

**Everglades Headwaters National Wildlife Refuge**  
**Preliminary Project Proposal**  
**Phase I of 4 Phases**  
**of**  
**Greater Everglades Strategic Habitat Conservation Initiative**

POLK, OSCEOLA, INDIAN RIVER, OKEECHOBEE, AND HIGHLANDS COUNTIES,  
FLORIDA



Southeast Region  
**U.S. Fish and Wildlife Service**  
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## I. Introduction

The U.S. Fish and Wildlife Service (Service) is proposing the establishment of the Everglades Headwaters National Wildlife Refuge (Refuge, NWR) and the establishment of an associated Everglades Headwaters Conservation Area (Conservation Area) as the first phase of a multi-phase approach to address landscape-scale land protection efforts in south-central Florida. This new approach is described as the Greater Everglades Strategic Habitat Conservation Initiative (Initiative) which will conserve the land, water, and wildlife resources of the Greater Everglades area (Figure 1). In order to facilitate analysis across this vast landscape, this large geographic area was divided into three Study Areas: the Everglades Headwaters, Fisheating Creek, and Panther/Caloosahatchee.

Extending from the outskirts of the Orlando metropolitan area south through the Kissimmee River valley to Lake Okeechobee and southwest to Florida Panther Refuge and the Big Cypress Preserve is a vast, approximately 4.5 million acre region of wilderness and working ranch lands that comprise the Greater Everglades landscape. This area is one of the great grassland and savanna landscapes of eastern North America. Still largely rural, this Greater Everglades area is a mosaic of seasonally wet grasslands, longleaf pine savannas, and cattle ranches that sustains one of the most important assemblages of imperiled vertebrate wildlife in the southeast U.S. and a large portion of the unprotected natural habitat remaining in peninsular Florida.

This Initiative would conserve lands and restore habitat within this Greater Everglades landscape, thus creating and connecting a matrix of conservation lands and critical wildlife corridors. The Initiative, being first introduced here and in its early formative stages, is also being considered during the development of the Peninsular Florida Landscape Conservation Cooperative. The Initiative will be fully developed and described during detailed planning for the proposed Everglades Headwaters NWR.

Phase 1 proposes to establish the Everglades Headwaters National Wildlife Refuge and Conservation Area. Future phases, up a total of 4, will be better defined in future detailed planning and include other proposed national wildlife refuge(s) or expansions to existing refuges.

The proposed Everglades Headwaters NWR and Conservation Area would conserve one of our nation's prime areas of biological diversity and protect the headwaters of the iconic Everglades ecosystem.

The proposed Refuge and Conservation Area would help:

- Protect, restore and conserve important habitat for 88 federal and state listed species and state Species of Greatest Conservation Need (SGCN), including Florida panther, Florida black bear, Audubon's crested caracara, Florida scrub jay, Florida grasshopper sparrow, red-cockaded woodpecker, whooping crane, Everglades snail kite, wood stork, and Eastern indigo snake;

- Protect, restore, and conserve exemplary habitats such as wet and dry prairie, Florida sandhill and scrub, scrubby and mesic flatwoods, and multiple wetland types including cutthroat seepage slope wetlands;
- Protect, restore, and conserve the headwaters, groundwater recharge and watershed of the Kissimmee Chain of Lakes, Kissimmee River and Lake Okeechobee region, which will improve water quantity and quality in the Everglades watershed, complementing the work of the Comprehensive Everglades Restoration Plan (CERP), and protecting the water supply for millions of people;
- Protect and enhance habitat corridors and implement other wildlife adaptation strategies to buffer the impacts of climate change; and
- Protect a working rural landscape, where local communities, ranching and agricultural interests, the Service, and its partners would conserve natural resources and provide opportunities for compatible outdoor recreation and educational opportunities, while preserving the economic and cultural benefits provided by ranching.

The proposed Refuge would include an area of fee title acquisition and less-than-fee title acquisition and interest. The Conservation Area would include areas of less-than-fee title acquisition and interest, providing refuge staff with the opportunity to engage with partners and local landowners outside of the formal refuge boundary on conservation activities such as conservation easements and wetland restoration management agreements.

This proposal examines a large and diverse landscape that embodies the principles of the Strategic Habitat Conservation (SHC) approach and the science and scale considerations found within Landscape Conservation Cooperatives (LCC). Additionally, this proposal has generated broad conceptual support from local ranchers, urban residents, the environmental community, and federal, state, and local partners.

## **II. Location and Size**

The proposed Everglades Headwaters NWR and Conservation Area would be located within the study area bounded by the City of Kissimmee to the north, Lake Wales Ridge to the west, St. Johns River to the east, and Lake Okeechobee to the south (Figure 3). The Refuge would be centered near the Kissimmee Chain of Lakes in central Florida, 50 miles south of Orlando and 75 miles east of Tampa, with a nearby population of nearly 4 million residents. In the general vicinity of the lands proposed for the establishment of the Refuge, are the Disney Wilderness Preserve to the north, Lake Wales Ridge State Forest to the west, Avon Air Force Park to the south, and Three Lakes Wildlife Management Area to the east (Figures 2 and 4). The Conservation Area would be adjacent to and complement the proposed Refuge and existing conservation lands, lying primarily south and east of these lands.

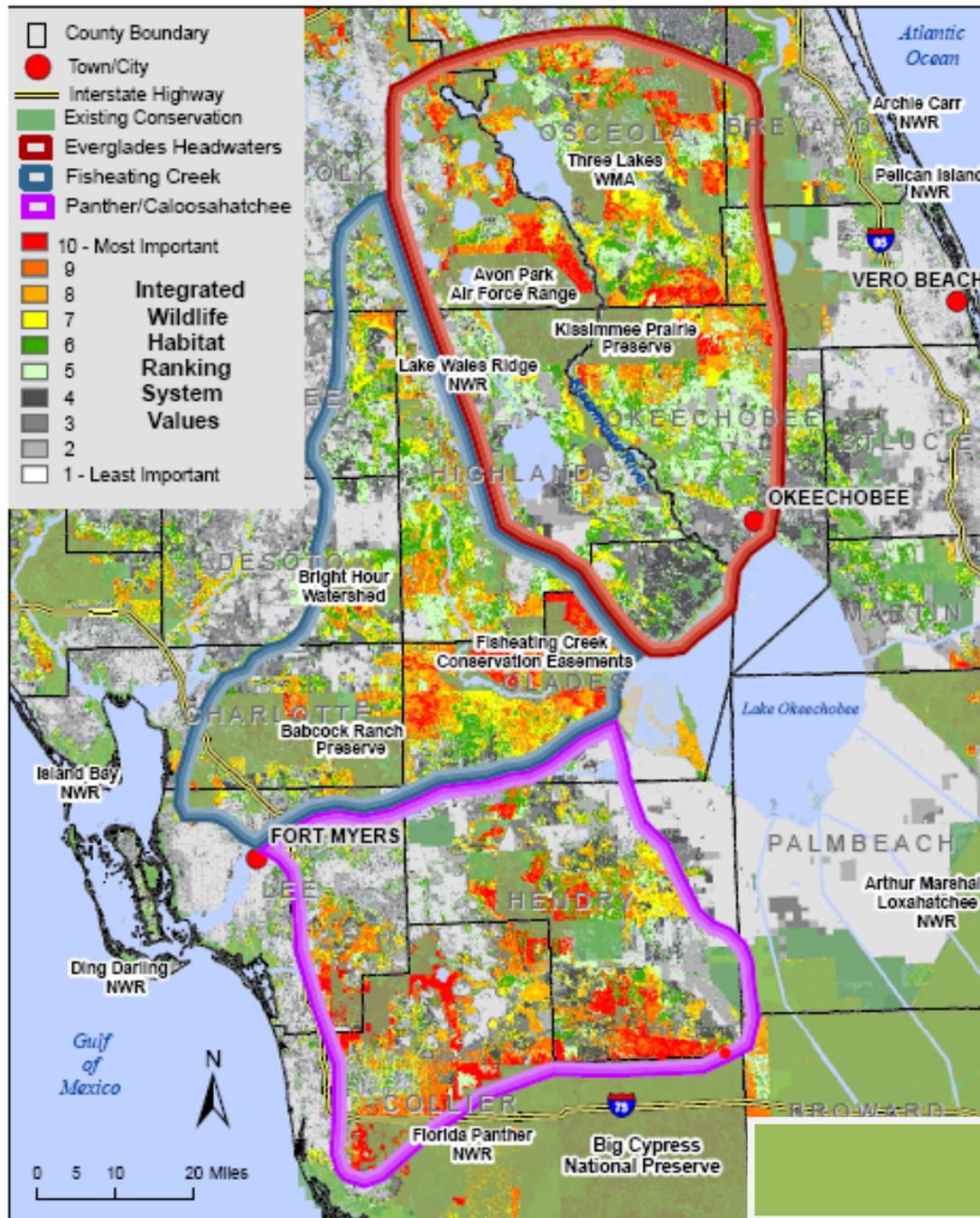
The proposed Refuge and Conservation Area includes lands located in Polk, Osceola, Indian River, Okeechobee, and Highlands counties. The lands included in the proposed

project landscape include a variety of habitat types such as scrub, cutthroat seepage wetlands, longleaf pine flatwoods, wet and dry prairie, cypress forest and emergent marsh. Because of ecological and hydrological connections between the St. Johns River and Everglades watersheds and landownership patterns which overlap, a small portion of the Conservation Area lies within the St. Johns River watershed.

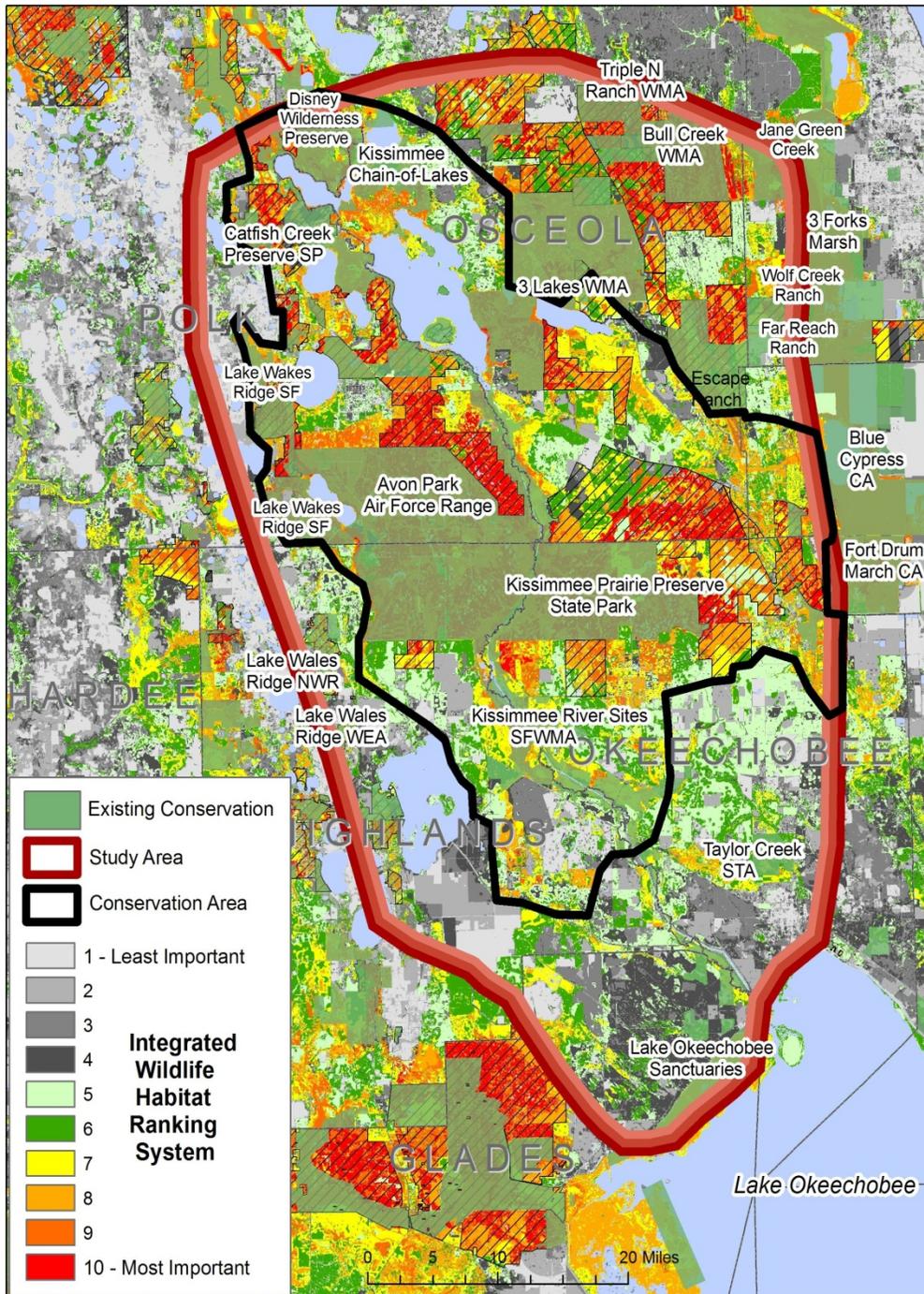
The overall acreage within the Conservation Area boundary encompasses 980,000 acres (Figure 2). Currently, there are approximately 690,000 acres of partner-conserved lands within this boundary leaving approximately 290,000 acres of unprotected lands. It is these unprotected lands that the Service intends to focus its conservation efforts upon. Within this Conservation Area boundary, the Service would identify willing landowners who wish to protect their lands through conservation easements and cooperative agreements with the Refuge, up to the 100,000 acres proposed in this document. The proposed establishment of the Everglades Headwaters Conservation Area would not result in any management being conducted by the Service on easement lands, and all land within an easement would remain in private ownership, with management of the lands remaining the responsibility of the landowner. Service responsibilities would be limited to ensuring that the terms of the easement are met. The Conservation Area also serves as a focal point for additional conservation activities by partner agencies and organizations as well as the Service.

Within this larger Conservation Area boundary, the Service would establish an approximately 50,000-acre acquisition boundary. The Service would acquire, protect and manage, through fee title purchases, leases, conservation easements, and/or cooperative agreements from willing sellers, lands within this acquisition boundary. All lands and waters acquired would be managed by the Service as part of the Everglades Headwaters National Wildlife Refuge. Since the preliminary planning phase of this project is conceptual in nature, and habitat analyses are still underway, the exact lands to be included within the 50,000-acre acquisition boundary have not been fully identified. However, the specific lands for the approved acquisition boundary would be delineated in the detailed planning phase of this project.

**Figure 1: Greater Everglades Strategic Habitat Conservation Initiative Study Areas**

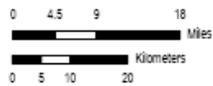
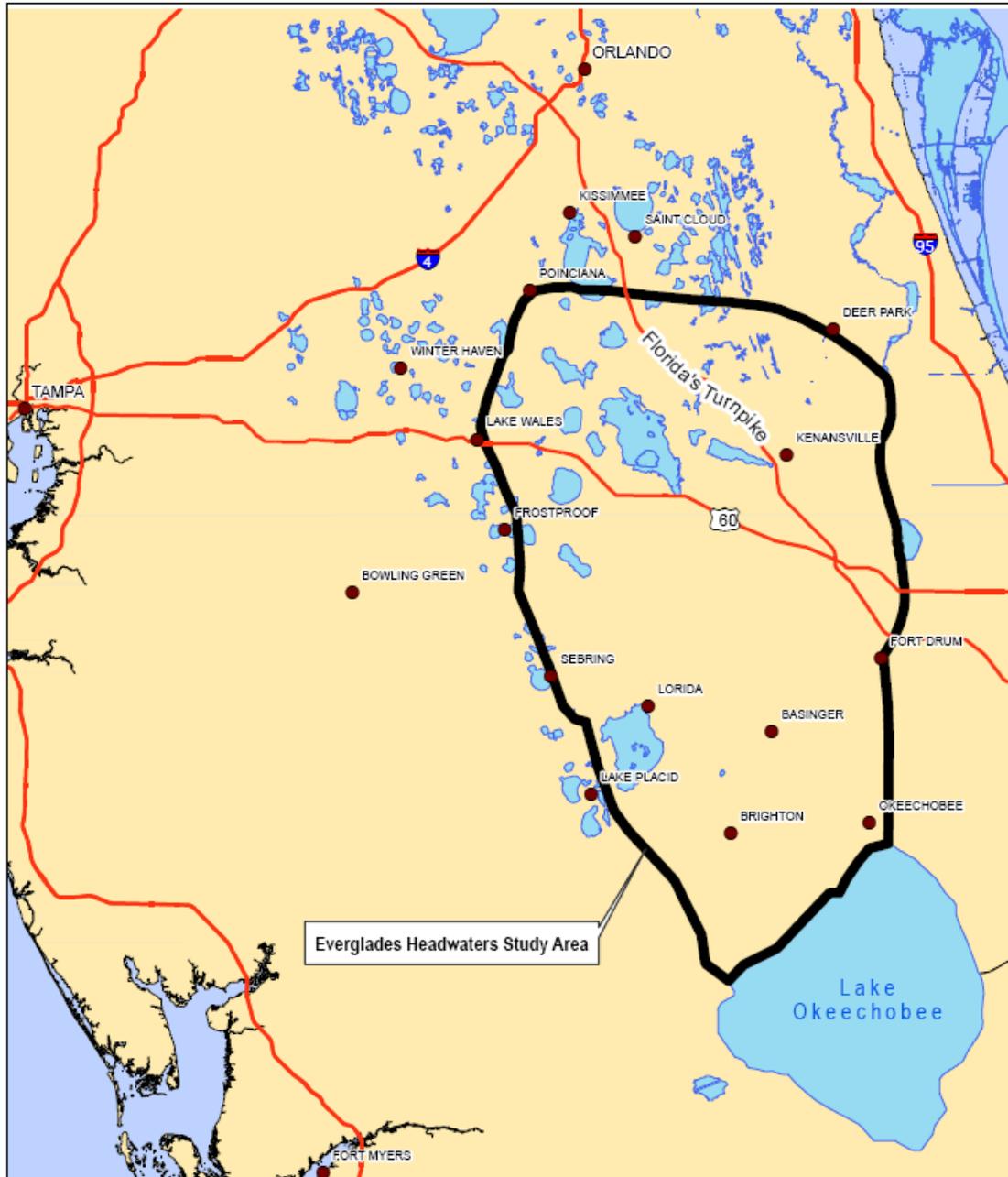


**Figure 2: Everglades Headwaters NWR Conservation Area**

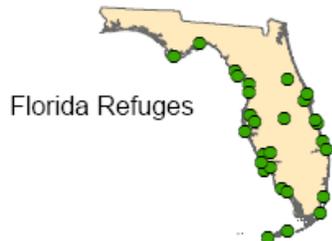


Florida Forever Projects

**Figure 3: General Vicinity Map**



PRODUCED BY MERRITT ISLAND NWR STAFF  
 TITUSVILLE, FLORIDA  
 MAP DATE: May 19, 2010  
 FILE: Everglades\_Headwaters.mxd



### III. Description of Habitat

The proposed Refuge and Conservation Area contain a multitude of habitats ranging from free flowing rivers and open water lakes, to broad grassland savannas and forested wetlands. Exemplary habitats found within the study area such as wet and dry prairie, Florida sandhill and scrub, scrubby and mesic flatwoods, and cutthroat seepage slope wetlands are described below.

**Cutthroat Seepage Slope Wetland** – Saturated organic/sand substrate is often found at the base of a hillside. These flatlands where water percolates out through the hillside can best be described as a boggy meadow. Frequent fires maintain an open understory below scattered pine with many endemic and rare plant species. It is thought that only 1% of this habitat type remains.

**Wet Prairie** – Frequent fires maintain grasses, herbs, and shrubs on flatland with sand substrate. Wet prairies are seasonally flooded and support plants such as maidencane, beakrush, spikerush, wiregrass, and pitcher plants. Southeastern kestrel (species of concern) and Audubon's crested caracara (threatened) are often found here.

**Dry Prairie** – Frequent fires maintain a diverse plant community of wiregrass, saw palmetto, and mixed grasses and herbs. Flooded only for short periods of time, this habitat is critically important for the endangered Florida grasshopper sparrow (endangered) and Audubon's crested caracara.

**Sandhill** – Occurring as gently rolling hills, deep sand provides groundwater recharge and habitat for multiple bird and reptile species. Often dominated by longleaf pine or turkey oak with wiregrass understory, this is a fire-dependent system with a 2-5 year fire return interval.

**Scrub** – these old sand dunes are dominated by short stature scrub oaks and other shrubs. The sandy substrate provides habitat for rare and endemic plant and animal species such as the endangered sand and blue-tailed mole skinks. Fire return intervals vary and can be as long as 20-80 years.

**Scrubby and Mesic Flatwoods** – Flatwoods are highly variable in plant species composition. Often found in close association, fire frequency and hydrology distinguish the subtle differences between types. This open canopy forest with a sparse pine tree overstory provides habitat for southeastern kestrel, and Florida black bear. Often, when Florida panthers are found in central Florida, they are closely associated with flatwood habitats.

## IV. Major Wildlife Values

This proposal was developed using a series of conservation drivers including focal species, exemplary habitats, water quantity and quality, and adaptations to climate change that will help the Service articulate, implement, and monitor management actions. The primary resource used in the identification of the Conservation Area boundary was a Florida Fish and Wildlife Conservation Commission (FWC) dataset: Integrated Wildlife Habitat Ranking System Values (IWHRSV). This dataset is used as a method for ranking the Florida landscape based upon the needs of wildlife in order to identify ecologically significant lands and assess the potential impacts of land development projects. The IWHRSV is displayed as the base layer for Figures 1 and 2 with levels 7-10 set as the threshold level identifying the most important habitats. This became the template for identifying the boundary for the Conservation Area. This proposed project would focus on and help recover focal species in these areas by using scientific models, recovery plans, conservation management strategies, and long term monitoring. Focal species would include but not be limited to:

***Florida Panther*** – A wide-ranging, highly endangered cat impacted by habitat fragmentation and potentially by climate change. The extensive areas of undeveloped longleaf pine flatwoods, scrub, and forested wetlands found within the study area represent high quality habitat for establishing and maintaining an alternative population outside of south Florida. Few panthers currently use this area, although one radio-telemetry marked male panther resided in the general vicinity of a few potential land acquisition parcels over the course of two years, indicating that this area would provide suitable habitat for an expanding panther population;

***Florida Black Bear*** – Considered an umbrella species for multiple imperiled plants and animals, this wide-ranging state-threatened mammal requires large areas of protected habitat. The study area contains large tracts of undeveloped scrub and forested wetland habitats that are becoming increasingly important for Florida black bears. An indication of the importance of the lands identified in this proposal is area is a radio-telemetry marked bear, first captured on Lake Wales Ridge NWR in 2009, which traversed and visited several of the areas under consideration for potential land acquisition during the ensuing seven months;

***Audubon's Crested Caracara*** – The study area represents the northern range limit of the species and the broad grassland savannas found within the study area are the last strongholds for this federal and state threatened bird and would serve as a population source for range expansion in the face of the impacts of global climate change;

***Florida Scrub Jay*** – The Everglades Headwaters Refuge would protect and restore important scrub habitat for this federal and state threatened species by linking and expanding existing scrub jay populations associated with Lake Wales Ridge;

**Florida Grasshopper Sparrow** – Critically imperiled, this federally endangered species is endemic to the dry prairie habitat of the Conservation Area. Potential land acquisition and easements would link existing populations found at Three Lakes Wildlife Management Area, Avon Air Force Park, Kissimmee Prairie Preserve State Park, and the Ordway-Whittell Kissimmee Prairie Sanctuary;

**Everglades Snail Kite** – Wetland restoration activity in the study area would greatly improve and increase this species' critical winter habitat, one of only a few strongholds for this species lying north of Lake Okeechobee;

**Red-Cockaded Woodpecker** – Patches of longleaf pine habitat in the proposed study area provide habitat for this federally endangered bird, and with potential to increase the amount of available habitat through conservation and restoration;

**Migratory Waterfowl** - Along with wetland and open water habitat that is extensively used by lesser scaup and northern pintail, the prairie wetlands surrounding Lake Okeechobee and the St. Johns River contain some of the State's highest densities of mottled ducks.

By design, conservation and restoration of these priority species would also support large suites of SGCN and plants, such as Eastern indigo snake, gopher tortoise, gopher frog, Florida mouse, burrowing owl, many neotropical songbirds, cutthroat grass, and other globally-rare and endangered plants.

## **V. Relationship of Proposed Project to Management Goals and Objectives**

The America's Great Outdoors program is one of the Secretary of the Interior's national priorities designed to create and conserve large functional landscapes for wildlife protection, ecosystem services protection, historic and cultural resource protection, and to provide the American public with outstanding recreational opportunities. This proposal supports this program by:

- Creating a large core of contiguous protected areas;
- Protecting the headwaters of the iconic Everglades ecosystem;
- Protecting wildlife corridors to allow wildlife to thrive and adapt to climate change in Florida;
- Developing partnerships on private lands to restore wetlands and exemplary plant communities, and conserve wildlife species;
- Conserving a rural ranching and agricultural community, as well as the rural character of central Florida; and
- Creating opportunities for world-class wildlife-dependent recreation.

The proposed Everglades Headwaters NWR and Conservation Area is encompassed by the South Florida Ecosystem and the Peninsular Florida LCC. The South Florida Ecosystem Team's Ecosystem Plan outlines a conservation strategy for the area that

incorporates refuge management and the restoration of upland and wetland habitats and populations of threatened and endangered species. Restoration of wetlands would also assist in meeting the Comprehensive Everglades Restoration Plan's (CERP) broad goal of capturing fresh water and using it for environmental restoration, reviving the Everglades, and providing additional freshwater resources for southern Florida's human population. A CERP task force also identified the project area as one of four priority areas in the Greater Everglades for acquisition and restoration. Additionally, the State of Florida's Florida Forever conservation land acquisition program has identified several projects in the area that contain more than 350,000 acres.

The Refuge and Conservation Area would also contribute to the goals of many existing landscape plans, such as the North American Bird Conservation Initiative, the North American Waterfowl Management Plan, Partners-in-Flight Bird Conservation Plan, U.S. Shorebird Conservation Plan, North American Waterbird Conservation Plan, endangered species recovery plans, Longleaf Pine Range-wide Conservation Initiative, and Florida's Wildlife Action Plan. Additionally, conversations with FWC staff indicate that their landscape scale conservation initiative, the Conservation Blueprint, which is currently in the development stage, matches both scale and scope of the resources identified in this Initiative.

## **VI. Related Resources**

As the first phase of a landmark Greater Everglades Strategic Habitat Conservation Initiative, the establishment of the Everglades Headwaters NWR and Conservation Area offers the opportunity to demonstrate the implementation side of LCC. Not only the Service, but other conservation organizations, manage existing conservation lands and have identified projects and focal areas similar to those identified in the Initiative. For instance, The Nature Conservancy (TNC) has identified much of this area as their Northern Everglades focal area, and the Natural Resource Conservation Service (NRCS) has identified Fisheating Creek as an area where they will concentrate their Wetland Reserve Program's (WRP) wetland restoration and conservation easements. Additionally, the National Wildlife Refuge Association (NWRA) has embraced this Initiative as a component of their Beyond the Boundaries initiative and is promoting it as an example of effective cooperation amongst agency and private conservation organizations.

The Everglades Headwaters Refuge and Conservation Area embodies the Service's landscape-scale, partnership-driven approach, and provides a framework for engaging not only the multiple departments and programs of the Service, but multiple federal agencies, state agencies, counties, non-governmental organizations and land trusts, private landowners, and citizens. The proposed National Wildlife Refuge and complementary Conservation Area will allow the Service to be able to put the best wildlife adaptation strategies into action on the ground, forming the linkages, corridors, and a habitat core that will be necessary as species adapt to changing climate conditions. Some of the larger acreage of existing conservation lands include Department of Defense's (DOD) Avon Park

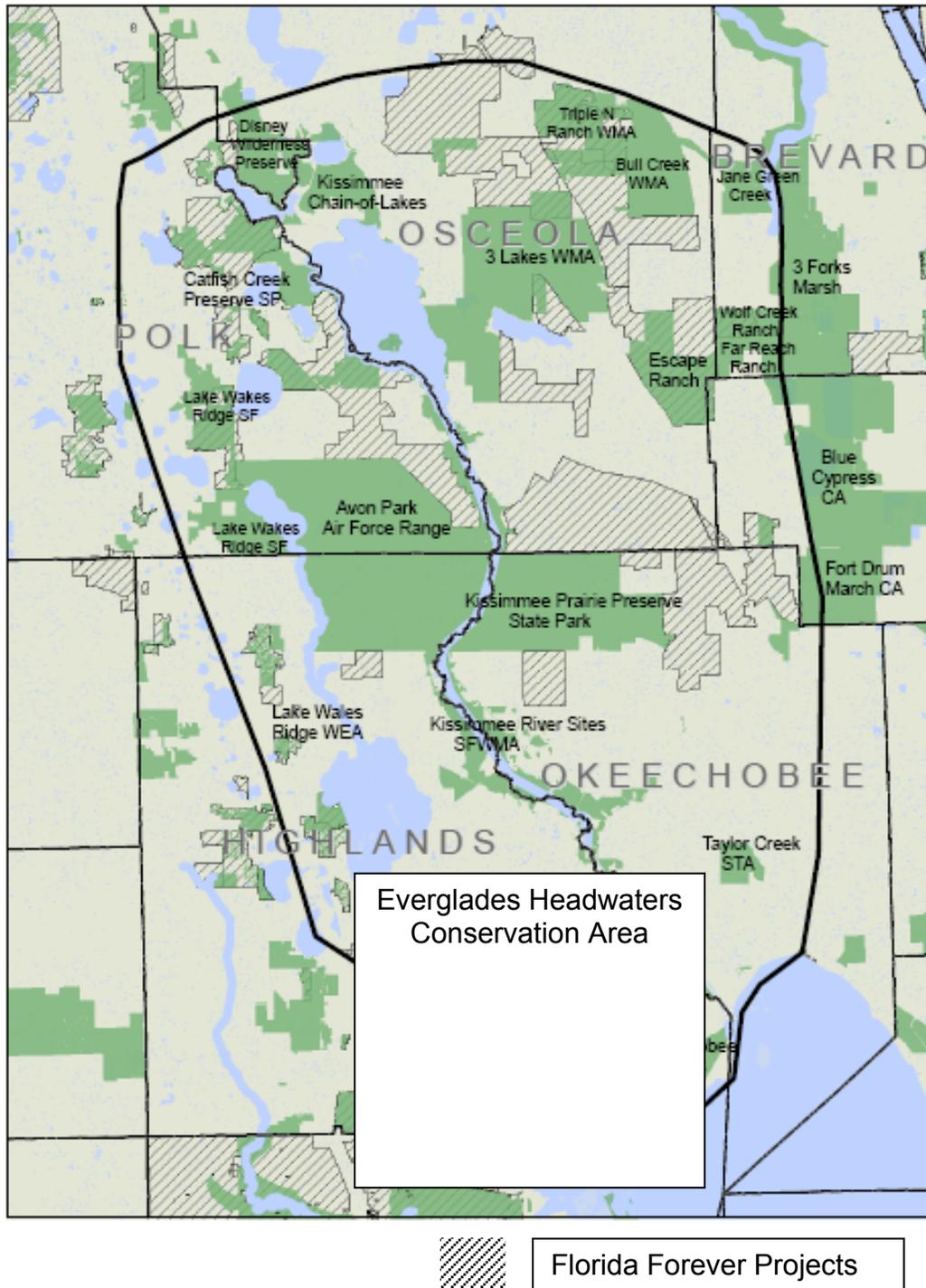
Air Force Range, Florida Fish and Wildlife Conservation Commission's (FWC) Three Lakes Wildlife Management Area and Catfish Creek Preserve State Park, and TNC's Disney Wilderness Preserve (Figure 4). Table 1 lists all of the conservation lands within and adjacent to the proposed Conservation Area. In addition, future phases of the Greater Everglades Initiative would include forthcoming proposals to establish a Fisheating Creek NWR (Phase 2), and expansion of both the Florida Panther NWR (Phase 3) and the Caloosahatchee NWR (Phase 4).

In summary, the establishment of a new Everglades Headwaters NWR and Conservation Area would:

- Build on and complement significant federal, state, and local conservation investments such as Lake Wales Ridge, Florida Panther, and Caloosahatchee NWRs, CERP, NRCS programs such as WRP, FWC's Florida Forever and Conservation Blueprint conservation lands, and NGO holdings such as the Disney Wilderness Preserve;
- Create opportunities to bring together multiple agencies and funding sources to accomplish landscape conservation goals;
- Place an emphasis on protecting habitat for threatened and endangered species that are under increasing stress due to habitat fragmentation and climate change impacts;
- Serve the simultaneous goals of restoring natural water filtration function, groundwater recharge, and hydrological systems that will materially benefit residents of south Florida;
- Provide a new model in Florida for working with large family landowners to help sustain the rural and ranching way of life;
- Capitalize on the current real estate economy to protect biologically important lands;
- Increase opportunities for wildlife conservation education and youth engagement by establishing a new refuge close to major population centers; and
- Promote Florida tourism and travel industries.

Management of the proposed Refuge and Conservation Area would have positive impacts and linkages for wildlife and their habitat at Caloosahatchee, Florida Panther, Lake Wales Ridge NWRs, and multiple partner and agency conservation lands.

Figure 4. Partner Conservation Lands and Potential Areas of Consideration for Acquisition



**Table 1.** Partner Conservation lands within and adjacent to the proposed Everglades Headwaters NWR and Conservation Area.

Conservation Areas	Acreage
Avon Park Air Force Range	106,074.00
Three Lakes Wildlife Management Area	63,487.00
Kissimmee Prairie Preserve State Park	53,765.68
Three Forks Marsh Conservation Area	50,335.04
Blue Cypress Conservation Area	49,924.42
Kissimmee River	43,400.01
Kissimmee Chain of Lakes	28,744.95
Lake Okeechobee Sanctuaries	28,250.00
Lake Wales Ridge State Forest	26,563.28
Bull Creek Wildlife Management Area	23,646.00
Fort Drum Marsh Conservation Area	20,862.21
Triple N Ranch Wildlife Management Area	16,295.00
Lake Wales Ridge Wildlife and Environmental Area	14,482.00
Upper Lakes Basin Watershed	12,995.33
Escape Ranch Conservation Easement	11,768.00
Disney Wilderness Preserve	11,533.07
Mills Ranch Conservation Easement	8,271.32
Allen David Broussard Catfish Creek Preserve State Park	8,156.43
Lake Kissimmee State Park	5,893.13
Tiger Creek Preserve	4,878.65
Taylor Creek/Nubbins Slough STA	4,782.91
North of Lake Okeechobee Storage Reservoir	4,700.79
Kempfer Property Conservation Easement	4,155.38
Far Reach Ranch Conservation Easement	4,070.00
SUMICA	4,031.00
Wolf Creek Ranch Conservation Easement	3,812.38
Whaley Conservation Easement	3,710.87
Paradise Run	3,328.00
Jane Green Creek Less-than-fee Easement Additions	3,263.54
Lonesome Camp Ranch Conservation Area	2,442.80
Red Bay Foundation Preserve	2,426.00
Lake Okeechobee Water Retention Phosphorus Removal Project	2,341.09
Lake Wales Ridge National Wildlife Refuge	1,858.33
Padgett Branch Conservation Easements	1,585.00
Broussard Conservation Easement	1,430.07
North/Walk-in-Water Creek	1,104.50
Brahma Island Conservation Easement	1,063.40
Miscellaneous small parcels (<1,000 acres)	3,325.27
<b>Total Acreage</b>	<b>642,756.85</b>

## **VII. Threats**

### Habitat Fragmentation and Urban Development

Habitat loss has led to the loss of high numbers of threatened and endangered species within Florida. Residential development, conversion of lands to agricultural production and improved pasture, and other wholesale land clearing are by far the major threats to this area. Existing roadways traverse wildlife corridors and are a leading mortality factor for wide ranging species such as the Florida panther and Florida black bear. The development and expansion of these roadways will create further barriers to wildlife movements.

### Altered Ecological Processes

The alteration of hydrology within the Everglades ecosystem is one of the most devastating and damaging threats facing the Everglades headwaters. Stream channelization, wetland modification and drainage, and sediment and nutrient loading all serve to negatively impact water quality, quantity, and delivery throughout the ecosystem.

Many of the habitat types found throughout the study area are dependent on frequent low-intensity lightning caused fires. Fire suppression has led to changes in plant communities, creating habitat unsuitable for the threatened and endangered plants and animals that require a frequent fire regime.

### Impacts from Global Climate Change

This proposal has been developed in part to address conservation needs of wildlife in southern Florida that may be highly impacted by the effects of global climate change. As sea levels rise, temperatures increase, and precipitation decreases, lands in the proposed refuge will be ever more critical to the survival and management of Florida's threatened and endangered species and SGCN.

Populations of many species including Florida panther, Florida grasshopper sparrow, and Everglades snail kite will be likely to expand their ranges into the restored habitats of the proposed Refuge and Conservation Area. Conservation of this area will help prevent population fragmentation and eventual extirpation. Changes in climate will also allow for invasive and exotic species to expand and increase their home ranges. Human populations will also be forced to adjust to these factors, causing a population shift from coastal areas to higher elevation inland locations. Interestingly, the Lake Wales Ridge, an ancient coastal sand dune, which is partially included in this proposal, is the product of past climatic events.

## VIII. Proposal Objectives and Funding

*Proposal Objective:* The objective of this proposal is to launch the first component of the Greater Everglades Initiative -- the creation of a new Refuge and Conservation Area to protect high priority wildlife and habitat using a landscape-level, partner-driven approach in south-central Florida.

*Potential Sources of Funds:* Multiple funding sources may be available for land acquisition and refuge operations. These include:

### Land Conservation (fee and less-than-fee acquisition)

- Land and Water Conservation Fund – FWS, DOI
- Migratory Bird Conservation Funds – FWS, DOI
- North American Wetlands Conservation Fund (NAWCA) – FWS, DOI
- Land Recovery Grants – Section 6 – Endangered Species Act – FWS, DOI
- State Wildlife Grants – State of Florida from FWS, DOI
- Farm and Ranchland – NRCS, DOA
- Wetland Reserve Program (WRP) – NRCS, DOA
- Scenic Byways – DOT
- Florida Forever – State of Florida – Several Programs
- Donated conservation easements– Ecosystem Bankers (Private Capital)

### Refuge Operations (habitat restoration and management on federal, state, and private lands)

- Partners for Fish and Wildlife – Private land only – FWS, DOI
- Challenge Cost Share Grants – FWS, DOI (can be used on refuge and adjacent land).
- Invasive Species Working Group – Florida Fish and Wildlife Conservation Commission (FWC) (invasive species control on government lands)
- NWR Operation and Maintenance – FWS lands only – FWS, DOI
- Habitat Recovery Grants – Endangered species critical habitat – any owner – FWS, DOI
- State Wildlife Grant – State or private lands only – FWC from FWS, DOI
- Wildlife Habitat Incentive Program – Private land only – NRCS, DOA
- Environment Quality Investment Program (EQIP)– Private land only – NRCS, DOA
- Wetland Reserve Program (WRP) – Private agricultural lands that were former wetlands – NRCS, DOA
- Ecosystem Banking–Private capital for restoration and management

## IX. Ownerships and Types of Acquisitions

The Service proposes to establish a new Refuge and Conservation Area and acquire up to 50,000 acres as the Everglades Headwaters NWR and protect 100,000 acres within the Everglades Headwaters Conservation Area.

The proposed components are:

**Refuge:** A core area within the Kissimmee Chain of Lakes and Kissimmee River Basin where the Service would acquire, protect, and manage up to 50,000 acres through fee title purchases, leases, conservation easements, conservation and mitigation banks, lands set aside through Habitat Conservation Plans, and/or cooperative agreements from willing sellers. Many of these lands have been previously identified as priority acquisitions on FWC's Florida Forever conservation list.

**Conservation Area:** An area adjacent and complementary to the Refuge where the Service would have authority to protect 100,000 acres through conservation easements, conservation and mitigation banks, lands set aside through Habitat Conservation Plans, and/or cooperative agreements.

## X. Initial and Annual Costs

*Land Acquisition Costs:* \$700 million\*, of which the majority would be derived from Service funding sources. The price per acre for fee title acquisition in this area is estimated at \$7,000 per acre for a total estimated cost of \$350 million. The price per acre for conservation easements in this area is estimated at \$3,500 per acre for a total estimated cost of \$350 million if all 100,000 acres were protected with conservation easements (Table 2). Non-Service funding would supplement Service acquisition and operational funds and would be derived from sources such as grants, partner organization and private donations, revenue from implementation of Habitat Conservation Plans, and establishing and managing conservation and wetland mitigation banks.

*Operational Costs:* Initial project start-up costs are estimated to be \$250,000 and would include: vehicles, equipment, office rental, and miscellaneous supplies. Annual, recurring costs for staff would initially include a Refuge Manager, Partners for Fish and Wildlife Biologist, and Acquisition Biologist. Once land acquisition efforts establish a land base, long term annual costs would include a minimum addition of eight staff and an operational budget to restore and manage habitats. Overall annual costs are estimated at \$1.21 million. The additional staff would include an Assistant Refuge Manager, Biologist, Visitor Services Specialist, Park Ranger, Forestry Technician, Firefighter, Equipment Operator, and Maintenance Worker. See table below.

*Facilities:* An office and visitor center would be constructed as a one-time cost of \$3 million. Interpretative displays would be incorporated for an additional \$1 million. It would be the intent of the Service to have a Service office and a joint, multi-agency visitor center (See table below).

**Table 2: Projected Initial and Annual Costs**

		One-Time (\$)	Recurring (\$)
Land acquisition	Fee	350,000,000	
	Less-than-fee	350 000,000	
Operations	Start-up	250,000	
	Recurring		235,000
Staff	Initial		255,000
	Full (additional)		680,000
Facilities	Office/VC	3,000,000	30,000
	Interp. Displays	1,000,000	10,000
<b>Totals</b>		<b>704,250,000</b>	<b>1,210,000</b>

\*note: the estimate for fee and less than fee values are based upon the recent sales agreement between the State of Florida and US Sugar for lands surrounding Lake Okeechobee and the NRCS WRP easements in the Fisheating Creek drainage.

## **XI. Water Resources**

In our study to date, water rights are not an issue for the proposed Refuge and Conservation Area. Water quality and quantity have been impacted by agricultural, residential, and commercial development resulting in increased nutrient loads and extensive drainage throughout the area.

## **XII. Contaminants and Hazardous Waste**

In our study to date, there are no known large contaminants or hazardous waste issues in the proposed Refuge beyond contaminants associated with normal agriculture in Florida. During detailed planning for the proposed Refuge, a Level I Environmental Site Assessment Survey will be completed.

## **XIII. Public Attitude and Involvement**

Florida is a large and populous state with diverse opinions, backgrounds, and politics. To date the concept of a proposed Refuge and Conservation Area has received strong support from state and federal decision makers along with urban water users and the general public. Several large tract landowners within the project area are known to be willing sellers of fee title and less-than-fee title interest. Additionally, TNC strongly

supports the project and owns at least one property within the proposed boundary. The Service has been working closely with TNC and NWRRA in development of background data for this project. Other agencies such as NRCS, South Florida Water Management District, and FWC have also expressed interest and support for the project. Specifically, the Service has met with members of FWC and discussed the close parallel that this project shares with their Conservation Blueprint initiative. Perhaps most notably, the local rural and conservative ranching community has been supportive of the concept of creating a new Refuge and Conservation Area.

At no time in recent memory have there been so many willing sellers of land with great conservation value. The Everglades Headwaters NWR and Conservation Area would provide an unprecedented opportunity to protect and restore large portions of the Everglades ecosystem in a way that preserves wildlife and water and supports a sustainable economy based on cattle ranching and environmental stewardship. Additionally, the Service has been discussing and cultivating conservation partnerships with other government agencies and nongovernmental organizations such as TNC and the NWRRA.

#### **XIV. Special Consideration**

The areas under consideration as a proposed Refuge contain some of attributes associated with wilderness values. Based on informal review, most areas within the project area do not appear to meet all of the criteria for formal designation and inclusion within the Wilderness Preservation System. It is anticipated that wilderness designation will not be a component of the proposed Refuge. However, a wilderness review would be a conducted during detailed planning for the proposed Refuge.

The U.S. Air Force operates the active Avon Air Park Bombing Range (Bombing Range) within the area for the proposed Refuge and Conservation Area. While disturbance to wildlife may occur from overflights and practice bombing activity in the vicinity of the bombing range, the Bombing Range itself is noted to be occupied by several federally listed endangered species and the military is considered to be a valuable conservation partner.

#### **XV. Findings and Recommendations**

The establishment of the Everglades Headwaters NWR and Conservation Area underscores the protection of Service priority species, the integrated approach with current FWS investments in CERP, and the strong interest in and potential investment from federal, state, NGO partners, local communities and ranch landowners. Also, it is very fitting that Pelican Island Refuge, established by Teddy Roosevelt as the first National Wildlife Refuge, will also be part the refuge complex that includes a new refuge that embodies the spirit and intent of America's Great Outdoors Secretarial Initiative; the science of Landscape Conservation Cooperatives and Strategic Habitat Conservation

planning; and landscape scale conservation efforts involving adaptation strategies for climate change.