

**Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Land Conservation and Planning
Gardner Marsh Florida Forever Project Analysis
December 2024**



This document contains the Florida Fish and Wildlife Conservation Commission's (FWC) Geographic Information System (GIS) data analysis of the area yet to be acquired within the **Gardner Marsh** Florida Forever project. This analysis was performed to provide FWC and others with important fish and wildlife resource information to be used in evaluating and ranking Florida Forever projects. The data selected for analysis are those considered by FWC to spatially reflect important fish and wildlife habitat and life history requirements.

In addition, FWC has completed a field review and associated assessment report for this project/proposal that is incorporated within the Acquisition and Restoration Council Florida Forever Project Evaluation Report. This report is available upon request.

GIS Data

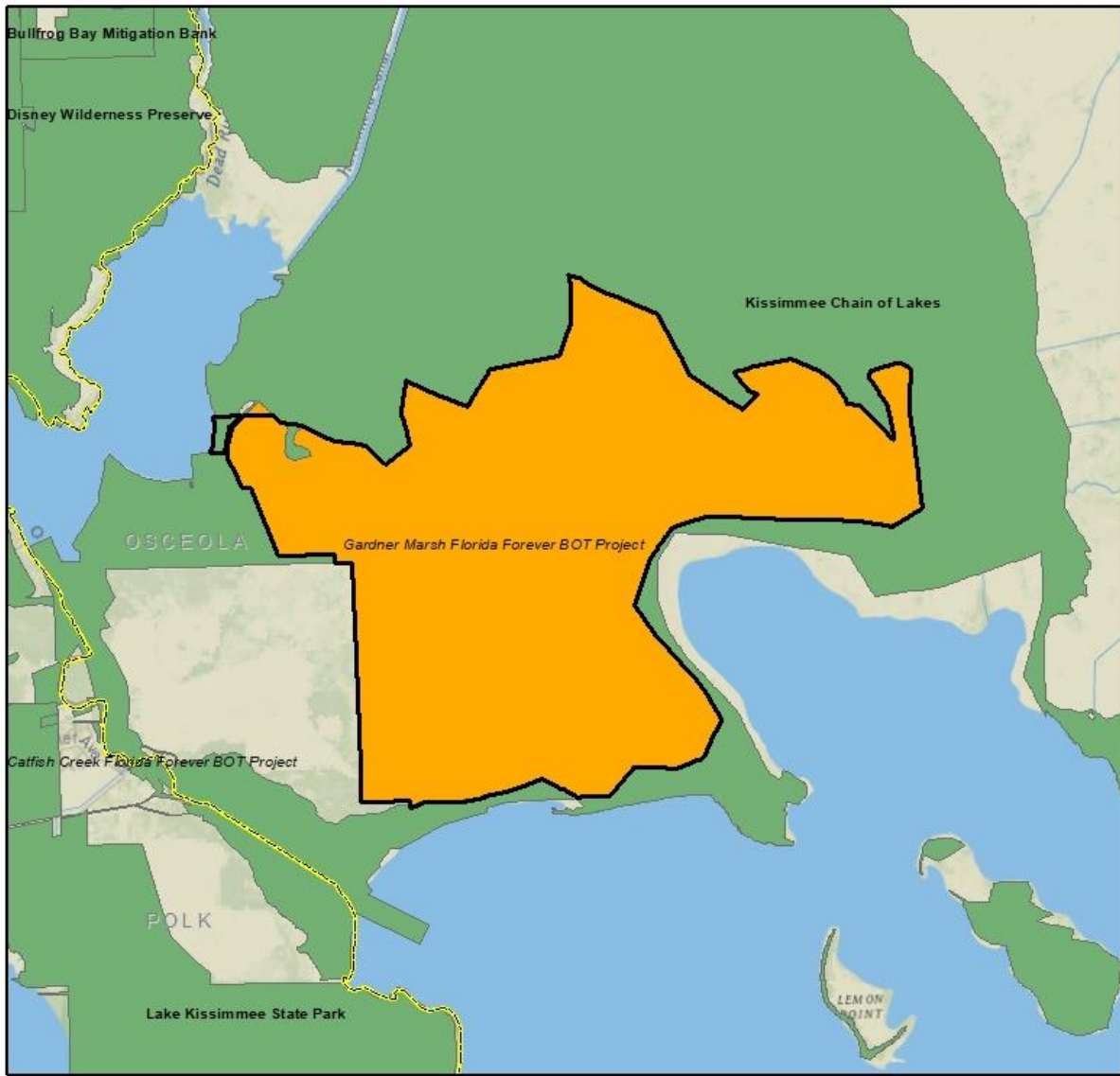
The FWC utilizes the Florida Cooperative Land Cover (CLC) GIS data layer for identification and mapping of land cover. The CLC is a cooperative effort between the FWC and the Florida Natural Areas Inventory (FNAI) to develop ecologically-based statewide land cover from existing sources and expert review of aerial photography. Land cover acreage estimates found in this document are based on GIS analysis of these data.

The FWC Florida Landscape Assessment Model (FLAM)¹ is a GIS model that determines the landscape value based on natural resources and fish and wildlife habitat. The FLAM ranks habitat from a 0-10; a rank of 10 being of greatest value.

Important fish and wildlife resource GIS data were queried using Environmental Resource Analysis GIS computer software. These data include the following GIS layers:

- FWC-FNAI Florida Cooperative Land Cover
- FWC Strategic Habitat Conservation Areas – Priority and Species
- Critical Lands and Waters Identification Project (CLIP) – Priority 1 and 2 – Terrestrial and Water
- CLIP – Landscape, Biodiversity, and Floodplain Resources
- Panther Location
- Panther Mortality
- Florida Panther Priority Habitat (Primary, Secondary, and Dispersal)
- Black Bear Range
- Rare Fish Locations/ Imperiled Waters
- Southern Bald Eagle Nest
- FWC Imperiled Species Richness

- FNAI Element Occurrences
- FNAI Suitable Habitat that Supports Species Known to Occur in the Vicinity
- Florida Department of Environmental Protection Surface Water Classification
- U.S. Fish and Wildlife Service (USFWS) - National Wetlands Inventory
- USFWS Critical Habitat
- Florida Geological Survey Springs
- Outstanding Florida Waters
- Areas of Critical State Concern



**Gardner Marsh
Florida Forever Project**
Osceola County
5,949 Remaining Acres



0 1 2 3 4 Miles

Created in ArcGIS 10.8 by the Florida Fish and Wildlife Conservation Commission December 2023

Vicinity Map

-  Gardner Marsh Boundary
-  County Boundaries
-  Conservation Lands
-  Florida Forever Projects



Gardner Marsh
Florida Forever Project
 Osceola County
 5,949 Remaining Acres



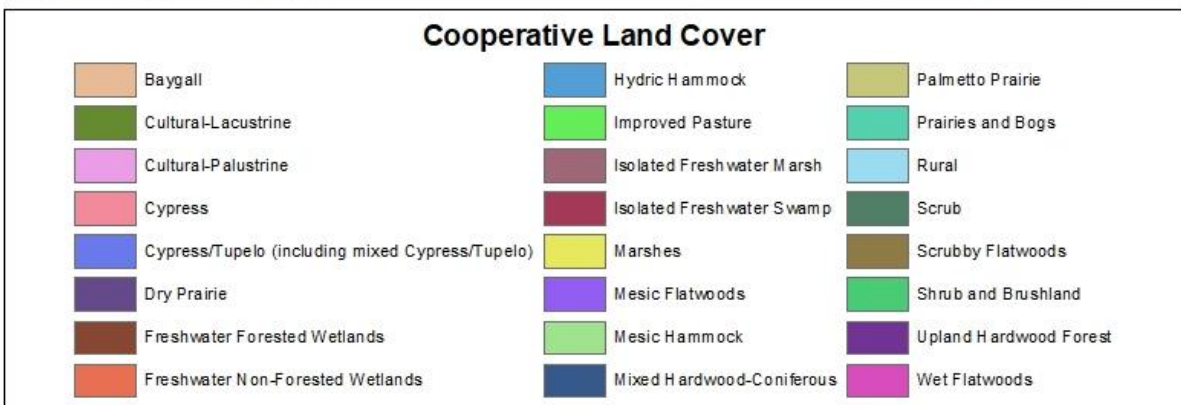
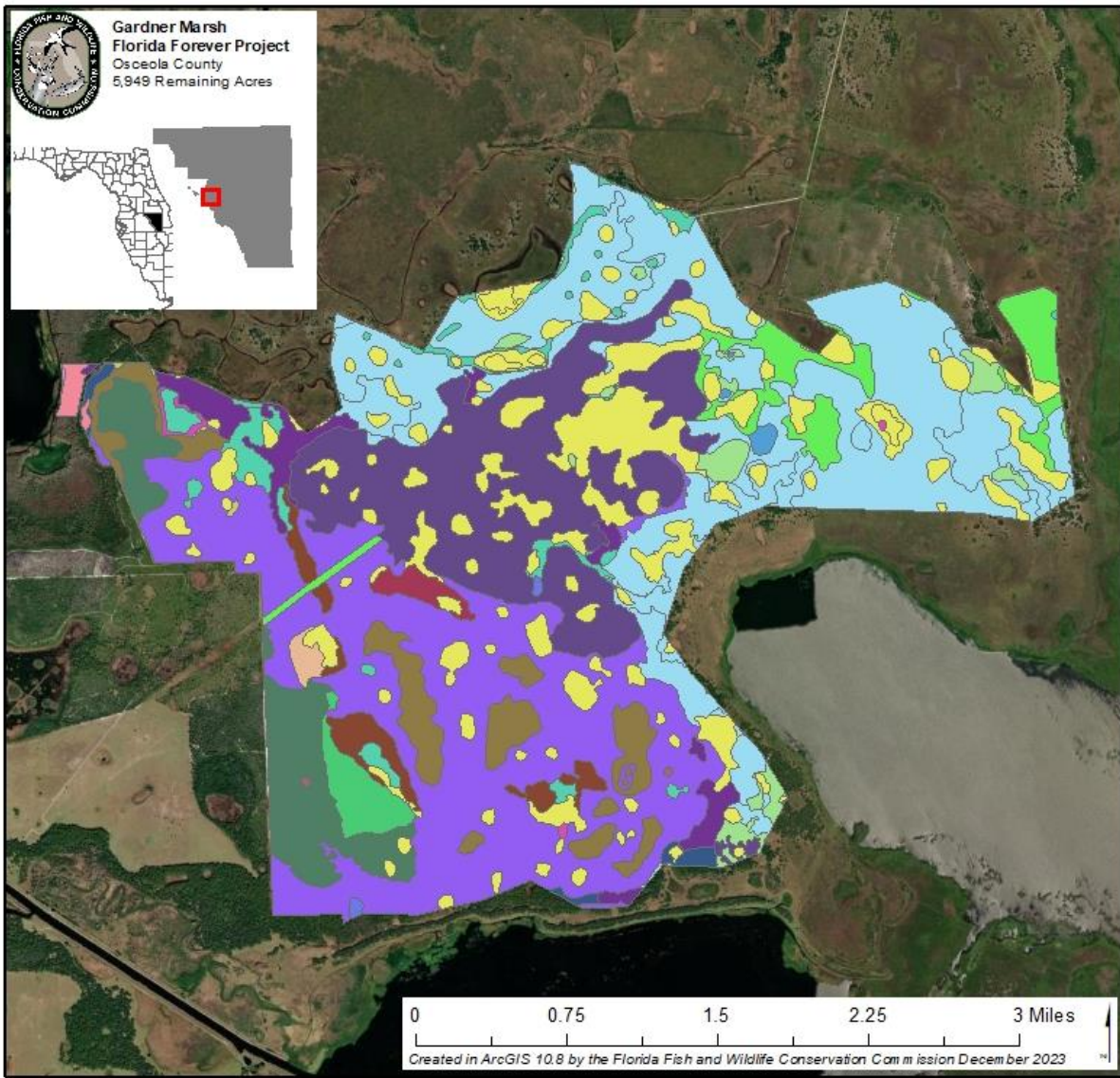
0 0.75 1.5 2.25 3 Miles

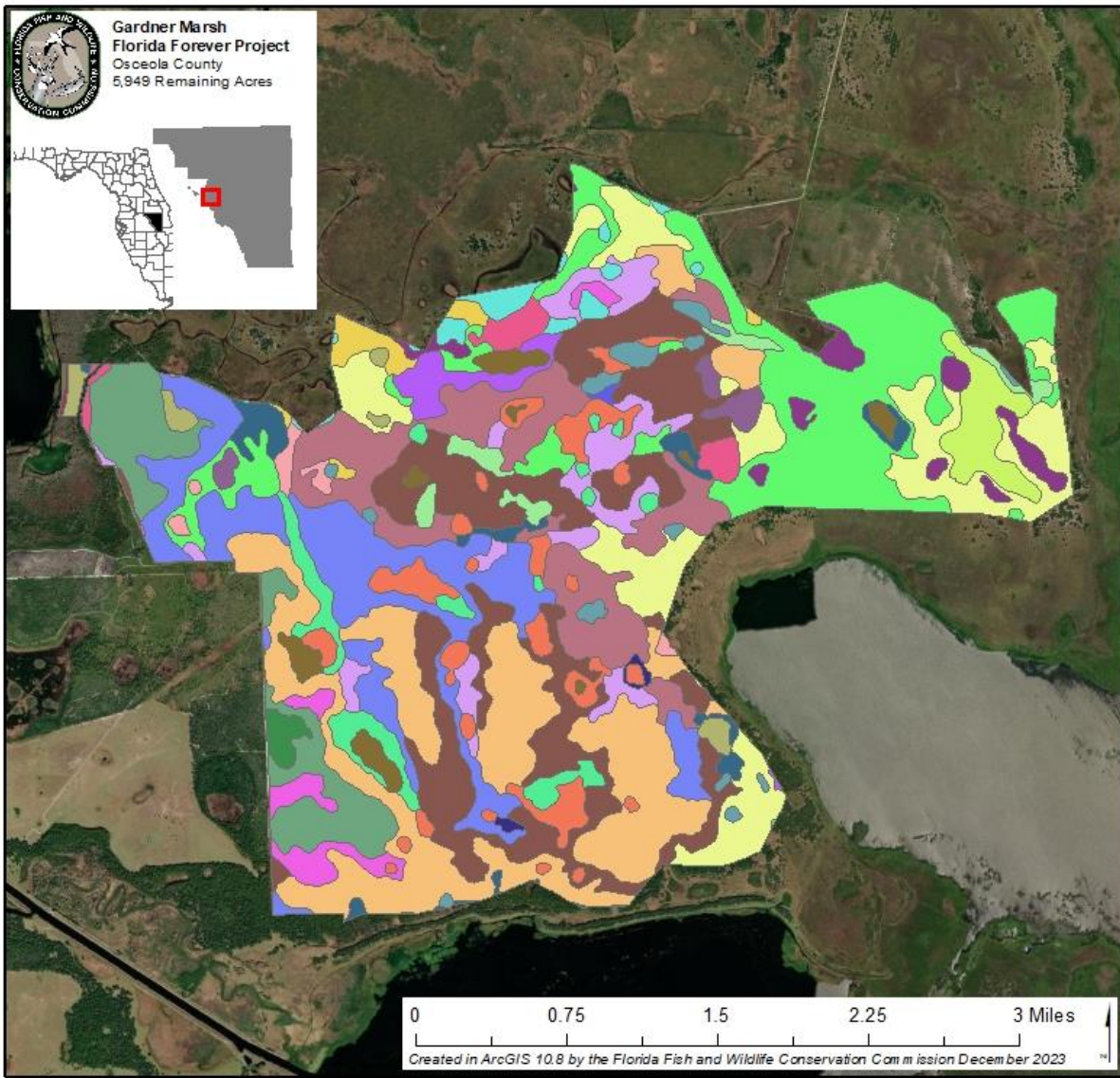
Created in ArcGIS 10.8 by the Florida Fish and Wildlife Conservation Commission December 2023

Aerial Imagery

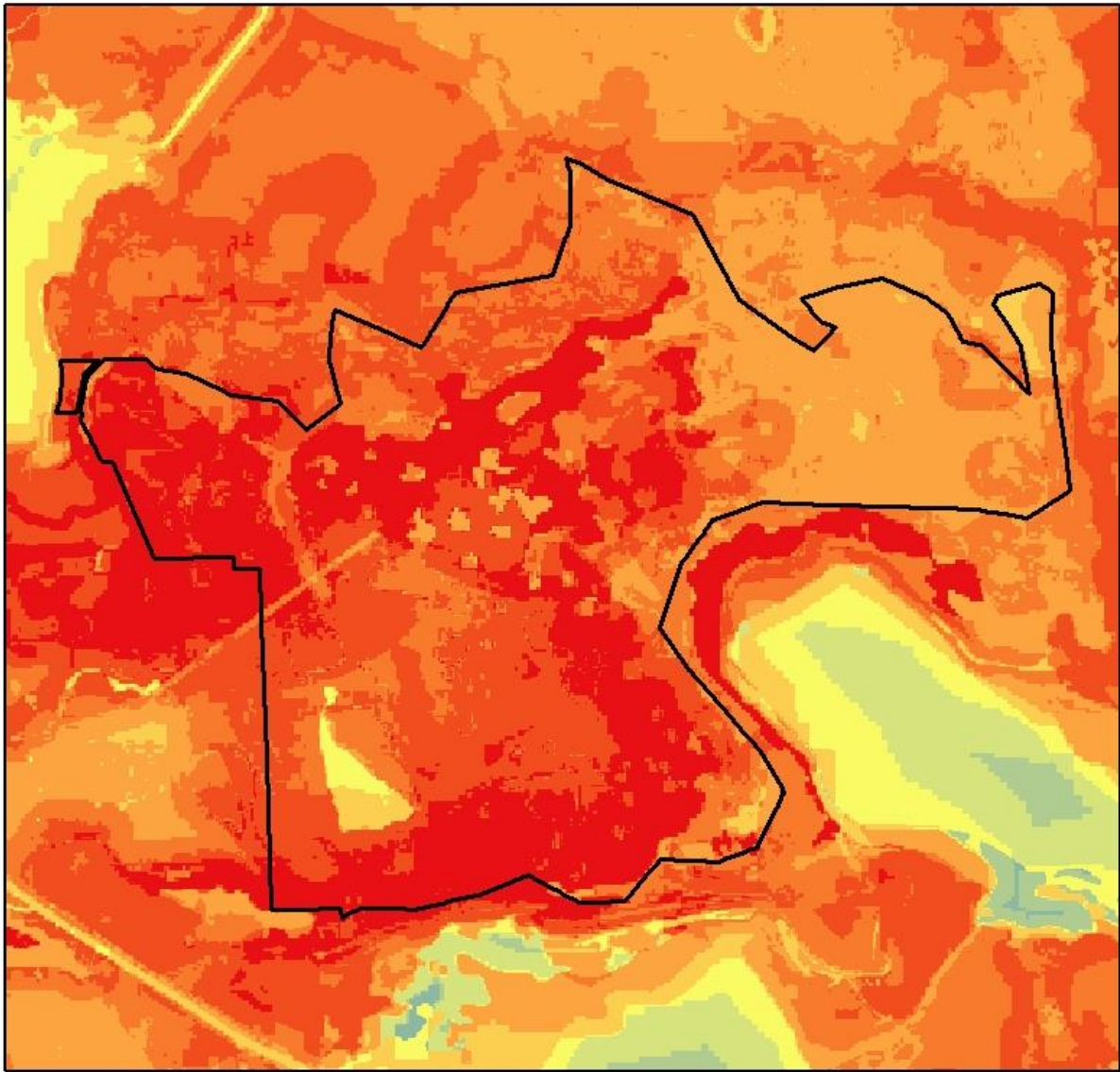


Gardner Marsh Boundary





Soil Types		
Adamsville sand	Kaliga muck, frequently ponded	Pomello fine sand
Adamsville variant fine sand	Lokosee fine sand	Pompano fine sand
Basinger fine sand	Malabar fine sand	Pompano fine sand, frequently ponded
Basinger fine sand, depressional	Malabar fine sand, frequently ponded	Riviera fine sand
Cassia fine sand	Myakka fine sand	Riviera fine sand, frequently ponded
Delray loamy fine sand, depressional	Narcoossee fine sand	Samsula muck, frequently ponded
EauGallie fine sand	Oldsmar fine sand	Smyrna fine sand
Floridana fine sand, frequently ponded	Ona fine sand	St. Lucie fine sand
Holopaw fine sand	Pineda-Pineda, wet, fine sand	Wabasso fine sand
Immokalee fine sand	Placid fine sand, frequently ponded	Water
		Winder loamy fine sand



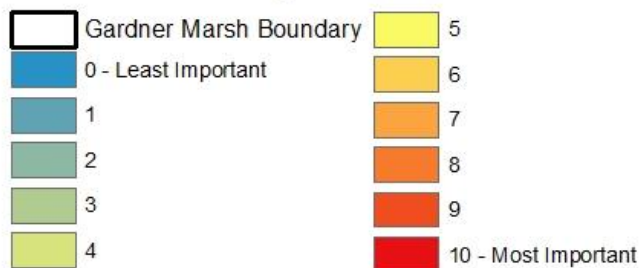
Gardner Marsh
Florida Forever Project
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0 0.75 1.5 2.25 3 Miles

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Florida Landscape Assessment Model



FWC Florida Landscape Assessment Model 2023		
	Value	Acres
	0	0.0
	1	0.0
	2	0.0
	3	0.0
	4	0.1
	5	34.0
	6	498.2
	7	932.9
	8	1373.9
	9	1583.6
	10	1526.2
Mean FLAM value =	8.4	

Comments:

¹ FWC has developed a GIS-based assessment tool that incorporates a wide variety of land cover and wildlife species data. These wildlife species include imperiled species and locally important species. Application of this model assists in the identification and conservation of important wildlife habitats. The FLAM ranks the Florida landscape based upon important natural resources and habitat needs of wildlife as a way to identify ecologically significant lands in the state, and to assess the potential impacts of land development projects on wildlife populations. The FLAM is provided as part of the FWC's continuing technical assistance to various local, regional, state, and federal agencies, and entities interested in wildlife needs and conservation in order to: (1) determine ways to avoid or minimize project impacts by evaluating alternative placements, alignments, and transportation corridors during early planning stages, (2) assess direct, secondary, and cumulative impacts to habitat and wildlife resources, and (3) help identify appropriate parcels for land conservation, and for wetland and upland habitat mitigation.

Environmental Resource Analysis

FWC Land Conservation and Planning

Analysis Shape Type: Polygon

Analysis Timestamp: 10312023 03:24:13

Shape Name: Unnamed polygon centered at -81.322466 °, 27.999065 °

Boundary Area: 5949.12 acres

Buffer Area: 0 acres

Total Area: 5949.12 acres

FWC Wildlife Data and Models

Cooperative Land Cover v3.6

Name - State	Code - State	Name - Site	Code - Site	Total Area (acres)	Percent of Area
Freshwater Forested Wetlands	2200	Mixed Hardwood-Coniferous Swamps	2240	23.10	0.39 %
Freshwater Forested Wetlands	2200	Mixed Wetland Hardwoods	2233	79.70	1.34 %
Cultural - Lacustrine	3200	Artificial/Farm Pond	3210	0.23	0 %
Cultural-Palustrine	2400	Grazed Wetlands	2430	0.79	0.01 %
Cypress/Tupelo (Cypress/Tupelo mixed)	2210	Cypress/Tupelo (Cypress/Tupelo mixed)	2210	6.08	0.1 %
Freshwater Non-Forested Wetlands	2100	Floating/Emergent Aquatic Vegetation	2140	0.10	0 %
Isolated Freshwater Swamp	2213	Isolated Freshwater Swamp	2213	33.85	0.57 %
Cypress	2211	Cypress	2211	19.35	0.33 %
Rural	1830	Rural Open Forested	18311	167.16	2.81 %
Rural	1830	Oak - Cabbage Palm Forests	183111	35.97	0.6 %
Hydric Hammock	2232	Cabbage Palm Hammock	22323	1.69	0.03 %
Rural	1830	Unimproved/Woodland Pasture	183314	505.45	8.5 %
Improved Pasture	183313	Improved Pasture	183313	215.92	3.63 %
Wet Flatwoods	2221	Hydric Pine Flatwoods	22211	11.64	0.2 %
Isolated Freshwater Marsh	2121	Depression Marsh	21211	2.51	0.04 %
Hydric Hammock	2232	Prairie Hydric Hammock	22322	9.77	0.16 %
Baygall	2231	Bay Swamp	22311	19.25	0.32 %
Mesic Flatwoods	1311	Mesic Flatwoods	1311	1,377.94	23.16 %
Scrub	1210	Scrub	1210	324.44	5.45 %
Dry Prairie	1330	Dry Prairie	1330	868.71	14.6 %
Scrubby Flatwoods	1312	Scrubby Flatwoods	1312	266.79	4.48 %
Mesic Hammock	1120	Mesic Hammock	1120	63.57	1.07 %
Upland Hardwood Forest	1110	Upland Hardwood Forest	1110	144.04	2.42 %
Mesic Hammock	1120	Cabbage Palm	1125	1.23	0.02 %
Mesic Hammock	1120	Live Oak	1123	31.29	0.53 %
Palmetto Prairie	1340	Palmetto Prairie	1340	3.90	0.07 %
Marshes	2120	Marshes	2120	757.04	12.73 %
Prairies and Bogs	2110	Mixed Scrub-Shrub Wetland	2112	86.40	1.45 %
Marshes	2120	Sawgrass	2131	29.65	0.5 %
Isolated Freshwater Marsh	2121	Isolated Freshwater Marsh	2121	1.22	0.02 %
Shrub and Brushland	1500	Shrub and Brushland	1500	78.98	1.33 %
Mixed Hardwood-Coniferous	1400	Mixed Hardwood-Coniferous	1400	27.98	0.47 %
Prairies and Bogs	2110	Wet Prairie	2111	60.60	1.02 %
Rural	1830	Rural Open	1831	692.76	11.64 %
TOTAL:				5,949.12	100 %

Critical Lands and Waters Identification Project (CLIP) Priority 1 and 2 - Terrestrial and Waters

CLIP Priority	Total Area (acres)	Percent of Area
All other cells	531.43	8.93 %
CLIP P1 in submerged lands/state waters	113.28	1.9 %
CLIP P1 in terrestrial	4,535.49	76.24 %
CLIP P2 in submerged lands/state waters	1.49	0.02 %
CLIP P2 in terrestrial	767.43	12.9 %
TOTAL:	5,949.12	100 %

CLIP- Landscape Category

Priority	Total Area (acres)	Percent of Area
2	41.78	0.7 %
3	5,907.34	99.3 %
TOTAL:	5,949.12	100 %

CLIP- Biodiversity Category

Priority	Total Area (acres)	Percent of Area
0	10.85	0.18 %
1	3.21	0.05 %
2	177.66	2.99 %

3	497.50	8.36 %					
4	2,752.85	46.27 %					
5	2,507.05	42.14 %					
TOTAL:	5,949.12	100 %					
Priority FWC Strategic Habitat Conservation Areas 2021							
Priority	Total Area (acres)	Percent of Area					
0	1,329.30	22.34 %					
1	341.75	5.74 %					
2	3,026.66	50.88 %					
3	1,163.71	19.56 %					
4	0.07	0 %					
5	87.63	1.47 %					
TOTAL:	5,949.12	100 %					
FWC Strategic Habitat Conservation Areas 2009							
Species 1	Species 2	Species 3	Species 4	Species 5	Species 6	Total Area (acres)	Percent of Area
American swallow-tailed kite						1,164.15	19.57 %
Cooper's hawk						86.96	1.46 %
Cooper's hawk	American swallow-tailed kite					0.03	0 %
Florida grasshopper sparrow						0.74	0.01 %
Florida grasshopper sparrow	Short-tailed hawk					341.27	5.74 %
Florida mouse	Florida scrub jay	Short-tailed hawk				18.80	0.32 %
Florida scrub jay						44.33	0.75 %
Florida scrub jay	American swallow-tailed kite					36.31	0.61 %
Florida scrub jay	Short-tailed hawk					329.01	5.53 %
Florida snail kite						9.79	0.16 %
Florida snail kite	American swallow-tailed kite					10.67	0.18 %
Florida snail kite	Short-tailed hawk					729.29	12.26 %
Short-tailed hawk						1,806.15	30.36 %
					TOTAL:	4,577.49	76.94 %
Panther location							
No Records Found							
Panther mortality							
No Records Found							
Panther Priority Habitat							
No Records Found							
Bear Range							
Bear Range	Total Area (acres)					Percent of Area	
Occasional	5,949.12					100 %	
TOTAL:	5,949.12					100 %	
Rare Fish							
No Records Found							
Rare Fish Imperiled Waters							
No Records Found							
Southern bald eagle nest							
Nest Count	Earliest Survey Year	Latest Survey Year			Total Area (acres)		Percent of Area
1	2002	2004			20.09		0.34 %
1	2005	2012			20.09		0.34 %
1	2006	2012			2.20		0.04 %
1	2012	2012			80.36		1.35 %
2	2000	2003			37.52		0.63 %
3	1998	2009			1.41		0.02 %
4	1998	2012			61.25		1.03 %
5	1998	2012			52.00		0.87 %
8	1998	2012			99.43		1.67 %
12	1998	2012			122.91		2.07 %
		TOTAL:			497.25		8.36 %
Imperiled Species Richness							
Number of Species		Total Area (acres)				Percent of Area	
0		193.19				3.25 %	
3		126.59				2.13 %	
5		378.69				6.37 %	
6		1.94				0.03 %	
7		1,484.99				24.96 %	
8		3,427.00				57.61 %	
9		333.85				5.61 %	
10		2.87				0.05 %	
TOTAL:		5,949.12				100 %	
Florida Natural Areas Inventory Data							
Element Occurrences							

COMMON NAME	SCIENTIFIC NAME	GLOBAL RANK	STATE RANK	FWC STATUS	FEDERAL STATUS	EO Rank	Last Observation	Total Area (acres)	Percent of Area
Bald Eagle	Haliaeetus leucocephalus	G5	S3	N	N	E	2002	34.71	0.58 %
Bald Eagle	Haliaeetus leucocephalus	G5	S3	N	N	E	2003	105.08	1.77 %
Crested Caracara	Caracara plancus	G5	S2	FT	T	E	1978	708.53	11.91 %
Snail Kite	Rostrhamus sociabilis	G4G5	S2	FE	E	C	2006	186.93	3.14 %
TOTAL:								1,035.25	17.4 %
Suitable Habitat that Supports Species Known to Occur in the Vicinity									
COMMON NAME		SCIENTIFIC NAME				Total Area (acres)		Percent of Area	
Crested Caracara		Caracara cheriway				4,248.59		71.42 %	
Eastern Indigo Snake		Drymarchon couperi				4,180.37		70.27 %	
Florida Long-tailed Weasel		Mustela frenata peninsulae				4,428.66		74.44 %	
Florida Sandhill Crane		Antigone canadensis pratensis				4,745.78		79.77 %	
Florida Scrub-Jay		Aphelocoma coerulescens				60.82		1.02 %	
Snail Kite		Rostrhamus sociabilis				2,357.96		39.64 %	
Wood Stork		Mycteria americana				1,020.75		17.16 %	
		TOTAL:				21,042.94		353.72 %	

USFWS

Critical Habitat

No Records Found

Area of Critical State Concern

Apalachicola

No Records Found

Big Cypress

No Records Found

Green Swamp

No Records Found

Key West

No Records Found

Lower Keys

No Records Found

Upper Keys

No Records Found

Florida Ecological Greenways Network

Wildlife Corridor Classification

Priority Level	Total Area (acres)	Percent of Area
2	5,907.34	99.3 %
5	41.78	0.7 %
TOTAL:	5,949.12	100 %

Water Resources

FDEP Surface Water Classification

Waterbody Name	Water Type	Water Basin	Classification	Total Area (acres)	Percent of Area
LAKE HATCHINEHA	LAKE	1472B	3F	1.59	0.03 %
HATCHINEHA CANAL	STREAM	1472D1	3F	710.09	11.94 %
LAKE CYPRESS OUTLET	STREAM	3180	3F	717.06	12.05 %
LAKE KISSIMEE (NORTH DRAIN)	STREAM	3183A2	3F	1,938.19	32.58 %
KISSIMEE RIVER	STREAM	3186A	3F	2,582.20	43.4 %
TOTAL:				5,949.12	100 %

Outstanding Florida Waters

No Records Found

Florida Geological Survey Springs

No Records Found

National Wetlands Inventory

Wetland Type	Wetland Code	Total Area (acres)	Percent of Area
FRESHWATER EMERGENT WETLAND	PEM1C	204.45	3.44 %
FRESHWATER EMERGENT WETLAND	PEM1Ad	8.22	0.14 %
FRESHWATER EMERGENT WETLAND	PEM1A	43.11	0.72 %
FRESHWATER EMERGENT WETLAND	PEM1Cd	0.02	0 %

FRESHWATER EMERGENT WETLAND	PEM1F	551.99	9.28 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO1C	2.33	0.04 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO1/3C	6.95	0.12 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO4C	1.39	0.02 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO3B	19.44	0.33 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO2F	34.88	0.59 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS1C	3.34	0.06 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO7C	45.30	0.76 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO7B	57.57	0.97 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO6F	13.33	0.22 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO6C	17.16	0.29 %
FRESHWATER POND	PUBHx	0.52	0.01 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS1F	18.05	0.3 %
RIVERINE	R4SBC	0.34	0.01 %
RIVERINE	R5UBH	0.62	0.01 %
RIVERINE	R5UBFx	1.86	0.03 %
LAKE	L1UBH	1.44	0.02 %
	TOTAL:	1,032.31	17.35 %
Priority Floodplain Resources			
Priority	Total Area (acres)	Percent of Area	
3	1,271.14	21.37 %	
2	852.20	14.32 %	
4	104.32	1.75 %	
1	253.47	4.26 %	
0	3,467.99	58.29 %	
TOTAL:	5,949.12	100 %	