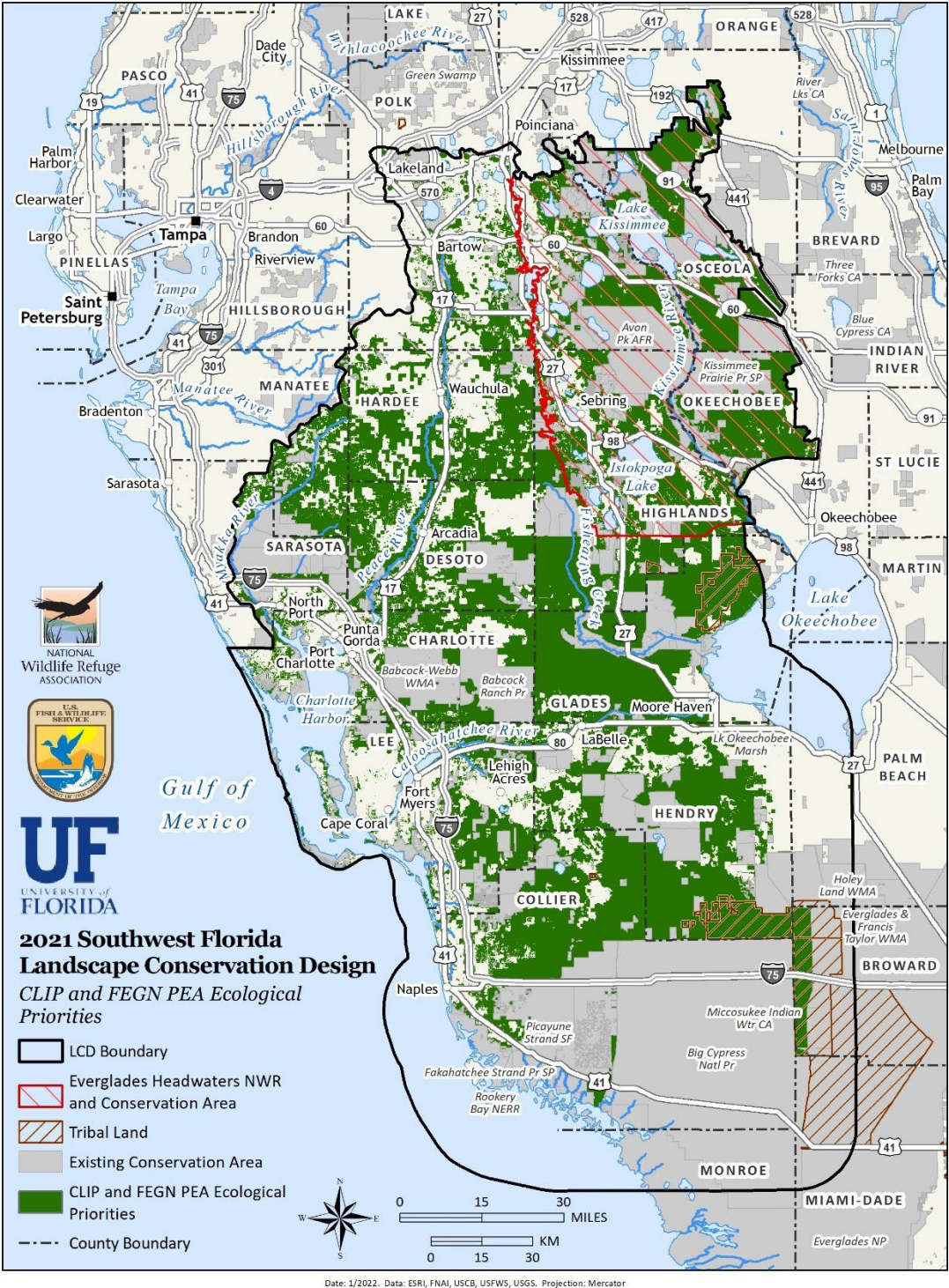


Figure 4. CLIP and FEGN PEA Ecological Priorities.



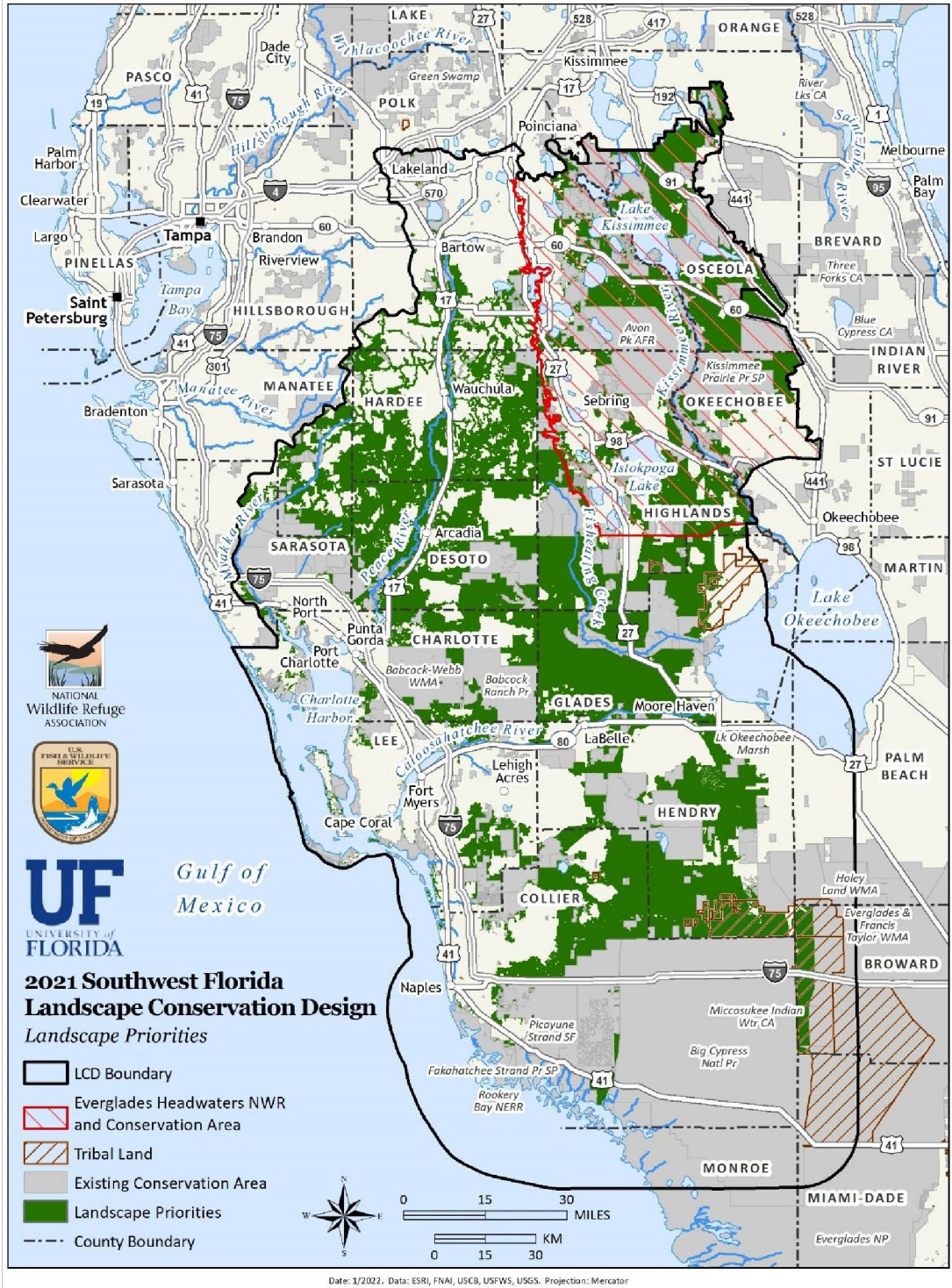


Figure 5. Landscape Priorities.







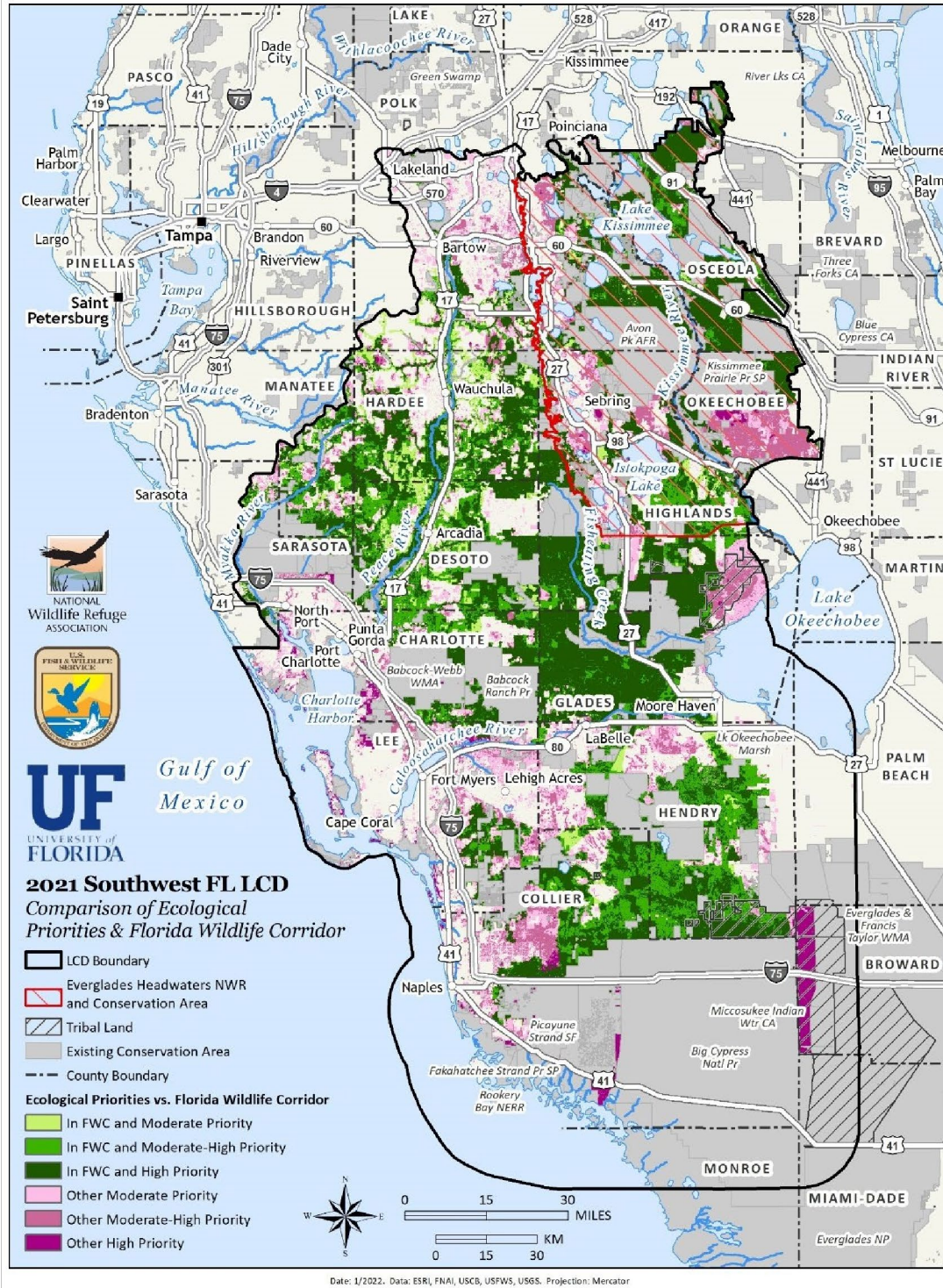


Figure 7. Map showing the high degree of overlap between the SWFLCD combined ecological priorities and the Florida Wildlife Corridor. A total of 93% of the unprotected high priorities, 65% of the unprotected moderate-high priorities, and 14% of the moderate priorities are within the Florida Wildlife Corridor.

D. Protection Opportunities Analysis

GIS data from the Florida Geographic Data Library, Florida Natural Areas Inventory (FNAI), FWC, Florida

Department of Agriculture and Consumer Services, USFWS, and the University of Florida Center for Landscape Conservation Planning was used to develop prioritization models identifying the potential priority of all areas in the study area for relevant NRCS and USFWS easement programs. Only the program criteria that could be defensibly analyzed using GIS at the study area scale that address relevant land use, species, conservation priority, or restoration potential criteria were used. The latest available data for the Florida Forever and Rural and Family Lands Protection programs was obtained to identify areas that are current land conservation projects in those two Florida programs.

Note: Examination of NRCS and Forest Legacy criteria allows geospatial identification of areas that might be appropriate for these programs and potential opportunities for partnership on the landscape. The Florida Forever and RFLPP project areas identify properties that have already been through an intensive vetting process and that state programs have determined are worthy of protection. This allows us to identify willing landowners and properties where state funding would be available to leverage. These lists are always evolving, as new properties apply and are added to the list. But it provides a starting point for identifying landowners and partnership opportunities. Opportunities will continue to be updated going forward as statewide protection opportunity models currently being developed for the Florida Department of Agriculture and Consumer Services by the UF Center for Landscape Conservation Planning are completed. All available programs and partner opportunities will be examined during the Land Protection Planning process and beyond.

All models and the conservation project data were combined into a final protection opportunities model. Summary descriptions of the individual opportunity models and final cumulative opportunity model are included below. More detailed documentation of the models is available from the University of Florida Center for Landscape Conservation Planning.

## NRCS ALE Grassland

- 1) Percent prime farmland
- 2) Percent pasture/rangeland
- 3) Proximity to conservation lands
- 4) Proximity to agricultural operations
- 5) Percent non-native improved or naturalized species
- 6) Listed or at-risk species habitat
- 7) Prairie or grassland natural communities

Scores were assigned following the scoring protocols in the ALE GSS Scoring sheet. Total scores were summed and then reclassified into 4 priority classes using Natural Breaks in ArcGIS.

## NRCE ALE

- 1) Percent prime farmland
- 2) Percent pasture/cropland
- 3) Proximity to conservation lands



- 4) Proximity to agricultural operations
- 5) Grassland of special environmental significance
- 6) Agricultural zoning
- 7) CLIP Biodiversity priority
- 8) Occurrence in NRCS Everglades Initiative counties, Avon Park Sentinel Landscape, watersheds that connect to the Gulf of Mexico

Scores were assigned following the scoring protocols in the ALE GSS scoring sheet. Total scores were summed and then reclassified into 4 priority classes using Natural Breaks in ArcGIS.

## NRCS WRE

- 1) Restorable wetlands
- 2) Ponding soils factors
- 3) Priority natural communities
- 4) Proximity to existing WREs or other existing conservation lands
- 5) Within the Everglades Ecosystem, within or contiguous to a special designated water body, or within 2 miles of the coast
- 6) Bobwhite/Longleaf initiative areas
- 7) Listed species habitat
- 8) Panther Conservation Zones

Scores were assigned following the scoring protocols in the ALE GSS scoring sheet. Total scores were summed and then reclassified into 4 priority classes using Natural Breaks in ArcGIS.

## Forest Legacy

- 1) FNAI Sustainable Forestry priority
- 2) CLIP 4.0 priority
- 3) Natural forest
- 4) FNAI Aquifer Recharge priority
- 5) Forest Legacy priority areas

This model was developed differently than the NRCS easement program models. The steps were to combine the CLIP 4.0 priorities and the FNAI Sustainable Forest priorities layers, averaging the values using an equal weighting scheme so that areas that were both high priority in the CLIP and Sustainable Forestry layers received the highest priority. Then this combined layer was combined with FNAI Aquifer recharge priorities using a "maximum" approach, where each cell in the new data layer was assigned the highest priority value based on either the Combined CLIP and Sustainable Forestry layer or the Aquifer Recharge layer. This combined priority model was then limited to only areas that were also: within counties containing priority regions for the Forest Legacy program AND were in natural forest land cover in patches 10 acres or larger. This results in a final Forest Legacy priority layer where areas of natural

forest 10 acres or larger that occur in a Forest Legacy priority region are prioritized based on their importance for aquifer recharge, significance for sustainable forestry operations, and their CLIP priority level. To create the combination with the NRCS data, the priority values of 1-9 (with 9 as the highest priority) were reclassified into values of 1-4 using Natural Breaks in ArcGIS.

## Existing Conservation Project Areas

- 1) Florida Forever projects
- 2) Rural and Family Lands Protection Program projects

Both Florida Forever and Rural and Family Lands Protection Program projects were given equal weight so that any area within a project for either program was given a value of 1 and areas outside current projects areas were given a value of 0.

## Cumulative Protection Opportunities Model

- Value 4 (highest opportunity) = In a Florida Forever and/or Rural and Family Lands Protection Program project
- Value 3 = In a high priority area for NRCS ALE, ALE Grassland, WRE, or USFS/FDACs Forest Legacy programs
- Value 2 = In a moderate priority area for NRCS ALE, ALE Grassland, WRE, or USFS/FDACs Forest Legacy programs
- Value 1 (lowest opportunity) = All other areas within the study area

These four values were created by first combining the NRCS ALE, ALE Grassland, and WRE opportunity priorities and the Forest Legacy opportunity priorities using the following reclassification:

- P2 = any area with a value of 4 in any of the original models
- P3 = any area with a value of 3 in any of the original models
- P4 = any area with a value if 1 or 2 in any of the original models

This combined opportunity priorities layer was then combined with the Florida Forever and Rural and Family Lands Protection layer where any area within a Florida Forever or Rural and Family Lands Protection project was assigned the highest rank of P1, and then all other areas were assigned the value received for the opportunity priorities combined layer. Figure 8 shows the results of the Protection Opportunities Model.



#### E. Development Threats Analysis

The development threat layer is a simple combination of statewide Future Land Use data obtained from the Florida Geographic Data Library and the Florida 2070 Trend Development Scenario created by the University of Florida and also obtained from the Florida Geographic Data Library. These GIS data layers were combined to obtain the following development threat values:

- Value 3 (highest development threat) = Depicted as future developed land in the Future Land Use Data
- Value 2 (moderate development threat) = Depicted as future developed land in the Florida 2070 Trend Scenario
- Value 1 (lowest development threat) = All other areas in the study area

It should be noted that Value 3 includes areas that are BOTH depicted as future development in the Future Land Use data and the Florida 2070 Trend Scenario data. There are some counties in the study area that have no threat level 2 values in them. This occurs in counties with low projected future human population growth and where potential future development in the Florida 2070 Trend Scenario completely overlaps with areas depicted as developed in Future Land Use data. Figure 9 shows the combined development threat model results for the SWFLCD study area.



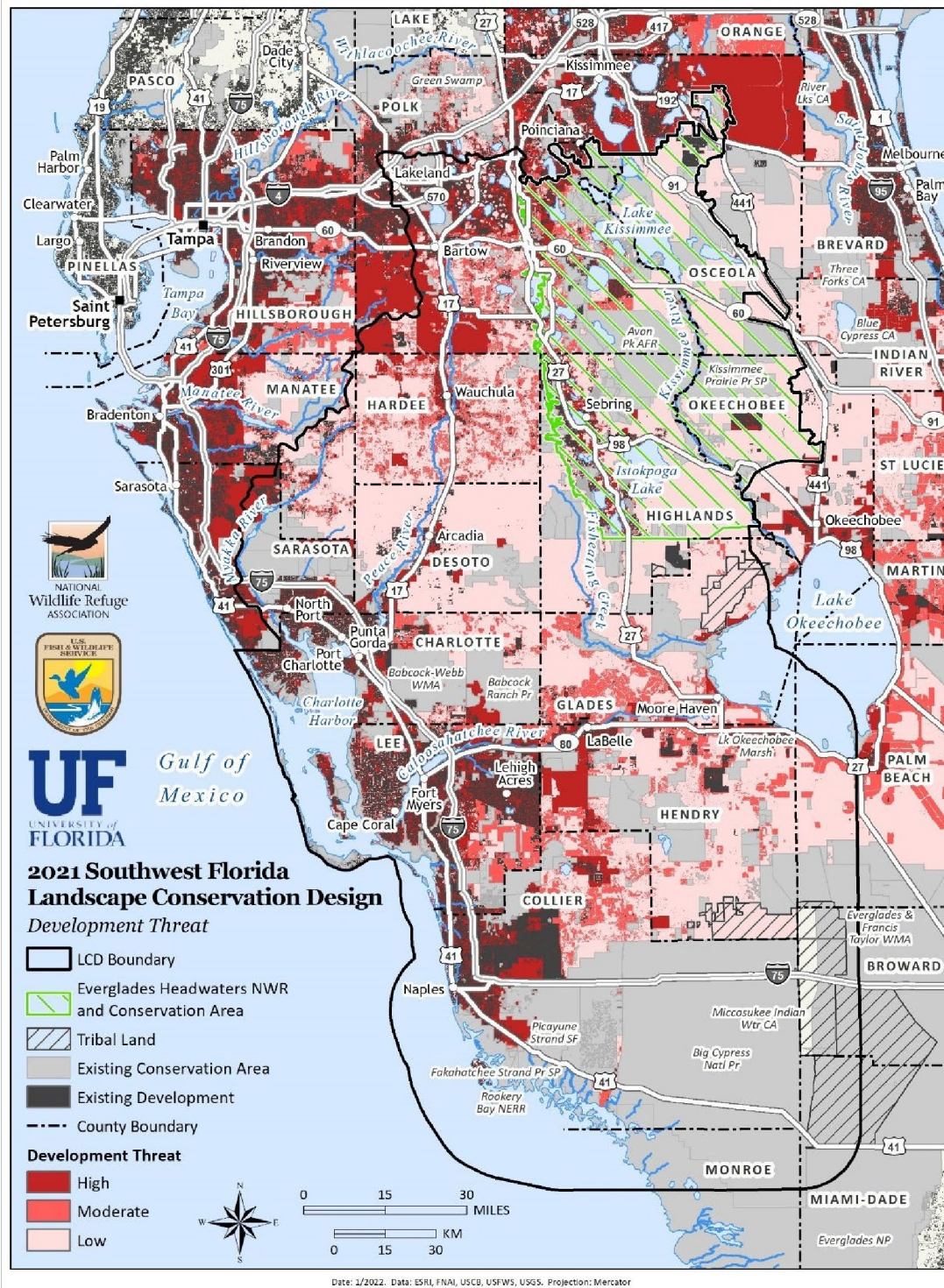


Figure 9. Development Threat in the SWFLCD Study Area.

F. Comparison of LCD Ecological Priorities, Protection Opportunities, and Development Threats  
 The SWFLCD Combined Ecological Priorities layer was combined with both the Protection Opportunities and Development Threats models to identify where there are combinations of high to moderately high ecological priorities, high protection opportunities, and/or high threats of conversion to development. First, to compare Protection Opportunities to the Combined Ecological Priorities (and Development Threats) we

collapsed the Protection Opportunities from 4 priority ranks to 3 priority ranks using the following reclassification:

- P1 – P2 = Highest Protection Opportunity
- P3 = Moderate Protection Opportunity
- P4 = Low Protection Opportunity

Figure 10 compares the Combined Ecological Priorities to Protection Opportunities Model. Figure 11 compares the Combined Ecological Priorities to Development Threats Model. Figure 12, Figure 13, and Figure 14 compare the highest, moderate-high, and moderate ecological priorities to both Protection Opportunities and Development Threats. Table 3 provides the acres in each combination of Combined Ecological Priorities and Protection Opportunities, and Table 4 provides the acres in each combination of Combined Ecological Priorities and Development Threat.

Table 3. Combined Ecological Priorities and Protection Opportunities acres.

Combination	Acres
High Ecological Priority-High Protection Opportunity	1,076,476
High Ecological Priority-Moderate Protection Opportunity	283,097
High Ecological Priority-Low Protection Opportunity	221,298
Moderate-High Ecological Priority-High Protection Opportunity	507,297
Moderate-High Ecological Priority-Moderate Protection Opportunity	256,912
Moderate-High Ecological Priority-Low Protection Opportunity	293,223
Moderate Ecological Priority-High Protection Opportunity	149,693
Moderate Ecological Priority-Moderate Protection Opportunity	224,057
Moderate Ecological Priority-Low Protection Opportunity	811,429

Table 4. Combined Ecological Priorities and Development Threat acres.

Combination	Acres
High Ecological Priority-High Threat	157,496
High Ecological Priority-Moderate Threat	222,644
High Ecological Priority-Low Threat	1,159,557
Moderate-High Ecological Priority-High Threat	194,266

Moderate-High Ecological Priority-Moderate Threat	153,354
Moderate-High Ecological Priority-Low Threat	695,579
Moderate Ecological Priority-High Threat	253,296
Moderate Ecological Priority-Moderate Threat	109,967
Moderate Ecological Priority-Low Threat	791,722







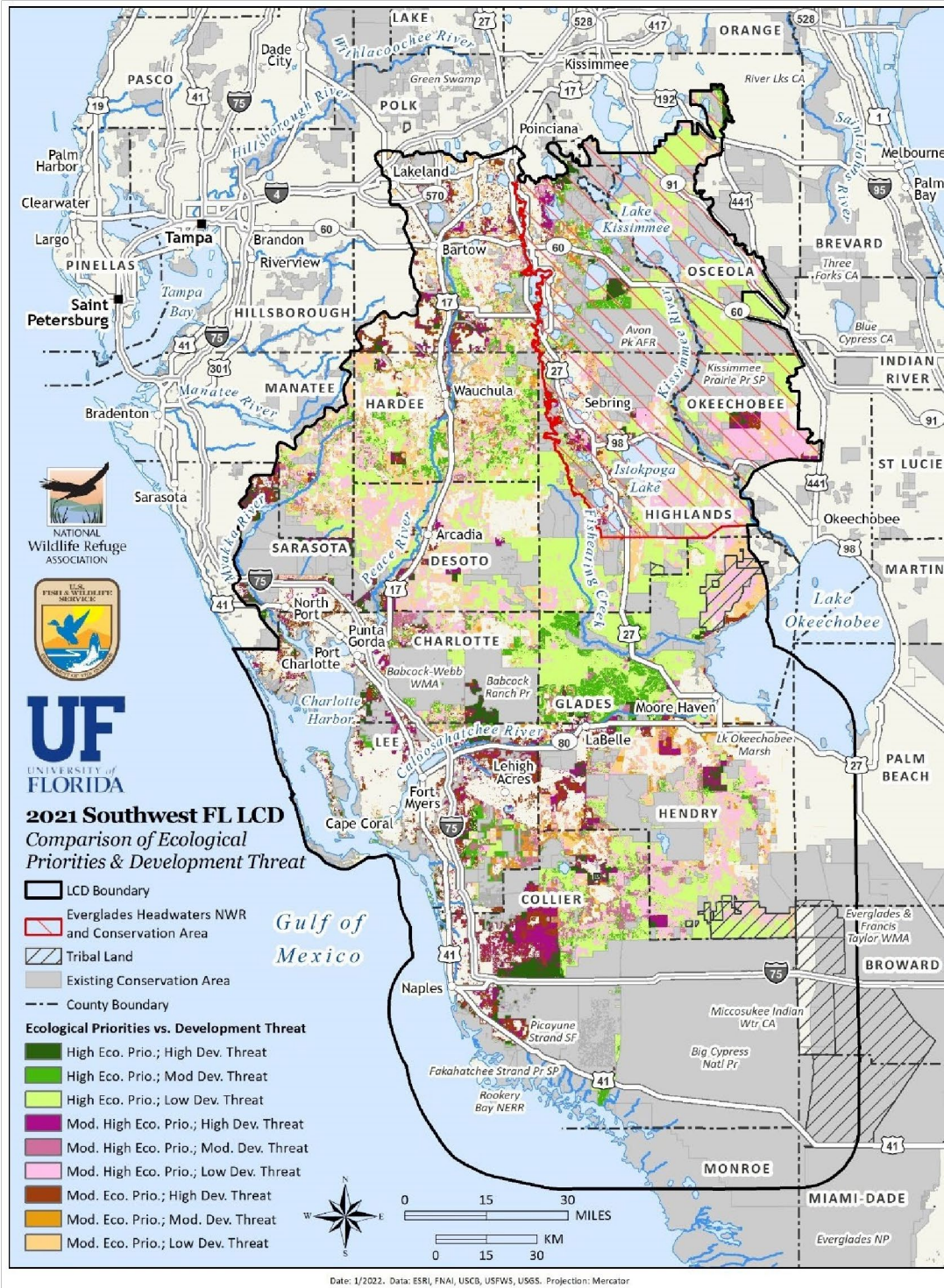


Figure 11. Combined Ecological Priorities compared to Development Threats.



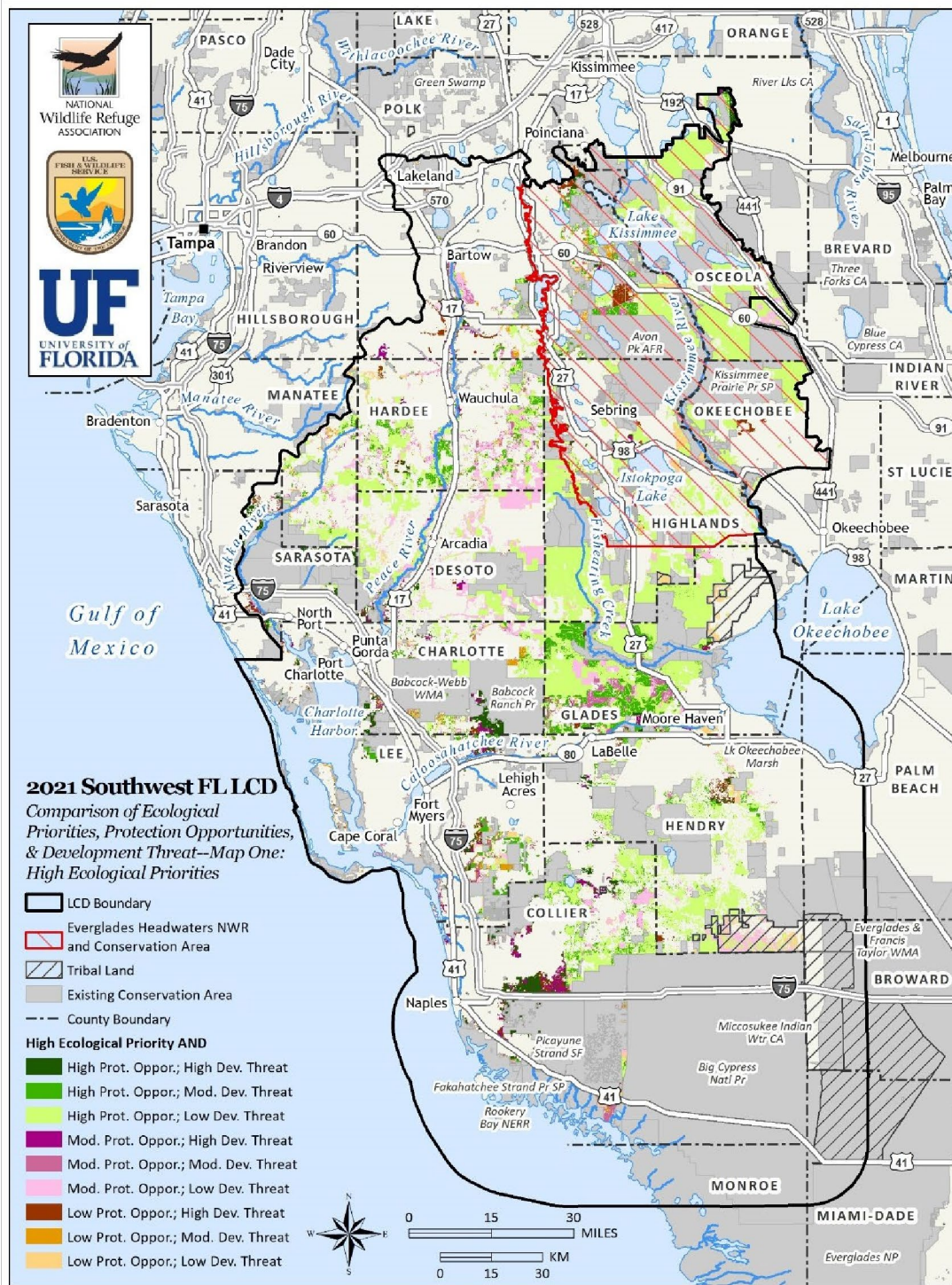


Figure 12. Highest combined Ecological Priorities compared to both Protection Opportunities and Development Threats.



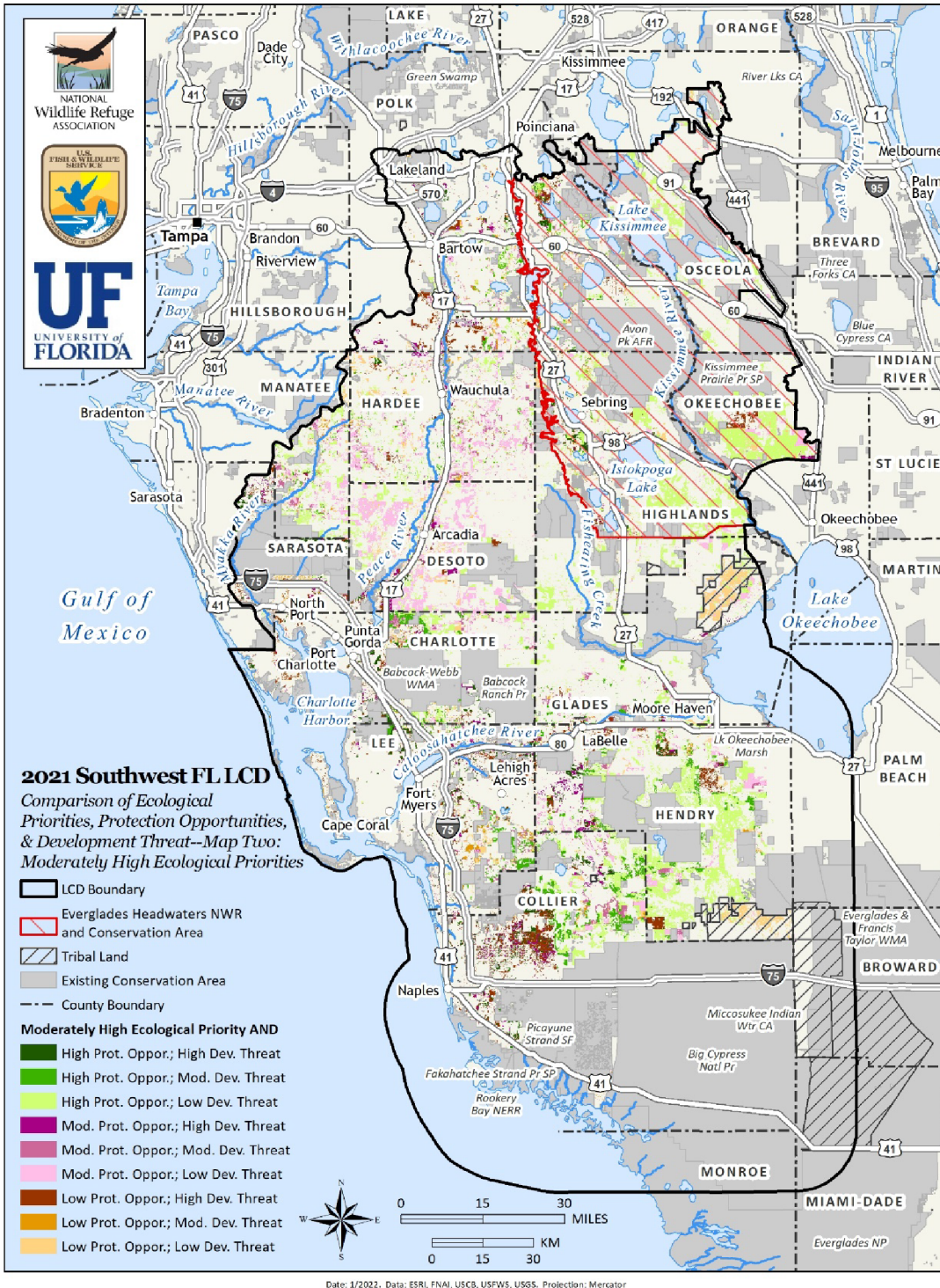


Figure 13. Moderate-high combined Ecological Priorities compared to both Protection Opportunities and Development Threats



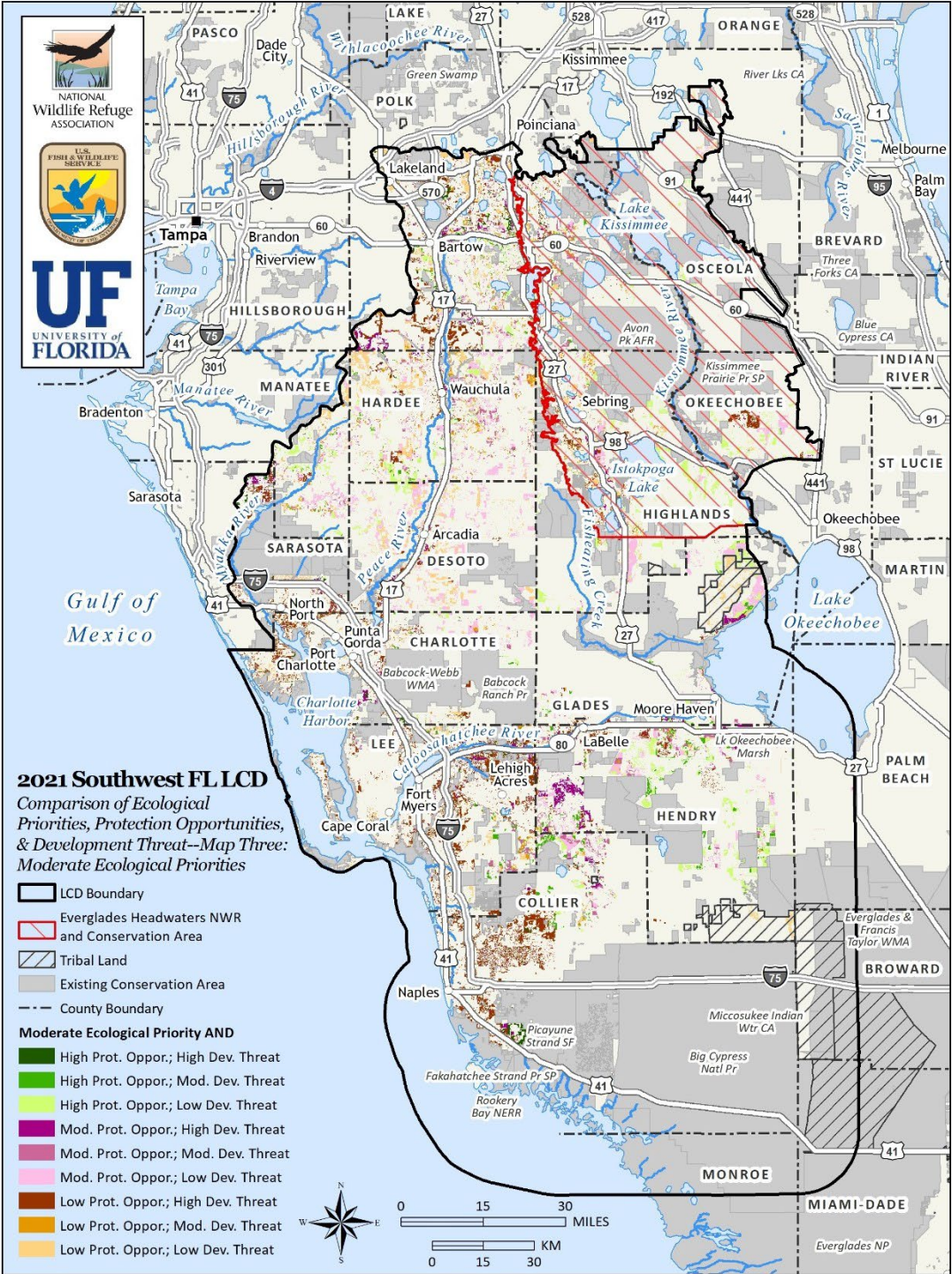


Figure 14. Moderate combined Ecological Priorities compared to both Protection Opportunities and Development Threats

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## G. Partnership Opportunities, Programs, and Recommendations

A variety of key agency, non-governmental, and other conservation partners already exist within the SWFLCD study area. If the Land Protection Strategy is approved and the Land Protection Plan process moves forward, efforts will be made with the following groups (and more) to garner input on priorities and develop partnerships. Many of these groups were consulted during the 2017 SWFLCD, as well as previous regional initiatives by the USFWS. Initial conversations have been made with many of the agencies and stakeholder groups listed below and will continue, in order to advance conservation objectives. Additionally, a group of representatives similar to the Florida Sportsmen's Trust Group in the EHW NWR&CA will be established.

### Key Agency Partners:

U.S. Fish and Wildlife Service  
Florida Fish and Wildlife Conservation Commission  
Florida Department of Environmental Protection  
Natural Resource Conservation Service  
Florida Department of Agriculture and Consumer Services  
South Florida Water Management District  
Southwest Florida Water Management District  
Counties within the study area boundary  
Big Cypress National Preserve  
Everglades National Park

### Non-Governmental Organizations (not all inclusive):

National Wildlife Refuge Association  
Florida Conservation Group  
Audubon of Florida  
Audubon Western Everglades  
Defenders of Wildlife  
Florida Wildlife Federation  
Everglades Foundation  
National Parks Conservation Association  
Coastal and Heartland National Estuary Partnership  
Archbold Biological Station  
Florida Wildlife Corridor Coalition  
Earth Justice

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The Nature Conservancy

Conservation Florida

Conservation Fund

Conservation Foundation of the Gulf Coast

WildLandscapes International

Florida Cattlemen's Association

Florida Farm Bureau

Sportsmen's Community (not all inclusive):

Florida Chapter of Backcountry Hunters and Anglers

American Daughters of Conservation

Safari Club International

Cypress Chapter Izaak Walton League of America

Florida Airboat Association

All Florida

Cast and Blast Florida

Lake Okeechobee Airboat Association

Kissimmee River Valley Sportsmens Association

Angler Action Foundation

Florida Sportsmen Conservation Association

Future of Hunting in Florida Academia:

University of Florida

Florida Natural Areas Inventory

University of Florida Extension (for various counties)

Florida Gulf Coast University

## Conservation Land Protection Acquisition and Easement Programs

There are a multitude of land acquisition and easement programs that are active throughout the study area. Partnering with these programs is essential to achieving meaningful conservation on the ground. The southwest Florida region has a long history of agency and stakeholder conservation partnerships. FWC's Cooperative Conservation Blueprint regional pilot project (Blueprint) completed in southwest Florida provided a starting point for a discussion regarding future efforts to effect protection of conservation priorities through voluntary conservation land protection and incentives programs. This effort took place between 2007 and 2014. Significant work on conservation incentives has been accomplished. The Blueprint provides a building block to work from, as more detailed planning efforts are initiated. Additional work by the Peninsular

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Florida Landscape Conservation Cooperative provided successful models for establishing a framework for agency partnerships, and land protection efforts in the EHW NWR&CA have demonstrated the success of such partnerships. These models will serve as templates as conservation planning and implementation within the study area is initiated. Building solid relationships with landowners is a critical first step as public engagement in the planning efforts advances. Leveraging existing conservation programs can advance conservation on a landscape-scale. The programs listed below can potentially bring additional protection; no particular program or specific properties are endorsed. All bring unique attributes that can advance conservation partnerships.

1) Florida Department of Environmental Protection-Division of State Lands: Florida Forever

Florida Forever is the state land acquisition program and is led by the Florida Department of Environmental Protection (DEP). The program has a strict protocol for acceptance including an application process that is a year to 18 months in duration. To be considered, each acquisition project is ranked and placed into categories. Projects are ranked based on environmental and natural resource value. The program purchases properties with high conservation value using both fee-simple and less-than-fee acquisition strategies (conservation easements). USFWS has built a strong partnership with the Florida Forever Program by working together on land protection within the EHW NWR&CA. **Figures 15 and 16** depict the Florida Forever Projects in this study area. Future partnerships can be identified in the areas where Florida Forever Projects overlap with the priorities identified in the LCD. Table 2 earlier in the report shows that there are over 400,000 acres of high or moderate-high SWFLCD Combined Ecological Priorities within Florida Forever and/or Rural and Family Lands Protection projects. As part of efforts to protect the Florida Wildlife Corridor, the Florida Forever program received \$400 million in funding for the 2021-2022 Florida fiscal year. The expectation is that a similar level of funding will be provided in 2022-2023, which, if so, will provide enormous lift and opportunity for landscape-scale conservation projects in Southwest Florida.

2) Florida Forest Service: Rural and Family Lands Protection Program (RFLPP)

The RFLPP is an agricultural easement program led by the Florida Forest Service which is part of the Florida Department of Agriculture and Consumer Services. The program is designed to protect important agricultural lands through the acquisition of permanent land conservation easements. The purpose of the program is to protect working landscapes, and easements are not restrictive. The program is very popular among landowners who would like to continue their agricultural operations. Projects are ranked based on the quality of their agricultural operations. The application and acceptance process is 6 months. It takes a year before projects are formally on the acquisition list. RFLPP frequently partners with the NRCS ALE program on conservation easements. RFLPP and USFWS have a strong working relationship through the work accomplished in the EHW NWR&CA. **Figures 15 and 16** depict the RFLPP projects in the study area. Future partnerships can be identified in the areas where the RFLPP Projects overlap with the priorities identified in this LCD.



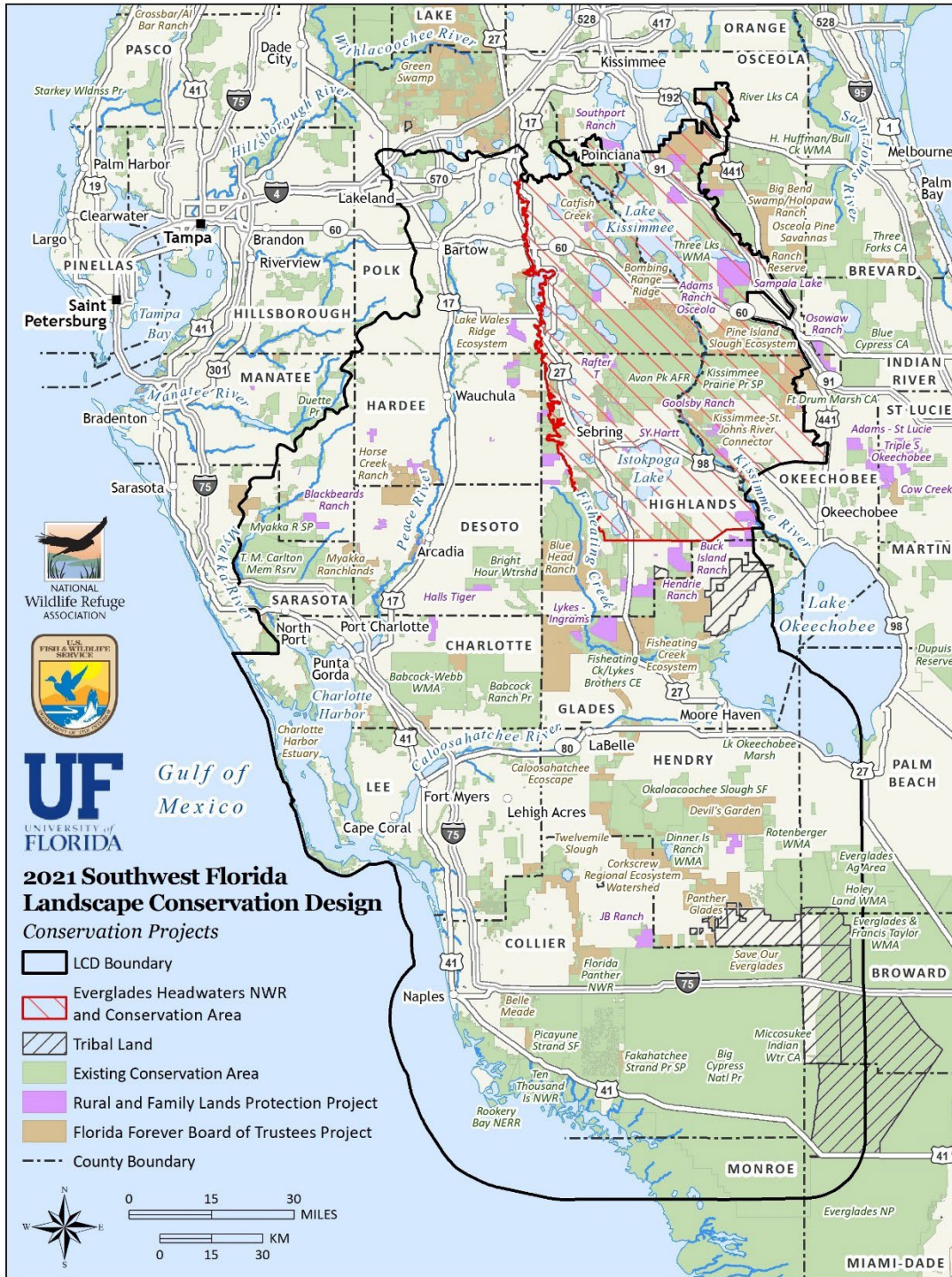


Figure 15. Florida Forever and Rural and Family Lands Protection projects in the SWFLCD Study Area.



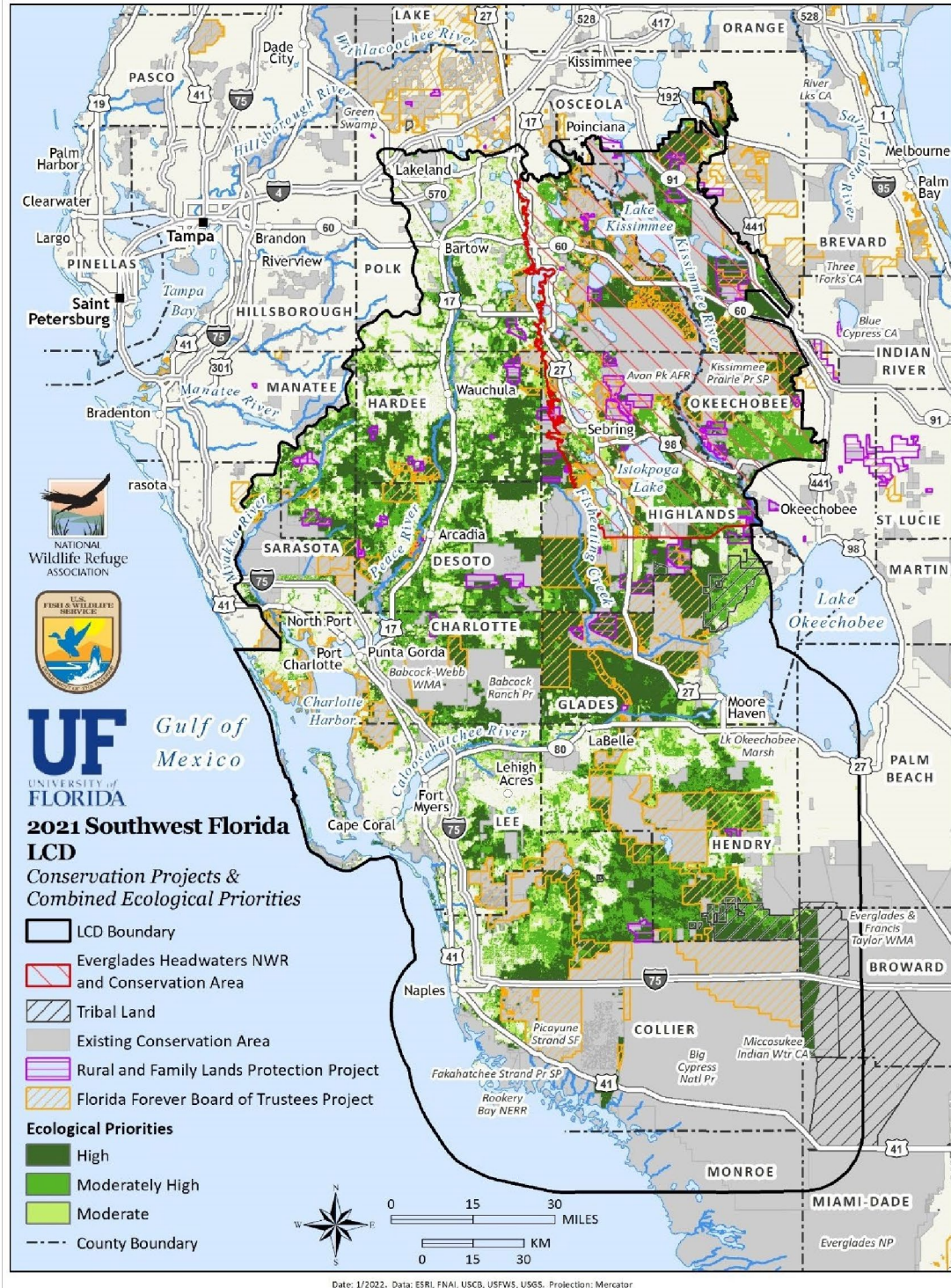


Figure 16. Florida Forever and Rural and Family Lands Protection projects shown on top of the SWFLCD Combined Ecological Priorities.

### 3) Florida Forest Service: The Forest Legacy Program

The Forest Legacy Program aims to protect and conserve forests that are threatened by conversion to non-forest uses. The program is led by the Florida Forest Service and the U.S. Forest Service makes the final

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selections and distributes the funds. The Florida Forest Service places an emphasis on purchasing conservation easements, although past projects to date have been fee-simple. The Florida program focuses on conservation easements to ensure that forests in Florida remain economically viable. The program can partner with other state and county government entities to leverage funding.

The state's Forest Legacy Area map identifies which portions of the state are eligible for protection under the Forest Legacy program. Current Forest Legacy Areas are mapped at:

<https://www.fdacs.gov/Forest-Wildfire/Our-Forests/Land-Planning-and-Administration/Florida-ForestLegacy-Program/Florida-Forest-Legacy-Areas-Map>

#### 4) NRCS: The Agricultural Conservation Easement Program (ACEP)

The ACEP provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits. Under the Agricultural Land Easements component, NRCS helps Indian tribes, state and local governments and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land. Under the Wetlands Reserve Easements component, NRCS helps to restore, protect, and enhance enrolled wetlands. NRCS easement programs are very popular in Florida and well-funded.

#### 5) NRCS: Wetland Reserve Easement (WRE)

The WRE Program under the NRCS ACEP is an easement program that purchases conservation easements on degraded or former wetlands in need of restoration. NRCS prioritizes wetlands that have been converted into other agricultural uses. NRCS prioritizes applications based on the easement's potential for protecting and enhancing habitat for migratory birds and other wildlife. WRE's are more restrictive than other easements. NRCS has the right to restrict grazing rights for restoration purposes. NRCS has not done this and have indicated it is highly unlikely they ever will, as cattle are an important management tool in Florida. A reduced rate grazing option is also potentially available. WRE's tend to have a higher dollar value than other easements, due to their restrictive nature.

#### 6) NRCS: Agricultural Land Easement (ALE)

The ALE is a partnership program and is geared for working landscapes. NRCS provides financial assistance to eligible partners for purchasing ALE's that protect the agricultural use and conservation values of eligible land. Eligible partners include Indian tribes, state and local governments and nongovernmental organizations that have farmland or grassland protection programs. The ALE program will provide up to 50% match for working agricultural lands and 75% where there are grasslands of special significance. NRCS does not purchase these easements, rather they contribute to the partner that is acquiring the easement. The Rural and Family Lands Protection Program (RFLPP) under the Florida Forest Service has been successfully partnering with the NRCS ALE program for several years, as have some local governments and land trusts.

#### 7) Southwest Florida Water Management District (SWFWMD)

SWFWMD has purview over the water resources in the northwestern portion of the study area. They have historically had a strong program in purchasing fee-simple and less-than-fee lands that meet certain criteria.

#### 8) South Florida Water Management District (SFWMMD)

SFWMMD has purview over the water resources in the southern and northeastern portion of the study area. They have historically had a strong program in purchasing fee-simple and less-than-fee lands that meet certain criteria. The majority of their land acquisition is focused on identified lands for Everglades restoration needs.

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## 9) County Programs

Several county land protection programs exist within the study area. Collier County Conservation Collier, Sarasota County's Environmentally Sensitive Lands Acquisition Program, Lee County's Conservation 20/20, and Conservation Charlotte are examples of county programs with a history of success within the study area.

### Other Relevant Incentive Programs

Many landowners may prefer to engage in incentive programs that do not involve selling their land or conservation easements. Examples include Wetland Mitigation Banking, Species Conservation Banking, South Florida Water Management District Dispersed Water Storage, FWC's pilot Gopher Tortoise Payment for Ecosystem Services Program and many others. Existing and potential incentive programs will be explored during the planning process.

## H. Conclusion

The SWFLCD provides data, maps, and recommendations for engaging in successful landscape-scale conservation in southwest Florida. Recent updates to Florida panther habitat data and the recent update of the FEGN provide a solid science foundation for determining biodiversity and ecosystem service priorities across the region. There is much work to do, with approximately 1.85 million acres of currently unprotected high and moderate-high ecological priorities with the SWFLCD region (See Table 2). However, approximately 400,000 acres of these priority areas are already within active land protection projects in either the Florida Forever program or Rural and Family Lands Protection program. Recent increases in State of Florida conservation land protection funding (\$400 million for fiscal year 2021-2022) combined with federal (and regional) initiatives and partners provide a greatly enhanced opportunity to protect the most strategic wildlife corridors and other landscape-scale conservation priorities essential for conserving the region's biodiversity and ecosystem services, while maintaining a viable and compatible ranching and natural resource-based economy. This includes many opportunities to protect and restore wetlands and watersheds critical to the health and recovery of both the Everglades and Charlotte Harbor watersheds. The SWFLCD provides an important foundation to guide USFWS conservation planning efforts, especially regarding identifying and working to protect common priorities with a diverse set of partners, programs, and funding sources.

The SWFLCD is the foundation for next steps needed to achieve the conservation goals in this region including development of Land Protection Plans for national wildlife refuges working with the many conservation partners mentioned in this report. With the FEGN, the FWC's Blueprint, the work of the Peninsular Florida Landscape Conservation Cooperative, land protection efforts in the EHW NWR&CA, the Avon Park Air Force Range Sentinel Landscape, the Florida Wildlife Corridor, and expanded funding for the Florida Forever program, the time is right to build on these recent past and existing partnerships to engage in effective collaborative landscape-scale conservation planning in Southwest Florida. The science guiding conservation planning efforts is clear that there is a significant need for additional land protection with conservation values supported by multiple federal, state, regional, and local partners. Further planning is warranted and necessary to select strategic priorities that are best suited for addressing multiple conservation goals working with partners and willing landowners. Through the more than decade of regional science and planning work, the USFWS is well positioned and prepared to engage with multiple existing partners to achieve landscape-scale wildlife, water, and working landscape conservation. Establishment of a national wildlife refuge and conservation area could provide significant additional impetus and resources to such efforts, including building off the successes in the adjacent EHW NWR&CA.

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## *APPENDIX F. INTERIM RECREATIONAL ACT FUNDING ANALYSIS*

### **Interim Recreation Act Funding Analysis**

**Refuge Name:** Everglades to Gulf Conservation Area

**Date Established:** TBD

#### **Purposes of the Conservation Area:**

"... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C.

668dd(a)(2) (National Wildlife Refuge System Administration Act)

"...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." 16 U.S.C. 1534 (Endangered Species Act of 1973)

"...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

"...to conserve and protect migratory birds..., including species that are listed...as endangered species or threatened species, and to restore or develop adequate wildlife habitat." 16 U.S.C. §715i (Migratory Bird Conservation Act)

"...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude..." 16 U.S.C. 742f(b)(1) "...for the development, advancement, management, conservation, and protection of fish and wildlife resources..." 16 U.S.C. 742f(a)(4), (Secretarial powers to implement laws related to fish and wildlife) (Fish and Wildlife Act of 1956)

"...suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. 460k-2 [Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended]

**Recreational Uses Evaluated:** (1) wildlife observation and photography; (2) environmental education and interpretation; (3) hunting; and (4) fishing.

**Funding Required to Administer and to Manage the Recreational Use:** The Service will use existing staff from nearby refuges such as Everglades Headwaters NWR and Conservation Area, Merritt Island NWR, Arthur R. Marshall Loxahatchee NWR, and Florida Panther NWR. Funding to support the Everglades to Gulf Conservation Area will be made available to implement initial protection activities, hunt implementation, data collection, and non-consumptive uses. The Service will also cooperate with FCW to support initial public use activities on the refuge including the provision of law enforcement support. The Service will continue discussion with FWC regarding opportunities for state wildlife management area designation(s) and management, co-management, and joint activities.

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**Interim Recreation Act Funding Analysis Signatures:**

Based on a review of the refuge budget allocated for recreational use management, I certify that funding would be adequate to ensure compatibility and to administer and manage the proposed recreational uses.

Refuge Supervisor:

Digitally signed by KATHLEEN  
KATHLEEN BURCHETT BURCHETT  
Date: 2024.01.09 10:26:59 -05'00'  
(Signature/Date)

Regional Chief, National Wildlife Refuge System, Southeast Region:

**BRETT HUNTER** Digitally signed by BRETT  
HUNTER  
Date: 2024.01.09 08:44:43 -05'00'

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(Signature/Date)



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## *APPENDIX G. SUMMARY OF PUBLIC COMMENTS ON THE DRAFT LAND PROTECTION PLAN AND DRAFT ENVIRONMENTAL ASSESSMENT AND THE SERVICE'S RESPONSE*

The 35-day public review and comment period for the Draft Land Protection Plan and Environmental Assessment for the Proposed Establishment of Everglades to Gulf Conservation Area began on September 26, 2023, with a U.S. Fish and Wildlife Service press release requesting public review and comment. The news release was distributed to over 300 media outlets and over 200 interested parties. The comment period ended on November 1, 2023. Four public meetings occurred during the public review and comment period, including two virtual meetings on October 20, 2023, and October 23, 2023. The Service also held two in-person meetings. The in-person meetings were on October 25, 2023, and October 26, 2023, in Wauchula, FL, and Immokalee, FL, respectively. Information regarding the dates and locations of the public meetings and how to register and submit comments was included in the Service's press release and posted to the project's website.

Various entities published articles about the proposed Everglades to Gulf Conservation Area, including but not limited to, the Coastal and Heartland National Estuary Partnership (date unknown); National Public Radio (date unknown); Telemundo (date unknown); Defenders of Wildlife on September 26, 2023; National Wildlife Refuge Association on September 28, 2023; WUSF on October 1, 2023; WLRN on October 2, 2023; The Invading Sea on October 3, 2023; Bradenton Herald on October 17, 2023; Your Sun on October 18, 2023; Inside Climate News on October 22, 2023; Florida Public TV on October 24, 2023; WFIT 89.5 FM on October 24, 2023; Florida Conservation Group on October 26, 2023; WGCU on October 27, 2023; WLRN on October 27, 2023; and Fox 4 Southwest Florida on October 31, 2023.

The Florida State Clearinghouse coordinated State agency review of the Draft LPP and Draft EA (SAI# FL202309289919C) under: Presidential Executive Order 12372; Section 403.061(42), Florida Statutes; Coastal Zone Management Areas, 16 U.S.C. 1451-1464; and the National Environmental Policy Act, 42 U.S.C. 4321-4347. The State Historic Preservation Officer found the project to be consistent and provided no additional comments. More detailed comments were provided in a letter from FWC.

Under NEPA, the Service must respond to substantive comments. For purposes of this Final EA, a substantive comment is one that was submitted during the public review and comment period which was within the scope of the proposed actions (and the other alternative outlined in the draft EA), was specific to the proposed action, had a direct relationship to the proposed actions, and included reasons for the Service to consider it. (For example, a substantive comment could be that the document referenced 500 individuals of a particular species, but that current research found 600. In such a case, the Service would likely update the Final EA to reflect the 600, citing the current research. While a comment that would not be considered substantive would be "We love the proposal.") Multiple comments were submitted regarding concerns outside of the purview of the proposal. Comment outside the scope of the proposal were not addressed.

### **SUMMARY OF CONCERNS AND THE SERVICE'S RESPONSES**

In total, approximately 3,000 comments were received were submitted via email, hard copy, or during public meetings. Comments were received from individuals and multiple local, state, and tribal governmental agencies, including the Miccosukee Tribe of Indians of Florida, the Florida Fish and Wildlife Conservation Commission, the Florida Department of Environmental Protection, Manatee County, and Palm Beach County. The Service also received comments from approximately 90 representatives and individuals affiliated with non-governmental and other various organizations, including the 5th Day Outdoors; All Florida Conservation; American Sportfishing Association; Archbold Biological Station; Athletic Brewing Company, LLC; Audubon

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Florida; Audubon Western Everglades; Babcock Ranch; Back Country Hunters and Anglers (Florida Chapter); Bergeron Everglades Foundation; Broward Health Medical Center; Busch Wildlife Sanctuary; cādence; Center for Biological Diversity; Charlotte Harbor Environmental Center; Coastal & Heartland National Estuary Partnership; Coastal Wildlife Club, Inc.; Conservancy of Southwest Florida; Conservation Foundation of the Gulf Coast; Defenders of Wildlife; Ducks Unlimited; Dynan Construction, LLC; Emory Ecological Society; Environment Florida Research and Policy Center; Environmental Confederation of Southwest Florida; Everglades Conservation and Sportsman Club; Family Lands Remembered; First Nation Group; Florida Cattlemen's Association; Florida Gladesmen, LLC; Florida Sportsmen Conservation Association; Florida Wildlife Corridor Foundation; Florida Wildlife Federation; Friends of Carlton Reserve; Friends of Florida Panther Refuge Board; Georgia State University; Green Cay Nature Center; Green Horizon Land Trust; Grizzly Creek Films; GSE Engineering and Consulting, Inc.; Izaak Walton League of America (Cypress Chapter); Johnson Pope Bokor Ruppel & Burns, LLP; J-Seven Ranch, Inc.; Keller Williams Realty; Kimley-Horn; Lemur Conservation Foundation; Loggerhead Marinelife Center; Lucuma Designs, LLC; Manatee County Environmental Lands Program; Manson Bolves Donaldson Tanner; Miakka Community Club; Michael Saunders & Company; Monroe & Giordano, LLC; Naples Zoo at Caribbean Gardens; National Park Conservation Association; National Tropical Botanical Garden Organization; National Wildlife Federation; Nelson Benefits Group; Orange Audubon Society; Palm Beach County Department of Environmental Resources Management; Palm Beach County Parks and Recreation Department; Palm Beach Zoo & Conservation Society; Pearl Homes; Pennoni; Peyton Cooper PC Creative; Pine Jog Environmental Education Center; Pinkerton & Laws; Premier Sotheby's International Realty; Quest Ecology; Rain Frog Ranch; Resource Depot; Responsible Growth Management Coalition, Inc.; River Run Farm, LLC; Roots of Compassion and Kindness; Rosebud Continuum; Safari Club International (South Florida Chapter); Sanibel-Captiva Conservation Foundation; Sarasota County Environmentally Sensitive Land Oversight Committee; SCI (South Florida Chapter); Sierra Club (Florida Chapter); Sunrise Naples; Sustainable Rookie; The Balmoral Group; The Environmental Conservancy of North Port, Inc.; The Future of Hunting in Florida; The Gasparilla Inn & Club; The Nature Conservancy; Western Everglades Stakeholders Association; and Wildlife Conservation Society.

Substantive comments were summarized and categorized under seven general topics: wildlife and habitat, resource protection, wildlife-dependent recreation, administration, planning process and planning documents, other, and editorial (Appendix G). Any page numbers referenced in the comments or responses relate to the original page number in the draft LPP and EA released for public review and comment.

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Abbreviations used in this section are listed.

- ASA – American Sportfishing Association
- ATV – all-terrain vehicle
- AVSO – Department of the Interior Appraisal and Valuation Services Office
- BOCC – Board of County Commissioners
- CA – Conservation Area
- CCMP – Comprehensive Conservation and Management Plan
- CCP – Comprehensive Conservation Plan
- CEQ – Council on Environmental Quality
- CERP – Comprehensive Everglades Restoration Plan
- CHNEP – Coastal & Heartland National Estuary Program
- cm – centimeters
- CMP – Conceptual Management Plan
- CREW – Corkscrew Regional Ecosystem Watershed
- DR/GR (or DRGR) – Density Reduction Groundwater Resource
- E – East
- E2G – Everglades to Gulf
- EA – Environmental Assessment
- ECOSWF – Environmental Confederation of Southwest Florida
- EGCA – Everglades to Gulf Conservation Area
- ELP – Manatee County Environmental Lands Program
- ENP – Everglades National Park
- EPA – U.S. Environmental Protection Agency
- ESA – Endangered Species Act
- ESLPP – Sarasota County Environmentally Sensitive Lands Protection Program and Neighborhood Parklands Acquisition Program
- ETG – Everglades to Gulf
- FAA – Federal Aviation Administration
- FDOT – Florida Department of Transportation
- Feds – Federal government
- FLR – Family Lands Remembered
- FOIA – Freedom of Information Act
- FSA – Flowway Stewardship Area
- FW – Fish and Wildlife Manual
- FWC – Florida Fish and Wildlife Conservation Commission
- FWS – U.S. Fish and Wildlife Service
- GIS – Geographic Information System
- HRCC – Habitat Resiliency to Climate Change Project
- HRN – Habitat Restoration Needs
- I-4 – Interstate 4
- I-75 – Interstate 75
- km – kilometers
- km<sup>2</sup> – square kilometers
- KMZ – Keyhole Markup Language (zipped)
- LCD – Landscape Conservation Design



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- LLC – Limited Liability Corporation
  - LPP – Land Protection Plan
  - LWCF – Land and Water Conservation Fund
  - MBCF – Migratory Bird Conservation Fund
  - NAWCA – North American Wetlands Conservation Act
  - NEPA – National Environmental Policy Act
  - NGO – Non-Governmental Organization
  - NMFS – National Marine Fisheries Service
  - NPCA – National Parks Conservation Association
  - NRAC – Highlands County Natural Resources Advisory Commission
  - NRCS – Natural Resources Conservation Service, USDA
  - NWF – National Wildlife Federation
  - NWR – National Wildlife Refuge, Refuge
  - NWR and CA – National Wildlife Refuge and Conservation Area
  - NWRS – National Wildlife Refuge System
  - OMB – Office of Management and Budget
  - ORV – off-road vehicle
  - PES – Payment for Ecosystem Services
  - pg. – Page
  - PLoS – Public Library of Science
  - RLSA – Rural Land Stewardship Area
  - RNA – Ribonucleic Acid
  - SCI – Safari Club International
  - SR – State Road
  - SSA – Stewardship Sending Area
  - SWUCA – Southern Water Use Caution Area
  - TFV1 – Turtle Fraservirus 1
  - TNC – The Nature Conservancy
  - UF – University of Florida
  - US (or U.S.) – United States
  - USC – United States Code
  - USDA – United States Department of Agriculture
  - USFWS – United States Fish and Wildlife Service
  - WGCU – Gulf Coast University Public Media
  - WMA – Wildlife Management Area
  - WRDA – Water Resources Development Act

## **WILDLIFE AND HABITAT**

### *FOCAL NATURAL COMMUNITIES*

*Comment:* One comment was received addressing longleaf pine; an excerpt is provided for context: “Conservation in this area should also help restore a functioning Longleaf Pine Ecosystem. Looking at the FWS map, this important an maligned ecosystem should be a priority too.”

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*Service's Response:* Comment noted. The Service has been a leader in the restoration of the longleaf pine ecosystem throughout the Southeastern United States and recognizes the importance of the longleaf pine ecosystem. Longleaf pine was included in the Draft LPP and Draft EA. The proposed Conservation Area is at the southern extent of the longleaf pine ecosystem and patch sizes are small compared to other areas in longleaf pine communities. Restoration and management of longleaf pine will be addressed in habitat management plans for the Conservation Area should the Service acquire lands suitable for such purpose. No changes were made to the documents.

### *HABITAT MANAGEMENT*

*Comment:* One comment was received addressing habitat management, including fire management; an excerpt is listed to provide context. "The draft Land Protection Plan discusses management activities that will support biological diversity and provide beneficial wildlife habitat. Preserving and restoring shallow wetlands, preserving tree islands and cypress domes, and retaining hardwoods across this landscape can provide habitat for essential behaviors like nesting, roosting, denning, and foraging opportunities. Habitat restoration and management also includes prescribed fire as the ideal tool to establish and maintain the structure and diversity of vegetation in the proposed restoration communities. Periodic fire can enhance seed and seedling production, control undesirable shrub species, and improve wildlife habitat. FWC staff also supports shrub thinning and invasive exotic herbicide application as management tools that help establish regular fire intervals and assist in maintaining appropriate ecological communities."

*Service's Response:* Comment noted. The Service employs a variety of approaches and tools to adaptively manage habitat to benefit wildlife, including habitat restoration, water level management, moist-soil management, invasive species control, chemical and mechanical treatments, timber thinning and harvesting, prescribed fire, wildfire management, mowing, seeding, grazing, pest management, predator control, and monitoring. The particular tool or suite of tools employed vary depending on a variety of factors, including key data, research, scientific literature, expertise, and best professional judgement. If approved, the Conservation Area would be managed for an interim period in accordance with the Conceptual Management Plan (CMP; Appendix B); once sufficient properties were to be purchased, the Service would develop appropriate management plans (e.g., Habitat Management Plan, Fire Management Plan, and Visitor Services Plan) to serve the purposes and overarching goals articulated in the Draft LPP and Draft EA. No changes were made to the documents.

*Comment:* "I would like to know if there is talk to keep Cows on this land being purchased. Cows are the easiest and safest management tool on the landscape. Everytime the state or Feds purchase something they cry for funding to manage it! Cows cut the cost of mowing, spraying and burning. All in which are tools that are needed to manage the land properly."

*Service's Response:* Comment noted. The Service employs a variety of tools to accomplish stated goals and objectives. As outlined in the previous response, grazing can be one potential tool that can be used to meet certain habitat management goals and objectives. When developing habitat management plans and annual work plans, the Service evaluates a variety of factors, including habitats, resources of concern, environmental conditions, and management constraints, to determine the most appropriate tool or suite of tools to achieve management goals and objectives. No changes were made to the documents.

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*Comment:* “Effective habitat management is crucial for the health of the Everglades to Gulf region. We emphasize the need for a comprehensive and adaptive habitat management plan that supports and enhances the natural biodiversity of the area.”

*Service’s Response:* Comment noted. Multiple partners in this landscape collaborated to develop the Southwest Florida Landscape Conservation Design (LCD; Morris et al. 2022; Appendix E) to provide the framework for the myriad of conservation actions by the variety of conservation partners in this landscape. Conducting an ecological priorities, opportunities, and threats analysis for this landscape, the LCD provides an overview of the Study Area, identifies focal species and natural communities, articulates ecological conservation priorities, identifies protection opportunities, and includes threats from future human development and sea level rise, summarizing results and identifying implementation opportunities and obstacles. The LCD provides a framework for the varying conservation land managers to coordinate their conservation, habitat management and restoration, and land protection plans and activities. It is important to note that multiple conservation laws, regulations, policies, programs, agencies, and non-governmental organizations are working to serve conservation goals and outcomes in this landscape; the Service’s proposed Conservation Area is simply one piece of this larger conservation matrix. The LCD provides the framework and the conservation partners determine their roles and contributions, including through their individual habitat management plans. Specifically in relation to the proposed Everglades to Gulf Conservation Area, once a sufficient property base was to be acquired, the Service would develop appropriate management plans for the properties owned in fee title, including an adaptive habitat management plan with appropriate planning, public engagement, and compliance. For management in the interim, the Service developed a Conceptual Management Plan (Appendix B) to guide management activities, including habitat management. No changes were made to the documents.

### *INVASIVE SPECIES*

*Comment:* “In the Draft LPP, coyotes are designated as exotic. FWC identifies coyotes as native as their fossils have been found in Florida.”

*Service’s Response:* The FWC considers the coyote to be a naturalized species in all 67 Florida counties. As such, coyote was removed from the invasive species section of the EA.

*Comment:* Multiple comments were received regarding invasive species; excerpts are listed to provide context.

- “We request assurances that the Everglades to Gulf Conservation Area will receive adequate funding and resources to effectively manage and control invasive species. Invasive species pose a significant threat to the ecological health of the area, and comprehensive efforts are necessary to combat this issue.”
- “...there are a lot of invasive species just blowing up in Charlotte County...the problems that we have with invasive species here, becoming very, very big issues...this is going to be a larger problem”

*Service’s Response:* Comments noted. Nationwide, the Service is committed to preventing, eradicating, and controlling invasive species. The Draft LPP and Draft EA specifically included invasive species, and the Conceptual Management Plan (Appendix B) specifically addressed invasive species management for the proposed Conservation Area, including continuing to work with the Florida Fish and Wildlife Conservation Commission Regional Invasive Plant Working Group, Heartland Cooperative Invasive Species Management Area, the Suncoast Cooperative Invasive Species Management Area, Southwest Florida Cooperative Invasive Species Management Area, and the Sanibel Island Tri-partnership. No changes were made to the documents.

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## HABITAT LOSS AND FRAGMENTATION IN GENERAL

*Comment:* Multiple comments were received addressing habitat loss and fragmentation in general; excerpts are listed to provide context.

- “Regionally, overdevelopment is reducing agricultural capacity and habitat in southwest Florida at an alarming rate.”
- “The high level of population growth and development has put immense pressure on the owners of rural and agricultural lands to sell resulting in large-scale habitat loss and significant impacts to wildlife.”
- “The approval of the proposed conservation area would be a welcome addition to the range of land protection programs operating in a highly at-risk region. A fast-growing human population and resultant rapid development (~27,000 acres of natural habitat per year statewide since 2001) present great risk to the wildlife of the region.”
- “... Florida is the fastest growing state in in the whole country, with 1,200 people moving here every day, and southwest Florida in this area being one of the fastest growing parts of Florida.”
- “Most importantly, our state is at a critical point in development. Aside from the substantial natural resource benefits of land and habitat preservation, it goes a long way for people's quality of life.”
- “I live in east Manatee County. The BOCC is rezoning agricultural land so fast your head would spin. Many of us who have wells and ponds have noticed every year our ponds get lower and our wells may run dry. We have been told that the developers will be using well water to fill ponds and irrigate over 50,000 new homes etc. we honestly are running out of time to save the environment. The protected species etc. PLEASE help save some of this critical land from development.”

*Service's Response:* Comments noted. The Service specifically designed the proposed Conservation Area to serve multiple species and provide numerous conservation benefits in this landscape, including addressing habitat loss and fragmentation. The concepts of habitat loss and fragmentation were specifically included in the Draft LPP and Draft EA in Goal 1 Protect, Restore, and Manage Habitats for Fish and Wildlife and Goal 2 Provide Science-Driven Landscape-Level Conservation. Acquisition criteria and modeling for the proposal also incorporated the concepts of habitat loss and fragmentation, including threats of development and water resources. No changes were made to the documents.

## WATER QUALITY AND QUANTITY

*Comment:* Multiple comments were received addressing water quality and quantity; excerpts are listed to provide context.

- “As previously mentioned, the EGCA overlaps the Florida Wildlife Corridor. There is a recent Florida Wildlife Corridor Benefits Report from the University of Florida, Geo2030 Consulting and Florida International University for Archbold Biological Station that assessed what water resource benefits would be gleaned from protection of the environmentally sensitive lands in this area. In summary, they found that conservation of just these areas would protect the majority of spring vents, freshwater swamps, freshwater marshes, river corridors, river watersheds and estuarine wetlands in the entire state. In addition, there would be significant benefits to surface water quality and supply, groundwater quality and supply/recharge, springsheds, lakes, coastlines, and fragile coastal uplands. In short, protecting these critical lands is also protecting critical water resources that are relied upon by both

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people and wildlife.” (See <https://archbold-cms.payloadcms.app/media/UF%20Water%20Institute%20FLWC%20Water%20Benefits%20Final%20Report%2012.19.22-compressed-2.pdf>.)

- “In the headwaters of the Myakka River, excess water leaving agricultural sights during vegetable bed preparation has killed off trees in the headwaters (Flatwood Swamp) as well as trees down the River to the Myakka River State Park. Although a Water Use Permit disallows off site impacts, the Southwest Florida Water Management District continues to issue permits allowing this destructive practice knowing there are other viable, cost effective and water conserving alternatives available. ECOSWF would not want to have such practices allowed to continue on conservation lands that are either fee simple or held in conservation easements.”
- “The region under study also contains two critical watersheds—those of the Peace River and of Fisheating Creek. The latter is the last unmodified waterway entering Lake Okeechobee and is a key area for migratory and wading birds including Swallowtail Kites and Wood Storks. Conserving habitat around the Peace River contributes to protecting water quality and flow in its Gulf Coast Estuary, home to Manatees and highly profitable fisheries.”
- “I agree about this land staying wild and just because of the Florida panther it is a very valuable and helpful animal to the environment. For the panther, expanded and protected habitat is only a short swim away. Another way to help these problems is by recreating natural flows of clean water south to the Everglades National Park and Florida Bay. This proposed reservoir has slightly less capacity than the one called for in CERP, but it is an excellent first step on a long-overdue effort to send water south. In this proposal everyone benefits including the private company’s.”
- “As the Service formulates its water quality goals for the Conservation Area, it needs to carefully consider the location and types of land uses and agricultural practices in these areas and work closely with the State of Florida to ensure that ongoing operations do not negate the anticipated benefits of water storage, wetland restoration, and other water quality improvement projects. This will likely require landowners to closely adhere to best management practices and may require the Service to focus and prioritize its efforts on restoring areas that are in proximity to or downstream from less intensive uses like unimproved pastures that comparatively do not contribute as much nutrient pollution as other more intensive agricultural practices. The public would benefit from these opportunities and challenges being discussed in the LPP and would help manage the expectations of all stakeholders. ”
- “One potential challenge, however, in improving water quality throughout a working landscape is effectively managing agricultural runoff. Agricultural runoff is a leading contributor to nutrient pollution in many watersheds and, according to the EPA, is the leading source of water quality impacting the nation’s lakes and rivers.<sup>14</sup> These nutrients (principally phosphorus and nitrogen), coupled with rising temperatures and changes in precipitation due to climate change, are contributing to the increased intensity, frequency, and magnitude of harmful algal blooms.”
- “The LPP Should Further Discuss the Conservation Area’s Role in Improving Water Quality. We are delighted to see that wetland restoration, water storage, and improved water quality are included in the four overarching goals for the proposed Conservation Area. These actions are even more important considering the Supreme Court’s ruling in *Sackett v. Environmental Protection Agency* and EPA’s recent “waters of the United States” rulemaking to conform with the Court’s ruling,<sup>10</sup> which have left potentially millions of acres of wetlands vulnerable to filling without a permit.”

*Service’s Response:* Comments noted. The Draft LPP and Draft EA addressed water quality and quantity in multiple locations in the documents, including specifically under overarching Goal 1 Protect, Restore, and Manage Habitats for Fish and Wildlife; Goal 2 Provide Science-Driven Landscape-Level Conservation; and Goal 3-Conserve Important Lands and Waters for the Benefit of All People. The Service designed the proposed

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Conservation Area, in part, to address water quality and quantity concerns in this landscape. The watersheds within this landscape (Caloosahatchee River, Fish-eating Creek, Myakka River, and Peace River) are vitally important to conservation, protection, restoration, and management of water resources for the Greater Everglades Restoration efforts and the Gulf including Charlotte Harbor. The Service would implement agricultural operations (such as haying, grazing, or farming) on properties acquired by the Service in fee-title for the Conservation Area if the Service can justify the activity under the Conservation Area's purposes and goals and under applicable Service policies, including Appropriate Use and Compatible Use policies ([603 FW 1](#) and [603 FW 2](#), respectively); Biological Integrity, Diversity, and Environmental Health Policy ([601 FW 3](#); which is where the Service articulates its policy for maintaining and restoring, where appropriate, the biological integrity, diversity, and environmental health of the NWRS); and [620 FW 2](#) Cooperative Agricultural Use policy. In cases where less-than-fee title interests were to be acquired by the Service for the Conservation Area, the Service would negotiate this acquisition with the landowner to ensure that outlined purposes and goals would be served by the acquisition; the landowner would retain the remaining rights to the property. Given the water quality concerns articulated in the Draft LPP and Draft EA, the Service would consider water quality in the consideration of any less-than-fee title potential acquisition. No changes were made to the documents.

### *HYDROLOGICAL RESOURCES*

*Comment:* Multiple comments were received addressing hydrological resources in general, including watersheds, wetlands, and aquifer recharge areas; excerpts are provided for context.

- “Vital role of this proposed CA to protect watershed and wetland resources that are part of the Peace River/Charlotte Harbor and Greater Everglades watersheds.”
- “We are pleased to see the Aquifer Recharge Priority layer in the Protection Opportunities Analysis and recommend protecting aquifer recharge areas such as Lake Wales Ridge and surrounding land in the Southern Water Use Caution Area (SWUCA), especially because more public water supplies are transitioning to the Floridan Aquifer. Safeguarding the future availability of groundwater requires this protection.”
- “This endeavor will significantly benefit the Greater Everglades and watersheds entering Charlotte Harbor, an estuary of national significance.”

*Service's Response:* Comments noted. The Service specifically designed the proposed Conservation Area to serve multiple species and provide numerous conservation benefits, including to hydrological resources in this landscape. Hydrological resources, including wetlands and watersheds, are specifically highlighted in Goal 1 Protect, Restore, and Manage Habitats for Fish and Wildlife; Goal 2 Provide Science-Driven Landscape-Level Conservation; and Goal 3 Conserve Important Lands and Waters for the Benefit of All People. Water quantity, quality, and storage were all major concerns when considering establishing this Conservation Area and the watersheds within this landscape are vitally important to conservation, protection, restoration, and management of water resources for the Greater Everglades and the Gulf of Mexico, especially Charlotte Harbor. No changes were made to the documents.

*Comment:* “When you guys listed the natural resource threats, one more that wasn't on that list that might be considered is drainage, wetland drainage. We have so many drainage ditches in Southwest Florida that now, when the wet season comes and it rains, the water heads down the freeway, which is called a drainage ditch, and goes right into the receding water bodies and into our estuaries. And that that accelerated water movement during the wet season makes our estuaries too fresh during the wet season, and then the water's mostly gone during the dry season, and it makes them too salty. So, using this refuge effort as a catalyst or to

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help us do water projects as well is really important for our natural systems. And it's also important for water supply. There's a lot of people in Southwest Florida that rely on shallow aquifers and holding the water on the landscape longer will help recharge those aquifers better. So, we just really see a lot of synergy between wildlife corridors and trying to rebuild our wetland and water infrastructure and habitat.”

*Service's Response:* Comment noted. Quality, quantity, duration, and timing of water delivery are all vital to restoration and protection of existing natural resources. As noted, this includes storage above and below surface level potentially restoring wetlands to aid in the removal of nutrients from the watershed and balancing the salinity of water resources to more natural seasonal fluctuations. By protecting and restoring where appropriate the wetlands within the vital watersheds of the Conservation Area, the Service expects to contribute to the health and well-being of estuaries, aquifers, species, and habitats dependent on functioning hydrologic processes. No changes were made to the documents.

### *REPTILES AND AMPHIBIANS*

*Comment:* 'I'm still working on finalizing the publications that deal with long-term and widespread amphibian declines in the Everglades, but I'll provide some of the summary below.

1. First a subsection of an abstract dealing with long-term changes in amphibians in the Everglades:

We used three long-term datasets (1996–2019) collected with three methods from 87 sites representing much of the Everglades ecosystem and including nearly 15,000 individuals to analyze trends in amphibian populations and determine the impact of a number of abiotic and biotic factors on amphibian abundance. Our analysis shows that amphibians have suffered dramatic declines over the last two decades in each of our three studies, which document declines of 74.4–84.2%. Among 13 investigated factors, none was a significant predictor of the observed declines.

While this is the first longitudinal study recording amphibian abundances in the Everglades, comparative analysis to historical records and longitudinal studies tracking other herpetofaunal taxa show a disturbing trend across much of South Florida. Studies have recorded the near total collapse of the snake community at Rainey Slough (Godley et al., 2017), a 90% decline in Florida Box Turtles on Egmont Key (Jones et al., 2021), the likely extirpation of at least three reptile species from ENP (Meshaka et al., 2000), and the enigmatic collapse of the herpetofaunal community on the western border of the Everglades over a 15-year period (Cassani et al., 2014). The Rim Rock Crowned Snake (*Tantilla oolitica*), endemic to this region, hasn't been seen in the wild since 2009 (Hines, 2011). These declines have occurred despite the large amount of land protected from development across the Everglades.

2. Secondly a subsection of an abstract dealing with geographically dispersed amphibian sampling in the Everglades:

Some species were entirely absent from the community and others were found in much lower abundances than anticipated based on the findings of previous studies. In particular, we detected zero aquatic amphibians within the Taylor Slough sub-region of Everglades National Park, likely a result of ecosystem collapse driven by invasive fish. Our results show that while some of the structuring of the amphibian community in the Everglades is due to inherent regional differences, anthropogenic changes and historic management strategies that have increased nutrient levels have likely impacted amphibian populations.

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3. Third, a subsection about mass turtle mortality in the Everglades, likely caused by the new RNA virus TFV1 that was published by Waltzek et al. (2022) and has been sweeping through the state of Florida killing massive numbers of turtles.

In summary, there has been little - if any - published literature showing that native amphibian/reptile populations in South Florida are stable or increasing. In contrast, the majority of work and reviews of data yet to be published, all point towards a very grim future for Everglades herpetofauna. Study after study in the Everglades shows species declines of important reptile and amphibians including the American Alligator and the Pig Frog. Species as disparate and evolutionarily distinct as American Alligators, Two-Toed Amphiumas, and Florida Box Turtles are all declining in the Greater Everglades Ecosystem - all before we have even begun to see the worst effects of climate change. Without future buffer areas, protected areas where species can thrive without further habitat destruction and persecution, I fear that large swaths of the Everglades will lose many of the important reptile and amphibian species that make the Everglades as unique as it is."

*Service's Response:* Comment noted. The Service recognizes the important roles of reptiles and amphibians in ecological food webs, including in the Everglades to Gulf landscape. The Draft LPP and Draft EA included reptiles and amphibians. More than 500 native amphibian, reptile, bird, and mammal species have been identified within the proposed Conservation Area, including the American crocodile (Federally threatened), bluetail mole skink (Federally threatened), eastern diamondback rattlesnake (at-risk), eastern indigo snake (Federally threatened), Florida pine snake (state threatened), gopher tortoise (Federally threatened), Florida scrub lizard (under review for listing under the Endangered Species Act), gopher frog (under review for listing under the Endangered Species Act), sand skink (Federally threatened), and short-tailed snake (at-risk). The Service specifically designed the proposed Conservation Area to serve multiple species and provide numerous conservation benefits, including reptiles and amphibians. The Service looks forward to your final publication and subsequent discussions with the herpetological community and partners concerning your findings. No changes were made to the documents.

#### *ANADROMOUS FISH SPECIES*

*Comment:* One comment was submitted regarding anadromous fish species; an excerpt is provided for context. "What about anadromous fish species and coordination with NMFS? Some Florida anadromous fish are highly threatened, such as the Gulf of Mexico sturgeon. However, the proposed Project does not appear to cover any of the coastal catchment and fringing areas for fish species. Still, for anadromous species, it seems that it would be possible to engage in a coordination memorandum operating with NMFS on co-management of the Project lands to facilitate any anadromous fish species conservation priorities. That approach may enhance the ability of the conservation area to facilitate conservation of aquatic species."

*Service's Response:* Comment noted. The Service designed the proposed Conservation Area to serve multiple species and provide numerous conservation benefits. Water quality improvements under the proposal would provide a variety of benefits, including to anadromous fish. The Service coordinated with multiple partners and conducted all appropriate consultation, including Section 7 consultation under the Endangered Species Act within the U.S. Fish and Wildlife Service. However, the Gulf sturgeon does not occur within the boundary of the proposed Conservation Area, thus consultation with the National Marine Fisheries Service under the Endangered Species Act was not necessary for the proposal.

#### *FLORIDA PANTHER AND HABITAT*



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*Comment:* Multiple comments were received concerning the Florida panther and its primary/occupied habitat; excerpts are listed to provide context.

- "... prioritize continuing protection of panthers in the known breeding areas, formally determined as Primary panther habitat to continue recovery and preserve core areas..."
- "The Draft does not ...address the immediate, seriousness of the threat in core areas of panther habitat. Development in the core panther area is jeopardizing recovery while permanently increasing development densities and intensities to perilous levels for the existing population. Primary habitat includes my neighborhood, the Estero fringe of core panther homelands. Vehicular deaths in the Estero fringe core area since 2021 include panther adult males and females of varying ages and a multitude of cubs struck and killed on the connected, 'corridor' Corkscrew/ E. Alico, Treeline, SR 82, Daniels Parkway, Chamberlain, Rod and Gun."
- "Additionally, the unjust, repetitive cycle of allowing the population of a species [panther] to 'deplete' in their Primary habitat lands, desired for development--- prior to their 'relocation' is all too familiar. To pull it off requires "collaborators" buying into and justifying the narrative. Currently, this is the case in southwest Florida regarding the panther. As the inland 'wildlife corridor' ramps up, the protections for panther in the Primary habitat lessens and their recovery falters. In fidelity, an inland 'wildlife corridor' supplements the prioritization and preservation of core panther habitat. Having fully retreated into swamps of Lee and Collier County for survival and facing extinction prior to intervention, now the panther are being evicted from the core area as things gentrify. Conveniently, panthers, like the native peoples, are being forced inland. On this trajectory, the panther taxidermy at Rookery Bay, abandoned Mound Key and the mystique of the Marco Cat, will be all that remains of cultural and archeological significance in Primary habitat. And surely the panthers will struggle. The flow-ways leading into Estero Bay, designated the state's first aquatic preserve in 1966, provide historical hydrologic and wildlife connectivity for water and the panthers. These are historic lands of native cultural and archeological significance. I live on this flow-way that splits into the Estero and Imperial basins and the latest video-verified sighting of a panther is August 27, 2023. The upland areas surrounding the flow-ways provide surficial and intermediate aquifer recharge for private and public wells, wildlife movement and edge effect hunting. The large 'plantation' size agricultural tracts in East Lee are facing immediate development, mining conservation easements are not being upheld and a 'private property rights' venue --- completely ignoring resilience principles in the wake of Hurricane Ian - -- are laying waste to the ecological function of the region. Development right approvals are creating an imminent 'build out' scenario, as blue-green algae and red tide events proliferate, panther data is suppressed and regulatory protections for conservation lands are forfeited in Lee County. I am concerned that the current Draft Proposal repeats --- on the surface the 'wildlife corridor' narrative and on face, is a diversion from the ongoing, irreparable harm being done in the core panther area."
- "How can the Draft Proposal that emphasizes lands for panther protection outside the Primary panther habitat (Lee/Collier) simultaneously address conversion where the highest development pressures are in the 'core' habitat lands and breeding area?"
- "Private lands within the Panther's core breeding area south of the Caloosahatchee area must be obtained and conserved to make the Everglades to Gulf Conservation Area a viable long term solution for the preservation of this species and prevent its imminent extinction. 'Frakes et al. (2015) delineated 5,579 km<sup>2</sup> of adult panther habitat in South Florida, 1,399 km<sup>2</sup> of which are in private ownership. A majority of these private lands are located in the northern extent of the breeding range. Although some private lands may be protected (e.g., conservation easements), other areas are susceptible to incompatible land uses such as rock mining or residential developments.' 2 1399 square kilometers equates to 540 square miles or 345,700 acres. Yet we know that in Eastern Collier County alone in the

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previously described Rural Land Stewardship Area up to 45,000 acres have recently been approved for high intensity residential and commercial development in Primary and Secondary Panther habitat.

- “2 id (van de Kerk, M., Onorato, D.P., Hostetler, J.A., Bolker, B.M. and Oli, M.K. [2019], Dynamics, Persistence, and Genetic Management of the Endangered Florida Panther Population. *Wild. Mon.*, 203: 3- 35. <https://doi.org/10.1002/wmon.1041>)”
- “Does overdevelopment of Primary panther habitat create an “unlimited” take through mortality and adverse impacts?”
- “How can the Draft Proposal that emphasizes lands for panther protection outside the Primary panther habitat (Lee/Collier) simultaneously address conversion where the highest development pressures are in the “core” habitat lands and breeding area?”
- “In core habitat, are efforts actively identifying contiguous parcels for habitat along ‘corridor’ connectors that are under threat of development to be targeted for acquisition to support recovery?”

*Service’s Response:* Comments noted. The Service worked with multiple partners and the public to develop the proposal. The Service designed the proposed Conservation Area to support, in large part, needs and concerns related to maintenance and recovery of the Florida panther, including primary/occupied habitat. The Draft LPP and Draft EA outlined the four overarching goals for the proposed Conservation Area, which included state and Federally listed species and their habitats, including the Florida panther, as listed.

1. Protect, restore, and manage habitats for fish and wildlife.
2. Provide science-driven landscape-level conservation.
3. Conserve important lands and waters for the benefit of all people.
4. Promote conservation partnerships working with adaptive and flexible tools and strategies.

The Draft LPP and Draft EA also outlined the criteria and modeling used to develop the acquisition priorities, which included habitat to support state and Federally listed species; four primary criteria were outlined in the Draft LPP and Draft EA:

- Ecological importance,
- Landscape connectivity and wildlife corridors,
- Restoration of wetlands and water quality, and
- Existing and potential threats.

The Draft LPP and Draft EA was developed with a threat analysis that considered development trends and effects of sea level rise. This threat analysis plays a role in prioritization for future conservation measures of specific tracts.

The primary panther zone was established in Kautz et al 2006 and is used by the Service to determine mitigation requirements for various land use changes. Over 88% of the Primary Panther Habitat Zone that is not currently in conservation or Tribal lands is included within the boundary of this proposal. Multiple Federal, state, and local laws impact development. Individual cities and counties regulate land use, zoning, and development within their respective jurisdictions with some state permits, reviews, and oversight. The Service’s proposed Everglades to Gulf Conservation Area does not impact the fundamental rights and abilities of cities and counties to govern development, land use, and zoning within their respective jurisdictions. No changes were made to the documents.

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*Comment:* Multiple comments were received concerning movement of the Florida panther northward, north of the Caloosahatchee River; excerpts are listed to provide context.

- "While we would have liked to have seen the boundary include certain coastal areas, we are excited to see the lands identified within the boundary do include potential paths up to I-4. This presents an opportunity to focus not only on the critical linkages in the existing core breeding range for the Florida panther, but also the need to secure the wildlife corridor up to crossings and infrastructure investments at I-4 near Teneroc/Saddle Creek, within fast-developing Polk County. The importance of a corridor from southwest Florida up to this area was identified in two reports by the Panther Recovery Implementation Team Transportation Subteam.<sup>1</sup>"
  - "1 Smith, D., 2022. Prepared for US Fish and Wildlife Service, Florida Panther Recovery Implementation Team Transportation Subteam. Identifying Least-Cost Paths and Corridors for Florida Panther Within South-Central Florida, Summary Report. Dated December 22, 2022. <https://conservancy.org/wpcontent/uploads/2023/02/Least-Cost-Path-and-Corridor-Analysis-for-Florida-Panther-Final-Report-12.22.22.pdf>. US Fish and Wildlife Service, Florida Panther Recovery Implementation Team Transportation Subteam, 2020. "
- "The cover page of FWS's website <https://www.fws.gov/project/everglades-gulfconservation-area> states: 'While some areas are conserved by state and national parks including wildlife management areas and Tribal lands, crucial wildlife corridors to connect these special places currently lack protection. A protected wildlife corridor from southwest Florida into the state's northern stretches would allow Florida panthers and black bears, Everglade snail kites and other animals and plants to migrate away from increasingly impacted habitats.' This statement fails to acknowledge that 'The breeding population of Florida panthers mainly persists as a single population South of the Caloosahatchee River (approximately 26.7133°N latitude, 81.5566°W longitude;' <sup>1</sup> Without protecting existing robust core Panther breeding habitat and connectivity south of the Caloosahatchee from the intensive development mentioned above we fail to see how 'A protected wildlife corridor from southwest Florida into the state's northern stretches would allow [the critically endangered] Florida panthers [particularly]...and other animals and plants to migrate away from increasingly impacted habitats.' It is only logical to assume that if northern migration of the panther were to occur it already would have occurred since the lands the FWS is seeking to protect to the north are presently undisturbed."
  - "1 van de Kerk, M., Onorato, D.P., Hostetler, J.A., Bolker, B.M. and Oli, M.K. (2019), Dynamics, Persistence, and Genetic Management of the Endangered Florida Panther Population. *Wild. Mon.*, 203: 3- 35. <https://doi.org/10.1002/wmon.1041>"
- "In Lee County the previously protected Density Reduction Groundwater Resource DR/GR consisting of 82,560 acres in southeast Lee County... east of I-75, south of the Southwest Florida International Airport and State Road 82, and extending all the way to the county lines of Collier and Hendry Counties allowed for 5 rural land use types:<sup>3</sup> • very low density residential at one unit per 10 acres on uplands and 1 unit per 20 acres for wetlands; • agriculture (citrus, row crops, and pasture); • open space/recreation; • conservation. • And a fifth type, mining, can only be approved through the rezoning process. The value of Lee County DR/GR lands to the Florida Panther is indisputable: 'DR/GR lands constitute a last frontier of natural wetlands and uplands with a remnant system of interconnected flowways that historically have supported abundant wildlife and the critical estuarine system of Estero Bay...DR/GR lands provide a contiguous habitat, at times more than ten miles across, which is of special importance to wide-ranging species such as the eastern indigo snake, Florida black bear, and Florida panther.'<sup>4</sup> Yet since 2015 DRGR lands have been severely altered through radical land use policy change in Lee County allowing 10s of 1000s of acres to be permitted for residential and commercial development at

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densities of up to 1.5 units per acre for housing. Much of the land consumed for this level of intensive development falls directly up against fragile and valuable conservation tracts like the CREW Regional Ecosystem Watershed preserves, the Corkscrew Swamp Sanctuary and Lee County's own Conservation 20/20 tracts. Furthermore Corkscrew Rd., the rural east-west road that bisects the DRGR is slated to go from two lanes to up to 6 lanes for much of its 17.4 mile length. The impacts to Florida Panthers and Panther habitat in this region of Southwest Florida will be devastating and irreversible unless immediate measures are taken by the US Fish and Wildlife Service to declare a jeopardy opinion on many of the larger developments in the DRGR (Lee) and RLSA (Collier) land areas currently under Consultation review by the agency. Based on all of the above it becomes abundantly clear that in order for the Everglades to Gulf Conservation Area protections to be functionally meaningful for the Florida Panther urgent and extensive measures must be taken by the US Fish and Wildlife Service. The Service must ensure that lands slated for development in Eastern Collier and Lee Counties have set aside sufficient land area to not only continue to maintain the existing breeding habitat of the Panther but to allow for adequate and unobstructed corridors of migration to future potential breeding habitat areas north of the Caloosahatchee River. At present the processes for setting aside some limited amount of habitat, whether in fact adequate and sustainable for Panthers, or not, seems to be driven by the developers who own these lands with County Planning and Commission boards readily acquiescing to massive development footprints without conducting any further scrutiny of land use allocations, wildlife movement and connectivity and impacts to Panthers. We recommend that the USFWS focus its initial efforts for establishing the Everglades to Gulf Conservation Area in Eastern Lee and Collier Counties while working in conjunction with the Service's biologists in the Ecological Service's Office in Vero Beach to determine the required amount of habitat that must be maintained to allow for the ongoing breeding and sustaining life cycle activities of the Florida Panther. Again, the Urgency of Now for the Florida Panther has never been greater."

- "Furthermore, parts of Lee County where panthers have consistently been reported, including 'hot spots' around the Lehigh Acres and Alva areas --- were excluded from the proposed overlay entirely. The areas of Lee County not included are important in panther recovery, host large numbers of apiaries and include Buckingham, Alva, Six Mile Cypress Slough and properties with historic agricultural use under immediate threat of development due to ineffective local regulation and reversals in conservation protections."
- "The Everglades to Gulf Conservation Area acquisition boundary contains habitat that is vital to the viability of the world's only breeding population of the Florida panther. Decades of conservation action helped lead to a significant panther recovery milestone with the confirmation of female panthers and kittens north of the Caloosahatchee River in recent years. However, this progress is challenged as more than 1,200 new people move to Florida each day,<sup>5</sup> intensifying pressure to convert natural, rural, and agricultural areas and expand roadway networks that open and splinter wildlife habitat and travel corridors. In fact, the U.S. Census Bureau reports that Florida is the fastest-growing state in the entire country.<sup>6</sup> Associated additional road traffic results in direct mortality of wildlife attempting to traverse roads. Construction of new housing developments to accommodate the influx of more people on the landscape leads to conflicts that can create difficult obstacles when trying to conserve panthers, bears, and other wildlife."
  - "5 Ananya Tiwari, Florida tops U.S. in attracting high-income households, new SmartAsset study says (July 31, 2023), <https://www.tcpalm.com/story/news/local/florida/2023/07/31/florida-tops-u-s-in-new-high-incomehouseholds-smartasset-says/70447917007/>."
  - "6 Marc Perry, Luke Rogers and Kristie Wilder, New Florida Estimates Show Nation's Third-Largest State Reaching Historic Milestone (Dec. 22, 2022), <https://www.census.gov/library/stories/2022/12/florida-fastest->

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[growingstate.html#:~:text=Florida's%20population%20increased%20by%201.9,its%201946%20p  
opulation%20of%202%2 C440%2C000."](#)

- "... to support the recovery of the endangered Florida panther, safe passage must be secured between core habitat in Big Cypress and north across the Caloosahatchee river."
- "Our Florida panther is just making a start of reclaiming territory in search of mates north of Ft. Myers. Please send a positive vote for this new designation and help protect our beautiful wild here in Florida."

*Service's Response:* Comments noted. The Service worked with multiple partners and the public to develop the proposal. The Service designed the proposed Conservation Area to support, in large part, needs and concerns related to maintenance and recovery of the Florida panther, including corridors for movement and migration. The Draft LPP and Draft EA outlined the four overarching goals for the proposed Conservation Area, which included state and Federally listed species and their habitats, including the Florida panther, as listed.

1. Protect, restore, and manage habitats for fish and wildlife.
2. Provide science-driven landscape-level conservation.
3. Conserve important lands and waters for the benefit of all people.
4. Promote conservation partnerships working with adaptive and flexible tools and strategies.

The Draft LPP and Draft EA also outlined the criteria and modeling used to develop the acquisition priorities, which included habitat to support state and Federally listed species; four primary criteria were outlined in the Draft LPP and Draft EA:

- Ecological importance,
- Landscape connectivity and wildlife corridors,
- Restoration of wetlands and water quality, and
- Existing and potential threats.

The Draft LPP and Draft EA was developed with a threat analysis that considered development trends and effects of sea level rise. This threat analysis plays a role in prioritization for future conservation measures of specific tracts.

The primary panther zone was established in Kautz et al 2006 and is used by the Service to determine mitigation requirements for various land use changes. Over 88% of the Primary Panther Habitat Zone that is not currently in conservation or Tribal lands is included within the boundary of this proposal. Some areas such as Lehigh acres were excluded from the Draft LPP and Draft EA due to the parcel size, dispersed unplanned development patterns and fragmentation that has already occurred. Prioritizing small parcels like those in Lehigh acres would not be an effective strategy in recovering Florida panthers that have large home ranges.

Multiple Federal, state, and local laws impact development. Individual cities and counties regulate land use, zoning, and development within their respective jurisdictions with some state permits, reviews, and oversight. The Service's proposed Everglades to Gulf Conservation Area does not impact the fundamental rights and abilities of cities and counties to govern development, land use, and zoning within their respective jurisdictions. No changes were made to the documents.

#### *CARNIVORE DEPREDAION*

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*Comment:* Multiple comments were received regarding carnivore depredation; excerpts are listed to provide context.

- One recommended “a robust carnivore depredation prevention and compensation program be developed for commercial ranches in complement to Conservation Area planning.”
- Another outlined principle elements for the Conservation Area, including the listed item.
  - “Strategic value of creating a full-scale depredation prevention and compensation program for commercial ranches, which are critical to the success of this proposed Conservation Area. Expansion of the ranges for large carnivorous mammals like the Florida panther will not be successful without this program and the sustainability of these ranches.”

*Service’s Response:* Comments noted. The Draft LPP and the Draft EA addressed the issue of carnivore depredation under the Ecosystem Services section. A University of Florida (UF) study found annual calf loss to panthers averaged 0.5% to 5.3% (Jacobs and Main 2015). The Livestock Indemnity Program of the U.S. Department of Agriculture’s (USDA’s) Farm Service Agency provides benefits to livestock producers for deaths exceeding normal mortality caused by adverse weather or predators reintroduced into the wild by the Federal government. The Florida Fish and Wildlife Conservation Commission’s (FWC’s) Panther Depredation Compensation Pilot Program helps offset economic losses to Florida’s commercial cattle ranchers who experience panther depredations. The FWC also provides a Wildlife Alert Hotline to report depredations and it provides best practices to help minimize depredation. The UF Institute of Food and Agricultural Sciences provides support to landowners and residents to minimize depredation through research, publications, best practices, and extension agents. Non-governmental organizations also provide information, limited compensation, and cost-share programs for the construction of predator-resistant enclosures to help minimize depredations (e.g., Bergeron Everglades Foundation, Conservancy of Southwest Florida, and Defenders of Wildlife). No changes were made to the documents.

#### *LANDSCAPE CONNECTIVITY, WILDLIFE CORRIDORS, AND MIGRATION*

*Comment:* Multiple comments specifically addressed landscape connectivity; excerpts are listed to provide context.

- “Since the Everglades Headwaters NWR and CA was established, much has changed on the landscape and in peoples’ understanding of the necessity to conserve lands while we still have the opportunity to do so. The essential need to connect lands and waters from the Florida Panther NWR northwards across the Caloosahatchee River to Everglades Headwaters NWR and CA is more urgent than ever as this highly biodiverse region is among the country’s most rapidly developing.”
- “This supports the land connectivity needed for wildlife like the Florida panther and black bear.”
- “Conservation easements would permanently protect lands for wildlife and help connect corridors northward across the Caloosahatchee River into south-central Florida.”
- “Polk County holds the critical wildlife corridor linkages needed to connect these lands.”
- “Since 2021, the State of FL has prioritized land protection within the Florida Wildlife Corridor, much of which overlaps the proposed Conservation Area. The Corridor is the area of the state that is most important to conserve for permanent maintenance of a connected network of wildlife habitats. Protecting key parts of the Corridor within the proposed Conservation Area would contribute to the northward expansion and eventual recovery and of the endangered Florida Panther, as well as

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- recovery of many other federally listed species (Florida Scrub Jay, Crested Caracara, Burrowing Owl, and others).”
- “I also wanted to speak in support of favoring the areas around Immokalee and LaBelle that would basically connect Fisheating Creek to Devil’s Garden area to Big Cypress. I think it’s really important to create connectivity between those currently protected areas before those areas in between them become developed. Thank you.”
  - “The Everglades to Gulf Conservation Area stands to be a ‘game changer’ in the State, and along with the Everglades Headwaters National Wildlife Refuge and Conservation Area, promises to do what few other refuge proposals have been able to achieve in recent years: to establish an interconnected network of conservation lands and waters at the landscape level. 2”
    - “1 The National Wildlife Refuge System Improvement Act contemplates this very type of collaborative approach by directing the Service to ‘plan and direct the continued growth of the System in a manner that is best designed to accomplish the mission of the System, to contribute to the conservation of the ecosystems of the United States, to complement efforts of States and other Federal agencies to conserve fish and wildlife and their habitats, and to increase support for the System and participation from conservation partners and the public.’ 16 U.S.C. § 668dd(a)(4)(C).”
    - “2 See id. § 668dd(a)(2) (directing the Service to ‘administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans’).”
  - “Importance of protecting the full extent of wide-ranging wildlife movement linkages from the Florida Panther NWR to north of Interstate 4. This is especially vital for the endangered Florida panther.”
  - “...the Tribe (Miccosukee Tribe of Indians of Florida) itself is very supportive of additional conservation measures and opportunities that continue to provide some of the last remaining tracts of wild habitat still left here, particularly in Southwest Florida, in order to make that very crucial connection of connectivity of habitats to protect some of the species for which are extremely important resources for the Miccosukee Tribe, and from which some of the clans take their namesakes after.”
  - “The Miccosukee Tribe will be keen stewards and continue to be keen stewards of its lands, as it has done so for millennia. The Miccosukee Tribe would be more than open to further discussion about how Tribal Lands, which have protection and conservation already important to them by Tribal law, can be expressly linked with some of the fee title acquisition components here as part of this plan in the future, so that those can work better and seamlessly as units to provide protection and connectivity for wildlife passage.”
  - “We applaud the Service’s efforts to build upon a state program developed to protect Florida’s wildlife and habitats while promoting working lands. Moreover, the boundary extension to include the area around Interstate-4 (I-4) in Polk County builds upon the progress to construct a wildlife overpass over I-4 which serves as a significant barrier to wildlife movement north.”
  - “A protected wildlife corridor from southwest Florida into the state’s northern stretches would allow Florida panther, black bears, Everglades snail kites and other animals and plants to migrate away from increasingly impacted habitats.”
  - “The National Wildlife Federation supports and appreciates the Land Protection Priorities for this Conservation Area: ecological importance, landscape connectivity and wildlife corridors, restoration of wetlands and water quality, and existing & potential threats. These priorities, and the methods outlined to reach them, largely match the suggestions NWF submitted regarding this proposed Conservation Area in April 2023. Specifically, we applaud the focus to (1) use existing Florida prioritization models to enhance wildlife corridors and protect Florida waters in multiple identified rivers and estuaries, (2)
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pursue a mixed-use of both fee-title acquisition and conservation easements, (3) bolster international, national and regional conservation plans to protect Florida wildlife, protect surface waters and habitat, and allow aquifer recharge, and (4) allow for outdoor recreational opportunities.”

- "One tool that may be helpful to inform and describe the Service’s vision is the connectivity and wildlife corridor report submitted to the Council for Environmental Quality (CEQ), per CEQ’s March 21, 2023 Guidance for Federal Departments and Agencies on Ecological Connectivity and Wildlife Corridors (Connectivity Memo).<sup>4</sup> ...The Connectivity Memo 'establishes a policy for Federal agencies to promote greater connectivity across terrestrial, marine, and freshwater habitats, as well as across airspaces, to sustain the tremendous biodiversity that exists in the U.S. and enable wildlife to adapt to fluctuating environmental conditions, including those caused by climate change.' <sup>5</sup> To that end, the Connectivity Memo outlines expectations that all federal agencies 'develop[] policies, through regulations, guidance, or other means, to consider how to conserve, enhance, protect, and restore corridors and connectivity during planning and decision-making, and to encourage collaborative processes across management and ownership boundaries' <sup>6</sup> ...Some of the recommendations in the Connectivity Memo include:
  - Elevating the conservation, enhancement, protection, and restoration of connectivity and corridors as a programmatic goal;
  - Planning at the scale of landscapes, waterscapes, or seascapes rather than at the scale of an individual project;
  - Applying ecosystem-based conservation, enhancement, protection, and restoration strategies, including using nature-based solutions;
  - Advancing plans and actions that improve the resilience of corridors to climate change or that conserve corridors needed to facilitate climate adaptation;
  - Restoring habitat to remove and prevent reestablishment of invasive species, and to promote native ecological communities;
  - Rehabilitating habitat damaged by natural or human impacts to facilitate continued connectivity;
  - Producing science, data, and tools on connectivity through research, collaborations, and partnerships that are readily applicable to land, water, ocean, and resource management; and
  - Using criteria related to connectivity and corridors to inform decisions related to budgeting, project selection, or grant eligibility. <sup>7</sup>...
  - <sup>4</sup> Guidance Memorandum from Brenda Mallory, Chair, Council on Environmental Quality to the heads of federal departments and agencies, Guidance for Federal Departments and Agencies on Ecological Connectivity and Wildlife Corridors (Mar. 21, 2023), available at <https://www.whitehouse.gov/wp-content/uploads/2023/03/230318-Corridors-connectivityguidance-memo-final-draft-formatted.pdf>.
  - <sup>5</sup> Id. at 2.
  - <sup>6</sup> Id.
  - <sup>7</sup> Id. at 5."

*Service’s Response:* Comments noted. As articulated in the Draft LPP and Draft EA and building upon the partnership-driven Southwest Florida Landscape Conservation Design (Morris et al. 2022, Appendix E), the Service used a landscape planning framework to build upon the LCD and other previous conservation work in this landscape. The Service continues to work with conservation partners and landowners in this important landscape through multiple Service program areas, including the National Wildlife Refuge System (NWRS), Ecological Services, and Partners for Fish and Wildlife. The Draft LPP specifically outlined the purposes, vision, and goals for the proposal, addressing a functional conservation landscape; habitat for fish and wildlife; water



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quality, quantity, and storage; opportunities for Tribal Nations; and wildlife-dependent recreation. It is important to note that multiple conservation laws, regulations, policies, programs, agencies, and non-governmental organizations are working to serve conservation goals and outcomes in this landscape; the Service's proposed Conservation Area is simply one piece of this larger conservation matrix. The Service worked with partners and key experts to base the proposal on best available science and baseline data. No changes were made to the documents.

#### *RELATIONSHIP TO LANDSCAPE CONSERVATION OBJECTIVES AND GOALS*

*Comment:* Multiple comments were received regarding the Proposed Action in relationship to other landscape conservation efforts; excerpts are listed to provide context.

- "The Everglades to Gulf Conservation Area complements ongoing acquisition efforts by various entities, including Florida Forever, Rural and Family Lands, NRCS, and county programs. This initiative aligns with state-designated Florida Wildlife Corridor and shared conservation priorities, reinforcing the need for a multi-agency partnership. The combined efforts of state, federal, and local entities are paramount in achieving the necessary conservation goals in this region."
- "The creation of the Everglades to Gulf Conservation Area will enable the USFWS to leverage funds in collaboration with state and other entities. The support of federal and state conservation dollars is widely encouraged by decision-makers, ensuring the efficient use of resources. Likewise, federal designation for this area will attract increased funding opportunities for acquisition, restoration, and private funding. This, in turn, reinforces the conservation efforts in the region."
- "Comprehensive Everglades Restoration Plan The South Florida Ecosystem is a unique natural treasure that includes the headwaters of the Kissimmee River, Lake Okeechobee, the Caloosahatchee and St. Lucie estuaries, the Everglades "River of Grass," Florida Bay, and ultimately the Florida Keys and Florida Reef Tract. The Everglades to Gulf Conservation Area supports the existing South Florida ecosystem restoration program and the Comprehensive Everglades Restoration Plan (CERP). CERP, authorized in the Water Resources Development Act (WRDA) of 2000, anchors a multi-billion-dollar, joint state and federal partnership which has been underway for many years. The Everglades to Gulf Conservation Area should help conserve lands within the South Florida ecosystem that may otherwise be lost to development or impacted by habitat loss, hydrologic alteration, or other means."
- "FWC staff believe the Everglades to Gulf Conservation Area would protect and enhance important habitats for fish and wildlife, promote conservation partnerships, provide recreational opportunities, and support working lands and landowners within the proposed Conservation Area. The Everglades to Gulf Conservation Area proposed plan also includes lands within the Florida Wildlife Corridor which received dedicated funding from the Florida Legislature. This should bolster the mission of both the Everglades to Gulf Conservation Area and the Florida Wildlife Corridor to increase conservation lands and ensure habitat connectivity across Southwest Florida."
- "I am in full favor of this designation in order to strengthen state and regional priorities to include conservation of the Kissimmee, Peace and Myakka River Watersheds. We've seen what has happened to our beautiful state without enough conservation protections."
- "The Nature Conservancy is deeply connected to this area of Florida, as we hold several conservation easements within this geography. For more than five decades, The Nature Conservancy and partners have been working to protect the vitally important Everglades. The core of the Nature Conservancy's work in this region is an emphasis on connecting protected lands and waters for wide-ranging species, for the preservation of economically sustainable ranching and to benefit the estuaries, natural water storage and water supply of the entire Everglades system. Implementation of the proposed

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Conservation Area will augment and build upon decades of work from public agencies, private partners, and NGOs to protect and restore this special place in Florida. We appreciate the efforts of the U.S. Fish and Wildlife Service to establish the proposed Conservation Area and look forward to continuing our partnership and engagement in the future.”

- “The Everglades to Gulf Conservation Area complements ongoing acquisition efforts by various entities, including Florida Forever, Rural and Family Lands, NRCS, and county programs. This collaborative approach ensures that no single entity is solely responsible for this monumental task.”
- “I support the Everglades to Gulf of Conservation Area to build upon the existing programs like the Florida Wildlife Corridor Act, Florida Forever, and Rural and Family Lands Protection Programs boosting the supporting programs for family farms and ranches, improved water quality, natural resources based tourism, and the land connectivity needed for Florida’s wide-ranging wildlife like the Florida panther and Florida black bear.”

*Service’s Response:* Comments noted. Lands and waters within the Conservation Area boundary have been identified by landowners, non-governmental organizations, and local, state, and Federal agencies as priorities for conservation. The Draft LPP and Draft EA outlined the four overarching goals for the proposed Conservation Area, which included state and Federally listed species and their habitats, including the Florida panther, as listed.

1. Protect, restore, and manage habitats for fish and wildlife.
2. Provide science-driven landscape-level conservation.
3. Conserve important lands and waters for the benefit of all people.
4. Promote conservation partnerships working with adaptive and flexible tools and strategies.

The establishment of the Everglades to Gulf Conservation Area is expected to protect and restore priority resources which will complement existing conservation efforts. The establishment of the Conservation Area could also provide opportunities to leverage various funding sources and expand the multi-agency conservation footprint. No changes were made to the documents.

*Comment:* Multiple comments were received addressing how the proposed Conservation Area and other conservation efforts and funding fit together; excerpts are listed to provide context.

- “It is not entirely clear, however, from these documents just how the Conservation Area and Florida Wildlife Corridor fit together and the extent to which the federal government and the State will coordinate their efforts to maximize the success of both initiatives. On one hand, it appears that they overlap and are complementary and that the Conservation Area will reinforce the connections envisioned by the Florida Wildlife Corridor and help fill in the opportunity areas of the Ecological Greenways Network. On the other hand, statements relating to leveraging funds and state matching opportunities, suggests there might be opportunities for even greater state involvement in the selection of Conservation Area lands, their acquisition, and management. The LPP should explain the possible funding streams and what this might mean for the establishment, growth, and management of the Conservation Area and its role within the Florida Wildlife Corridor (and vice versa). This will help provide the public with greater clarity when it comes to the purposes of the two initiatives and how they intersect. ”
- “The LPP Should Further Explain How the Conservation Area Will Enhance State and Local Conservation Initiatives and Provide Opportunities to Leverage Funds. In many instances, the Draft LPP states that the Conservation Area will enhance state and local conservation initiatives and provide

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opportunities to leverage funds. Yet, the Draft LPP doesn't fully explain the relationship between the Conservation area and these programs. "

*Service's Response:* Comments noted. The Relationship of the Project to Landscape Conservation Goals and Objectives Section (pages 24-43) in the Draft LPP and EA lists how the proposed Conservation Area could contribute to many landscape conservation goals and objectives, as well as partner efforts, including international, national, and regional conservation plans and initiatives. The section discusses at length how a variety of conservation efforts may be supported through the establishment of the Everglades to Gulf Conservation Area. Many of our partners already own or have future plans to protect lands in the proposed Conservation Area through conservation or agricultural easements. Still others have completed on-the-ground habitat restoration projects throughout the proposed Conservation Area. These partners use their individual mission statements to focus their protection and restoration efforts. Taken together, those mission statements cover the protection of state and Federal threatened and endangered species, rare habitats, prairie and flatwoods habitats, ranchlands, and recreational areas that have been identified as being important to the long-term ecological health, economy, and way of life of the region.

Specifically, the Service's priorities within the Everglades to Gulf Conservation Area and Florida Wildlife Corridor project have significant overlap (Morris et al. 2022, Appendix E). The high degree of overlap between the Southwest Florida LCD Study Area combined ecological priorities and the Florida Wildlife Corridor included: 93% of the unprotected high priorities, 65% of the unprotected moderate-high priorities, and 14% of the moderate priorities. This high degree of overlap can facilitate the opportunity to share funding to acquire important parcels with state and Federal agencies and non-governmental organizations. Additionally, important parcels for linking habitat that are not a priority for one conservation group may be acquired by another entity that does place priority on existing attributes or opportunity for restoration. By stitching together protection of a variety of parcels by a variety of conservation entities, the overall landscape protection and conservation of important wildlife corridors will be ensured. Each conservation entity has specific requirements for participation in their program(s) for fee title and less-than-fee title acquisition. These requirements would be reflected in the implementation of economic activities, resource management, and opportunities for recreational activities affecting lands and waters of the less-than-fee or fee-title lands under protection. No changes were made to the documents.

*Comment:* Multiple comments were received requesting RLSA lands be including in conservation easement maps; excerpts are listed to provide context.

- "The Rural Land Stewardship Area (RLSA) in Collier County should be better accounted for in the maps showing conservation easements and should be included as a partnership opportunity with those landowners and Collier County for mutual goal achievement."
- "We are glad to see a description of Collier County's Rural Lands Stewardship Area (RLSA) in this Draft LPP and EA, and a goal to utilize it within the proposed conservation area to identify high-priority parcels. Audubon urges the Service to include on the map of currently protected lands, the recently committed Stewardship Easements under the RLSA of over 50,000 acres as they have important ecological significance to this region."

*Service's Response:* The Service will continue to evaluate the RLSA in Collier County to include those recorded easements in Tier 4 in the LPP and EA. LPP Figures 6-10, EA Figure 3, and LPP Table 2 were updated to reflect recorded easements that are included in the Florida Natural Areas Inventory database. As the Service is considering acquisitions in the future, the Service would follow the outlined purposes, goals, and criteria; re-

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run the modelling; and adjust the acquisition priorities in accordance. For those properties with existing easements not in perpetuity and for those properties with existing easements that do not provide the full range of conservation protection, and depending on acquisition priorities, the Service could consider potential future acquisition of those properties to assure long-term conservation. It is important to note that Service policy ([341 FW 2](#)) is to acquire the minimum interest necessary to serve the stated purposes, goals, and conservation outcomes.

### *WILDLIFE SANCTUARY*

*Comment:* Multiple comments were received concerning wildlife sanctuary; excerpts are listed to provide context.

- "... we encourage USFWS to create some adjacent areas of sanctuary for wildlife to rest undisturbed, as mentioned in the 'Anticipated Impacts of Use' section."
- "Prioritize protection of inviolate areas. Working lands are an integral part of the proposed conservation area, and are highly desirable for wildlife conservation due to their large acreage and effectiveness in providing safe wildlife corridors throughout the state. In addition, "inviolate areas", or any areas of minimally disturbed and unaltered wilderness, are increasingly hard to find in our nation, especially in Florida. The protection of minimally disturbed ecosystems provides the most authentic habitat for native species, and parcels with this land cover are key for fully functional habitats and to provide sanctuary for wildlife. We note that inviolate and/or unaltered areas are not specifically mentioned in the Draft Land Protection Plan. Striving for the protection of inviolate areas while balancing the need for connectivity through working lands and other disturbed parcels is key."

*Service's Response:* Comments noted. If the project is approved and as properties are evaluated for acquisition based on the criteria outlined in the LPP and EA, the Service will evaluate opportunities for wildlife sanctuary areas. Further, following acquisition of fee-title properties and using principles of adaptive management, the Service will regularly evaluate management activities and wildlife and habitat needs to determine the need for functional and effective spatial or temporal closed areas, buffers, and sanctuary areas to serve the Conservation Area's purposes and meet management goals and objectives. No changes were made to the documents.

### *ECOSYSTEM SERVICES*

*Comment:* Multiple comments were received addressing ecosystem services; excerpts are listed to provide context.

- "Audubon is supportive of the plan to use both fee and less-than-fee land acquisitions under the final Conservation Area. We also appreciate that incentive-type programs will be reviewed during the planning process, particularly because lower-population inland communities may lose ad valorem tax revenue as lands transition into conservation uses under Alternative B. Audubon recommends continuing to explore these Payment for Ecosystem Services programs."
- "FWC staff also recommend that the Land Protection Plan include other innovative strategies for habitat enhancement and preservation on private lands like payments for ecosystem services (PES)."
- "What research and outreach has been conducted to identify wetlands or conservation easements, such as mining interests, citrus groves, to reach landowners in areas of Primary panther habitat and

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evaluate mechanisms, such as incentives for continued preservation and risks, such as regulatory weakness, leading to conversion?”

- “I firmly believe that the implementation of the Everglades Gulf Conservation Area will not only conserve our local ecosystems but also significantly contribute to the overall health and prosperity of our communities.”
- “Furthermore, these protection and management actions will ...help protect communities from flooding.”
- “The growing development pressure on undeveloped land, including working agricultural lands that contain key habitat linkages, underscores the importance of adopting the proposed E2G CA to provide landowners with additional options and agencies with additional tools and funding to support conservation of the unique habitats, water resources, and sustainable agriculture that support Florida’s economy.”
- “We propose adding formal recognition of PES programs as an authorized use of funding available from USFWS and others to achieve the landscape-scale conservation objectives. We believe an appropriate analogy may be the Army Corps wetland mitigation hierarchy, which allows Army Corps engineers to consider local priorities that have a formalized agreement in place and override mitigation banking hierarchy steps. If USFWS does not currently permit PES as part of its allowable conservation funding authorizations, a carve-out may achieve this. It would be appropriate to include language that would recognize local priorities, acknowledge Florida’s concerted efforts to roll out successful PES programs specifically to address Wildlife Corridor connectivity, and consider PES funding through state-level options. By authorizing PES funding within the process, urgently needed opportunities to salvage the most vulnerable linkages may be realized, while permanent solutions are sought. Making funding available is more likely to ensure success of Florida’s nascent PES programs. “

*Service’s Response:* Comments noted. Ecosystem services are the direct and indirect benefits provided by the ecosystem that support human quality of life; they include a variety of goods and services such as clean air and water, pollination of food crops, erosion and flood control, carbon storage, climate regulation, crop production, and materials production (e.g., timber, natural gas, oils, fabrics, and medicines), as well as cultural benefits (e.g., recreational opportunities, sense of place, tourism and other economic benefits, and physical and mental health). Programs currently exist for ecosystem payments and landowner support, including the South Florida Water Management District’s Northern Everglades Payment for Ecosystem Services Program, programs of USDA (e.g., Wetland Reserve Program, Conservation Reserve Program, Healthy Forests Reserve Program, Grassland Conservation Reserve Program, Grazing Lands Conservation Initiative, Agricultural Conservation Easement Program, Wetland Reserve Easements, Environmental Quality Incentives Program, and Regional Conservation Partnership Program) and the Florida Department of Agriculture and Consumer Services (e.g., Rural and Family Lands Protection Program, Forest Stewardship Program, and forestry and wildlife cost share programs), the Service’s Landowner Incentive Program and Partners for Fish and Wildlife Program, and FWC’s Landowner Assistance Program. As outlined in the response to earlier comments regarding carnivore depredation, multiple programs already exist to support ranchers, landowners, and residents in relation to depredation. Beyond these existing programs, the Proposed Action, as outlined in the Draft LPP and Draft EA, includes both fee title and less-than-fee title approaches to the Conservation Area. The Service will continue to work with the partners in this landscape to further conservation goals, objectives, and outcomes including Payment for Ecosystem Services Program. The Service has and will continue to collaborate with interested parties to fund PES opportunities. No changes were made to the documents.

## **CLIMATE CHANGE AND SEA LEVEL RISE**

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*Comment:* Multiple comments were received that addressed climate change and sea level rise; excerpts are listed to provide context.

- "Along with the importance of full funding is the time sensitivity of this effort with increasing climate impacts including coastal storms and flooding and interior overdrainage, wildfire and droughts."
- "The role this broad, connected landscape must continue to play in mitigating the negative impacts of climate change, including coastal flooding, harmful algal blooms, interior catastrophic wildfires, and drought. These benefits accrue to both human and wildlife communities."
- "Continue to consider habitat migration as sea levels continue to rise. NWF recognizes that most coastal parcels in the proposed conservation area have been developed, and that 'coastal squeeze' will continue to impact natural retreats inland as coastal plants experience saltwater intrusion and stress.<sup>2</sup> We appreciate a focus on prioritizing properties that will support inland migration of wetlands, keeping in mind that the sea level of the Gulf Coast is expected to rise 14-18 cm over the next three decades.<sup>3</sup> We appreciate that habitat migration has been mentioned in the Draft Land Protection Plan, and encourage consideration of this phenomenon in parcel selection."
  - <sup>2</sup>Saha, A.K., Saha, S., Sadle, J. et al. Sea level rise and South Florida coastal forests. *Climatic Change* 107, 81–108 (2011). <https://doi.org/10.1007/s10584-011-0082-0>
  - <sup>3</sup>Global and Regional Sea Level Rise Scenarios for the United States (2022) U.S. Federal Interagency Report. <https://oceanservice.noaa.gov/hazards/sealevelrise/sealevelrise-tech-report-sections.html>"
- "Additionally, protecting and promoting strong watersheds proves to be one of the most effective ways for the state to combat the effects of climate change. Strong watersheds provide an area for excess stormwater – which limits flooding and nutrient runoff – and the E2G Conservation Area will help to protect these watersheds through conservation and proper land maintenance. Economically, maintaining strong watersheds that prevent flooding and saltwater intrusion in downstream wells is a far better alternative than costly water purification and desalination."
- "This Conservation Area will protect imperiled species and improve their resiliency in the face of climate change and extreme development pressures."

*Service's Response:* Comments noted. Climate change is one of the most compelling challenges we are facing. Tackling climate change is one of the Service Director's priorities; climate change presents a growing threat to America's fish, wildlife, plants, and their habitats, and we are focused on helping species adjust to the impacts of climate change and moderating the effects of climate change using cutting-edge science. Climate change informs our ongoing work in conservation, land and species management, and habitat restoration. The seven core elements of the Service's Climate Action Program provide a foundation for Service-wide actions focused on climate adaptation and mitigation, as listed.

1. **Adaptation and Resilience:** Integrate climate adaptation and resilience actions throughout the management of Service trust resources to ensure our conservation actions have a lasting impact.
2. **Climate Science:** Collaborate with other science organizations to ensure the best available climate science is applied to our natural resource management decisions as well as Service infrastructure.
3. **National Conservation Adaptation Strategy:** Support national strategies to promote collaborative conservation adaptation planning.
4. **Partnerships:** Collaborate with partners on climate adaptation efforts with attention to social and environmental justice.

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5. **Climate Mitigation:** Achieve net zero emissions for the Service by 2050 by reducing greenhouse gas emissions associated with our operations, expanding the use of renewable energy and increasing our carbon sequestration capacity through nature-based solutions.
  6. **Policy:** Review, revise and create new regulations and policies that support climate adaptation and mitigation action across the Service.
  7. **Capacity:** Expand capacity to implement on-the-ground adaptation, resiliency and mitigation projects.

The proposed Conservation Area was specifically designed to build resiliency to climate change impacts. The Draft LPP and Draft EA outlined climate change under overarching Goal 1 Protect, Restore, and Manage Habitats for Fish and Wildlife. We will continue to grow our understanding of the impacts of climate change and the corresponding implications, including changing habitat components, habitat migration, and wildlife movement. We will continue to look for ways to build resiliency to respond to these impacts and challenges. No changes were made to the documents.

*Comment:* One comment provided suggested text for the Climate Change Section on page 102 of the Draft LPP and Draft EA, as listed.

- "The proposed EGCA would support recommendations from the CHNEP Habitat Restoration Needs and Habitat Resiliency to Climate Change reports, including:
  - Reserve previous coastal areas for tidal wetland habitats to migrate landward with increasing sea level rise.
  - Greater preservation/ conservation and regulatory efforts are needed to address the disproportionate losses of native upland habitats in the area.
  - Support conservation easement programs on ranch and agricultural lands that serve as Florida panther habitat. Some other upland areas would also benefit from acquisition to preserve habitat value.
  - Protect adequate freshwater flows in the tidal rivers to sustain salt marsh and downstream estuaries."

*Service's Response:* The additional supporting text was included in Relationship of Project to Landscape Conservation Goals and Objectives (Pages 24-42).

## **CUMULATIVE IMPACTS OF DEVELOPMENT**

*Comment:* One comment expressed concern regarding the cumulative impacts of development with an emphasis on primary panther habitat, agriculture capacity losses, and pollinator services, asking who is monitoring these impacts.

*Service's Response:* Comment noted. The Draft LPP and Draft EA evaluated cumulative impacts associated with the Proposed Action. Multiple entities monitor development impacts across the southwest Florida landscape; while some direct monitoring occurs, other trends are inferred from other data and trends (e.g., while pollinator services are not monitored throughout the landscape, they can be inferred from other data such as land use / land cover types and changes, intensity of land use, development trends, and block sizes and connectivity of habitat types). The Service works with its partners to conserve lands threatened by development and land use changes that may affect wildlife habitat. The scale and scope of the proposed Conservation Area are a direct response to the potential cumulative impacts of these threats. Within the Draft LPP and Draft EA, the development threat layer (Page 55) considers current and future development threat. It is

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a combination of statewide Future Land Use data obtained from the Florida Geographic Data Library and the Florida 2070 Trend Development Scenario created by the University of Florida and obtained from the Florida Geographic Data Library (Morris et al. 2022, Appendix E). No changes were made to the documents.

## **SIZE OF PROPOSED CONSERVATION AREA, IN GENERAL**

*Comment:* Multiple comments addressed the size, in general, of the proposed Conservation Area; excerpts are listed to provide context.

- “The Draft Land Protection Plan’s Proposed Acquisition Boundary Captures Lands and Waters Critical to the Protection of Native Florida Wildlife. The acquisition boundary for the proposed Everglades to Gulf Conservation Area is appropriately large and includes four million acres that incorporate the western Everglades, Caloosahatchee River, Fisheating Creek, Peace River, and Myakka River watersheds. This vast area includes a largely intact rural landscape that provides essential habitat for a variety of rare, imperiled, and endemic species, including 74 federally and state-listed threatened and endangered species such as the Florida manatee, Florida bonneted bat, Florida scrub-jay, Everglade snail kite, and eastern indigo snake.”
- “We maintain our position that a broad study boundary without arbitrary acreage limits would provide the most benefit for this project. The larger the geographic scope of this conservation area, the more opportunities to protect vulnerable lands.”

*Service’s Response:* Comments noted. The Draft LPP and Draft EA provided the background, rationale, purposes, and criteria used to develop the proposed Conservation Area. The Service specifically designed the proposed Conservation Area with four overarching goals for the proposed Conservation Area, which included state and Federally listed species and their habitats, including the Florida panther, as listed.

1. Protect, restore, and manage habitats for fish and wildlife.
2. Provide science-driven landscape-level conservation.
3. Conserve important lands and waters for the benefit of all people.
4. Promote conservation partnerships working with adaptive and flexible tools and strategies.

The Draft LPP and Draft EA also outlined the criteria and modeling used to develop the acquisition priorities, which included habitat to support state and Federally listed species; four primary criteria were outlined in the Draft LPP and Draft EA:

- Ecological importance,
- Landscape connectivity and wildlife corridors,
- Restoration of wetlands and water quality, and
- Existing and potential threats.

Service policy requires the identification of a specific boundary for acquisition efforts to facilitate analysis of impacts; to provide clear direction for the Service and others; to provide clarity for other governmental agencies, Native American Tribes, landowners, and the public; and to help determine land acquisition priorities ([341 FW 2](#) Land Acquisition Planning Policy and [602 FW 5](#) Strategic Growth Policy). Tiering from the partnership-driven Southwest Florida LCD (Morris et al. 2022, Appendix E), the landscape-scale of the overarching goals, the outlined criteria, and the conservation threats and challenges were modeled, resulting in the Conservation Area proposal with the mix of fee-title and less-than-fee title approaches. The size, juxtaposition, and shape of the



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proposed Conservation Area reflect the goals, criteria, threats, challenges, and opportunities to serve the purposes articulated in the Draft LPP and Draft EA, namely the conservation, management, and restoration of fish, wildlife, and plant resources and their habitats, including threatened and endangered species, wetlands, and migratory birds, as well as the development of appropriate and compatible wildlife-dependent recreation. No changes were made to the documents.

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## RESOURCE PROTECTION

### GENERAL

*Comment:* “The other is, as I understand the presentation, is one person a director who makes the decision whether to include this?”

*Service’s Response:* Comment noted. For the proposed Conservation Area, the Director of the U.S. Fish and Wildlife Service will decide to approve or not approve the overall project, including the boundary. No changes were made to the documents.

*Comment:* “Okay, my question is this: is there a county-by-county contact who is coordinating the list of willing sellers or potential sellers? And how can we maybe coordinate with Whoever is kind of in the know of the big list? And how can we, the public, help with working with that list?”

*Service’s Response:* Comment noted. If the proposed Conservation Area is approved, a Service lead will be identified and coordinate directly with the Service’s Southeast Region Realty Division. To protect the privacy of interested landowners and in compliance with applicable laws, regulations, and policies, the Service does not share interested parties’ information with the general public. However, once completed, some Realty transactions (e.g., deeds and conservation easements) are recorded in the county where they occurred and are available to the public. No changes were made to the documents.

### NATIONAL WILDLIFE REFUGE AND CONSERVATION AREA

*Comment:* One comment suggested the establishment of a National Wildlife Refuge and Conservation Area instead of simply a Conservation Area. “We Encourage the Service to Establish the Everglades to Gulf National Wildlife Refuge and Conservation Area. As noted above, we appreciate the scale of the proposed acquisition boundary, as well as the 10% fee simple threshold proposed by the Service.<sup>7</sup> With working lands threatened by powerful development forces, the Draft LPP will give the Service a much-needed ‘seat at the table,’ as well as the flexibility to seize upon acquisition opportunities across a large geography. In the interest of strengthening the Refuge’s constituency, however, we encourage the Service to create a national wildlife refuge and conservation area. The latter, while politically expedient, is typically associated with rangelands, which are closed to the general public, and not obviously associated with the National Wildlife Refuge System; the former, on the other hand, is associated with access, wildlife observation, hunting and fishing, and other wildlife dependent recreational opportunities, among other attributes, and is thus held in higher regard by a broader constituency of interests, including some members of Congress who intuitively understand the relationship between a clearly delineated “refuge” and the National Wildlife Refuge System. As we’ve seen elsewhere in Florida, ETG’s success will be conditioned as much on public interest and support as it is on funding and planning. We therefore encourage the Service to cast the widest net possible by creating a refuge that is accessible to and supported by a broader public, not just those tied to working lands.”

- “<sup>7</sup> U.S. Fish & Wildlife Serv. (USFWS), Draft Land Prot. Plan (LPP) and Env’tl. Assessment (EA) for the Proposed Establishment of Everglades to Gulf Conservation Area (“Draft LPP and EA”), 9-10 (2023).”

*Service’s Response:* Comment noted. The Draft LPP and Draft EA provided the background, rationale, purposes, and criteria used to develop the proposed Conservation Area. Service policy is to adopt habitat protection measures and strategies that involve acquiring the minimum possible interest or rights in lands and waters ([341 FW 2](#)). The Service differentiates a conservation area separately from lands and waters managed

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as a national wildlife refuge (NWR). A conservation area is a unit of the NWRS that consists primarily or entirely of conservation easements on private lands; the NWRS currently includes 13 conservation areas. A NWR is a unit of the NWRS that can include a mix of fee-title ownership and less-than-fee title ownership by the Service with a larger proportion in fee title ownership. The NWRS currently includes 570 total units across 95 million acres of land and 755 million marine acres. Given the purposes, vision, goals, and criteria articulated in the Draft LPP and Draft EA and given the resources of concern, conservation threats, conservation challenges, and conservation opportunities in the southwest Florida landscape, the Service specifically designed the proposed Everglades to Gulf Conservation Area as a conservation area as the minimum protection measure to meet the articulated purposes and goals. No changes were made to the documents.

### *WILLING SELLER APPROACH*

*Comment:* One comment questioned the success of a willing seller approach; an excerpt is listed to provide context. “We question how a willing seller only program will adequately address the vast amount of primary and secondary panther habitat slated to be destroyed in Eastern Lee and Collier Counties because of the abolishment of density reduction and rural land stewardship policy protections that were previously codified by those counties. The abolishment of those protective County land policies has allowed for the permitting of sprawling high density suburban residential subdivisions and intensive and equally vast commercial developments accessed by rural roads converted to dangerous widened highways while also introducing new highways crisscrossing fragile habitat areas that cannot bear any further fragmentation.”

*Service’s Response:* Comment noted. Throughout the nation, the Service’s policy is to work with willing sellers. The Service has a proven track record of successful planning and property acquisition projects serving articulated conservation purposes and goals using the willing seller approach. This has no impact on the fundamental rights and abilities of cities and counties to govern development, land use, and zoning of private lands within their respective jurisdictions. No changes were made to the documents.

### *WILDERNESS*

*Comment:* Multiple comments were submitted regarding special designations, specifically expressing concern regarding wilderness; excerpts is provided for context.

- “It is imperative to clarify that we are firmly opposed to Wilderness Designations in relation to the proposed Conservation Area. We believe that a balanced and flexible approach to land management is essential to accommodate the diverse needs and values of the region.”
- “We adamantly object to Wilderness Designations within the proposed Conservation Area, a position that aligns with the Florida Fish and Wildlife Conservation Commission's belief that such designations would hinder effective natural resource management. Wilderness designations can limit access for responsible recreational activities and hamper land management efforts, posing challenges for those committed to conserving the region.”
- “Our primary focus is on habitat management and ensuring the long-term viability of this landscape while also clarifying that there will be no pursuit of Wilderness Designations for the proposed Conservation Area.”
- “No Pursuit of Wilderness Designations: It is important to clarify that no pursuit of Wilderness Designations is being sought for the proposed Conservation Area. We recognize that the area's long history of multiple uses and values can be best preserved through balanced and flexible management practices.”

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*Service's Response:* Comment noted. The Service conducted a Wilderness Review in the Draft LPP under the Special Considerations section. The proposed Conservation Area was found not to be suitable for Wilderness designation as it did not meet the criteria set forth in the Wilderness Act of 1964. No changes were made to the documents.

#### *LAND ACQUISITION/PROTECTION*

*Comment:* Multiple comments were received addressed land acquisition and protection in general; excerpts are listed to provide context.

- “Would services of a local real estate expert(s) be used to evaluate and coordinate acquisition, and if not who in the local area would target and coordinate outreach for acquisitions?”
- “Over the past decade this area has experienced a significant uptick in human population without a commensurate expansion of conservation lands.”
- “One of the concerns that I see is that when the government determines a value to pay for an easement or fee title, that you're not handicapped in what they can pay compared to what a developer would pay a rancher for the property or a phosphate mining company would pay the landowner for the property. I would encourage the powers that be to be realistic in what they need to pay to make sure the property is conserved, and it doesn't force generational owners of property to look to another source that maybe will not keep the property conserved. So make sure your method of valuing and purchasing is consistent with what's happening in the free market based on what the land can be used as an alternative.”
- “As someone said earlier, I believe this young lady, that we're having 1,000, 1,200 people a day come to Florida. If we don't wake up, we will wake up sometime and not have any open space, not have the water that we need. It's important to have these initiatives to keep the open spaces preserved for our grandchildren, great grandchildren, and generations to come.”
- “These initiatives are wonderful, but please ensure every landowner within this area knows about the program, has their questions answered, and has plenty of opportunity to ask further questions.”

*Service's Response:* Comments noted. If approved, acquisitions will be handled by the Service Realty Specialist that is assigned to the Conservation Area. The Realty Specialist will work with FWS staff, local realtors, state agencies, and NGOs on outreach to local landowners. Appraisals for Federal land acquisitions must adhere to the Uniform Appraisal Standards for Federal Land Acquisitions (UASFLA). From the 2016 USAFLA: “Federal acquisitions entail different appraisal standards than other types of property transactions because they involve payment of just compensation. As the measure of just compensation is a question of substantive right “grounded upon the Constitution of the United States,” just compensation must be determined under federal common law—that is, case law. Federal case law holds that just compensation must reflect basic principles of fairness and justice for both the individual whose property is taken and the public which must pay for it. To achieve this, an objective and practical standard was required, and the Supreme Court has long adopted the concept of market value to measure just compensation. As a result, just compensation is measured by the market value of the property taken. “To award [a landowner] less would be unjust to him; to award him more would be unjust to the public” *Bauman v. Ross*, 167 U.S. 548, 574 (1897)”. No changes were made to the documents.

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## *FUTURE ACQUISITION CRITERIA AND PRIORITIZATION OF ACQUISITIONS*

*Comment:* Multiple comments addressed future acquisition criteria and prioritization of acquisitions, including state and federally listed species, environmentally sensitive lands, properties highly vulnerable to development, and agricultural properties, as well as the removal of consideration of properties already otherwise protected by mitigation; excerpts are listed to provide context.

- “FWC (Florida Fish and Wildlife Conservation Commission) staff recommends opportunities for protecting and enhancing habitat for (state and Federally) listed species be prioritized when considering locations for potential easements and acquisitions.”
- “Please reference our April 2023 letter regarding the Conservancy’s (Conservancy of Southwest Florida) request that the Service focus on environmentally-sensitive lands that have high vulnerability to development or intensification, for the most strategic leveraging of funding. To us, this means that lands that have been set aside for mitigation for permitting or mitigation banks, would not be priority acquisitions for this initiative, since the permittee has commitments that run with that land and development threats are typically eliminated on such lands. Thus, we would recommend that the Service delete language within the Draft Land Protection Plan (LPP) on page 56-57 that allows consideration of acquiring mitigation banks.”
- “Environment Florida writes to you in strong support of establishing the Everglades to Gulf Conservation Area. Weaving together public and private conservation areas with the goal of establishing a connected, protected area for wildlife is a goal we strongly support. As Florida’s human population continues to grow and we expect development to spread into Florida’s more wild spaces, we applaud the opportunity to create boundaries that respect and protect the dozens of threatened and endangered species that live here. The area outlined by the proposed conservation area map is home to many of our state’s species of ‘Greatest Conservation Need’. Establishing protected habitats for these species is crucial to preserving the biodiversity of our state wildlife populations. If the Everglades to Gulf Conservation Area is approved, we encourage USFWS to prioritize lands with high vulnerability to development. Acquiring these lands first will ensure a higher probability of success in establishing the entire proposed conservation area.”
- “We were encouraged to see the northern boundary expanded to encompass parts of I-4, including the proposed wildlife crossing at SR 33. This area is crucial to expanding the lands used by the endangered Florida panther. Where appropriate the Conservation Area should consider needs to align their land acquisitions with wildlife crossing infrastructure.”
- “The LPP and EA highlight this region’s agricultural composition and provide worrying statistics on the loss of agricultural land, which will reach 12% by 2070. We must prioritize this sector, not only because it provides land conservation opportunities like easements, but because this land also supports ecological services and habitat connectivity. Having a robust agricultural sector supports a healthy watershed and wildlife habitat including the availability of locally grown foods. Therefore, we ask you to continue to prioritize agricultural areas which are also vulnerable to fragmentation and loss.”
- “CHNEP recommends prioritizing acquiring easements on lands with least potential protection mechanisms already in place (such as those that are not currently included as priorities in state or county land conservation programs but are within the identified EGCA).”
- “CHNEP recommends prioritizing areas with unique and dwindling habitats that have been disproportionately lost within the proposed EGCA, including rare or unique habitats such as isolated wetlands and uplands, sand pine scrub, pine flatwoods, and hydric flatwoods.”
- “CHNEP recommends prioritizing areas with federally endangered species habitat especially the primary and secondary habitat for the federally endangered Florida panther.”

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- “CHNEP recommends prioritizing essential habitat corridors, as outlined in the CHNEP Habitat Restoration Needs Phase I and Phase II Plan.”
  - “Southwest Florida International Airport and Zoning control, under dual authority of the Board of County Commissioners, is not following FAA Advisory guidance for public engagement as it eliminates Primary panther habitat through development, neglecting regulatory duty and responsibility and imperiling the known, existing breeding population they are ethically and legally charged with protecting. The “stonewalling” of requested data and information from FWC (Florida Wildlife Commission) and lack of transparency regarding lands in this corridor is troubling, given that Conservation lands and easements protected by Lee County are not being honored here. Development is escalating and as such, associated conservation easements, including mining, and public lands in the vicinity of the airport and Wild Turkey Strand Conservation 2020 lands, should be considered for immediate acquisition as part of this proposal---to protect their ecological function and prevent conversion.”
  - “Further, please be aware that there are existing local protections that can also diminish the likelihood or intensity of development on lands -for example, areas within the Flowway Stewardship Area (FSA) of Collier County’s local Rural Lands Stewardship Area (RLSA), or Stewardship Sending Areas (SSA) where RLSA credits have been utilized to offset development. Again, these types of areas are not the most vulnerable, and therefore, less strategic for acquisition by this program. We (Conservancy of Southwest Florida) detail this information on pages 8-10 of our April 2023 letter.”
  - “The corridor (Florida Wildlife Corridor) is the area of the state that is most important to conserve for permanent maintenance of a connected network of wildlife habitats. Protecting key parts of the corridor within the proposed conservation area would contribute to the northward expansion and eventual recovery of the endangered Florida panther, as well as the recovery of many other federally and state listed species like Florida Scrub-Jays, Crested Caracaras, Burrowing Owls, and others.”

*Service’s Response:* Comments noted. Tiering from the southwest Florida LCD (Morris et al. 2022, Appendix E), the Draft LPP and Draft EA outlined four overarching goals for the proposed Conservation Area, which included state and federally listed species and their habitats, as listed.

1. Protect, restore, and manage habitats for fish and wildlife.
2. Provide science-driven landscape-level conservation.
3. Conserve important lands and waters for the benefit of all people.
4. Promote conservation partnerships working with adaptive and flexible tools and strategies.

The Draft LPP and Draft EA also outlined the criteria and modeling used to develop the acquisition priorities, which included habitat to support state and Federally listed species. State and Federally listed species and their habitats, environmentally sensitive lands, watersheds, wetlands, landscape connectivity, wildlife corridors, conservation protection opportunities, and development threats were included in the analysis to develop the proposed Conservation Area. Four primary criteria were outlined in the Draft LPP and Draft EA:

- Ecological importance,
- Landscape connectivity and wildlife corridors,
- Restoration of wetlands and water quality, and
- Existing and potential threats.

Within the Draft LPP and Draft EA, the conservation priorities analysis that determined the ecological priorities combined data from the Critical Lands and Waters Identification Project, the 2021 update of the Florida

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Ecological Greenways Network, and updated focal species and natural community priorities. The Service would leave open the option to accept or purchase mitigation banks to ensure that long-term conservation benefits are achieved. At such time as the Service is considering acquisitions in the future, the Service would follow the outlined purposes, goals, and criteria; re-run the modelling; and adjust the acquisition priorities in accordance. No changes were made to the documents.

#### *FEE TITLE VERSUS LESS-THAN-FEE TITLE ACQUISITION FACTORS*

*Comment:* Multiple comments were received regarding fee title versus less-than-fee title acquisition factors; excerpts are listed to provide context.

- “Social Acceptance of Wildlife Should be Considered in Determining Whether to Purchase Lands for Fee or Less-Than-Fee. As the Service correctly noted throughout the Draft Environmental Assessment (Draft EA), fee simple lands offer the Service the greatest ability to manage for the recovery of gopher frogs, burrowing owls, Florida scrub lizards, and skinks, among other imperiled species, through prescribed fire, limitations on off-road vehicle use, and control of invasive species.<sup>9</sup> While the Florida panther uses a variety of habitats, and indeed relies heavily on working lands, the same principle applies: some lands will better serve its recovery through fee simple ownership rather than conservation easements. This is both a function of habitat and the social climate in which panthers occur. As the Draft EA notes, ranches can provide high-quality habitat, but may also generate potential conflict through depredations that are otherwise “difficult to prevent or even detect.”<sup>10</sup> This in turn may dampen social acceptance for the species, ultimately impairing its long-term recovery. In determining whether to purchase lands in fee or less-than-fee, the Service must balance these difficult realities and incorporate social considerations in its decision-making calculus. For instance, if the owners of a property are hostile to panther recovery efforts, that land may be better suited to acquisition in fee rather than through conservation easements. The Service should attempt to create a process by which to objectively identify and address these inherently subjective yet critical considerations.”
  - “<sup>9</sup> Draft LPP and EA at 139, 142, 148, 166. <sup>10</sup> Id. at 170.”
- “While we certainly understand that the Service is not in the position at this time to identify specific parcels for fee-simple acquisition and future acquisitions depend on willing sellers, we believe the LPP would benefit from a more detailed discussion of the agency’s vision for this conservation strategy. The Service could identify more clearly, which specific habitats would be prime candidates for fee simple acquisition, what areas within the acquisition boundary would be best suited for this approach, and what other factors the Service will consider when pursuing acquisition over conservation easements. Such considerations might include a property’s ecological importance, its proximity to other public lands owned in fee-simple (to provide continuity in the management of habitats over a larger spatial scale), whether it is in an area that currently lacks public recreational opportunities (particularly within underserved communities), and whether it is adjacent to federal or state restoration projects and would benefit from similar restoration practices.”
- “We appreciate the Draft EA’s discussion of the swallow-tailed kite and the communal roost in the southern end of the proposed Conservation Area that serves as a staging and foraging area for approximately 60 percent of the overall kite population prior to their annual migration to the Yucatan Peninsula. Draft EA at 144. This is a critically important area within the acquisition boundary. It is unclear, however, whether fee-simple acquisition is necessary to carry out the management practices needed to improve insect production in this region or if the Service contemplates using conservation easements to protect these areas. We believe it is an important consideration because the use of

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pesticides and herbicides that could be permitted under a conservation easement, may hamper the Service's ability to increase insect populations through wetland restoration alone."

*Service's Response:* Comments noted. The Draft LPP and Draft EA outlined the criteria and modeling used to develop the acquisition priorities. State and Federally listed species and their habitats, environmentally sensitive lands, watersheds, wetlands, landscape connectivity, wildlife corridors, conservation protection opportunities, and development threats were included in the analysis to develop the proposed Conservation Area. Four primary criteria were outlined in the Draft LPP and Draft EA:

- Ecological importance,
- Landscape connectivity and wildlife corridors,
- Restoration of wetlands and water quality, and
- Existing and potential threats.

Over time, as the landscape changes (e.g., changes in ownerships, land use, development, and management) and as the Service has funding for acquisitions for this Conservation Area, the Service will re-run models to determine updated acquisition priorities. If the proposed Conservation Area is approved, the Service will work with willing seller landowners to determine the most appropriate acquisition tools that will achieve the outlined conservation goals and outcomes. The private landowners will determine their willingness to sell in fee-title or less-than-fee-title based on individual factors and considerations, wholly separate and apart from the Service. The Service will negotiate with willing landowners and if an agreement can be reached that meets the Service's stated purposes and goals and meets the landowner's criteria, then a fee-title or less-than-fee title acquisition could take place. If a particular landowner does not support the Service's purposes and goals, then acquisition of any type would be unlikely. No changes were made to the documents.

*Comment:* "I do have maybe a question or two. One is if the government acquires fee title, what is our assurance that future politicians don't change things so that what we hope is going to be preserved is not, as opposed to under conservation easement that clearly runs with title of the land and cannot be overturned? So I don't know if anyone can, you know, answer that question."

*Service's Response:* Comment noted. Currently protecting 95 million acres of lands and 755 million marine acres across all 50 states and 5 U.S. territories, the National Wildlife Refuge System has been in existence for over 120 years. The NWRS Improvement Act clarified the mission of the NWRS "...to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats with the United States for the benefit of present and future generations of Americans." The NWRS serves as a conservation model for the world. While the Federal government retains the ability to divest Federally-owned property, it would be an extremely rare occurrence; however, the Service has conducted land for land exchanges in favor of acquiring higher conservation value property. The Service's conservation easements are permanent interests in land and run with the property in perpetuity. Federal ownership of property for the NWRS has proven to be extremely durable. No changes were made to the documents.

#### *FEDERAL INTRUSION*

*Comment:* "The plan represents an unwarranted Federal intrusion with numerous negative implications for Florida residents, both human and wild. Notably, the plan will diminish the State's ability to support prudent long-term economic development, impede responses to natural catastrophes, and create perverse incentives



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for wasteful asset managers. Importantly, the program lacks support from many of the landowners, including this one, whose assets lay within the proposed boundaries. These private property owners, some of whom have held their lands for generations, deserve greater respect. ”

*Service’s Response:* Comment noted. Throughout the nation, the Service’s policy is to work with willing sellers. The Service has a proven track record of successful planning and property acquisition projects serving articulated conservation purposes and goals using the willing seller approach. This has no impact on the fundamental rights and abilities of cities and counties to govern development, land use, and zoning within their respective jurisdictions. For those property owners with no interest in selling, in whole or in part, to the Service, no changes occur for those property owners; they retain all the rights, privileges, and responsibilities of private property ownership that they currently enjoy. This includes, but is not limited to, rights of access, hunting, vehicle use, the right of exclusion; the right to develop the property, the right to sell the property; and the responsibility to pay local real estate or property taxes.

In general, areas of conservation support local economies. The Draft LPP and Draft EA included socioeconomic information, including economic benefits associated with tourism, wildlife-dependent recreation, and ecosystem services. *Banking on Nature 2017: The Economic Contributions of National Wildlife Refuge Recreational Visitation to Local Communities* (Caudill and Carver 2019) examined the local economic contributions of recreational visits to 162 national wildlife refuges in 47 states and 1 territory for the fiscal year (FY) 2017 (October 1, 2016 – September 30, 2017). According to the report (Caudill and Carver 2019), approximately 53.6 million people visited national wildlife refuges generating almost \$3.2 billion in total economic activity and supported over 41,000 jobs, generating about \$1.1 billion in employment income. Additionally, recreational spending on refuges generated nearly \$229 million in tax revenue at the local, county, state, and Federal levels (Caudill and Carver 2019). Outdoor recreation, both resource-based and user-based, contributed an estimated \$145 billion to the state of Florida’s economy in 2017 (FDEP 2019). No changes were made to the documents.

#### *LESS-THAN-FEE TITLE ACQUISITION*

*Comment:* Multiple comments were received addressing less-than-fee title acquisitions; excerpts are listed to provide context.

- “What makes a conservation easement permanent?”
- “In the Draft area overlay, is there a mechanism or registry, to provide additional federal oversight of lands held in conservation easement or in local conservation initiatives--- to ensure that the lands in Primary panther habitat remain under protection and decision-making has cumulative accountability on a landscape and regional scale?”
- “Conserving land while preserving its function through conservation easements allowing for sustainable agriculture (particularly cattle ranches) and outdoor recreation serves to satisfy the competing needs of the economy and environment.”
- “What’s the process and what’s the price if we only sell conservation easements and keep cattle, bees, and 1 home site?”
- “I would suggest that you also provide for some manner of ensuring that people who do conservation easements continue to honor those commitments out, as I have seen that not occur in other states.”
- “Federal investments in conservation easements are needed in our state.”

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- “I feel that conservation easements are critical to keeping our area natural. We're seeing massive changes within the Peace River watershed. And with so many people moving here at such an alarming rate, protecting our wildlife, drinking water, and Charlotte Harbor itself has never been more vital. Protecting Florida's agricultural economy and green space is a key component to preserving these things.”

*Service's Response:* Comments noted. All conservation easements purchased by the Service for the proposed Conservation Area will be in perpetuity. In cases where less-than-fee title interests (e.g., a conservation easement) are to be acquired by the Service for the Conservation Area, the Service will negotiate the acquisition with the landowner to ensure that outlined purposes and goals would be served by the acquisition; the landowner would retain the remaining rights to the property. The proposed Conservation Area is limited to what was described in the Draft LPP and Draft EA; it does not provide any Federal oversight over private or other publicly owned and managed properties in this landscape. The Service's proposed Conservation Area does not impact the fundamental rights and abilities of cities and counties to govern development, land use, and zoning within their respective jurisdictions. No changes were made to the documents.

*Comment:* “Why are conservation lands being converted and conservation easements that were set aside to protect the federally endangered Florida panther, not honored in Primary panther habitat in Lee County?”

*Service's Response:* Comment noted. The Service currently does not hold Conservation Easements in Primary panther habitats of Lee County. Concerns that conditions of easements are not being met should be directed to the easement holder. No changes were made to the documents.

#### *FEE TITLE ACQUISITION*

*Comment:* Multiple comments were received regarding fee title acquisitions; excerpts are provided for context.

- “The LPP Should Include More Information about the Service's Conservation Vision for Lands Acquired in Fee Simple.”
- “As the Connectivity Memo suggests, the Service “should appropriately assess the public lands and waters they manage for connectivity and corridors values,” and then “incorporate consideration of connectivity and corridors into the guidance for planning.” With most of the acquisition boundary consisting of lands protected through conservation easements, we believe it is important for the Service to formulate and articulate a clear vision for the remaining 400,000 acres of lands and waters that will likely serve as the “anchor points” to the Conservation Area moving forward.”
  - “Guidance Memorandum from Brenda Mallory, Chair, Council on Environmental Quality to the heads of federal departments and agencies, Guidance for Federal Departments and Agencies on Ecological Connectivity and Wildlife Corridors (Mar. 21, 2023), available at <https://www.whitehouse.gov/wp-content/uploads/2023/03/230318-Corridors-connectivityguidance-memo-final-draft-formatted.pdf>.”
- “We are excited to see that as many as 400,000 acres of the Conservation Area will be acquired in fee simple. Unlike lands that are protected through conservation easements, fee simple acquisition provides the Service with the greatest opportunities to effectively manage wildlife habitats and create rewarding and diverse user experiences.”
- “I appreciate that the proposal makes mention of using 10% of funds for fee-title acquisition fees, where areas with cultural ecosystem services (hunting, fishing, wildlife observation, etc.) that facilitate

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communities across Florida to engage and connect with nature. I believe this engagement and connection has the potential to influence visitors to live more environmentally-friendly, and thereby influence others. A domino effect of sustainability. "

- "The only thing I think could be better is if more than 10% of the lands could be purchased by the Service in fee-title acres. Why put a limit on the amount; if the federal government has the money for this, it is only a benefit to the country as a whole."
- "Please protect the environmentally sensitive area. I wish you would make it even bigger!"
- "The National Wildlife Federation supports and appreciates the Land Protection Priorities for this Conservation Area: ecological importance, landscape connectivity and wildlife corridors, restoration of wetlands and water quality, and existing & potential threats. These priorities, and the methods outlined to reach them, largely match the suggestions NWF submitted regarding this proposed Conservation Area in April 2023. Specifically, we applaud the focus to (1) use existing Florida prioritization models to enhance wildlife corridors and protect Florida waters in multiple identified rivers and estuaries, (2) pursue a mixed-use of both fee-title acquisition and conservation easements, (3) bolster international, national and regional conservation plans to protect Florida wildlife, protect surface waters and habitat, and allow aquifer recharge, and (4) allow for outdoor recreational opportunities."

*Service's Response:* Comments noted. The Draft LPP and Draft EA articulates the purposes, vision, and overarching goals for the proposed Conservation Area; these apply to all properties acquired for the Conservation Area, whether acquired in fee-title or in less-than-fee title. As outlined in the Draft LPP and Draft EA, any properties acquired by the Service in fee-title would be evaluated for public use opportunities, including hunting, fishing, environmental education, interpretation, wildlife observation, and photography. Potential public uses supporting priority public uses would also be considered. The Service is committed to working with the FWC to facilitate public use activities, specifically hunting and fishing. Uses would be evaluated through the appropriateness and compatibility requirements in the National Wildlife Refuge System Administration Act and the Refuge Recreation Act. Also as outlined in the Draft LPP and Draft EA, for properties that the Service would own in fee title, the Service would conduct habitat restoration and management including prescribed fire and invasive species control. The Conceptual Management Plan (Appendix B) outlines the Service's concept for management of the proposed Conservation Area. No changes were made to the documents.

### *OIL AND MINERAL RIGHTS*

*Comment:* Multiple comments were received regarding oil and mineral rights; excerpts are provided for context.

- "NPCA recommends clarifying the approach to mineral rights (including oil and gas) acquisition within the 400,000 acres contemplated for fee-title purchase within the CA. Federally protected lands with split-estates, such as Big Cypress National Preserve, have been demonstrably damaged by oil and gas exploration and extraction activities. NPCA recommends that any lands considered for fee-title acquisition include the option for both surface and subsurface rights in the Department of the Interior Appraisal and Valuation Services Office (AVSO) appraisal. "
- "We hope that the agency will consider inclusion of mineral rights in acquisitions and easements. This issue is notably absent from the Draft LPP and Draft Environmental Assessment (EA). We note that the Draft EA states that mineral extraction is a threat to natural areas that would continue under the "No Action" alternative, but we would like to see additional consideration of how the preferred alternative would reduce or eliminate mineral exploration and extraction on lands participating in this initiative."

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- “And also, we'll be suggesting in our comment letter that you include additional information about mineral rights. We're hoping that you'll be securing mineral rights in your acquisitions.”

*Service's Response:* Comments noted. Service policy is to adopt habitat protection measures and strategies that involve acquiring the minimum possible interest or rights in lands and waters ([341 FW 2](#)). During an acquisition negotiation, the Service and the landowner agree to the conditions of the sale, including any reserved rights such as oil and gas. Current Service policy (see 612 FW 1 Minerals Management Policy and 341 FW 2 Land Acquisition Planning) does not permit the Service to acquire property with reservations of minerals other than oil and gas (except where conveyance is prohibited by statute). If oil and gas reservations for a particular property are determined by the Service to not interfere with the stated purposes of the Conservation Area, then the Service could consider purchasing that property with oil and gas reservations. No changes were made to the documents.

### *TIMELINESS OF ACQUISITIONS*

*Comment:* Multiple comments were received that addressed the need for timely acquisitions; excerpts are listed to provide context.

- “Miakka, also known as Old Miakka, is a rural community dating back to 1850. It is located in the northeastern area of Sarasota County; it is in the Myakka River Watershed; part of the Community is located along the Myakka River. This area is under tremendous development pressures, some of which have already eliminated rural ranchlands and the value they provide to the environment. There are many 5- and 10-acre homesteads that provide wildlife corridors and habitat to a variety of species including the sand hill crane, the hooded bat, the caracara and gopher tortoises. The development pressures included the ‘scrape it all’ development standard as 65’ lots replace the already designated 5-10-acre densities on large ranchland. This Community has seen the wildlife increases on homesteads as the wildlife flee to somewhere they can forage, nest, mate and sleep. These purchases, if timely done, will protect the environment of this historic, rural Community but also the Community itself. Founded in 1948, the Community Club’s efforts have been focused on preserving and conserving this way of life and the flora and fauna within the Community.”
- “NPCA strongly supports the adoption of the Conservation Area and urges the USFWS to move forward expeditiously.”
- “Like much of the Gulf coast, Florida continues to suffer from rapid development, climate change, and polluted waterways. These factors have decimated native wildlife populations both at land and sea, and have severely impacted Floridians’ way of life. With as many as 1,000 people moving to Florida per day<sup>1</sup>, these detrimental impacts only continue to grow. Importantly, there is still time to protect wildlife and their habitats. Southwest Florida, in particular, is home to 74 federally or state-listed threatened and endangered species. Without swift protections of wildlife and their habitats, these irreplaceable species will continue to disappear beneath development.”
  - “1 2020 Miami report <https://www.isgmiamireport.com/miami-report-download>”
- “We urge the USFWS to act swiftly in land acquisition so as to protect remaining Florida’s remaining wilderness while we still can.”
- “The Urgency of Now to save and protect the unique and fragile semi-aquatic, subtropical native environment of South Florida has never been greater. A place so rare and special amongst the planet’s natural resources that it has been termed the ‘Amazon of North America’. Because the need to implement such a sweeping land conservation initiative is so urgent and because the challenges to accomplish it are so daunting, we are left with grave concerns as to how this program will be

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- implemented particularly for the long term preservation and recovery of the critically endangered Florida Panther, a keystone species whose large home range and broad habitat requirements protects the needs of many native species throughout Florida.”
- “Coupled with the expected population increase of fifteen million people over coming decades in Florida, securing the integrity of the Everglades to Gulf wildlife and watershed connective landscapes must be accomplished soon.”
  - “In the 2070 population model that showed 50 million people coming Florida, where are we going to put all of these people without ruining the nature of Florida? So this kind effort is needed now, not then.?”

*Service’s Response:* Comments noted. The Service recognizes the need for timely acquisitions in this landscape. Federal funding for acquisitions is contingent upon national priorities, funding program awards (e.g., Land and Water Conservation Fund), and land acquisition funding. If approved, the proposed Conservation Area would compete with other projects around the nation. No changes were made to the documents.

#### *BOUNDARY FOR THE CONSERVATION AREA*

*Comment:* Multiple comments were received regarding the boundary for the proposed Conservation Area; excerpts are provided for context.

- “The 10% conservation acreage maximum is unnecessary and self-defeating. The Service has included a proposal to limit acquired lands under the Project to 10% of the maximum acreage in the study area. With the cap, the Service has included a seemingly arbitrary restriction on its ability conserve important lands into the foreseeable future. Absent statutory requirements I am unaware of, there is no obvious reason to expressly limit the acreage of lands conserved. In fact, given the conservation mandate the Service is entrusted with, this voluntary limitation actually may work directly against its own mandate and the ability of the Service to conserve lands required for migration corridors, critical functions, or similar goals in the future. What justification does the Service have for self-imposing a 10% cap on the amount of land available for acquisition? The Project is expressly intended to persist in perpetuity, and any requirement to engage later in extensive additional planning and NEPA notice simply to increase acreage seems both shortsighted and unnecessary. The climatological shifts of many species remain to be determined along a range of possible emissions and adaptation scenarios, and this level of uncertainty requires that the Service and other partners have the flexibility to draw and redraw lines. The Service should simply let landowners determine what lands they will sell. If funding for acquisitions is the issue, that does not require implementation of a cap. The Service simply would not acquire more than the authorized or budgeted amount. Moreover, Congress can authorize further funds. There simply is no reason to predetermine an arbitrary amount of lands that are susceptible to public purchase and public access. The entire Eastern seaboard of the United States is a maze of private landholding with the rare substantial public park or refuge. Most citizens no doubt would be delighted to have significant lands opened back up in the Southeast for public access, rather than private spoils, wherever appropriate – based on the ecological and social considerations in the public interest, not an arbitrary cap determined in some earlier historical moment.”
- “The 4 million acres identified in the draft overlay are the area of primary apiculture, but in reality, should be extended to the coastal regions due to emerging climate trends. This expansion to the coast would support acquisition of lands that flood but have agricultural value for beekeepers in the winter months. Again, the fidelity of the protection of conservation lands, as well as conservation easements of lands set aside for mining operations, are not being upheld in Lee County. The result is a fragmentation of the hydrological and ecological connectivity that deserves to be addressed through

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federal policy oversight and a declaration to preserve the inherent function of these lands in supporting water quality protections, panthers and historic agriculture. ”

- “The Service should retain the following in the final acquisition boundary both 1) important landscapes for north-south habitat connectivity and 2) important landscapes for the Florida panther.”
- “Please protect the environmentally sensitive area. I wish you would make it even bigger!”

*Service’s Response:* Comments Noted. As articulated in the Draft LPP and Draft EA and building upon the partnership-driven Southwest Florida Landscape Conservation Design (Morris et al. 2022, Appendix E), the Service used a landscape planning framework to build upon the LCD and other previous conservation work in this landscape. The Service specifically designed the proposed Conservation Area with four overarching goals for the proposed Conservation Area, which included state and Federally listed species and their habitats, including the Florida panther, as listed.

- Protect, restore, and manage habitats for fish and wildlife.
- Provide science-driven landscape-level conservation.
- Conserve important lands and waters for the benefit of all people.
- Promote conservation partnerships working with adaptive and flexible tools and strategies.

The Draft LPP and Draft EA also outlined the criteria and modeling used to develop the acquisition priorities, which included habitat to support state and Federally listed species; four primary criteria were outlined in the Draft LPP and Draft EA:

- Ecological importance,
- Landscape connectivity and wildlife corridors,
- Restoration of wetlands and water quality, and
- Existing and potential threats.

The Service analysis focused on the impacts of Florida’s coastal areas due to sea level rise which prompted the objective of providing retreat zones from coastal areas inland to assist species adapting to the effects of climate change. Analysis also included a consideration of threats including development and where the Service can most effectively secure habitat and reduce fragmentation. Most coastal areas no longer provided that opportunities and acquisition costs far exceeded cost benefit considerations. No changes were made to the documents.

*Comment:* Multiple comments were received regarding the boundary in Sarasota County; excerpts are provided for context.

- “In Sarasota, citizens organized several years ago to protect an area known as the Celery Fields, which has been a great resource for birders. Sarasota Audubon and the Conservation Foundation of the Gulf Coast worked with the county to create a Conservation Easement for three public parcels adjacent to the birding habitat, which also serves as a stormwater management area. This has been a wonderful success for our county. I would be interested in knowing if your plan might include land adjacent to this area, and whether or no, if it's possible, I'd like to know where in Sarasota County your proposed easement might extend.”
- “I am worried the proposed Winchester Ranch Development (Sarasota county) is not being noticed..whether its through the Everglades to Gulf Conservation Area plan or otherwise this 9000 house development is an environmental disaster..it will border Myakka State Forest on one side which will stop migration of wildlife in and out of this ecologically import area on the Myakka river..it also contains headwaters of Gottfried Creek which flow into Lemon Bay..”

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*Service's Response:* Comments noted. Portions of Sarasota are included in the proposed boundary of the Conservation Area. The map on page 14 of the Draft LPP and Draft EA designates the proposed area in which the Service could pursue land acquisition from willing landowners. On pages 50-54 of the Draft LPP and Draft EA, the ecological priorities are visually designated by county. On page 55 of the Draft LPP and Draft EA the threats in Sarasota County are also visually displayed. This information is important when determining urgency of protection and ecological priority when making acquisition ranking decisions. No changes were made to the documents.

*Comment:* "We have a piece of property in North Port Florida that the city wants to put industrial zoning on and thousands of homes. The property is across the street from houses in the North Port Estates, which are 3-5 acres. Is zoned Agricultural. This property is north of Interstate 75 at Toledo Blade and butts up to The Hammock Preserve and The Walton Preserve. It needs to stay a Preserve as there are Wetlands to consider, animals to consider and pollution to consider as we have wells and septic tanks on our properties. Plus the flooding problem that we have out here in the Estates is unbelievable especially after heavy rains. We need to conserve our land space. There is way to much building going in here...Please consider purchasing this property to save our homes..."

*Service's Response:* Comment noted. If the Proposed Conservation Area is approved, willing landowners are encouraged to reach out to the Service expressing their interest and include specific contact information. No changes were made to the documents.

*Comment:* "The only thing I would argue to change is to expand the area under consideration to areas west of I-95 in Martin, St. Lucie, Indian River and counties to the north, as these large swaths of ranch land are under the very same development pressures as ranching areas west of Lake Okeechobee. We see this through new local approvals of exclusive golf course communities in the Bridge Road corridor in Hobe Sound, Martin County, as well as many other places along the I-95 corridor. Please consider expansion of the planned conservation area so that a contiguous Florida Wildlife Corridor can be realized throughout the peninsula. Thank you for the opportunity to comment on this important legislation."

*Service's Response:* Comment noted. The focus of this conservation effort is southwest Florida. As noted, there are conservation opportunities and concerns on southeastern portions of Florida as well. Although outside the current area of consideration, the Service currently provides habitat protection and management at the Arthur R. Marshall Loxahatchee NWR, Nathaniel P. Reed Hobe Sound NWR, Pelican Island NWR, and Archie Carr NWRs along the eastern coast of Florida. Ranchlands, located inland from the east coast, are facing similar threats as the southwest Florida landscape. Service efforts to expand conservation opportunities in Martin, St Lucie, and Indian River Counties may be considered in the future. No changes were made to the documents.

*Comment:* Multiple comments were received regarding expanding the proposed boundary to include crossing I-4 and including Green Swamp and the Hilochee area; excerpts are listed to provide context.

- "One of my prime concerns as a conservationist in Polk County is the importance of protecting the wildlife linkages that will make the Florida Wildlife Corridor function in perpetuity. For this reason, I believe the northern boundary of the proposed area should include the Hilochee WMA Osprey Unit. Wildlife crossings are currently being constructed at the intersection of SR 557 and I-4 which is the western boundary of the Osprey Unit. Those crossings provide both north/south and east/west connectivity for wildlife. The east/west component takes advantage of the Orlando Utility Commission's powerline easement that traverses the Osprey Unit eastward into Osceola County and westward to join

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the Lakeland power plant. The planned and promised I-4 Eastern Green Swamp wildlife crossing will be on the east side of the Hilochee WMA Osprey Unit. ... This future crossing will be on publicly owned land and will connect lands on both sides of I-4 as well as allow access to the other crossings including the existing old cattle crossing. The Osprey Unit crossings will allow access to lands both north and south of I-4 that include fee simple conservation lands, conservation easements, mitigation banks, marshes, pastureland, and thousands of acres of old land sale lots that are inaccessible and likely never to be developed. ... I hope that you will agree and include these lands in your northern boundary.”

- “I’m urging you to include the planned I-4 Eastern Green Swamp Wildlife Crossing that is going to be on the Hilochee Wildlife Management Area, and they have lands on both sides of I-4 at that point. A lot of the properties, both north and south, are old land sale lots that are inaccessible and are likely to never be developed. To the south, that property connects to the Lake Bonnet marsh, owned by Polk County, the Hammock Lake Mitigation Bank, Lake Lowery marshes and wetlands, and to the north it reaches into the Green Swamp Land Authority’s conservation easements, then more Hilochee Wildlife Management Area and Yana Ranch conservation parcels, which connect all the way up to Lake Louisa State Park. One of the things that should be considered also is the Orlando Utilities Commission power line easement, which runs the length of the Hilochee Wildlife Management Unit, Osprey Unit, and it actually connects outside of Polk County. And FDOT actually included an east-west crossing on SR 557 to accommodate that power line and its wildlife movement value.”
- “We (Defenders of Wildlife) recommend further adjustments in this area to increase permeability for panthers and other wildlife accessing the Green Swamp, a critical recharge area for the Floridan aquifer that is important for regional wildlife habitat connectivity. To enhance the utility of new Florida Department of Transportation/FDOT wildlife crossings in this area, we also encourage FWS to extend the northern boundary of the proposed conservation area to include the Hilochee Wildlife Management Area Osprey Unit.”
- “If you need to extend the boundary somewhat to create a valuable connection to the Green Swamp, I think that should be given a significant consideration.”

*Service’s Response:* The Service reevaluated the area in question based on the purposes, goals, criteria, and modeling articulated in the Draft LPP and Draft EA, finding that the suggestion is warranted. This area is critically important to achieve natural population expansion of the Florida Panther and ensure Recovery efforts are successful. The Service added approximately 39,896 acres to the proposed Conservation Area boundary (representing a 1% change to the overall project boundary) to add the area referenced in the comments and updated LPP Figures 2, 3, 6-12, EA Figures 2-6, CMP Figure 1, and LPP Tables 1 and 1, EA Tables 1, 2, 3, and 8, and Appendix D in the final documents accordingly. Further, with the addition of these 39,896 acres to the project boundary, the 10% fee title cap for the Conservation Area would increase from 400,536 acres to approximately 404,527 acres; this number was also updated throughout the final documents.

*Comment:* “I just wanted to point out that highlands county should be included in this corridor for Panthers too, because I see Panthers about 4 or 5 times a year where I reside off Lake Istokpoga. Sometimes really young ones too without collars on. Hopefully you’ll consider it.”

*Service’s Response:* Comment noted. As outlined in the Draft LPP and Draft EA, the southwestern portion of Highlands County was included in the proposed Everglades to Gulf Conservation Area. The northeastern portion of Highlands County is contained in the Everglades Headwaters NWR & CA and willing landowners can submit their interest to the Service for consideration for land protection. No changes were made to the documents.



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*Comment:* Multiple comments were received requesting the shapefile for this project; excerpts are listed to provide context.

- “We are supporting the Florida Department of Transportation District 1 with development of the Collier to Polk Regional Trail Master Plan. There is overlap of our planning corridor with the proposed Everglades to Gulf Conservation Area. For our planning purposes, would you be able to provide a GIS shapefile or KMZ file of the draft conservation area boundary?”
- “Is it possible to request shapefiles for the proposed Everglades to Gulf CA? Specifically, the current proposed boundary and the Priority 1-4 areas?”

*Service’s Response:* The Service will make the final Everglades to Gulf Conservation Area boundary available to the public as part of the Service’s National Realty Approved Acquisition Boundaries dataset (currently hosted on <https://gis-fws.opendata.arcgis.com/search?tags=Boundaries>), if the project is approved. The conservation priorities analysis that determined the ecological priorities combined data from the Critical Lands and Waters Identification Project, the 2021 update of the Florida Ecological Greenways Network, and updated focal species and natural community priorities. Future Land Use data obtained from the Florida Geographic Data Library and the Florida 2070 Trend Development Scenario (Carr and Zwick 2016a) created by the University of Florida and obtained from the Florida Geographic Data Library.

#### *POTENTIAL FUTURE MINOR EXPANSIONS*

*Comment:* Once comment was received that expressed concern regarding potential future minor expansions. “The Draft Land Protection Plan Should Recognize that Minor Approved Acquisition Boundary Expansions are Permitted Without an Additional Planning Process. The Draft LPP notes that “any proposal to expand beyond the authorized 400,000 acres or 10% of the proposed Conservation Area would require an additional separate planning effort by the Service, including public involvement, in accordance with applicable laws and policies.”<sup>11</sup> While the acquisition boundary may capture all foreseeable acquisition opportunities, obviating the need for later adjustments, we encourage the Service to modify this and similar statements to reflect national policy. Currently, refuge managers can expand approved acquisition boundaries by up to ten percent or forty acres, whichever is greater, without a planning process or public involvement.<sup>12</sup> The Draft LPP thus conflicts with national guidance and may force FWS into a difficult public position, should the boundary need to be adjusted to accommodate unforeseen changes or opportunities.”

- “<sup>11</sup> Id. at 47 <sup>12</sup> Letter from U.S. Fish and Wildlife Serv. Dir. to U.S. Fish and Wildlife Serv. Reg’l Dirs. (June 27, 1996); Letter from Jamie Clark, U.S. Fish and Wildlife Serv. Dir. to U.S. Fish and Wildlife Serv. Reg’l Dirs. (Aug. 11, 2000). See also National Wildlife Refuge System Planning Policies (602 FW 1-4) for the U.S. Fish & Wildlife Serv., 88 Fed. Reg. 63547-63549 (Sep. 15, 2023) proposing to allow refuge managers to initiate minor expansions of up to 15% of approved acquisition boundaries or 50-acres, whichever is greater.”

*Service’s Response:* Comment noted. The Draft LPP and Draft EA do reflect current Service policy and would provide for minor expansions up to 10%. For clarity, the 10% cap on fee title acquisitions for the proposed Conservation Area is based on the Service’s definition of a conservation area; it is unrelated to the percentage for minor expansions. With the addition of 39,896 acres to the proposal for the Hilochee area as outlined in the Service’s response above under the Boundary for the Conservation Area topic, the revised 10% cap for fee title acquisitions for the Conservation Area would be 404,527 acres. If Service policy is changed to 15% for minor expansions, as is currently proposed, then the Service would have the ability to conduct minor expansions for any unit of the NWRS up to the new 15%. However, the 404,527-acre cap for fee title acquisitions for the

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Conservation Area has no relation to the minor expansion policy (and no relation to the existing 10% or proposed 15% for minor expansions); the fee title acre cap is based on the Service's definition of Conservation Area, which requires 10% or less of the project area to be in fee title. In accordance with Service policy (existing and currently proposed), any proposal to expand beyond the fee title acre cap would require a separate planning effort, public involvement, and associated compliance. The Draft LPP and Draft EA do not conflict with national policy. No changes were made to the documents regarding potential future minor expansions.

## **INDIGENOUS CULTURES AND TRADITIONAL PRACTICES**

*Comment:* Multiple comments were submitted regarding indigenous cultures and traditional practices; excerpts are listed to provide context.

- "...the Tribe (Miccosukee Tribe of Indians of Florida) is very keen to ensure that traditional use of the fee title lands that would be acquired by the Fish and Wildlife service will be provided for members of the Tribal community in order to continue their cultural and traditional practices."
- "... the Tribe is particularly keen to ensure that traditional use on Fish and Wildlife Service fee title land will be allowable, so that Tribal members will be able to continue their culture and traditional practices for gathering and for hunting."
- "This area is important to the Miccosukee Tribe of Indians of Florida and other indigenous cultures."

*Service's Response:* Comments noted. The Service greatly appreciates the engagement of Native American Tribes in this planning process. The Service is committed to continuing to build and enhance our relationships with indigenous cultures. The Service's Native American Policy ([510 FW 1](#)) provides a framework for government-to-government relationships to honor our trust responsibilities to Federally recognized Tribes. The Service began early coordination with five Tribal Nations during this planning process to develop awareness and understanding of their concerns to help frame development of the Proposed Action. Representatives of the Miccosukee Tribe of Indians of Florida and the Seminole Tribe of Florida were Planning Team members and actively assisted with the formation of the Draft LPP and Draft EA. The proposed Conservation Area was designed to have the ability on fee-title acquisitions to provide protection of cultural resources and provide opportunities for indigenous traditional, cultural, and medicinal uses. Traditional indigenous practices were specifically included in overarching Goal 3 Conserve Important Lands and Waters for the Benefit of All People. No changes were made to the documents.

## **GLADESMEN**

*Comment:* Multiple comments were received regarding Gladesmen; excerpts are listed to provide context.

- "We applaud the US Army Corps for conducting a cultural study and designating the Gladesmen Culture. We encourage the U.S. Fish and Wildlife Service to build upon this recognition and ensure that the Gladesmen culture is integral to the Everglades to Gulf Conservation Area."
- "Inclusion of Gladesmen and Sportsmen: The proposed conservation area should embrace the contributions of Gladesmen and sportsmen and ensure that they have a prominent place in the planning and management of this area. The Gladesmen culture is a valuable part of Florida's heritage, and we should honor and protect it."

*Service's Response:* Comments noted. The Service values continued interest in our planning and management activities. The Service will continue to engage interested parties, including those who identify as Gladesmen

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and sportsmen. The Service shares conservation values with the Gladesmen in this landscape. The "Gladesmen Culture", based upon Smith, Perlman and Reed (2011) and Simmons and Ogden (1998) is a subset of Florida's Cracker Culture present in the Everglades and Big Cypress Swamp during the late 19th and early 20th century. It remains unclear whether this culture actually is a definable "living community", a modern sportsmen group, or simply a historical and/or chronological designation that describes a male-dominated subsistence and settlement pattern present in southwest Florida prior to the creation of the national parks and the state's water control and drainage projects that began in the 19th century (NPS 2021 and 2022). Smith, Perlman, and Reed (2011) indicate that their thematic investigation was an "introductory study...not intended to be a complete historical treatment of Gladesmen." Their report, as well as Simmons and Ogden (1998), will aid in the Service's evaluation of late 19<sup>th</sup> to early 20<sup>th</sup> century historic properties, trails, and resource extraction locations in the Everglades and adjacent areas of southwest Florida. No changes were made to the documents.

## **WILDLIFE-DEPENDENT RECREATION**

### *GENERAL*

*Comment:* Multiple comments were received regarding wildlife dependent recreation uses for the proposed Conservation Area; excerpts are provided for context.

- "We also strongly support the Service's intention to provide wildlife dependent recreational opportunities on fee-title lands including hunting, fishing, wildlife observation, and education. These opportunities for the public to connect with natural resources within the Conservation Area are critical for fostering appreciation and support for the National Wildlife Refuge System and its conservation mission."
- "Recreation and Working Lands With such a significant amount of land going into long-term conservation, it is likely that some fee-title and less-than-fee-title acquisitions encompass significant acreages of private lands with willing supporters of nature-based recreation, including hunting and fishing. FWC staff would support opportunities for nature-based recreation throughout the Everglades to Gulf Conservation Area and the Land Protection Plan and Environmental Assessment should allow for these activities when appropriate."
- "The acquisition of fee simple lands by the USFWS will result in increased hunting and recreational opportunities. These lands, managed as Wildlife Management Areas, will be a valuable asset for outdoor enthusiasts and further strengthen the bond between sportsmen and conservation."
- "Efforts must be made to be inclusive of both passive and consumptive recreational use. The Everglades to Gulf Conservation Area will be enjoyed by various user groups, and a diverse range of recreational activities should be accommodated in the planning process."

*Service's Response:* Comments noted. The NWRS Improvement Act established six priority public uses on units of the NWRS: hunting, fishing, wildlife observation, wildlife photography, and environmental education, and interpretation. Although these priority uses must receive consideration in planning for public use, they also must be compatible with the purposes for which a NWRS unit is established and the mission of the NWRS as a whole. Multiple Service policies apply to potential uses of a unit of the NWRS, notably the Appropriate Use and Compatible Use policies ([603 FW 1](#) and [603 FW 2](#), respectively; these policies address appropriate and compatible use of units of the NWRS) and the Biological Integrity, Diversity, and Environmental Health Policy (601 FW 3; which is where the Service articulates its policy for maintaining and restoring, where appropriate, the biological integrity, diversity, and environmental health of the NWRS). Compatibility determinations, which evaluate the effects of a particular use or activity in the context of species or habitats on a NWRS unit, aid in

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making those decisions. As fee-title lands are acquired, appropriate use and compatibility determinations will be used to decide which, where, and how public use opportunities will be permitted. No changes were made to the documents.

### *OFF-ROAD VEHICLES AND AIRBOATS*

*Comment:* Multiple comments were received regarding ORV use for the proposed Conservation Area; excerpts are provided for context.

- “NPCA’s Recommendations for clarifications needed in the E2G CA EA Proposed Off-Road-Vehicle Use: The proposed E2G CA EA lists six priority public uses that could be possible on fee-simple acquisitions within the CA, including hunting, fishing, environmental education, interpretation, wildlife observation, and photography. In addition, the CA also states that, “Potential public uses supporting priority public uses would also be considered (depending on the specifics of a particular property acquired), may include bicycling, boating, hiking, jogging, horseback riding, camping (with limitations), ORV use (with limitations), and facilities to support any of the approved uses.” (pg. 47)  
The E2G CA EA identifies a number of ecological impacts associated with ORV/ATV use, including altering habitat structure and function, reduced species richness and diversity, hydrologic alterations, soil rutting, water quality concerns, and visitor experience issues, amongst others. ORV/ATV use is listed as a potential supporting use for hunting, and page 271 of the EA states that ORV/ATV use would be allowed with a special use permit for those with mobility impairments. Given the serious impacts that can occur due to ORV overuse, and that have already occurred in some existing protected areas in southwest Florida, NPCA recommends clarifying whether the scope of ORV/ATV as a potential public use is contemplated beyond that identified on page 271 (i.e. beyond any limited use that would be specific only to supporting those with mobility impairments). If so, NPCA recommends delineating clear, enforceable guidelines for ORV/ATV use that ensures compatibility with wildlife, water, and other conservation goals, as well as monitoring requirements. Because of the well-documented negative ecological impacts associated with ORV/ATV use, we recommend significantly minimizing any potential ORV use areas in addition to limiting the potential for ORV/ATV use in the future acquired areas only to the special use permits identified on page 271.”
- “We recognize the “big six” wildlife-dependent public uses (hunting, fishing, environmental education, wildlife observation, photography), but note that each site’s natural resources may dictate the compatibility of these public uses. 2 For example, the Draft LPP suggests that use of ORVs to support the approved uses -even with limitations to only people with mobility impairments- may lead to other resource impact concerns. ”
- “Expanding Access for Off-Road Vehicles and Airboats: We also emphasize the importance of access for off-road vehicles and airboats as a means to enhance the recreational experience for the public. These activities provide opportunities for exploration and enjoyment of the natural environment.”

*Service’s Response:* Comments noted. Multiple Service policies apply to potential uses of a unit of the NWRS, notably the Appropriate Use and Compatible Use policies ([603 FW 1](#) and [603 FW 2](#), respectively; these policies address appropriate and compatible use of units of the NWRS) and the Biological Integrity, Diversity, and Environmental Health Policy ([601 FW 3](#); which is where the Service articulates its policy for maintaining and restoring, where appropriate, the biological integrity, diversity, and environmental health of the NWRS). The Draft LPP and Draft EA specifically addressed the use of ORVs, including in the draft Hunting Compatibility Determination, as a means of access only under Service special use permit for people with mobility impairments. Given the purposes and goals of the proposed Conservation Area, general ORV use was not

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included. As lands are acquired, consideration of other potential uses will be handled by additional future planning, public involvement, and compliance. No changes were made to the documents.

## HUNTING

*Comment:* Multiple comments were received supporting and opposing hunting on the proposed Conservation Area; excerpts are listed for context.

- “Consider, in addition, the wide range of wild animals that scientific studies in recent years have indicated are likely to be sentient, and thus experience significant suffering at our hands. See the review by Browning & Birch (2022), for example (<https://doi.org/10.1111/phc3.12822>), and the paper by Ferrero et al. (2023) (<https://doi.org/10.1111/cobi.14101>). There are strong indications that mammals, birds, and even fish possess nociception and respond to pain and the administration of anesthetics, in addition to expressing many other functions such as the capacity for socialization. However, our game laws do not yet come close to reflecting concern for the painless killing of wild animals. Therefore, our public lands should protect these animals absent a consensus on humane treatment, not prioritize slaughter activities. As a consequence of these ecological and animal welfare concerns, hunting and fishing are killing sports and not recreational public uses, and they should not be identified for favorable treatment. Private and state lands are plentiful for hunting and fishing where desired by private citizens. Exploitative uses such as hunting and fishing are available across the state of Florida. There is no shortage. There is a shortage, however, of publicly accessible spaces for the public to engage in coexistence and cohabitation with wild plants and animals, without competing with uses like hunting that endanger the health of any other person present at the time.”
- “Also notable is the reference in the document to the Service fostering ‘youth hunts.’ Under what circumstances would it be appropriate to educate our young people in the capacity to kill wild animals? Perhaps if we lived in a world of abundance, that might be one point of view. Instead, countless species are now lost to us, perhaps irretrievably, because either some humans in ancient history needed them to survive and did not understand our impacts on them, or today some few think killing animals is ‘recreation.’ In fact, however, only 4% of Americans today do any hunting at all. The education of young people in killing sports is under no circumstances a public function of the federal agency tasked with conserving wildlife.”
- “SCI South Florida Chapter is deeply committed to passing on the traditions of ethical hunting to the next generation. Our youth hunting programs not only provide valuable educational experiences but also foster a sense of responsibility towards conservation and the environment.”
- “To that end, the Service’s proposal to include hunting and fishing as ‘priority public uses’ is at odds with the conservation objectives of the Project and threatens to further ensconce the very activities that are causing much harm to the species the Service is mandated to protect. Therefore, the Service should not designate hunting and fishing as “priority public uses.” Where necessary, permitted hunting and fishing can be considered for specific lands subject to the Project under Compatibility Determinations. Certainly, at the very least, the Service should not be in the business of sponsoring ‘youth hunts.’”
- “I am writing to express my support for the USFWS Proposed Gulf to Everglades Wildlife Refuge Project and to emphasize the importance of including hunting and fishing as a supported activity on the refuge property. “
- “Hunting plays a crucial role in wildlife conservation efforts. It helps maintain balanced populations, controls invasive species, and supports habitat management. By allowing hunting on the refuge property, we can engage responsible hunters who contribute to the conservation funding through

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licenses and fees. This revenue can be reinvested into conservation initiatives, research, and habitat restoration, further enhancing the overall health of the ecosystem. Furthermore, hunting can foster a sense of stewardship and connection to nature among individuals who participate. It provides an opportunity for people to develop a deeper understanding and appreciation for wildlife and their habitats. By supporting hunting on the refuge, we can encourage responsible outdoor recreation and promote the values of conservation and sustainable use of natural resources. "

- "I would love to see some, if possible, larger land purchases where we have a more open hunting opportunity that doesn't require limited access quotas."
- "Our members participate in all forms of recreation, primarily hunting and fishing. And, I realize that 10% or 400,000 acres, is going to be slated to eventually be open to hunting, and that's where we want to urge the US Fish and Wildlife Service to concentrate on, for all sportsmen, but also to open it as much land as they can, whether it's walk-in access, drive-in access, whatever for hunters."
- "I also wanted to speak in support of recreational access, including any compatible hunting opportunities that the project could open up."
- "Hunting and fishing should not be highlighted as 'priority use' areas on Service acquired lands, and 'youth hunts' definitely should not be supported."
- "It does not seem appropriate to identify hunting and fishing—killing 'sports'—as 'priority use' activities on publicly-acquired lands. It is important to remember the species hunted to extinction, or the brink of extinction, in recent years across the United States. In the Everglades' own backyard, the Florida Key deer has been hunted almost to extinction. The extinction of Florida wildlife is already an issue front and center – the Key deer, the panther, the manatee, the crocodile, the sawfish, and many others (mammals, birds, fish, and others) have suffered from human extractive uses in South Florida, and their populations are in dramatic decline. Public lands should be held open to the public for non-lethal, non-competitive uses, as they typically are in national parks (without hunting). Non-extractive and non-exploitative public users should not have to compete with the same uses that threaten to deepen the very threats of endangerment and extinction that the Project aims to address."
- "The creation of the Everglades to Gulf Conservation Area provides a platform to develop opportunities for both new youth hunters and adult hunters. These programs will not only encourage engagement with the outdoors but also instill a sense of responsibility for the environment. We envision mentorship programs, workshops, and access to designated areas for hunting, fishing, and other outdoor activities."
- "It is paramount that the proposal guarantees the perpetual existence of sportsmen and sportswomen on the landscape. This includes securing accessible and well-maintained areas for outdoor activities, establishing a framework for educational initiatives, and fostering a deep appreciation for conservation values among new generations."
- "ASA (American Sportfishing Association) would not support prohibitions on lead or traditional tackle in the Conservation Area that are not based on science demonstrating population level impacts to wildlife. Although such a prohibition is not proposed in the Draft Land Protection Plan and Environmental Assessment (or Draft Conceptual Management Plan), we raise this issue because of the June 2023 announcement by FWS to prohibit lead tackle and ammo in areas of expanded hunting and fishing opportunities in several National Wildlife Refuges, including Everglades Headwaters."

*Service's Response:* Comments noted. The Service has a long tradition of providing opportunities for hunting. As outlined in the NWRS Improvement Act, hunting is one of the six priority public uses of the NWRS. The NWRS Improvement Acts states that "compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the Refuge System." The Draft LPP and Draft EA articulated the Service's enduring commitment to providing appropriate and compatible opportunities for hunting. The Draft LPP and Draft EA,

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Interim Hunting Compatibility Determination (Appendix C), and Conceptual Management Plan (Appendix B) all included hunting as a use of the proposed Conservation Area. Hunting was specifically included for the proposed Conservation Area under overarching Goal 3 Conserve Important Lands and Waters for the Benefit of All People. The Draft LPP and Draft EA and the Draft Interim Hunting Compatibility Determination (Appendix C) also reflected future discussions with FWC regarding potential opportunities for Service fee-title acquisitions to be included in state wildlife management areas (WMAs) or to complement nearby WMA hunting rules. Based on the proposed Conservation Area's purposes, overarching goals, and criteria outlined in the Draft LPP and Draft EA, the Service would evaluate properties acquired to determine if/where/when/how opportunities for hunting would be compatible, dependent upon a variety of factors, including management priorities, other priority public uses (i.e., fishing, wildlife observation, photography, environmental education, and interpretation), size and configuration of contiguous blocks of property, juxtaposition in the landscape, access points, habitat conditions, target wildlife population status, and public safety. Hunting on a unit of the NWRS must comply with a variety of laws, regulations, and policies; of importance are the Appropriate Use and Compatible Use policies ( and , respectively) and the Biological Integrity, Diversity, and Environmental Health Policy (; which is where the Service articulates its policy for maintaining and restoring, where appropriate, the biological integrity, diversity, and environmental health of the NWRS). In order to open the proposed Conservation Area to hunting, the Service would need a sufficient land base and staffing to support the use, and the Service would need to prepare a hunt opening package during the annual Hunting and Sport Fishing Rulemaking process that includes additional planning, public involvement, and compliance. This additional planning process would evaluate any proposed hunting on a specific area for specific species under specific conditions and restrictions. We only allow hunting on units of the NWRS where we have determined that the opportunity is sustainable and compatible. Hunt programs on units of the NWRS are not designed to allow hunters an unfair advantage over the hunted. State and Federal Law Enforcement Officers patrol to enforce hunting laws and regulations. Hunting on units of the NWRS follow state regulations or are more restrictive than state regulations. As the lead State agency for administering hunting programs, FWC has the expertise, experience, and established protocol for managing WMAs and the Service would explore the opportunity of entering into a cooperative agreement with FWC for the management of Service-owned lands as WMAs.

The Service continues to coordinate with the states, including the state of Florida, regarding the use of lead ammunition and tackle on units of the NWRS. As part of this coordination and through outreach and education efforts, the Service is actively engaging partners and other interested parties at the local levels to encourage the voluntary use of non-lead ammunition and tackle (e.g., through lead ammunition and tackle swaps and non-lead trainings).

Hunt programs on units of the NWRS, while involving the killing of individual animals, are developed with humaneness and animal welfare concerns. All methods of approved take are developed with the objective of humanely dispatching the animal. Youth hunting programs are designed to encourage youth to spend time outside, learn to make observations about the environment around them and provide families with opportunities to enjoy the outdoors together. Established hunter training, hunter ethics, and hunter responsibilities help ensure that hunters continue to use good judgement related to humaneness and animal welfare. No changes were made to the documents.

#### *HUNT OPENING PACKAGE*

*Comment:* One comment was received requesting we change the timeline from completing an opening hunt package from 3 to 5 years to no longer than 2 years.



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*Service's Response:* Comment noted. The Service annually publishes the Hunting and Sport Fishing Rule in the Federal Register to announce proposed changes to the Code of Federal Regulations in relation to hunting and sport fishing on units of the NWRS and to announce any openings of units or portions or units to hunting of specified species. The Service conducts planning, public involvement, and compliance appropriate to the proposed action to open or expand hunting on a unit of the NWRS; the timing of the action depends on a myriad of factors. All units of the NWRS are closed to public use until officially opened. In the case of the proposed Conservation Area, the Service estimated it would be a minimum of 3 to 5 years before a sufficient property base could be acquired to support a hunting program and the required initial opening planning documents completed (such as a Visitor Services Plan and associated Hunting and Fishing Plan). The time frame to acquire a sufficient property base could be shorter or longer. The planning process to open acquired fee-title lands to hunting and fishing generally takes 2-3 years to complete. Each additional fee-title parcel added to the Conservation Area would also need to complete an opening package before hunting and fishing could occur which generally takes 2-3 years following acquisition. Based on the proposed Conservation Area's purposes, overarching goals, and criteria outlined in the Draft LPP and Draft EA, the Service would evaluate properties acquired to determine if/where/when/how opportunities for hunting would be compatible, dependent upon a variety of factors, including management priorities, other priority public uses (i.e., fishing, wildlife observation, photography, environmental education, and interpretation), size and configuration of contiguous blocks of property, juxtaposition in the landscape, habitat conditions, target wildlife population status, and public safety. The Service strives to be responsive and as quickly as possible provide wildlife dependent recreational opportunities while ensuring compliance with policy and regulation requirements. No changes were made to the documents.

## *FISHING*

*Comment:* Multiple comments were received regarding fishing, including support for and opposition to the use in the proposed Conservation Area; excerpts are listed to provide context.

- "ASA (American Sportfishing Association) also safeguards and promotes the social, economic, and conservation values of sportfishing in America, which result in a \$148 billion per year impact on the nation's economy. In Florida, the Fishing Capital of the World, this translates to a significant \$13.9 billion economic engine supporting over 120,000 jobs and makes clean waters, abundant fisheries, and access to fishing opportunities in the State of paramount importance to our industry. The proposed Everglades to Gulf Conservation Area provides an outstanding opportunity to conserve and restore lands and waters that are critical to maintaining and improving fish habitats and water quality in southwest Florida. ... it will provide tangible benefits to fisheries, water quality, and local ecosystems in the Greater Everglades, Myakka River, Peace River, Fisheating Creek, Caloosahatchee River, and coastal estuaries including Charlotte Harbor. ... This will allow FWS the opportunity to provide wildlife-dependent recreation opportunities, such as fishing, in the Conservation Area. ... ASA is generally supportive of mirroring state fishing regulations and providing youth fishing opportunities in the Conservation Area..."
- "To that end, the Service's proposal to include hunting and fishing as 'priority public uses' is at odds with the conservation objectives of the Project and threatens to further ensconce the very activities that are causing much harm to the species the Service is mandated to protect. Therefore, the Service should not designate hunting and fishing as "priority public uses." Where necessary, permitted hunting and fishing can be considered for specific lands subject to the Project under Compatibility Determinations."



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- “I am writing to express my support for the USFWS Proposed Gulf to Everglades Wildlife Refuge Project and to emphasize the importance of including hunting and fishing as a supported activity on the refuge property. ““Hunting plays a crucial role in wildlife conservation efforts. It helps maintain balanced populations, controls invasive species, and supports habitat management. By allowing hunting on the refuge property, we can engage responsible hunters who contribute to the conservation funding through licenses and fees. This revenue can be reinvested into conservation initiatives, research, and habitat restoration, further enhancing the overall health of the ecosystem. Furthermore, hunting can foster a sense of stewardship and connection to nature among individuals who participate. It provides an opportunity for people to develop a deeper understanding and appreciation for wildlife and their habitats. By supporting hunting on the refuge, we can encourage responsible outdoor recreation and promote the values of conservation and sustainable use of natural resources. “
  - “Our emphasis is on the contributions of sportsmen and ensuring timely access to these areas, recognizing the pivotal role they play in conservation, and the critical importance of the Florida Wildlife Corridor.”
  - “Hunting and fishing should not be highlighted as ‘priority use’ areas on Service acquired lands...”
  - “It does not seem appropriate to identify hunting and fishing—killing ‘sports’—as ‘priority use’ activities on publicly-acquired lands. It is important to remember the species hunted to extinction, or the brink of extinction, in recent years across the United States. In the Everglades’ own backyard, the Florida Key deer has been hunted almost to extinction. The extinction of Florida wildlife is already an issue front and center – the Key deer, the panther, the manatee, the crocodile, the sawfish, and many others (mammals, birds, fish, and others) have suffered from human extractive uses in South Florida, and their populations are in dramatic decline. Public lands should be held open to the public for non-lethal, non-competitive uses, as they typically are in national parks (without hunting). Non-extractive and non-exploitative public users should not have to compete with the same uses that threaten to deepen the very threats of endangerment and extinction that the Project aims to address.”
  - “It is paramount that the proposal guarantees the perpetual existence of sportsmen and sportswomen on the landscape. This includes securing accessible and well-maintained areas for outdoor activities, establishing a framework for educational initiatives, and fostering a deep appreciation for conservation values among new generations.”
  - “ASA (American Sportfishing Association) would not support prohibitions on lead or traditional tackle in the Conservation Area that are not based on science demonstrating population level impacts to wildlife. Although such a prohibition is not proposed in the Draft Land Protection Plan and Environmental Assessment (or Draft Conceptual Management Plan), we raise this issue because of the June 2023 announcement by FWS to prohibit lead tackle and ammo in areas of expanded hunting and fishing opportunities in several National Wildlife Refuges, including Everglades Headwaters.”

*Service’s Response:* Comments noted. The Service has a long tradition of providing opportunities for fishing. As outlined in the NWRS Improvement Act, fishing is one of the six priority public uses of the NWRS. The NWRS Improvement Acts states that “compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the Refuge System.” The Draft LPP and Draft EA articulated the Service’s enduring commitment to providing appropriate and compatible opportunities for fishing. The Draft LPP and Draft EA, Interim Fishing Compatibility Determination (Appendix C), and Conceptual Management Plan (Appendix B) all included hunting as a use of the proposed Conservation Area. Fishing was specifically included for the proposed Conservation Area under overarching Goal 3 Conserve Important Lands and Waters for the Benefit of All People. Based on the proposed Conservation Area’s purposes, overarching goals, and criteria outlined in the Draft LPP and Draft EA, the Service would evaluate properties acquired to determine if/where/when/how opportunities for fishing would be compatible, dependent upon a variety of factors, including management

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priorities, other priority public uses (i.e., fishing, wildlife observation, photography, environmental education, and interpretation), size and configuration of contiguous blocks of property, juxtaposition in the landscape, access points, habitat conditions, target wildlife population status, and public safety. Fishing on a unit of the NWRS must comply with a variety of laws, regulations, and policies; of importance are the Appropriate Use and Compatible Use policies ([603 FW 1](#) and [603 FW 2](#), respectively) and the Biological Integrity, Diversity, and Environmental Health Policy ([601 FW 3](#); which is where the Service articulates its policy for maintaining and restoring, where appropriate, the biological integrity, diversity, and environmental health of the NWRS). In order to open the proposed Conservation Area to fishing, the Service would need a sufficient property base and staffing to support the use, and the Service would need to prepare a sport fishing opening package during the annual Hunting and Sport Fishing Rulemaking process that includes additional planning, public involvement, and compliance. This additional planning process would evaluate any proposed fishing on a specific area for specific species under specific conditions and restrictions. We only allow fishing on units of the NWRS where we have determined that the opportunity is sustainable and compatible. State and Federal Law Enforcement Officers patrol to enforce fishing laws and regulations. Fishing on units of the NWRS follow state regulations or are more restrictive than state regulations. The Service continues to coordinate with the states, including the state of Florida, regarding the use of lead ammunition and tackle on units of the NWRS. As part of this coordination and through outreach and education efforts, the Service is actively engaging partners and other interested parties at the local levels to encourage the voluntary use of non-lead ammunition and tackle (e.g., through lead ammunition and tackle swaps and non-lead trainings). Fishing programs on units of the NWRS, while involving the killing of individual animals, are developed with humaneness and animal welfare concerns. All methods of approved take are developed with the objective of humanely dispatching the animal. Established angler ethics help ensure that anglers continue to use good judgement related to humaneness and animal welfare. No changes were made to the documents.

#### *PUBLIC ACCESS TO PROPERTIES ACQUIRED IN LESS-THAN-FEE TITLE*

*Comment:* Multiple comments were received addressing public use opportunities to properties acquired in less-than-fee title; excerpts are listed to provide context.

- “We also advocate for developing limited public access to private lands with conservation easements. This approach can provide the public with valuable opportunities for recreation while respecting the rights and interests of private landowners.”
- “We support a mixture of fee and less-than-fee (conservation easements) acquisitions. Additionally, recreational uses should be tailored to and compatible with meeting the conservation objectives of each property.”

*Service’s Response:* Comments noted. The Draft LPP and Draft EA articulated the Service’s commitment to providing appropriate and compatible wildlife-dependent recreational opportunities, which was specifically included for the proposed Conservation Area under overarching Goal 3 Conserve Important Lands and Waters for the Benefit of All People. With the acquisition of properties for the proposed Conservation Area, the Service would evaluate them for potential opportunities for appropriate and compatible wildlife-dependent recreation. On less-than-fee-title lands, decisions for allowing public access for recreation remains with the landowner. No changes were made to the documents.

## **ADMINISTRATION**

### *FUNDING/BUDGET*

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*Comment:* Multiple comments were received regarding funding and budget for the proposed Conservation Area; excerpts are listed to provide context.

- “To enable this future Everglades to Gulf Conservation Area to operate at its potential, full funding is required. The unique resources in Southwest Florida warrant scaled investment in management to meet both user and ecological needs of the area.”
- “Adequate funding for both acquisition and management of this Conservation Area is also critical to success. The National Wildlife Refuge system has for many years been woefully underfunded when considering the incredibly vital role that it plays in protecting and recovering the nation’s imperiled wildlife and assuring the sustainability of the included and nearby human communities and working lands. This Conservation Area will only succeed with adequate investment from the Land and Water Conservation Fund, NAWCA, and other collaborative sources.”
- “The State of Florida appropriated \$850 million dollars during the 2023 state legislative session towards the protection of lands in the “Ocala to Osceola Wildlife Corridor”. This is in addition to the passage of the Florida Wildlife Corridor Act of 2021 to protect the “Florida Wildlife Corridor”, which has resulted in the budgeting of nearly \$2 billion for protecting lands since 2021. While the total amount of acreage encompassed in these two overlapping corridors totals more than 18 million acres, only 120,000 acres in or adjacent to them has been approved for protection to date. The proposed EGCA overlaps a large central portion of the Florida Wildlife Corridor. While there is substantial state investment to date towards acquiring easements and fee-simple acquisition of lands from willing sellers, it is far below the estimated total amount needed. The federal government has a shared interest in protecting these lands, which are habitat to 17 federally threatened or endangered species. The proposed federal EGCA initiative with the associated federal funding it could bring, is urgently needed and will augment state funding towards accomplishing this shared state-federal objective.”
- “... federal designation for this area will attract increased funding opportunities for acquisition, restoration, and private funding. This, in turn, reinforces the conservation efforts in the region.”
- “The success of the Conservation Area hinges on adequate resources for long-term management. It is essential that sufficient funding, personnel, and resources are built into the planning to ensure that the landscape remains healthy and accessible for generations to come.”
- “Here are some key points we would like to highlight in support of the Everglades to Gulf Conservation Area: 1. **Leveraging Funds:** The creation of the Everglades to Gulf Conservation Area will enable the USFWS to leverage funds in collaboration with state and other entities. The support of federal and state conservation dollars is widely encouraged by decision-makers, ensuring the efficient use of resources. 2. **Increased Funding Opportunities:** A federal designation for this area will attract increased funding opportunities for acquisition, restoration, and private funding. This, in turn, reinforces the conservation efforts in the region.”

*Service’s Response:* Comments noted. Multiple conservation laws, regulations, policies, programs, agencies, and non-governmental organizations are working to serve conservation goals and outcomes in this landscape; the Service’s proposed Conservation Area is simply one piece of this larger conservation matrix. On the Federal side, the Federal budget process has numerous steps: Federal agencies submit budget requests to the Office of Management and Budget (OMB), OMB refers to the agencies’ requests in the development of the budget proposal for the President, the President submits their budget request to Congress, Congressional subcommittees review the proposed funding, the House of Representatives and the Senate develop their own budget resolutions (which must be negotiated and merged into a single budget), Congress sends the approved funding bills to the President, and the President will sign or veto bills. Specific to the Everglades to Gulf

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Conservation Area proposal, numerous funding opportunities exist, including notably the Land and Water Conservation Fund. The Service will work with its partners to leverage additional resources to accomplish shared conservation goals within the proposed boundary. No changes were made to the documents.

*Comment:* “The Service Should Make Explicit that Taxpayer Dollars Will Not be Used to Acquire Properties. In 2022, Defenders commissioned a series of regional polls examining the support for the National Wildlife Refuge System. While four in five voters supported the modest expansion of the Refuge System, opponents partly objected on funding-related grounds. Specifically, there was a fear that expansion would require a greater tax burden on the general public. While the Draft Conceptual Management Plan (Draft CMP) notes that the primary funding mechanism will be the Land and Water Conservation Fund, with fees primarily paid by the development of offshore oil and gas, we recommend the Service make explicit in both the Draft CMP, LPP, and EA that tax dollars will not be used for acquisition. The socioeconomic section of the Draft EA should also note that counties will continue to receive tax revenues from easement lands.”

*Service’s Response:* Comment noted. The Service plans to utilize multiple types of acquisition funding for land purchases for inclusion in the Conservation Area. Two of the main acquisition funding sources are the Land and Water Conservation Fund (LWCF) and the Migratory Bird Conservation Fund (MBCF). Congress created the LWCF to fulfill a bipartisan commitment to safeguard America’s natural areas and provide public outdoor recreation opportunities for all Americans. Revenue from offshore oil and gas leases on the Outer Continental Shelf are deposited in the LWCF; this is the largest source of Federal money for parks and wildlife. In 2020, the [Great American Outdoors Act](#) was signed into law, authorizing \$900 million annually in permanent funding for LWCF. Revenue from the sale of Federal Duck Stamps and import duties on arms and ammunition is deposited in the MBCF for the conservation of important waterfowl habitat. The MBCF generates an average of \$750 million per year. No changes were made to the documents.

## *PARTNERSHIPS*

*Comment:* Multiple comments were received addressing partnerships; excerpts are listed to provide context.

- “As technology and economic conditions change, there is great need for an interdisciplinary approach that involves all stakeholders, that allows for flexibility in uncertain times. FLR has a commitment to, and experience with, using creative and adaptive strategies in partnership with NGOs, landowners, and governments to conserve land in perpetuity including innovative public-private partnerships. One such partnership became the foundation parcel for the establishment of the Everglades Headwaters National Wildlife Refuge and Conservation Area. Hatchineha Ranch in Polk County was a partnership between our client and landowner Hatchineha Ranch LLC and The Nature Conservancy (TNC) to conserve over 5,000 acres through the part-sale/part-donation of the lands and the establishment of a wetland mitigation bank, an upland conservation bank for sand skinks, scrub jays and gopher tortoises, with the western portion being added to Everglades Headwaters through various sales and donations.”
- “We encourage USFWS to approve the acquisition boundary, allowing the agency to join other federal, state, local, and private entities able to acquire and ease properties from willing landowners. Indeed, having an additional option gives landowners more choice—different easement programs have different requirements. Splitting the cost of conservation among the different entities also helps motivate taxpayers and decision-makers to continue investing in conservation.”
- “The most transformative aspect of this proposal, however, is the tremendous opportunity for the U.S. Fish and Wildlife Service (Service) to partner with other federal, state, and local agencies, NGOs, and

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private entities to produce conservation outcomes at a scale that the Service could not achieve on its own. 1”

- “1 The National Wildlife Refuge System Improvement Act contemplates this very type of collaborative approach by directing the Service to ‘plan and direct the continued growth of the System in a manner that is best designed to accomplish the mission of the System, to contribute to the conservation of the ecosystems of the United States, to complement efforts of States and other Federal agencies to conserve fish and wildlife and their habitats, and to increase support for the System and participation from conservation partners and the public.’ 16 U.S.C. § 668dd(a)(4)(C).”
- “The inclusion of sportsmen in the management and stewardship of our public lands is paramount. Sportsmen bring a unique perspective, passion, and understanding of the environment. They are dedicated partners in responsible land management, and their participation should be encouraged.”
- “The Everglades to Gulf Conservation Area proposed plan also includes lands within the Florida Wildlife Corridor which received dedicated funding from the Florida Legislature. This should bolster the mission of both the Everglades to Gulf Conservation Area and the Florida Wildlife Corridor to increase conservation lands and ensure habitat connectivity across Southwest Florida.”
- “The Everglades to Gulf Conservation Area supports the existing South Florida ecosystem restoration program and the Comprehensive Everglades Restoration Plan (CERP). CERP, authorized in the Water Resources Development Act (WRDA) of 2000, anchors a multi-billion-dollar, joint state and federal partnership which has been underway for many years. The Everglades to Gulf Conservation Area should help conserve lands within the South Florida ecosystem that may otherwise be lost to development or impacted by habitat loss, hydrologic alteration, or other means.”
- “The Everglades to Gulf Conservation Area complements ongoing acquisition efforts by various entities, including Florida Forever, Rural and Family Lands, NRCS, and county programs. This initiative aligns with state-designated Florida Wildlife Corridor and shared conservation priorities, reinforcing the need for a multi-agency partnership. The combined efforts of state, federal, and local entities are paramount in achieving the necessary conservation goals in this region.”
- “The mix of conservation acquisition tools also increases options for leveraging partnerships and funding with federal and state conservation programs, like USDA’s Natural Resources Conservation Service, the Rural and Family Lands Protection Program, Florida Forever, and the Florida Wildlife Corridor.”
- “Finally, you might want to check with The Nature Conservancy for resources or partnership opportunities.”
- “Many counties have environmental acquisition and management programs that could greatly benefit new funding partnerships to expand existing areas or help with offsetting the cost of conservation easements of our working lands. I personally know landowners in the region who want to keep their lands as ranches, farms, and other working lands but lack the ability with current levels of funding. This plan will help landowners, the public and wildlife alike.”
- “The Everglades to Gulf Conservation Area represents a crucial complement to state efforts in safeguarding the Florida Wildlife Corridor and other critical green infrastructure. We firmly believe that the USFWS should play an active role alongside state, NRCS, and local agencies in this conservation endeavor.”
- “This initiative aligns with state-designated Florida Wildlife Corridor and shared conservation priorities, reinforcing the need for a multi-agency partnership. The combined efforts of state, federal, and local entities are paramount in achieving the necessary conservation goals in this region.”
- “Splitting the cost of conservation among different entities also helps motivate taxpayers and decision makers to continue investing in conservation.”

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- “Florida Gladesmen LLC is committed to actively supporting this project and working in partnership with the U.S. Fish and Wildlife Service and other stakeholders. We look forward to contributing to the preservation of our cultural heritage and the conservation of the Everglades to Gulf region.”
  - “I want to point out that elected officials in Southwest Florida did recently approve to spend money that had been set aside by taxpayers through a referendum program, and while it may be made whole at some other time, even those local agencies that have programs that can set aside money are also at risk of losing funds, to put those funds towards other projects and issues. So this funding at the federal level for protection of habitat and wildlife is highly needed, both at the federal, state and local level.”
  - “And I wanted to emphasize that Polk County voters, via a referendum last November, renewed the funding for the purchase of environmental land purchases which this time around specifically allows for the purchase of conservation easements. This year it will generate a little over \$11 million and our program administrators are masters at funding collaborations.”
  - “We strongly advocate for collaboration among stakeholders, including local communities, conservation organizations, and sportsmen, in the decision-making processes. Our collective input is vital to ensure that the Conservation Area meets the diverse needs of the region.”
  - “I want to assure everybody listening that the Miccosukee Tribe considers its stewardship and conservation of its lands held in Federal trust as a top priority, and that Federal trust land should complement any efforts here to acquire additional lands for creating that connectivity.”

*Service’s Response:* Comments noted. Nationwide, the Service is committed to working with partners to serve conservation goals and outcomes. The stated mission of the Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. The Service is dedicated to continuing to work with existing and future partners for conservation benefits in the Everglades to Gulf landscape. The Southwest Florida LCD (Morris et al. 2022, Appendix E) provides a partnership-driven framework for conservation priorities and actions by the variety of conservation partners and landowners in this landscape. Multiple conservation laws, regulations, policies, programs, agencies, and non-governmental organizations are working to serve conservation goals and outcomes in this landscape; the Service’s proposed Conservation Area is simply one piece of this larger conservation matrix. As the mix of partners and landowners work together, we can take advantage of opportunities to leverage our missions, goals, staffs, projects, and funding to result in desired on the ground conservation outcomes. No changes were made to the documents.

#### *LOCAL GOVERNMENT COORDINATION*

*Comment:* Multiple comments were received regarding local government coordination; excerpts are provided for context.

- “The Draft LPP further envisions several opportunities to coordinate with local governments to leverage and achieve several local conservation goals. For example, the Draft LPP states: • [Highland County’s] Conservation Trust Fund is funded through voluntary contributions, mitigation or impact fees, matching grants, and referendum while other sources of funding as recommended by the Highlands County Natural Resources Advisory Commission (NRAC) are considered by the Board... The proposed Conservation Area can leverage opportunities with these ongoing efforts for natural resource protection. (Draft LPP at 37); • The proposed Conservation Area can complement these efforts [by Conservation Collier] by leveraging acquisition opportunities to ensure contiguous protection of lands and waters (Draft LPP at 37-38); • Acquisition of lands for permanent protection will contribute to the County’s efforts of Conservation Charlotte (Draft LPP at 39); • The proposed Conservation Area shares

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similar goals and objectives and efforts to protect water and natural resources will complement the Lee County Program (Draft LPP at 39); • The proposed Conservation Area can help achieve the natural resource criteria of the [Manatee County] ELP including ecological quality, rarity of species or habitat, importance to water resources and connectivity (Draft LPP at 40); • The proposed Conservation Area could provide opportunities to create contiguous conservation protection to ensure vitality of sensitive lands [in Polk County]. (Draft LPP at 40); • Any fee-title or less-than-fee-title acquisition efforts within the proposed Conservation Area could complement the connectedness of landscape, water quality, and natural habitat objectives of the [Sarasota County Environmentally Sensitive Lands Protection Program and Neighborhood Parklands Acquisition Program] ESLPP (Draft LPP at 40-41). It remains unclear, however, just how the Service envisions working with local governments throughout the creation of the Conservation Area. Aside from obviously expanding the spatial extent and connectivity of conservation lands across several counties within the acquisition boundary, the Draft LPP hints that there may be more, but it provides few details. It doesn't explain whether and to what extent the Service will coordinate with these local governments in administering these initiatives, whether local land acquisitions could be considered part of the Conservation Area (and if so, how they would be managed), and what the Service means by "leveraging opportunities" with these local initiatives. Are there cost-share opportunities? Could some properties be co-managed with local governments? These types of details are important because there is a tremendous opportunity to work collaboratively to achieve federal, state, and local conservation milestones all while establishing an interconnected mosaic of conservation lands throughout the 4-million-acre acquisition boundary. Explaining the Service's level of engagement from the onset will help formulate a road map moving forward."

- "Moreover, local governments are often the first (and many times only) line of defense to urban sprawl that eats away from wildlife corridors and presents obstacles to landscape scale conservation efforts. In addition to partnering with local governments to identify opportunities to maximize the conservation footprint, the Service should also discuss its role in engaging with local governments to address potential challenges to implementing a proposal that is so dependent on maintaining landscape connectivity. This includes working with local governments to protect against external threats as required by the National Wildlife Refuge System Improvement Act. 9"
  - "9 See 601 FW 3.20 'How do we protect biological integrity, diversity, and environmental health from actions outside of refuges?'"

*Service's Response:* Comments noted. The Service coordinated with multiple local governments across the Study Area in the development of the proposed Conservation Area. Multiple conservation laws, regulations, policies, programs, agencies, and non-governmental organizations are working to serve conservation goals and outcomes in this landscape; the Service's proposed Conservation Area is simply one piece of this larger conservation matrix. The Service will continue to coordinate with local governments in this landscape. If approved, the Service will work with local, state, federal, and private organizations to advance conservation on high priority areas for conservation. Many times, these areas require leveraging of funds to achieve protection through easement or fee-title acquisition, the two tools the Service may use in this landscape. The creation of a conservation area also provides the Service strategic focus for ecological protection that may overlap with our partners' protection objectives for high ecological areas. The Service does not expect to achieve the landscape level protection alone. It takes all interested partners to achieve protection of resources at this scale. The approval of this proposed Conservation Area provides the Service a "seat at the table" to achieve resource protection. In the Draft LPP and Draft EA, the Relationship of Project to Landscape Conservation Goals and Objectives (Pages 24-42) briefly discusses other conservation agencies efforts and how the proposed Everglades to Gulf Conservation Area might contribute to other natural resource protection efforts at National, State, local, and non-governmental agency levels. It is important to note that multiple Federal, state, and local

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laws impact development. Individual cities and counties regulate land use, zoning, and development within their respective jurisdictions with some state permits, reviews, and oversight. The Service’s proposed Everglades to Gulf Conservation Area does not impact the fundamental rights and abilities of cities and counties to govern development, land use, and zoning within their respective jurisdictions. No changes were made to the documents.

## **PLANNING PROCESS AND PLANNING DOCUMENTS**

### *PLANNING PROCESS*

*Comment:* Multiple comments and questions were received regarding the planning process; excerpts are listed to provide context.

- “What other stakeholder input has not been captured?”
- “Where can all public comment to date be reviewed?”
- “How will beekeepers be engaged in the Draft Revision?”
- “... input to date is not as 'broad' as it could be.”
- “NPCA commends the USFWS for offering many avenues for stakeholders to be involved in the development of this priority landscape Conservation Area to protect Florida’s environmentally sensitive and vulnerable lands and waters.”
- “... the communication and outreach for ‘in person’ events seems to have reached insider agencies successfully, but not the environmentally minded community members in the general public or academics known to me, let alone landowners, the broader agricultural community or those holding conservation easements locally, such as the mining industry.”
- “Please reach out to our organizations, including the statewide organization and Farm Bureau, academics and agricultural economists and others, to coordinate and solicit feedback.”

*Service’s Response:* Comments noted. The Service conducted robust outreach and notification regarding the proposed Conservation Area. A 35-day Public Scoping period (March 14 to April 18, 2023) included seven public scoping meetings with 171 attendees (one virtual meeting with intergovernmental partners; two virtual public meetings; and four in-person public meetings in Wauchula, Arcadia, Immokalee, and Labelle). A press release and information posted on the project’s website provided additional information. Multiple articles and information appeared in a variety of media and formats, including a YouTube video published by Defenders of Wildlife and articles published by The Beaches Leader, POLITICO Pro, WGCU, National Wildlife Refuge Association, and Fort Myers News-Press. As an aside, non-governmental organizations also provided notice to their memberships. The Service received comments from individuals, private owners of large landholdings, non-governmental organizations and non-profit entities (at the local, regional, national, and international levels), researchers, local governments, state agencies, other Federal agencies, and Tribal governments.

The 35-day Public Review And Comment Period for the Draft Land Protection Plan and Environmental Assessment for the Proposed Establishment of Everglades to Gulf Conservation Area began on September 26, 2023, with a U.S. Fish and Wildlife Service press release requesting public review and comment. The news release posted on the project’s website ([Everglades to Gulf Conservation Area | U.S. Fish & Wildlife Service \(fws.gov\)](#)) and was distributed to over 300 media outlets and over 200 interested parties. Four public meetings occurred during the public review and comment period, including two virtual meetings on October 20, 2023, and October 23, 2023. The Service also held two in-person meetings. The in-person meetings were on October 25, 2023, and October 26, 2023, in Wauchula, FL, and Immokalee, FL, respectively. Information regarding the dates and locations of the public meetings and how to register and submit comments was included in the Service’s



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press release and posted to the project’s website. The Service also posted a video presentation on the project website that was viewed over 300 times as of January 2024. The comment period ended on November 1, 2023.

Various entities published articles about the proposed Everglades to Gulf Conservation Area, including but not limited to, the Coastal and Heartland National Estuary Partnership (date unknown); National Public Radio (date unknown); Telemundo (date unknown); Defenders of Wildlife on September 26, 2023; National Wildlife Refuge Association on September 28, 2023; WUSF on October 1, 2023; WLRN on October 2, 2023; The Invading Sea on October 3, 2023; Bradenton Herald on October 17, 2023; Your Sun on October 18, 2023; Inside Climate News on October 22, 2023; Florida Public TV on October 24, 2023; WFIT 89.5 FM on October 24, 2023; Florida Conservation Group on October 26, 2023; WGCU on October 27, 2023; WLRN on October 27, 2023; and Fox 4 Southwest Florida on October 31, 2023.

During Public Scoping, approximately 2,600 comments were received. During Public Review and Comment, approximately 3,000 comments were received. Substantive comments received during Public Scoping were reviewed in development of the Draft LPP and Draft EA. Substantive comments received during Public Review and Comment on the Draft LPP and Draft EA were reviewed in development of the final documents; all substantive comments were categorized and summarized in this appendix with the Service’s responses to those comments. To view all the comments submitted, an interested party may submit a Freedom of Information Act (FOIA) request by sending the Service a written request; please note, requests for targeted information tend to be able to be processed more quickly.

No changes were made to the documents specific to comments on the planning process.

#### *COMPREHENSIVE CONSERVATION PLAN*

*Comment:* One comment was received requesting expeditious development of a Comprehensive Conservation Plan (CCP) for the proposed Conservation Area; an excerpt is provided for context.

- “A Comprehensive Conservation Plan for the Refuge Should be Expeditiously Prepared and Finalized. We encourage FWS to prepare and finalize a comprehensive conservation plan (CCP) shortly after the Refuge is established and a suitable land base acquired. We acknowledge the staffing and funding challenges currently afflicting the System—40% of plans are either out-of-date or nonexistent<sup>16</sup>—but argue that CCPs nurture continued public engagement, while informing the development of step-down plans in a manner that CMPs simply cannot.<sup>17</sup> Recognizing that the Everglades Headwaters NWR and CA has yet to develop a CCP, we encourage the Service to consider “batching” the development of both refuges in the manner proposed by the updated planning policies for the Refuge System.<sup>18</sup> Should the policies be finalized, we believe the similar geographies, management issues, and staffing overlap between Everglades Headwaters and Everglades to Gulf may justify the development of a single, unified CCP, as described by 602 FW 3.
  - “16 National Wildlife Refuge Association, Funding Challenges of the National Wildlife Refuge System (2022), <https://static1.squarespace.com/static/5c2a3500f793923866cf19b8/t/649dab50632ae43e2adb1e21/1688054653483/Funding+Challenges+of+the+National+Wildlife+Refuge+System.pdf>”
  - “17 Service policy allows refuge managers to develop step-down management plans under the direction of conceptual management plans. 602 FW 1.7C(2). CMPs, however, are an inadequate substitute for CCPs and should not be relied on indefinitely, as has seemingly been the case for the Everglades Headwaters NWR and CA.”

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- “18 88 Fed. Reg. 63547-63549 (Sep. 15, 2023).”

*Service’s Response:* Comment noted. Service policy is to develop a CCP for a new unit of the NWRS when we staff the unit and acquire a property base sufficient to achieve the unit’s purposes, but no later than 15 years after establishment of the unit. If the Conservation Area were to be approved and as properties were to be acquired, the Service would evaluate the timing of the development of a CCP. Further, the Service would also consider the efficacy of developing a single CCP that combines multiple NWRS units in a landscape with similar purposes and resources of concern. No changes were made to the documents.

## VISION

*Comment:* One comment requested that the Service expand the vision for the Conservation Area; an excerpt is listed to provide context.

- “In a similar vein, we also ask the Service to expand upon the Draft LPP’s vision statement. While refuge vision statements are developed for a practical purpose—the subsequent development of goals and objectives—they also strengthen community buy-in by creating a sense of place and connection to the habitats and species that refuges are created to protect. The current vision statement, while accurate and comprehensive, does not highlight the area’s attributes, or offer the details necessary to inspire the local constituency needed for the Refuge’s long-term success.<sup>8</sup> We therefore encourage the Service to infuse the statement with descriptive language clearly identifying the geography in which the Refuge sits, as well as some of the unique features that it will safeguard. The Service should also first emphasize the ETG’s standalone importance in the vision statement, rather than wildlife corridors at the outset.”
  - “<sup>8</sup> See Proposed ETG CA Vision: ‘Together with our partners, we will preserve wildlife corridors containing a mosaic of natural communities and working lands with rich cultural history and traditions for the benefit of all people. All species and habitats will be protected and contain the resiliency to facilitate adaption due to the impacts of climate change and development. Additionally, protection and management actions within the landscape will improve water quality, water storage, provide wildlife dependent recreational opportunity, and support Florida’s family farms and ranches.’ Draft LPP and EA at 16.”

*Service’s Response:* Wildlife corridor protection within in the Conservation Area assists with achieving Goal 1 Protect, Restore, and Manage Habitats for Fish and Wildlife and is intentionally reflected in the vision. It is essential to protect wildlife corridors to facilitate dispersion from the coastal areas inward and south-north geographical movements as well. All goals and objectives are developed from the mission of the National Wildlife Refuge System and more specifically from the purposes for which the Conservation Area was proposed. Addressing “*strengthen community buy-in by creating a sense of place and connection to the habitats and species that refuges are created to protect*” has been achieved by the specificity contained in the goals and objectives and other portions of the documents in which we specifically address the specific species and habitats contained within the Conservation Area and the positive impacts expected to occur from the proposed conservation efforts.

Changes (noted in bold italics below) have been made to the document to include the Everglades to Gulf Conservation Area in the vision statement to more specifically identify the geographic region and resolve a grammatical error.

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"Together with our partners, we will preserve wildlife corridors containing a mosaic of natural communities and working lands with rich cultural history and traditions for the benefit of all people. All species and habitats will be protected and contain the resiliency to facilitate adaption due to the impacts of climate change and development. Additionally, protection and management actions within the ~~landscape~~ *Everglades to Gulf Conservation Area* will improve water quality, ~~and~~ water storage, provide wildlife dependent recreational opportunity, and support Florida's family farms and ranches."

## OTHER

### APICULTURE

*Comment:* One commenter expressed concern that apiculture was not addressed in the Draft LPP and Draft EA and that disruption of pollinators and plant ecology by climate change was only briefly mentioned; excerpts are listed to provide context. ".....integrate apiculture into the draft, as the Proposed Everglades to Gulf Conservation Area Overlay is the nation's bee "incubator", critical for nation-wide pollination services---to protect the country's food supply through agricultural easements on public lands and through easements on less-than-fee-title(s) secured in the proposed area." "The areas of Lee County not included are important in panther recovery, host large numbers of apiaries and include Buckingham, Alva, Six Mile Cypress Slough and properties with historic agricultural use under immediate threat of development due to ineffective local regulation and reversals in conservation protections." "The cumulative impacts of loss of habitat, water protections and ag capacity by unchecked development, is increased peril for us all. Ag land conversion to development forever diminishes our ability to support pollination services and provide food for ourselves, our ability to have a sustainable source of potable water locally and to protect our water quality from toxic algae both inland and coastal. What is needed is a recognition of the immediate necessity for a comprehensive strategy --- to protect panthers, agriculture and apiculture in this region including a REVISED Draft Proposal that includes provision for apiculture easements, conservation land acquisitions of varying sizes and locations, pollinator friendly management practices review and enhanced regulatory protections and oversight. Protecting the pollination capacity of this region can be addressed in the Draft Proposal in tandem with range-land benefits for the cattlemen. Provisions for pollinators, due to economy of scale would additionally, also be independent in areas other than 'range lands', including smaller tracts--- appropriate for hives." "Implementing apiculture easements, compensation programs, federal protections and management practices that preserve the ecological function of this region is an "untapped" ecological efficiency that should be added. To protect national security, preserving apiculture at existing levels and spreading apiculture broadly across the region is sound policy to prevent catastrophic losses of hives from natural disasters that could create food scarcity. This Proposed Conservation Area can in scope support existing apiculture, preserve habitat and ecologic function, prevent ag land conversion and support smaller tract apiculture through small scale acquisition in coastal and flood prone areas, and make these lands available for agricultural easements. ...please rework the Draft Land Protection Plan and Environmental Assessment for the Proposed Establishment of Everglades to Gulf Conservation Area to preserve the critical role of pollination in agriculture in the Everglades to Southwest Florida Region. Not doing so would be a missed opportunity with potentially dire consequences for the future of agriculture in Florida and the nation." The same commenter asked multiple questions in relation to apiculture, as listed.

- "Why were apiculture activities not included in the original draft?"
- "How can beekeepers work with the federal agencies to coordinate apiculture uses on existing and future lands?"

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- “How can beekeepers “get a seat at the table” regarding management practices of federal lands that are supportive of pollination services, such as prescribed burn reseeds of nectar plants, plant community management, etc.?”
  - “How can this proposed Conservation area protect the critical pollination industry threatened by loss of ag capacity and over-development and provide benefit to landowners and support beekeepers and the pollination industry?”
  - “How can the scale of land acquisition and distribution of federal land acquisitions through this proposal support the pollination industry in ways that are “independent” of range lands?”
  - “Can a layered overlay be created of panther habitat, apiaries, existing easements and other relevant land use information?”
  - “What other programs, or studies regionally or in Florida or in other parts of the country regarding bees may inform the Draft Proposal?”
  - “The Draft proposal as it currently reads, fundamentally reflects the popular narrative redirecting conservation efforts for panther habitat inland, on ‘ranching lands’. The Draft does not look towards future partnerships with beekeepers for expanded agricultural easements...”

*Service’s Response:* Comment noted. The Service is committed to helping at-risk native pollinators. Since 2015, the Service has dedicated more than \$25 million to conserve pollinators, particularly the monarch butterfly (which is currently a candidate for listing under the Endangered Species Act). Nationwide, over 70 species of pollinators are currently listed as endangered or threatened under the Endangered Species Act. Florida alone has over 300 species of native bees. The overarching goals, purposes, and land acquisition criteria outlined in the Draft LPP and Draft EA would benefit native pollinators. As outlined in the Draft LPP and Draft EA, the Service designed the proposed Conservation Area to benefit native wildlife and habitats. While non-native bees and beekeeping operations do support agricultural operations, they are not an essential part of the proposed Conservation Area; however, they would also benefit from measures in the Proposed Action that benefit native pollinators. Beekeeping is not generally considered an appropriate use for units of the National Wildlife Refuge System (NWRS) under the Service’s Appropriate Use and Compatible Use policies ([603 FW 1](#) and [603 FW 2](#), respectively). Further, under the Service’s Biological Integrity, Diversity, and Environmental Health Policy ([601 FW 3](#)), the Service articulates its policy for maintaining and restoring, where appropriate, the biological integrity, diversity, and environmental health of the NWRS. Specific interest in future management activities within the fee title properties acquired by the Service for the Conservation Area should be coordinated with the Service’s Project Leader for the Everglades to Gulf Conservation Area (e.g., inclusion of native host and nectar plants for native pollinators in Service restoration and maintenance activities). Specific interest in future management activities on agricultural lands that may be included in less-than-fee title in the Conservation Area should be coordinated directly with the specific agricultural landowners (e.g., seasonal placement of beehives). No changes were made to the documents.

### *FARMING AND RANCHING*

*Comment:* Multiple comments were received regarding farming and ranching; excerpts are listed to provide context.

- “Much of the EGCA is comprised of “Heartland” inland counties that are primarily rural communities centered around farming and ranching. Six of these Heartland counties are in the Partnership, thus the Coastal and Heartland in our name. Elected leaders from those counties sit on our governing board and they directly communicate their need for more governmental resources to be directed towards protecting these rural communities and providing more options for farmers and ranchers to remain in

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those industries. With the EGCA being entirely voluntary and including easements, it offers farmers and ranchers more choices and added potential revenue streams to maintain these vital working landscapes. Doing so preserves their way of life, provides domestic food supply, generates significant economic benefits to the region, as well as protects important habitat for federally listed species - including the endangered Florida panther. With citrus diseases and other threats to these industries, as well as development rapidly expanding into these inland areas, these options and resources that the proposed EGCA would provide are urgently needed to support rural farming and ranching communities in that area.”

- “Furthermore, these protection and management actions will conserve more family farms and ranches...”

*Service’s Response:* Comments noted. In Florida over multiple generations, numerous farming and ranching operations have provided wise-stewardship resulting in a variety of conservation benefits across the landscape. Since many farming and ranching operations could also support the vision, purposes, and goals of the proposed Conservation Area, the Service specifically considered the future role of these working lands to support shared conservation in this landscape. No changes were made to the documents.

#### *ECONOMIC BENEFIT*

*Comment:* Multiple comments were received addressing economic benefits; excerpts are listed to provide context.

- “Florida is the United States’ 4th largest economy. The CHNEP hired a team of economists in 2020 to quantify the economic revenue generation in the CHNEP that it directly supported by natural resources in the area. This Economic Valuation Study showed that natural resources are generating \$11 billion a year in recreational expenditures, \$2.5 billion in agricultural production, and supporting other regional economic sectors to the tune of \$14 billion dollars total per year. With the rapid loss of environmentally sensitive lands leading to loss of wildlife and their habitat, degraded water quality, and alteration of hydrology, those economic revenue benefits are at risk. The proposed EGCA, in investing in protecting those natural resources and environmentally sensitive lands, secures those economic benefits for generations to come.”
- “Audubon Florida supports the proposed establishment of the Everglades to Gulf Conservation Area which will provide a variety of conservation benefits such as improving our blue-green economy...”
- “Our Florida Everglades is such a unique space in our world. Nothing else like it exists. Establishing this proposed conservation area would extend the protection to this beautiful place. As a state, we have already invested so much into protecting species such as the Florida Panther. This area would allow our panthers to find new paths north. We would create more areas for unique species like the Ghost Orchid to thrive. Conserving these lands would help produce cleaner waters, creating a more inviting aquatic environment for fish to call home. All culminating in increased revenue for our state in the form of eco tourism, and outdoor recreational activities like fishing and hunting.”
- “We wanted to also mention that we believe that the EGCA provides large scale economic benefits. CHNEP recently conducted a natural economic valuation study of natural resources in the Central and Southwest Florida area, and they generate around 11 billion dollars per year in recreational expenditures and up to 13.5 billion dollars per year in total expenditures. And the establishment of, again, this proposal, this proposed area, and the support for natural resource preservation, is going to greatly benefit the economy in this area.”

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*Service's Response:* Comments noted. The Draft LPP and Draft EA addressed socioeconomic impacts of the proposed Conservation Area, including economic benefits to local communities. Potential economic benefits could include increased property values, increased support for working agricultural lands, and increased revenues for local communities from visitors participating in wildlife-dependent recreational opportunities, as well as economic benefits associated with ecosystem services supported and provided by the proposed Conservation Area. *Banking on Nature 2017: The Economic Contributions of National Wildlife Refuge Recreational Visitation to Local Communities*, (Caudill and Carver 2019) examined the local economic contributions of recreational visits to 162 national wildlife refuges in 47 states and 1 territory for the fiscal year (FY) 2017 (October 1, 2016 – September 30, 2017). According to the report, approximately 53.6 million people visited national wildlife refuges generating almost \$3.2 billion in total economic activity and supported over 41,000 jobs, generating about \$1.1 billion in employment income. Additionally, recreational spending on refuges generated nearly \$229 million in tax revenue at the local, county, State, and federal levels. No changes were made to the documents.

## EDITORIAL

*Comment:* On pages 2, 9, and 72, replace the existing text "...a National Estuary" with the listed text.

- "The Study Area represents the current breeding range and best potential population expansion areas for the Florida panther and habitat for other listed and focal species, unique natural communities, the heart of Florida's unique prairie ranching landscape, Everglades watersheds, and the entire Peace River and Myakka river watersheds, which are essential for the health of Charlotte Harbor, an estuary of national significance, as designated by Congress National Estuary and epicenter of natural resource based tourism and economic activity in southwest Florida."

*Service's Response:* Though there was no reference to the National Estuary on page 2, the text was revised in the final document to reflect Charlotte Harbor as an estuary of national significance, as designated by Congress on page 9 and 72.

*Comment:* On page 29 replace existing text with text provided below.

"CHNEP was established on July 6, 1995, following a nomination submitted by the Governor Chiles of Florida to the US Environmental Protection Agency. It is a non-regulatory, science and consensus-based partnership that brings local, state and federal governmental entities together with the private sector and the public to advance common environmental initiatives. CHNEP collectively works towards fulfilling its strategic plan – called the Comprehensive Conservation and Management Plan (CCMP). The CCMP focuses on four main Action Plans, including water quality improvement, hydrological restoration, fish, wildlife, and habitat protection, and public engagement. It provides cutting edge scientific research and restoration, environmental education and public outreach, as well as supports and convenes partners and stakeholders throughout the Central and Southwest Florida region to protect and restore water and wildlife.

Additionally, CHNEP facilitated development of the Habitat Restoration Needs (HRN) Plan which serves as a guide for habitat management, connectivity preservation and conservation, sustainability, restoration, and resiliency throughout the CHNEP area. The Habitat Resiliency to Climate Change Project (HRCC) undertaken by CHNEP takes a closer look at habitat migration and impacts the watershed may experience due to most recent climate change and sea level rise predictions. The proposed Conservation Area would build upon the existing

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partnership efforts in improving and protecting water quality and quantity and restoration and protection of natural resources within the CHNEP estuaries and their watersheds, including Charlotte Harbor, Peace River, Myakka River, and Caloosahatchee River.”

*Service’s Response:* Additional supporting text was added to the document.

*Comment:* Page 36 citation correction needed; replace embedded citation “(ESA et al. 2019)” with (CHNEP et al. 2019).

*Service’s Response:* Citation correction was made in the document.

*Comment:* Additional References Provided for reports mentioned in the proposal, as listed.

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*Service’s Response:* The provided references were added to the document.

*Comment:* “On Page 40 or 348 regarding the Polk County Environmental Lands Program, the text should reflect that additional fee and less-than-fee funding will be available as the result of a successful 2022 referendum that extended the revenue for an additional 20 years. Additionally, some funds will also be available for water-quality projects from the Polk County stormwater tax.”

*Service’s Response:* Additional supporting text was added to the document.

### **References for the Service’s Response to Comments Appendix**

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*APPENDIX H. INTRA-SERVICE SECTION 7 ESA CONSULTATION FOR THE EVERGLADES TO GULF CONSERVATION AREA ESTABLISHMENT.*

**REGION 4**

**INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM**

**Originating Person: Kathleen Burchett**

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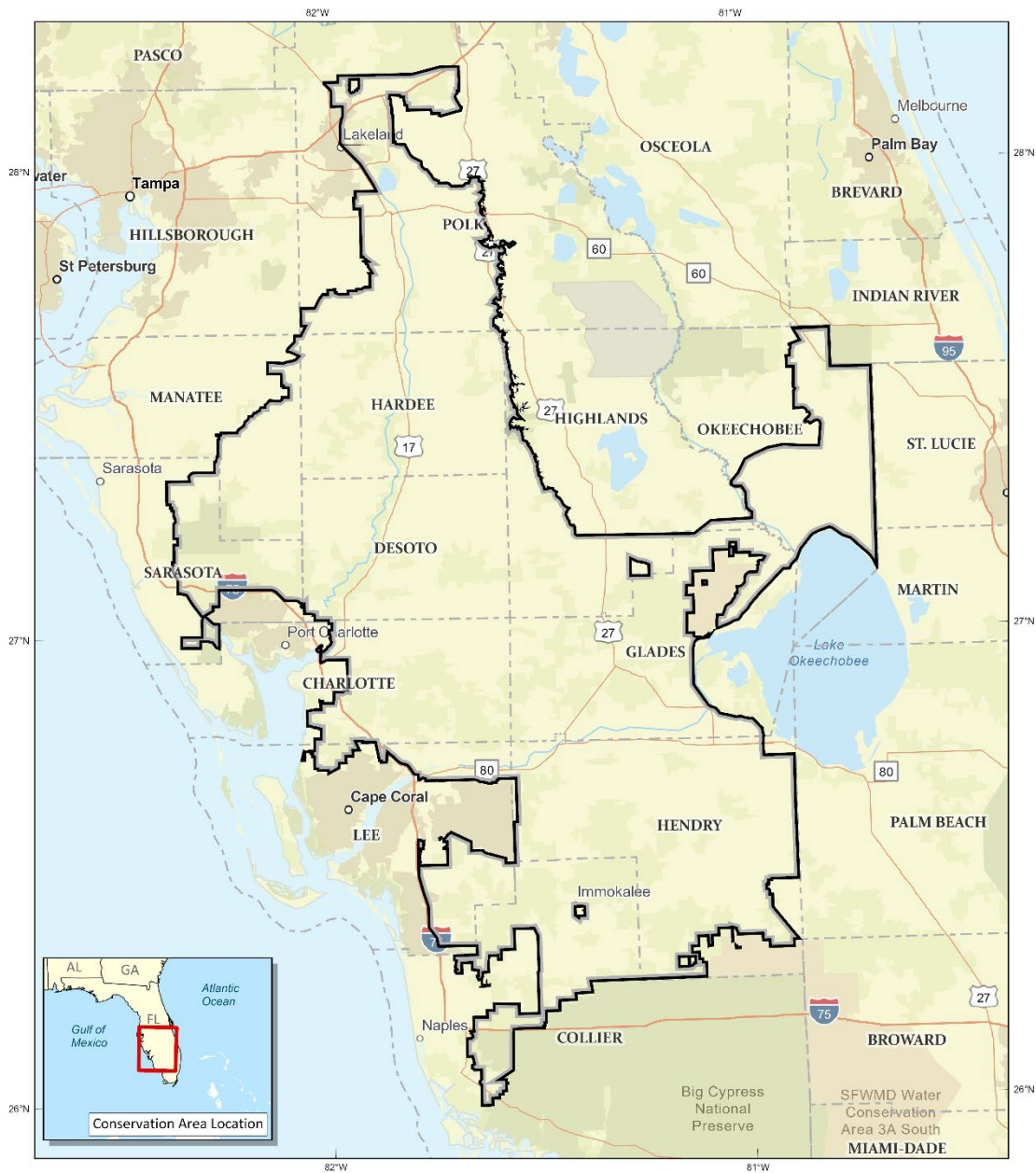
**Date: 11/20/23**

**PROJECT NAME (Grant Title/Number):** Establishment of Everglades to Gulf Conservation Area

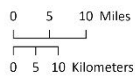
- I. **Service Program:** Refuges
- II. **State/Agency:** Florida / U.S. Fish and Wildlife Service
- III. **Station Name:**
- IV. **Description of Proposed Action:** Establishment of Everglades to Gulf Conservation Area

The U.S. Fish and Wildlife Service (Service, USFWS) proposes establishing the approximately four-million-acre Everglades to Gulf Conservation Area (Figure 1). The proposed action would allow the Service to acquire up to 10%, or approximately 400,000 acres, of fee title lands within the proposed conservation area. Conservation easements with landowners would be the predominate conservation strategy and are more flexible for land use and management activities. The goals of this project would be to protect, restore, and manage habitats for fish and wildlife; provide science-driven landscape-level conservation; conserve important lands and waters for all people; and promote conservation partnerships by working with adaptive and flexible tools and strategies, including conservation easements.

This is a plan-level consultation since the individual actions involving either fee-title or landowner easements have not been initiated. Because the listed species are differentially distributed throughout the large action area, localized species-specific affects are undeterminable at this time. As appropriate, separate intra-service Section 7 consultations will be completed when individual actions are initiated by the Refuge Program, and listed species affects will be refined from this plan-level analysis. The Information for Planning and Conservation project code is 2024-0019619.



Produced in the Division of Planning  
 Atlanta, Georgia  
 Map Date: 12/6/2023  
 Primary Data Sources: USFWS  
 Revision: F36  
 FDEP Albert HARRIS NAD 83  
 ArcGIS Pro v3.1



Conservation Area Boundary  
 County Boundary

**Figure 1 Proposed Everglades to Gulf Conservation Area.**  
**V. Pertinent Species and Habitat**

The status and preferred habitats of listed wildlife, plant, and lichen species are detailed in Table 1.

**Table 5.** Listed species and critical habitats that occur within the proposed Everglades to Gulf Conservation Area and the listed species' preferred habitats.

SPECIES/CRITICAL HABITAT Species Common Name	SCIENTIFIC NAME	STATUS <sup>1</sup>	PREFERRED HABITAT
Florida Bonneted Bat/CH	<i>Eumops floridanus</i>	E	Roosts in tall, mature trees or artificial structures and use various habitats, including pine, flatwoods, scrubby flatwoods, pine rocklands, royal palm hammocks, mixed and hardwood hammocks, cypress, and sand pine scrub; they also roost in buildings, under bridges, and in bat houses. They forage over ponds, streams, and wetlands (Marks and Marks 2008).
Florida Panther	<i>Puma concolor coryi</i>	E	This species uses wetlands, swamps, upland forests, and stands of saw palmetto. It is wide-ranging and requires large, contiguous areas of habitat to satisfy their energetic, reproductive, and social needs (USFWS 2008).
Puma	<i>Puma concolor</i>	SAT	Not applicable (only listed due to similarity of appearance)
Southeastern Beach Mouse	<i>Peromyscus polionotus niveiventris</i>	T	Not applicable (doesn't occur in study area)
West Indian Manatee/CH	<i>Trichechus manatus</i>	T	Manatees inhabit rivers, bays, canals, estuaries, and coastal areas, moving freely between fresh, saline, and brackish waters. In the study area, manatees are found in and around Lake Okeechobee and in the Caloosahatchee River.
Audubon's Crested Caracara	<i>Polyborus plancus audubonii</i>	T	This species uses privately owned cattle ranches (Morrison and Humphrey 2001) and wet prairies with cabbage palms. It may also be found in open or semi-open grasslands, pastures, pampas, palm savannas,

SPECIES/CRITICAL HABITAT Species Common Name	SCIENTIFIC NAME	STATUS <sup>1</sup>	PREFERRED HABITAT
			deserts, river edges, and sometimes in marshes and open woodlands (Morrison and Dwyer 2021). Unlike the breeding season, crested caracaras sometimes use citrus groves during the non-breeding season (Morrison and Dwyer 2021).
Eastern Black Rail	<i>Laterallus jamaicensis spp. jamaicensis</i>	T	Eastern black rails can be found in salt and brackish marshes with dense cover and the upland areas of such marshes. They also use impounded and unimpounded salt and brackish marshes.
Everglade Snail Kite/CH	<i>Rostrhamus sociabilis</i>	E	In Florida, snail kites are found in freshwater ecosystems, including the Upper St. Johns marshes, Kissimmee River Basin, Lake Okeechobee, Loxahatchee Slough, Everglades, and Big Cypress Basin and have recently expanded their range to Paynes Prairie in north-central Florida near Gainesville.
Florida Grasshopper Sparrow	<i>Ammodramus savannarum floridanus</i>	E	The federally endangered Florida grasshopper sparrow ( <i>Ammodramus savannarum floridanus</i> ) is a habitat specialist, occupying only native fire-maintained dry prairie. It has been extirpated from many counties in Florida and now only occurs in Highlands, Okeechobee, Osceola, and Polk counties (USFWS 2023).
Florida Scrub-Jay	<i>Aphelocoma coerulescens</i>	T	This species is a territorial habitat specialist found only in peninsular Florida in low-growing oak scrub with well-drained sandy soils (Woolfenden and Fitzpatrick 2020).
Piping Plover/CH	<i>Charadrius melodus</i>	T	Not applicable (unlikely to occur in study area)

SPECIES/CRITICAL HABITAT Species Common Name	SCIENTIFIC NAME	STATUS <sup>1</sup>	PREFERRED HABITAT
Red Knot/CH	<i>Calidris canutus rufa</i>	T	Not applicable (unlikely to occur in study area)
Red-Cockaded Woodpecker	<i>Picoides borealis</i>	E	This species prefers extensive mature open longleaf pine ( <i>Pinus palustris</i> ) forest maintained by frequent (1–5 year intervals) fire. However, they may use loblolly ( <i>Pinus taeda</i> ), slash ( <i>Pinus elliotii</i> ), shortleaf ( <i>Pinus echinata</i> ), Virginia ( <i>Pinus virginiana</i> ), pond ( <i>Pinus serotina</i> ), and pitch ( <i>Pinus rigida</i> ) pines.
Whooping Crane	<i>Grus americana</i>	EXPN	Not applicable (FL population is non-essential experimental)
Wood Stork	<i>Mycteria americana</i>	T	Wood storks nest in mixed hardwood swamps, sloughs, mangroves, and cypress domes/strands. They forage in freshwater and estuarine marshes.
American Alligator	<i>Alligator mississippiensis</i>	SAT	Not applicable (only listed due to similarity of appearance)
American Crocodile	<i>Crocodylus acutus</i>	T	Not applicable (unlikely to occur in study area)
Blue-Tailed Mole Skink	<i>Eumeces egregius lividus</i>	T	Blue-tailed mole skinks can be found in dry upland habitats, including rosemary and oak-dominated scrub, turkey oak barrens, dry and longleaf pine savanna, and dry hammocks. It only occurs in Osceola County and on the southern Lake Wales Ridge in Polk and Highlands counties (USFWS 2021).
Eastern Indigo Snake	<i>Drymarchon couperi</i>	T	Suitable habitat includes pine flatwoods, scrubby flatwoods, high pine (dry and longleaf pine savanna), dry prairie, tropical hardwood hammock, the edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats. It is often found in

SPECIES/CRITICAL HABITAT Species Common Name	SCIENTIFIC NAME	STATUS <sup>1</sup>	PREFERRED HABITAT
			close association with gopher tortoise burrows.
Green Sea Turtle/CH	<i>Chelonia mydas</i>	T	Not applicable (unlikely to occur in study area)
Hawksbill Sea Turtle/CH	<i>Eretmochelys imbricata</i>	E	Not applicable (unlikely to occur in study area)
Kemp's Ridley Sea Turtle/CH	<i>Lepidochelys kempii</i>	E	Not applicable (unlikely to occur in study area)
Leatherback Sea Turtle/CH	<i>Dermochelys coriacea</i>	E	Not applicable (unlikely to occur in study area)
Loggerhead Sea Turtle/CH	<i>Caretta caretta</i>	T	Not applicable (unlikely to occur in study area)
Sand Skink	<i>Neoseps reynoldsi</i>	T	The sand skink is widespread in native dry uplands with sandy substrates (USFWS 1999).
Gulf Sturgeon/CH	<i>Acipenser oxyrinchus</i>	T	Not applicable (unlikely to occur in study area)
Bartram's Hairstreak Butterfly/CH	<i>Strymon acis bartrami</i>	E	This species is found only in pine rockland habitat in south Florida where the host plant of its caterpillar stage (pineland croton) grows.
Florida Leafwing Butterfly/CH	<i>Anaea troglodyta floralis</i>	E	Not applicable (unlikely to occur in study area)
Miami Blue Butterfly	<i>Cyclargus thomasi bethunebakeri</i>	E	Not applicable (unlikely to occur in study area)
Monarch Butterfly	<i>Danaus plexippus</i>	C	Monarch butterflies live mainly in prairies, meadows, grasslands and along roadsides.
Aboriginal Prickly-Apple/CH	<i>Harrisia aboriginum</i>	E	This species occurs in coastal strand vegetation (relatively low salt-tolerant shrubs and grasses) and tropical coastal hammocks with trees, including gumbo limbo ( <i>Bursera simaruba</i> ), wild lime ( <i>Zanthoxylum fagara</i> ), or live oak ( <i>Quercus virginiana</i> ).
Avon Park Harebells	<i>Crotalaria avonensis</i>	E	This species occupies bare patches of white sand in Lake Wales Ridge scrub and occasionally disturbed areas or in partial shade.

SPECIES/CRITICAL HABITAT Species Common Name	SCIENTIFIC NAME	STATUS <sup>1</sup>	PREFERRED HABITAT
Beach Jacquemontia	<i>Jacquemontia reclinata</i>	E	The primary habitats for this species are beach coastal strand and maritime hammock.
Beautiful Pawpaw	<i>Deeringothamnus pulchellus</i>	E	This species is found in open slash pine or longleaf pine flatwoods with wiregrass, saw palmetto, and dwarf live oak in the understory.
Britton's Beargrass	<i>Nolina brittoniana</i>	E	This species is found in various habitats with well-drained, low-nutrient sandy soils maintained by wildfire.
Carter's Mustard	<i>Warea carteri</i>	E	This species occurs in sandhill, scrubby flatwoods, and inland and coastal scrub habitats.
Florida Bonamia	<i>Bonamia grandiflora</i>	T	This plant occurs in openings or disturbed areas of white sand scrub on central Florida ridges, with scrub oaks, sand pine, and lichens.
Florida Golden Aster	<i>Chrysopsis floridana</i>	E	This species can be found on sunny, bare patches of sand in sand pine scrub and ecotones between this community and scrubby flatwoods. It usually occurs in disturbed areas of loose sand.
Florida Prairie-Clover	<i>Dalea carthagenensis floridana</i>	E	This species is not expected to occur in the study area.
Florida Ziziphus	<i>Ziziphus celata</i>	E	Florida ziziphus can be found in oak-hickory scrub, scrubby flatwoods, or sandhills on yellow sand.
Four-Petal Pawpaw	<i>Asimina tetramera</i>	E	This species is not expected to occur within the study area.
Fragrant Prickly-Apple	<i>Cereus eriophorus var. fragrans</i>	E	This species is not expected to occur within the study area.
Garber's Spurge	<i>Chamaesyce garberi</i>	T	This plant occurs in sandy soils over limestone in pine rocklands, hammock edges, coastal rock barrens, grass prairies, salt flats, beach ridges, and swales.

SPECIES/CRITICAL HABITAT Species Common Name	SCIENTIFIC NAME	STATUS <sup>1</sup>	PREFERRED HABITAT
Garrett's Mint	<i>Dicerandra christmanii</i>	E	Garrett's mint is found in openings in oak scrub on the Lake Wales Ridge.
Highlands Scrub Hypericum	<i>Hypericum cumulicola</i>	E	This plant is found in open patches of white sand scrubs, rosemary balds, and occasionally in openings in scrubby flatwoods and oak scrubs over yellow sands.
Lewton's Polygala	<i>Polygala lewtonii</i>	E	This species occurs in six counties in Central Florida. It is found in scrub, sandhill, and pine barren habitats with regular fire regimes.
Okeechobee Gourd	<i>Cucurbita okeechobeensis ssp. okeechobeensis</i>	E	The Okeechobee gourd is found in pond apple swamps and mucky soils on Lake Okeechobee shores and islands and floodplain forests along the St. Johns River.
Papery Whitlow-Wort	<i>Paronychia chartacea</i>	T	Papery whitlow-wort occurs in bare, sandy clearings within sand pine scrub vegetation and is nearly always found with pinopina oak and rosemary. The papery whitlow-wort is often found in association with railroad and highway rights-of-way, along fence lines, and bordering cattle pastures.
Pigeon Wings	<i>Clitoria fragrans</i>	T	This species is narrowly distributed along the Lake Wales Ridge in Central Florida in fire-adapted upland xeric habitats.
Pygmy Fringe-Tree	<i>Chionanthus pygmaeus</i>	E	This plant is found in scrub, sandhill, and xeric hammock, primarily on the Lake Wales Ridge.
Sandlace	<i>Polygonella myriophylla</i>	E	This species is found in scrub habitat.
Scrub Blazingstar	<i>Liatris ohlingerae</i>	E	The scrub blazing star occurs in rosemary balds, especially edges transitional to oak scrub,



SPECIES/CRITICAL HABITAT Species Common Name	SCIENTIFIC NAME	STATUS <sup>1</sup>	PREFERRED HABITAT
			scrubby flatwoods, and disturbed scrub.
Scrub Buckwheat	<i>Eriogonum longifolium</i> <i>var. gnaphalifolium</i>	T	This plant prefers sandhill, oak-hickory scrub on yellow sands, high pineland between scrub and sandhill, and turkey oak barrens.
Scrub Lupine	<i>Lupinus aridorum</i>	E	This plant favors openings in sand pine and rosemary scrub.
Scrub Mint	<i>Dicerandra frutescens</i>	E	Scrub mint grows primarily on well-drained fine sand soils along the margins of sand pine forests. It favors bare sandy areas in full sunlight.
Scrub Plum	<i>Prunus geniculata</i>	E	Scrub plum occurs in pine scrub or pine rockland habitat and is sometimes a component of the longleaf pine-turkey oak community. It is found along road cuts and fire lanes.
Short-Leaved Rosemary	<i>Conradina brevifolia</i>	E	The short-leaved rosemary inhabits sand pine scrub vegetation, generally dominated by evergreen scrub oaks and other shrubs, with scattered sand pine and open areas with herbs and smaller shrubs.
Snakeroot	<i>Eryngium cuneifolium</i>	E	It grows in bare stretches of white sand, including gaps in rosemary and sand pine scrub and in blowouts.
Tiny Polygala	<i>Polygala smallii</i>	E	This species is not expected to occur within the study area.
Wide-Leaf Warea	<i>Warea amplexifolia</i>	E	This plant prefers sandhill habitat, where it grows in open areas in dry woodlands.
Wireweed	<i>Polygonella basiramia</i>	E	Wireweed grows in association with the sand pine and rosemary scrub of Florida's southern Lake Wales Ridge. It prefers open, barren spaces in full sunlight and will not tolerate shade. Wireweed thrives where

SPECIES/CRITICAL HABITAT Species Common Name	SCIENTIFIC NAME	STATUS <sup>1</sup>	PREFERRED HABITAT
			patches of scrub vegetation alternate with patches of bare sand.
Florida Perforate Cladonia	<i>Cladonia perforata</i>	E	This lichen occurs on a barrier island in the Florida panhandle (Okaloosa County) and in scrub vegetation in central Florida south of Lake Placid (Highlands County), at Jonathan Dickinson Park near the southeastern coast in Martin County, and (subject to confirmation) a nearby site in northern Palm Beach County.

<sup>1</sup>STATUS: E = endangered, T = threatened, SAT = threatened due to similarity of appearance, EXPN = non-essential experimental population, C = candidate, and CH = critical habitat.

#### VI. Location:

The proposed Everglades to Gulf Conservation Area is located in southwestern Florida and partially or fully includes Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk, and Sarasota counties.

#### VII. Determination of Effects:

At the plan level, no listed plants, animals, or associated critical habitats within the proposed Everglades to Gulf Conservation Area boundary would be adversely affected, and some would benefit from the proposed action. Determinations of may affect, not likely to adversely affect are shortened to "Not Likely to Adversely Affect." The impacts on listed species and critical habitats are detailed in Table 2.

**Table 6.** Anticipated impacts (effects determinations) of the proposed action on listed plants, animals, lichen, and associated critical habitats.

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Florida Bonneted Bat/CH	<b>Not Likely to Adversely Affect and Not Likely to Adversely Modify Critical Habitat</b> The proposed boundary contains designated critical habitat for the Florida bonneted bat, which could be protected and managed through fee title and less-than-fee acquisitions. Acquiring critical habitat within the proposed boundary would benefit the species by allowing the Service to manage and restore acreage to support this species and prevent residential, commercial, industrial, and agricultural development.

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Florida Panther	<p><b>Not Likely to Adversely Affect</b></p> <p>The proposed boundary contains vital habitat necessary to secure a conservation corridor through southwest Florida that would allow the Florida panther to increase its range relative to the existing core population. In addition, protecting the conservation corridor would help maintain the landscape's carrying capacity, allowing the Florida panther population to grow.</p>
Puma	<p><b>No Effect</b></p> <p>Only listed due to similarity of appearance.</p>
Southeastern Beach Mouse	<p><b>No Effect</b></p> <p>Only occurs along the coast.</p>
West Indian Manatee/CH	<p><b>Not Likely to Adversely Affect and Not Likely to Adversely Modify Critical Habitat</b></p> <p>Manatees would likely benefit from the proposed action. Conservation near their preferred habitats could help maintain or improve water quality. Better water quality could improve this species' food supply and help maintain its range.</p>
Audubon's Crested Caracara	<p><b>Not Likely to Adversely Affect</b></p> <p>The proposed boundary contains habitats used by the caracara, including pastures, dry prairie, herbaceous wetlands, shrubland, and brushland. The proposed action would allow the Service to protect such habitats, maintaining the landscape's carrying capacity; improving habitat conditions through management actions, such as prescribed burns; and allowing for restoration activities.</p>
Eastern Black Rail	<p><b>Not Likely to Adversely Affect</b></p> <p>The proposed action would increase foraging and nesting habitat for the black rail and protect water quality. Important habitats, such as salt and brackish marsh, could be protected and managed under the proposed action. Such actions could restore natural hydrology and improve habitat quality. Invasive species management would also benefit the black rail. In addition, conservation easements would help support black rail populations by restricting commercial, residential, industrial, and agricultural development.</p>
Everglade Snail Kite/CH	<p><b>Not Likely to Adversely Affect and Not Likely to Adversely Modify Critical Habitat</b></p> <p>The proposed action would result in the protection of suitable foraging habitat, nesting habitat, and water quality. Important long hydroperiod wetlands and open water habitats could become available to be protected</p>

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
	and actively managed if owned by the Service. Where appropriate, fee title lands could be managed with fire to open densely vegetated areas, improving habitat. Invasive species management could also be used to improve habitat. In addition, conservation easements would benefit the snail kite by restricting commercial, residential, industrial, and agricultural development.
Florida Grasshopper Sparrow	<b>Not Likely to Adversely Affect</b> The Service could collaborate with its partners to protect and restore improved pasture for the Florida grasshopper sparrow, which would provide nesting and foraging habitat for this species. Active management, such as prescribed fire, could be used to maintain and restore habitat.
Florida Scrub-Jay	<b>Not Likely to Adversely Affect</b> The proposed action would benefit the Florida scrub-jay by allowing the Service to collaborate with its partners to restore, manage, and protect habitat for this species. Where appropriate, prescribed burning could be used to improve existing or restore unsuitable habitats. Further, invasive species management could be implemented to increase the suitability of habitats. Lastly, fee title and less-than-fee title acquisitions would prevent the destruction and fragmentation of existing habitat by limiting residential, commercial, industrial, and agricultural development.
Piping Plover/CH	<b>No Effect</b> Proposed boundary does not include this species' coastal habitat. Project does not overlap critical habitat.
Red Knot/CH	<b>No Effect</b> Only found in Florida during migration. Proposed boundary does not extend into the coastal areas used by this species.
Red-Cockaded Woodpecker	<b>Not Likely to Adversely Affect</b> Suitable nesting and foraging habitats, such as sandhill and pine flatwood, occur within the proposed boundary and could be protected from residential, commercial, industrial, and agricultural development through fee title and less-than-fee acquisitions. Acquired acreage could be managed to improve or restore habitat using various methods, such as prescribed burning and invasive species removal.
Wood Stork	<b>Not Likely to Adversely Affect</b> The proposed action would allow the Service to protect, manage, and restore wood stork habitat, including freshwater and marine-estuarine forests, natural wetlands, and artificial wetlands. Protecting habitat through fee title and less-than-fee acquisitions would prevent some development from occurring in the study area and protect water quality. Restoration and management activities, including invasive species and predator removal, could increase reproductive success, create new habitat, and improve existing habitat, benefiting the species.

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
American Alligator	<b>No Effect</b> Only listed due to similarity of appearance.
American Crocodile	<b>No Effect</b> Proposed boundary does not reach the coast.
Blue-tailed Mole Skink and Sand Skink	<b>Not Likely to Adversely Affect</b> The sandhill, scrub, and scrubby pine flatwood habitats within the proposed conservation area still contain many open sand patches suitable for supporting skink populations. The proposed action would allow the Service to protect such habitats, restricting development and its associated habitat destruction. Prescribed fire and invasive species removal could further improve the available habitat for these species.
Eastern Indigo Snake	<b>Not Likely to Adversely Affect</b> The proposed boundary contains substantial natural and semi-natural habitats, such as pine flatwoods, scrubby flatwoods, high pine (dry and longleaf pine savanna), dry prairie, tropical hardwood hammock, the edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats, that support the eastern indigo snake. The proposed action would allow the Service to acquire such habitats through fee title and less-than-fee acquisitions, minimizing habitat loss from residential, commercial, industrial, and agricultural development. The Service could also manage and restore habitat by conducting prescribed burns or removing invasive species. Further, the proposed action would protect gopher tortoise habitat, whose burrows are used by the eastern indigo snake.
Green Sea Turtle/CH	<b>No Effect</b> Proposed boundary does not reach coast. Project does not overlap critical habitat.
Hawksbill Sea Turtle/CH	<b>No Effect</b> Proposed boundary does not reach coast. Project does not overlap critical habitat.
Kemp's Ridley Sea Turtle/CH	<b>No Effect</b> Proposed boundary does not reach coast.
Leatherback Sea Turtle/CH	<b>No Effect</b> Proposed boundary does not reach coast. Project does not overlap critical habitat.

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Loggerhead Sea Turtle/CH	<b>No Effect</b> Proposed boundary does not reach coast. Project does not overlap critical habitat.
Gulf Sturgeon/CH	<b>No Effect</b> Not known to occur in inland areas south of the Suwannee River. Project does not overlap critical habitat.
Bartram's Hairstreak Butterfly/CH	<b>Not Likely to Adversely Affect and No Effect on Critical Habitat</b> The proposed action would allow the Service to work with its partners to protect pine rockland habitat, which is used by Bartram's hairstreak butterfly. Protecting habitat through fee title and less-than-fee acquisitions would prevent at least some development from destroying, degrading, and fragmenting this species' suitable habitat. Project does not overlap critical habitat.
Florida Leafwing Butterfly/CH	<b>No Effect</b> Only found along the Miami Ridge and in Everglades National Park (Long Pine Key). Project does not overlap critical habitat.
Miami Blue Butterfly	<b>No Effect</b> Only occurs in Florida Keys (with introduction efforts underway at Hobe Sound). Not likely to be supported north of the Florida Keys except along coastlines due to the location of their larval host plants.
Monarch Butterfly	<b>Not Likely to Adversely Affect</b> Monarch butterflies would likely be positively impacted by the proposed action due to the protection of this species suitable habitat, including fields, meadows, roadsides, parks, pastures, and gardens that contain milkweed plants. The proposed action would likely result in less development occurring, reducing habitat fragmentation. Further, the Service could engage in restoration activities to increase the spatial extent of suitable habitat and the landscape's carrying capacity.
Aboriginal Prickly-Apple/CH	<b>Not Likely to Adversely Affect and No Effect on Critical Habitat</b> The Service could collaborate with its partners to protect, manage, and restore habitat for this species through fee title and less-than-fee acquisitions. Acquiring, managing, and restoring habitat that could support this species would help maintain the landscape's carrying capacity, preserve and create suitable habitat, and prevent habitat destruction, degradation, and fragmentation from residential, commercial, industrial, and agricultural development. Such actions could increase this species' spatial extent and density within the proposed boundary. Project does not overlap critical habitat.
Avon Park Harebells	<b>Not Likely to Adversely Affect</b> The Service could collaborate with its partners to protect, manage, and restore habitat for this species through fee title and less-than-fee acquisitions. Acquiring, managing, and restoring habitat that could

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
	support this species would help maintain the landscape's carrying capacity, preserve and create suitable habitat, and prevent habitat destruction, degradation, and fragmentation from residential, commercial, industrial, and agricultural development. Such actions could increase this species' spatial extent and density within the proposed boundary.
Beach Jacquemontia	<b>See Avon Park Harebells</b>
Beautiful Pawpaw	<b>See Avon Park Harebells</b>
Britton's Beargrass	<b>See Avon Park Harebells</b>
Carter's Mustard	<b>See Avon Park Harebells</b>
Florida Bonamia	<b>See Avon Park Harebells</b>
Florida Golden Aster	<b>See Avon Park Harebells</b>
Florida Prairie-Clover	<b>No Effect</b> Species is not expected to occur within the study area.
Florida Ziziphus	<b>See Avon Park Harebells</b>
Four-Petal Pawpaw	<b>No Effect</b> This species is not expected to occur within the study area.
Fragrant Prickly-Apple	<b>No Effect</b> This species is not expected to occur within the study area.

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Garber's Spurge	<b>See Avon Park Harebells</b>
Garrett's Mint	<b>See Avon Park Harebells</b>
Highlands Scrub Hypericum	<b>See Avon Park Harebells</b>
Lewton's Polygala	<b>See Avon Park Harebells</b>
Okeechobee Gourd	<b>See Avon Park Harebells</b>
Papery Whitlow-Wort	<b>See Avon Park Harebells</b>
Pigeon Wings	<b>See Avon Park Harebells</b>
Pygmy Fringe-Tree	<b>See Avon Park Harebells</b>
Sandlace	<b>See Avon Park Harebells</b>
Scrub Blazingstar	<b>See Avon Park Harebells</b>
Scrub Buckwheat	<b>See Avon Park Harebells</b>
Scrub Lupine	<b>See Avon Park Harebells</b>



<b>SPECIES/ CRITICAL HABITAT</b>	<b>IMPACTS TO SPECIES/CRITICAL HABITAT</b>
Scrub Mint	<b>See Avon Park Harebells</b>
Scrub Plum	<b>See Avon Park Harebells</b>
Short-Leaved Rosemary	<b>See Avon Park Harebells</b>
Snakeroot	<b>See Avon Park Harebells</b>
Tiny Polygala	<b>No Effect</b> This species is not expected to occur within the study area.
Wide-Leaf Warea	<b>See Avon Park Harebells</b>
Wireweed	<b>See Avon Park Harebells</b>
Florida Perforate Cladonia	<b>See Avon Park Harebells</b>

**A. Explanation of actions to be implemented to reduce adverse effects:**

Actions to minimize adverse effects are not needed because no listed species or critical habitats within the study area would be adversely affected, and some would benefit from the proposed action. Thus, no minimization actions for any species are necessary (Table 3).

**Table 7.** Actions to minimize adverse effects on listed species and critical habitats within the proposed Everglades to Gulf Conservation Area.

<b>SPECIES/ CRITICAL HABITAT</b>	<b>ACTIONS TO MINIMIZE IMPACTS</b>
Florida Bonneted Bat/CH	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.

SPECIES/ CRITICAL HABITAT	ACTIONS TO MINIMIZE IMPACTS
Florida Panther	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
West Indian Manatee/CH	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Audubon's Crested Caracara	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Eastern Black Rail	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Everglade Snail Kite/CH	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Florida Grasshopper Sparrow	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Florida Scrub-Jay	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Red-Cockaded Woodpecker	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Wood Stork	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Blue-tailed Mole Skink and Sand Skink	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Eastern Indigo Snake	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Bartram's Hairstreak Butterfly	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Monarch Butterfly	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Aboriginal Prickly-Apple	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.

SPECIES/ CRITICAL HABITAT	ACTIONS TO MINIMIZE IMPACTS
Avon Park Harebells	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Beach Jacquemontia	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Beautiful Pawpaw	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Britton's Beargrass	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Carter's Mustard	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Florida Bonamia	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Florida Golden Aster	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Florida Ziziphus	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Garber's Spurge	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Garrett's Mint	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Highlands Scrub Hypericum	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Lewton's Polygala	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Okeechobee Gourd	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Papery Whitlow-Wort	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.

SPECIES/ CRITICAL HABITAT	ACTIONS TO MINIMIZE IMPACTS
Pigeon Wings	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Pygmy Fringe-Tree	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Sandlace	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Scrub Blazingstar	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Scrub Buckwheat	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Scrub Lupine	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Scrub Mint	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Scrub Plum	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Short-Leaved Rosemary	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Snakeroot	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Wide-Leaf Warea	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Wireweed	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.
Florida Perforate Cladonia	Conservation measures recommended by species recovery leads will be implemented as practicable at time of land management.

**VIII. Effect Determination and Response Requested:**

**Table 8.** Effect determinations and response requested for threatened and endangered species that may occur in the project area.

<b>SPECIES / CRITICAL HABITAT</b>	<b>NE<sup>1</sup></b>	<b>NJ<sup>1</sup></b>	<b>NA<sup>1</sup></b>	<b>AA<sup>1</sup></b>	<b>RESPONSE<sup>1</sup> REQUESTED</b>
Florida Bonneted Bat/CH			X		Concurrence
Florida Panther			X		Concurrence
Puma	X				Concurrence
Southeastern Beach Mouse	X				Concurrence
West Indian Manatee/CH			X		Concurrence
Audubon's Crested Caracara			X		Concurrence
Eastern Black Rail			X		Concurrence
Everglade Snail Kite/CH			X		Concurrence
Florida Grasshopper Sparrow			X		Concurrence
Florida Scrub-Jay			X		Concurrence
Piping Plover/CH	X				Concurrence
Red Knot/CH	X				Concurrence
Red-Cockaded Woodpecker			X		Concurrence
Whooping Crane	X				Concurrence
Wood Stork			X		Concurrence
American Alligator	X				Concurrence

<b>SPECIES / CRITICAL HABITAT</b>	<b>NE<sup>1</sup></b>	<b>NJ<sup>1</sup></b>	<b>NA<sup>1</sup></b>	<b>AA<sup>1</sup></b>	<b>RESPONSE<sup>1</sup> REQUESTED</b>
American Crocodile	X				Concurrence
Blue-tailed Mole Skink and Sand Skink			X		Concurrence
Eastern Indigo Snake			X		Concurrence
Green Sea Turtle/CH	X				Concurrence
Hawksbill Sea Turtle/CH	X				Concurrence
Kemp's Ridley Sea Turtle/CH	X				Concurrence
Leatherback Sea Turtle/CH	X				Concurrence
Loggerhead Sea Turtle/CH	X				Concurrence
Gulf Sturgeon/CH	X				Concurrence
Bartram's Hairstreak Butterfly/CH			X		Concurrence
Florida Leafwing Butterfly/CH	X				Concurrence
Miami Blue Butterfly	X				Concurrence
Monarch Butterfly			X		Concurrence
Aboriginal Prickly-Apple/CH			X		Concurrence
Avon Park Harebells			X		Concurrence
Beach Jacquemontia			X		Concurrence
Beautiful Pawpaw			X		Concurrence

<b>SPECIES / CRITICAL HABITAT</b>	<b>NE<sup>1</sup></b>	<b>NJ<sup>1</sup></b>	<b>NA<sup>1</sup></b>	<b>AA<sup>1</sup></b>	<b>RESPONSE<sup>1</sup> REQUESTED</b>
Britton's Beargrass			X		Concurrence
Carter's Mustard			X		Concurrence
Florida Bonamia			X		Concurrence
Florida Golden Aster			X		Concurrence
Florida Prairie-Clover	X				Concurrence
Florida Ziziphus			X		Concurrence
Four-Petal Pawpaw	X				Concurrence
Fragrant Prickly-Apple	X				Concurrence
Garber's Spurge			X		Concurrence
Garrett's Mint			X		Concurrence
Highlands Scrub Hypericum			X		Concurrence
Lewton's Polygala			X		Concurrence
Okeechobee Gourd			X		Concurrence
Papery Whitlow-Wort			X		Concurrence
Pigeon Wings			X		Concurrence
Pygmy Fringe-Tree			X		Concurrence
Sandlace			X		Concurrence

SPECIES / CRITICAL HABITAT	NE <sup>1</sup>	NJ <sup>1</sup>	NA <sup>1</sup>	AA <sup>1</sup>	RESPONSE <sup>1</sup> REQUESTED
Scrub Brazingstar			X		Concurrence
Scrub Buckwheat			X		Concurrence
Scrub Lupine			X		Concurrence
Scrub Mint			X		Concurrence
Scrub Plum			X		Concurrence
Short-Leaved Rosemary			X		Concurrence
Snakeroot			X		Concurrence
Tiny Polygala	X				Concurrence
Wide-Leaf Warea			X		Concurrence
Wireweed			X		Concurrence
Florida Perforate Cladonia			X		Concurrence

<sup>1</sup>DETERMINATION/RESPONSE REQUESTED:

NE = no effect. This determination is appropriate when the proposed action will not directly, indirectly, or cumulatively impact, either positively or negatively, any listed, proposed, candidate species or designated/proposed critical habitat. Response Requested is optional but a "Concurrence" is recommended for a complete Administrative Record.

NJ = not likely to jeopardize. This determination is appropriate when the proposed action is not likely to jeopardize the continued existence of the proposed listed species. Response Requested is a "Concurrence".

NA = not likely to adversely affect. This determination is appropriate when the proposed action is not likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat or there may be beneficial effects to these resources. Response Requested is a "Concurrence".



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AA = likely to adversely affect. This determination is appropriate when the proposed action is likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat. Response Requested for listed species is "Formal Consultation". Response Requested for proposed or candidate species is "Conference".

**Signature/Date**

**11/29/23**

*Laura Housh*

**Title**

**Planning Branch Chief/For Kathleen Burchett**

**IX. Reviewing Ecological Services Office Evaluation:**

**A. Concurrence X**

**Non-concurrence**

- B. Formal consultation required
- C. Conference required
- D. Informal conference required
- E. Remarks (attach additional pages as needed):

**Signature/Date**

**ROBERT CAREY**

**Digitally signed by ROBERT CAREY Date: 2023.11.29  
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**Title/Office**

**Div. Manager, DER, FL ES**

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- Woolfenden, G. E. and J. W. Fitzpatrick. 2020. Florida scrub-jay (*Aphelocoma coerulescens*), version 1.0. In A. F. Poole and F. B. Gill (Eds.). *Birds of the world*. Cornell Lab of Ornithology, Ithaca, NY. <https://doi.org/10.2173/bow.fljay.0>

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## *APPENDIX I. FINDING OF NO SIGNIFICANT IMPACT*

### **Introduction**

The U.S. Fish and Wildlife Service will protect and manage certain fish and wildlife resources in Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk, Sarasota Counties, Florida, through the establishment of the Everglades to Gulf Conservation Area. A Draft and Final Environmental Assessment (Final EA) were prepared to inform the public of the possible environmental consequences of implementing the Final Land Protection Plan (Final LPP) for Everglades to Gulf Conservation Area. A description of the alternatives, the rationale for selecting the preferred alternative, the environmental effects of the preferred alternative, the potential adverse effects of the actions, and declaration concerning the factors determining the significance of effects, in compliance with the National Environmental Policy Act of 1969, are outlined below. The Supporting information can be found in the Final EA for the establishments of the Everglades to Gulf Conservation Area as outlined in the Final LPP.

### **Alternatives**

In developing the Final LPP for Everglades to Gulf Conservation Area, the Service evaluated two alternatives with different approaches to conservation in the Great Everglades landscape.

Alternative A- No Conservation Area (No Action Alternative)

Alternative B- Conservation Partnership Approach (Preferred Alternative)

The Service adopted Alternative B, the Preferred Alternative, as detailed in the Final LPP and the supporting documents, including the Conceptual Management Plan and the Interim Compatibility Determinations, to guide establishment, acquisition, and management of the Everglades to Gulf Conservation Area. Management of the Conservation Area would continue under this guidance until the development of a Comprehensive Conservation Plan and/or Step-down Management Plan(s) for the Conservation Area. Wildlife-dependent recreation uses will be emphasized and encouraged. Four overarching goals were developed for the establishment of the Everglades to Gulf Conservation Area. The goals are intentionally broad, descriptive statements of the desired future conditions. They embrace the purposes and vision statement. The goals address a functional conservation landscape; habitat for fish and wildlife; water quality, quantity, and storage; opportunities for Tribal Nations; and wildlife-dependent recreation, as listed.

**1. Protect, Restore, and Manage Habitats for Fish and Wildlife.** The Conservation Area will aid in the maintenance and recovery of Florida panther populations and protect many rare and endemic species, including over 100 Federally and State-listed Threatened and Endangered species, such as the Florida scrub-jay, Audubon's crested caracara, wood stork, Florida bonneted bat, Everglade snail kite, Eastern indigo snake and sand skink, thereby protecting natural communities found only in south Florida and species adapted to Florida's unique subtropical environment. In addition, the Service will conserve important rural landscape mosaics, including ranchlands, to combat habitat fragmentation and protect wildlife corridors essential to many species' viability and adaptation responses to climate change. Important wildlife corridors essential for listed species viability and adaptation opportunities in response to climate change will be provided. The Conservation Area will also provide opportunities to restore important wetlands, provide water storage, and improve water quality for the Greater Everglades, Myakka River, Peace River, Fisheating Creek, and Caloosahatchee River watersheds, and coastal estuaries including Charlotte Harbor.

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**2. Provide Science-Driven Landscape-Level Conservation.** The Conservation Area will contribute to protection of a functional conservation landscape composed of a mosaic of natural communities and ranchlands that will prevent further habitat fragmentation, provide functional habitat for wide-ranging listed species, and facilitate watershed and prescribed fire management. The Conservation Area will allow the Service to protect and restore water resources within multiple watersheds to improve water quality and quantity; maintain and enhance ecological integrity, recreation, and the economy; and improve and secure water supplies, benefiting humans and wildlife. The landscape-scale ecological priorities within the Conservation Area are identified with the best available ecological and spatial data based on conservation science, landscape ecology, tribal indigenous knowledge, and spatial analysis.

**3. Conserve Important Lands and Waters for the Benefit of All People.** Visitors to the Conservation Area fee-title lands will enjoy opportunities for compatible wildlife-dependent recreation which may include hunting, fishing, wildlife observation, photography, environmental education, and interpretation, while increasing knowledge of and support for conservation. Fee-title lands could also provide cultural, traditional, and medicinal use opportunities. Willing landowners could protect their private land through conservation easements and stewardship programs while providing important ecosystem services for all people. The Everglades and southwest Florida watersheds require protection of remaining functional wetlands and floodplains, and restoration of hydrology to avoid further impairment and improve water quality and supply including Charlotte Harbor, an essential economic engine for south and southwest Florida.

**4. Promote Conservation Partnerships Working with Adaptive and Flexible Tools and Strategies.** Collaboration in science, education, research, and land acquisition (including conservation easements) will facilitate the development of new partnerships and strengthen existing partnerships with natural resource organizations, private landowners, government agencies, Tribal Nations, and local decision-makers. The partnerships will help inform land management decisions and encourage continued responsible stewardship of natural and rural landscapes essential for listed species protection, associated natural resources, while facilitating resiliency and adaptation to climate change.

Objectives associated with the Conservation Area would:

- Assist with the restoration of the Everglades.
  - Enhance the viability and recovery of the Florida Panther and over 100 other threatened and endangered species and 17 At-risk species.
  - Protect and restore watersheds and coastal estuaries for ecological integrity, water supply, recreation, and the economy especially the Caloosahatchee River watershed, Fisheating Creek watershed, the Peace River watershed, the Myakka River watershed, Okaloacoochee Slough, Corkscrew Swamp, and Charlotte Harbor.
  - Maintain unique natural communities and species adapted to the unique subtropical environment.
- Conserve habitat diversity and complexity.
- Improve and increase resiliency.
  - Facilitate protection of a regional scale wildlife corridor through the protection of a functional landscape mosaic of natural communities and ranchlands.
  - Facilitate resiliency and adaptation to climate change through protection and restoration of freshwater flows into coastal wetlands and protecting coastal to inland connectivity to provide a functional retreat for coastal species.
  - Complement other conservation initiatives.
  - Foster existing partnerships and seek new partnerships.

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- Conserve cultural sites and landscapes.
  - Provide cultural, traditional, and medicinal use opportunities on fee-title lands.
  - Provide wildlife dependent recreational opportunities on fee-title lands.

*Alternative A. No Conservation Area (No Action Alternative)*

The No Action Alternative required by NEPA serves as a baseline to which the other alternatives are compared. Alternative A represents no change from current conservation within this landscape. In this alternative, the Service would not create a new conservation area, no designated acquisition boundary would be developed, and no conservation area would be created. Habitat protection and management would continue by existing organizations and government programs. The Service would pursue no new opportunities for refuge-based wildlife-dependent public uses, partnerships, or scientific research.

*Alternative B. Conservation Partnership Approach (Preferred Alternative)*

Alternative B is the Service's Preferred Alternative; the alternative recommended for implementation. To best complement existing conservation efforts within the landscape, the Service would protect up to approximately 4,045,268 acres through less-than-fee-title acquisitions and up to 404,527 in fee-title acquisitions. Specific ranking criteria will be used to identify and prioritize all lands for acquisition. The preferred Alternative is considered to be the most effective management action for serving the outlined vision, purposes, and goals to enhance conservation in this Greater Everglades landscape. The Preferred Alternative will protect and meet the needs of both rare and common wildlife, provide wildlife corridors linking existing conservation lands, and restore additional wetlands and wetland functions, as well as provide opportunities for wildlife-dependent public use activities and help maintaining the cultural ranching heritage of the area and provide cultural, traditional, and medicinal use opportunities to Tribal Nations. Public use opportunities under the Preferred Alternative will include hunting, fishing, wildlife observation, wildlife photography, environmental education, and interpretation.

**Selection Rationale**

Alternative B is selected for implementation because it directs the development of programs in coordination and consultation with partners and the public to best achieve the vision, purposes, and goals, which are detailed in the Final LPP and outlined in the Final EA. At the same time, these management actions provide balanced levels of compatible public use opportunities consistent with existing laws, Service policies, and sound biological principles. They provide the best mix of program elements and coordination across the landscape to achieve desired long-term conditions in the Great Everglades landscape.

Under this alternative, all lands under the management and direction of the Everglades to Gulf Conservation Area will be protected, maintained, and enhanced to best achieve national, ecosystem, and area-specific goals and objectives within anticipated funding and staffing levels. In addition, the action positively address priority issues and concerns expressed by the public, including governmental partners and Tribal Nations.

**Environmental Effects**

Through the establishment of the Everglades to Gulf Conservation Area, as described in Alternative B, the Service will be able to fully participate with other conservation partners in the management and protection of wildlife and habitats within the project area. Connectivity between existing conservation lands will be enhanced, movement corridors will be protected; and threatened, endangered, and other at-risk species will receive additional management attention. Important habitats in this landscape will be protected, including dry

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prairie, freshwater forested wetlands, hardwood forested upland, high pine and sand scrub, pine flatwoods, and west prairie and freshwater marsh. Opportunities for wildlife-dependent public use activities will be increased, and the existing rural working landscape will receive further protection from development pressures. Further, any cultural resources found with the Everglades to Gulf Conservation Area will be afforded protection by the Service. Although the anticipated environmental effects of implementation of the Preferred Alternative are beneficial, there may be minor negative impacts to soils, water quality, air quality, and habitats due to necessary operations and public use activities. However, these negative impacts are anticipated to be minor, discrete in location and/or time, and not significant.

### **Coordination**

The management action has been thoroughly coordinated with all interested and/or affected parties. Parties contacted include those listed.

Congressional representatives  
Seminole Tribe of Florida  
Miccosukee Tribe of Indians of Florida  
Seminole Nation of Oklahoma  
Muscogee (Creek) Nation  
Poarch Band of Creeks  
Natural Resources Conservation Service, U.S. Department of Agriculture  
Avon Park Air Force Range, U.S. Air Force  
Governor of the State of Florida  
Florida Fish and Wildlife Conservation Commission  
Florida State Historic Preservation Officer  
Florida Department of Environmental Protection  
South Florida Water Management District  
Southwest Florida Water Management District  
Florida Forest Service, Florida Department of Agriculture and Consumer Services  
Florida Department of Agriculture and Consumer Services  
Florida Division of State Lands  
Area ranchers and landowners  
Interested counties, citizens and organizations  
Conservation organizations  
State-wide media

### **Findings**

It is my determination that the management action does not constitute a major federal action significantly affecting the quality of the human environment under the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969 (as amended). As such, an environmental impact statement is not required. This determination is based on the listed factors (40 CFR 1508.27), as addressed in the Final LLP and Final EA for the establishment of the Everglades to Gulf Conservation Area.

1. Both beneficial and adverse effects have been considered and this action will not have a significant effect on the human environment. (Chapter III, Affected Environment and Environmental Consequences)

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2. The actions will not have a significant effect on public health and safety. (Chapter III, Affected Environment and Environmental Consequences)
  3. The project will not significantly affect any unique characteristics of the geographic area such as proximity to historical or cultural resources, wild and scenic rivers, or ecologically critical areas. (Chapter III, Affected Environment and Environmental Consequences)
  4. The effects on the quality of the human environment are not likely to be highly controversial. (Chapter III, Affected Environment and Environmental Consequences)
  5. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment. (Chapter III, Affected Environment and Environmental Consequences)
  6. The actions will not establish a precedent for future actions with significant effects nor do they represent a decision in principle about a future consideration. (Chapter III, Affected Environment and Environmental Consequences)
  7. There will be no cumulatively significant impacts on the environment. Cumulative impacts have been analyzed with consideration of other similar activities on adjacent lands, in past action, and in foreseeable future actions. (Chapter III, Affected Environment and Environmental Consequences)
  8. The actions will not significantly affect any site listed in, or eligible for listing in, the National Register of Historic Places, nor will they cause loss or destruction of significant scientific, cultural, or historic resources. (Chapter III, Affected Environment and Environmental Consequences)
  9. The actions are not likely to adversely affect threatened or endangered species, or their habitats. (Chapter III, Affected Environment and Environmental Consequences)
  10. The actions will not lead to a violation of federal, state, or local laws imposed for the protection of the environment. (Chapter III, Affected Environment and Environmental Consequences)

#### **SUPPORTING REFERENCES**

U.S. Fish and Wildlife Service. 2023. Draft Land Protection Plan and Environmental Assessment for the Proposed Establishment of the Everglades to Gulf Conservation Area, Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk, and Sarasota Counties, FL. U.S. Department of the Interior, Fish and Wildlife Service, Southeast Region, Atlanta, GA.

U.S. Fish and Wildlife Service. 2023. Final Land Protection Plan and Environmental Assessment for the Establishment of the Everglades to Gulf Conservation Area, Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk, and Sarasota Counties, FL. U.S. Department of the Interior, Fish and Wildlife Service, Southeast Region, Atlanta, GA.

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**DOCUMENT AVAILABILITY**

The Draft Land Protection Plan and Draft Environmental Assessment for the establishment of the Proposed Everglades to Gulf Conservation Area was developed from information gathered during public scoping from March 14, 2023, through April 18, 2023, and was made available for public review and comment from September 26, 2023, to November 1, 2023. Comments from the State of Florida were received from the State Clearinghouse on November 16, 2023. Verbal comments were received from Miccosukee Tribe of Indians of Florida on October 23, 2023. The Final Environmental Assessment and the Final Land Protection Plan were revised, based on input received during public review and comment. The final document is available at [Everglades to Gulf Conservation Area | U.S. Fish & Wildlife Service \(fws.gov\)](https://www.fws.gov/everglades-to-gulf-conservation-area).

**MICHAEL  
OETKER**

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Acting Regional Director/ Date