

Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Land Conservation and Planning
Twelve Mile Slough 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 **Twelve Mile Slough** 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

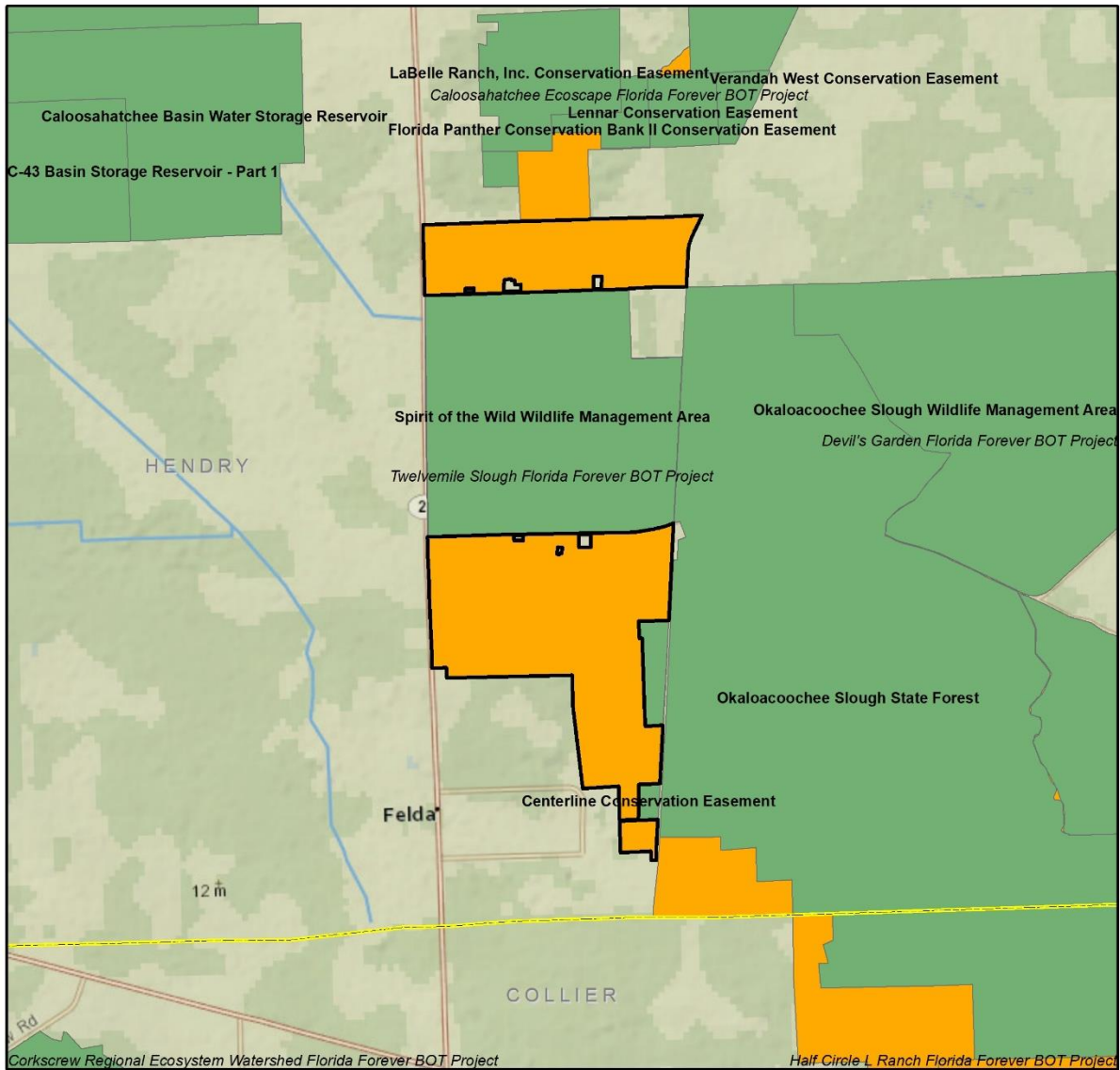
The FWC utilizes the Florida Cooperative Land Cover (CLC) GIS data layer for identification and mapping of land cover. The CLC is a cooperative effort between the FWC and the Florida Natural Areas Inventory (FNAI) to develop ecologically-based statewide land cover from existing sources and expert review 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.

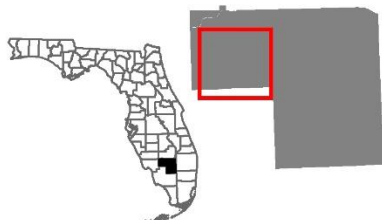
Important fish and wildlife resource GIS data were queried using Environmental Resource Analysis GIS computer software. These data include the following GIS layers:

- 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



**Twelve Mile Slough
Florida Forever Project**
Hendry County
8,020 Remaining Acres

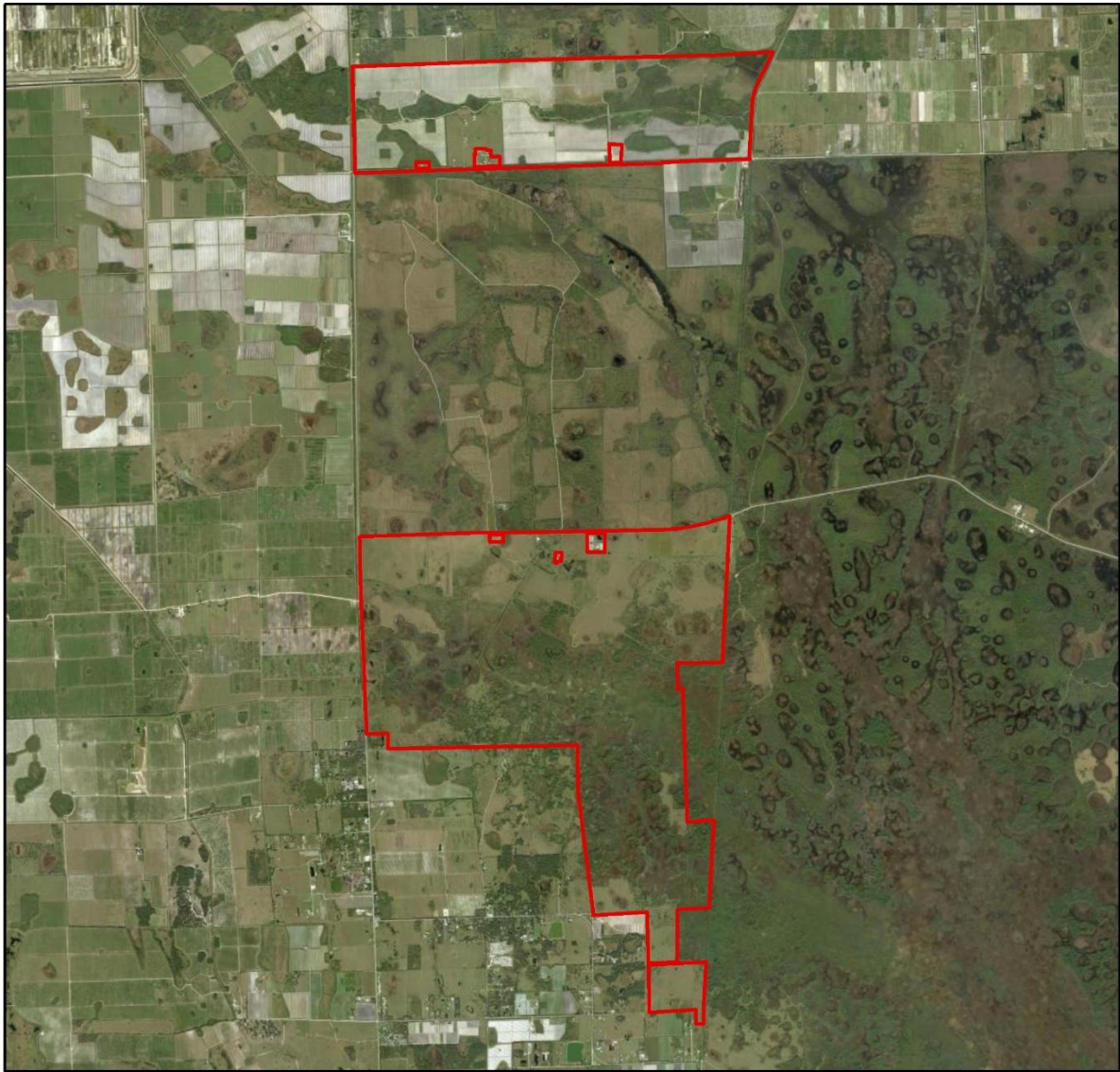


0 2 4 6 8 Miles

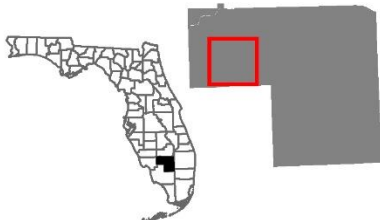
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Vicinity Map

- Twelve Mile Slough Boundary
- County Boundaries
- Conservation Lands
- Florida Forever Projects



Twelve Mile Slough
Florida Forever Project
Hendry County
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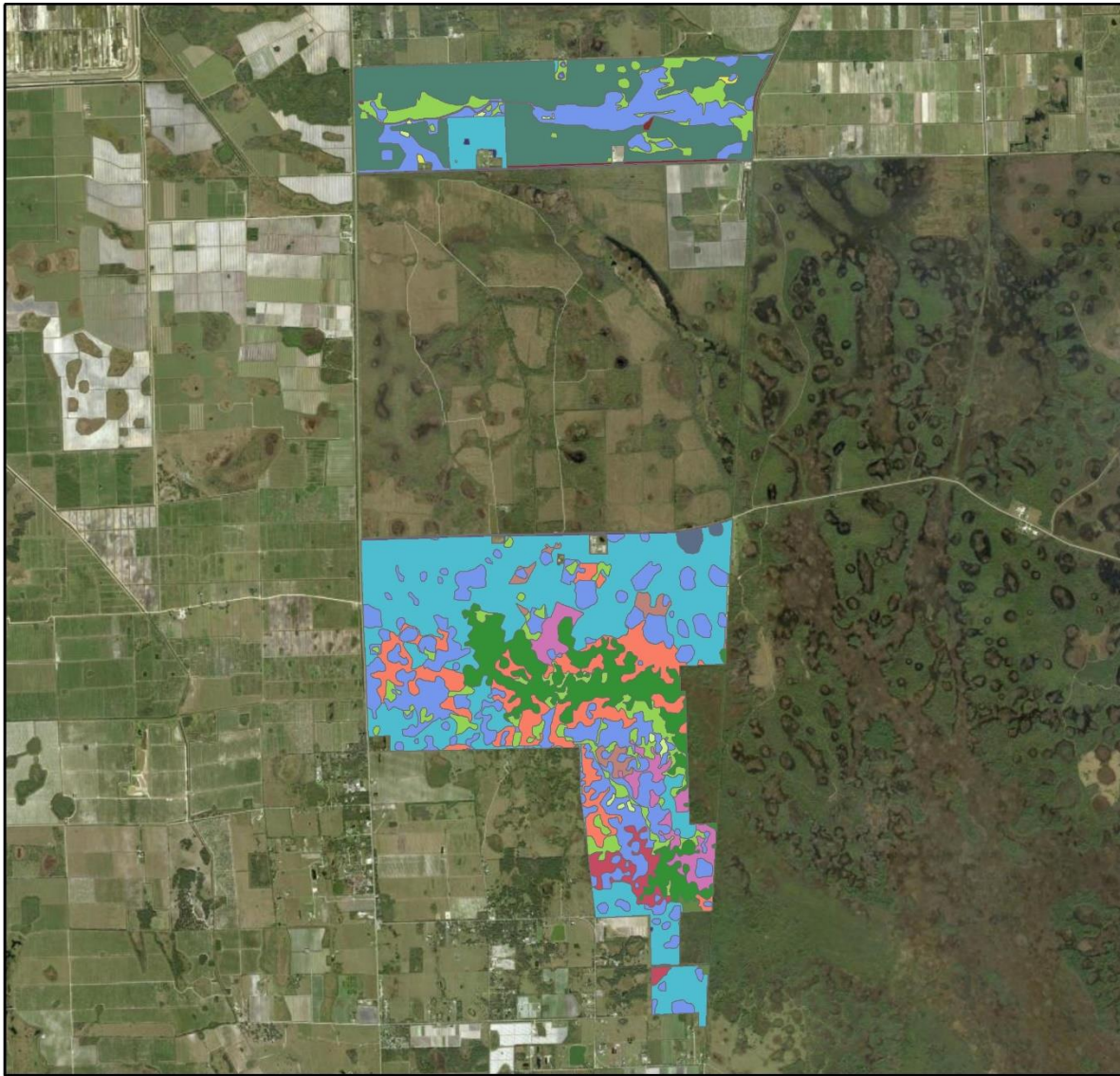


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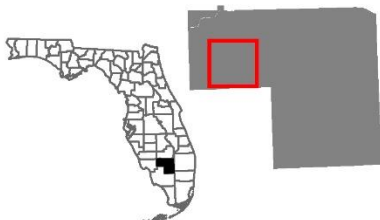
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Aerial Imagery

 Twelve Mile Slough Boundary



**Twelve Mile Slough
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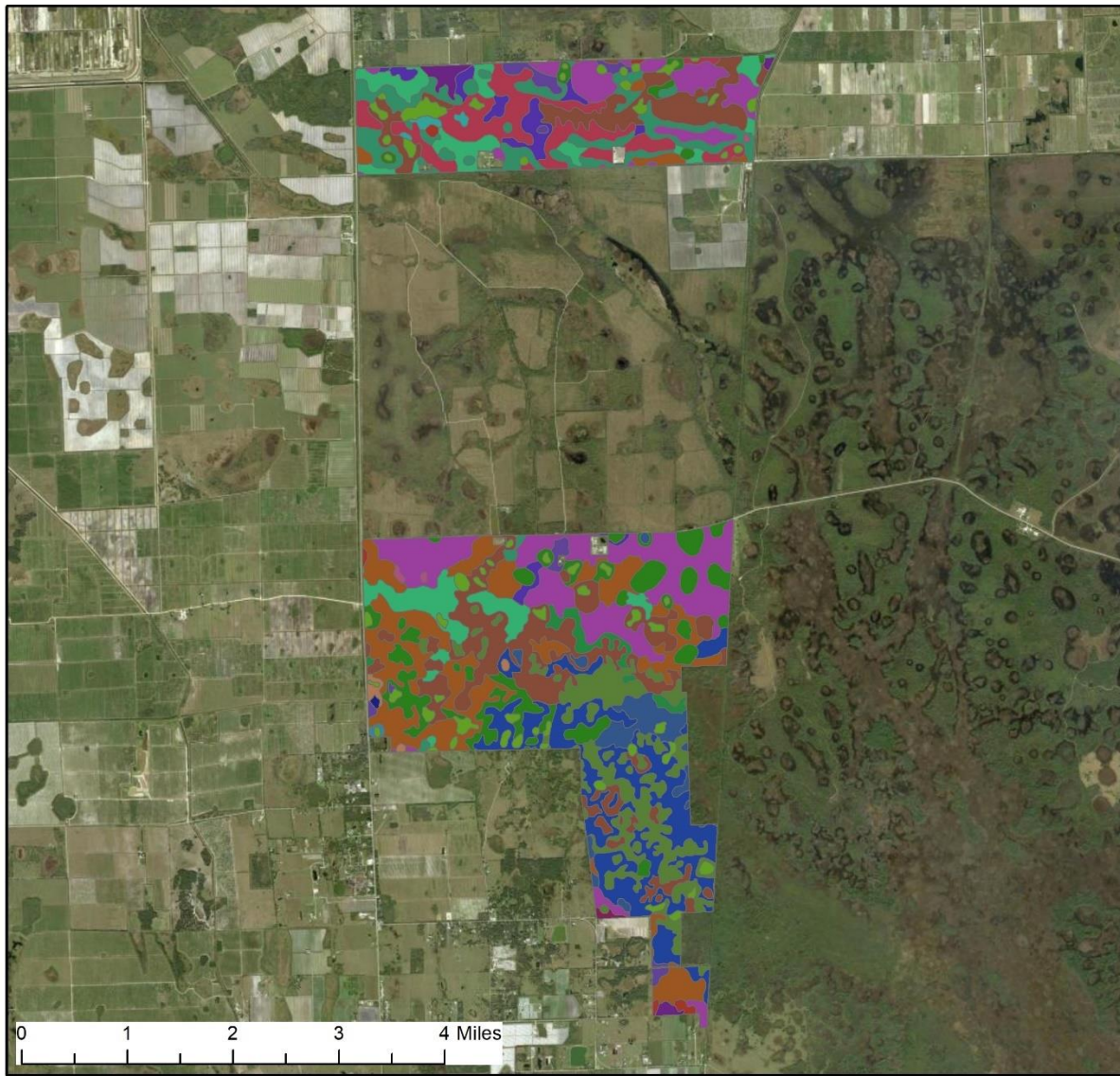


0 1 2 3 4 Miles

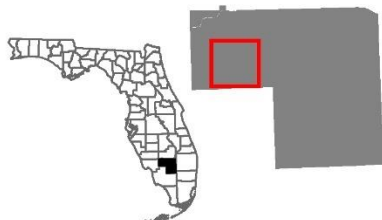
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Cooperative Land Cover

Basin Marsh	Isolated Freshwater Swamp	Row Crops
Canal	Marshes	Rural Open
Citrus	Mesic Flatwoods	Shrub and Brushland
Commercial and Services	Mesic Hammock	Slough Marsh
Communication	Mixed Hardwood-Coniferous	Strand Swamp
Cypress	Mixed Scrub-Shrub Wetland	Transportation
Depression Marsh	Mixed Wetland Hardwoods	Unimproved/Woodland Pasture
Improved Pasture	Ornamentals	
Irrigated Row Crops	Residential, Low Density	



Twelve Mile Slough
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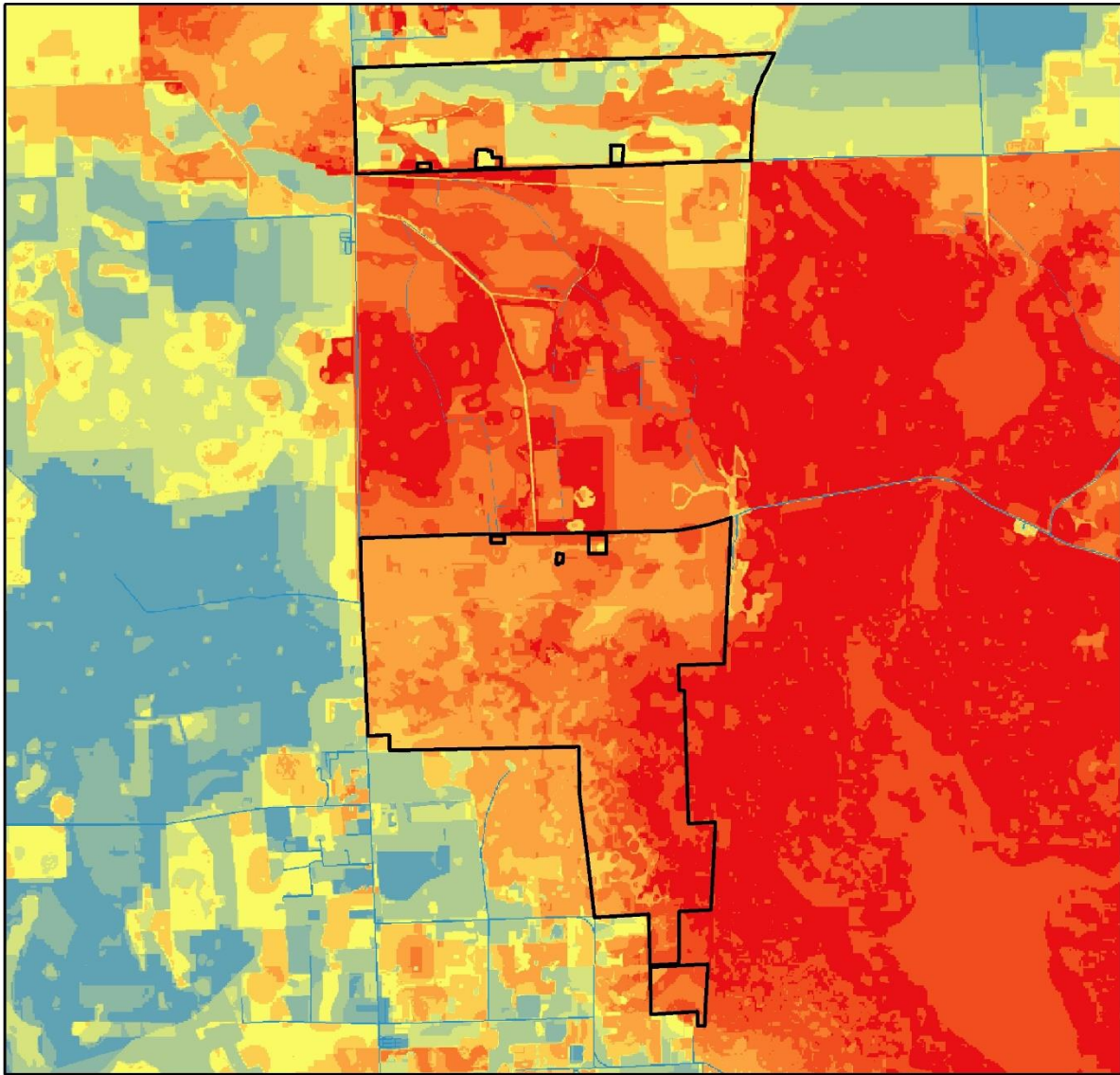


Soil Types

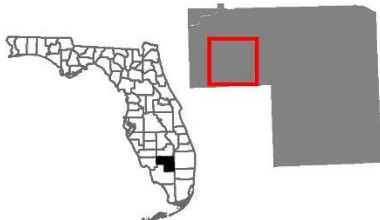
Chobee fine sandy loam, frequently ponded	Malabar sand, frequently ponded	Riviera sand, limestone substratum
Cypress Lake sand	Myakka sand	Tusawilla fine sand
Gator muck, frequently ponded	Oldsmar sand	Wabasso sand
Gentry fine sand	Pahokee muck	Wabasso sand, limestone substratum
Holopaw sand, frequently ponded	Pineda sand	Water
Immokalee sand	Pineda sand, limestone substratum	Winder fine sand, frequently ponded
Jupiter fine sand	Pineda-Pineda, wet, fine sand	
Malabar fine sand	Riviera sand, frequently ponded	

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Twelve Mile Slough
Florida Forever Project
 Hendry County
 8,020 Remaining Acres



0 1 2 3 4 Miles

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Florida Landscape Assessment Model (FLAM)



FWC Florida Landscape Assessment Model 2023		
	Value	Acres
	0	51.9
	1	0.0
	2	0.5
	3	696.1
	4	508.8
	5	213.9
	6	331.9
	7	2754.4
	8	1909.7
	9	997.2
	10	555.0
Mean FLAM value =	7.0	

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: 11012023 07:48:16

Shape Name: Unnamed polygon centered at -81.405366 °, 26.595394 °

Boundary Area: 8020.31 acres

Buffer Area: 0 acres

Total Area: 8020.31 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
Isolated Freshwater Marsh	2121	Depression Marsh	21211	37.51	0.47 %
Isolated Freshwater Marsh	2121	Basin Marsh	21212	0.82	0.01 %
Cropland/Pasture	18331	Row Crops	183311	0.10	0 %
Cultural - Riverine	4200	Canal	4210	9.91	0.12 %
Low Intensity Urban	1821	Low Structure Density	18212	5.59	0.07 %
High Intensity Urban	1822	Commercial and Services	18223	0.15	0 %
Vineyard and Nurseries	18334	Ornamentals	183343	0.03	0 %
Cropland/Pasture	18331	Irrigated Row Crops	1833111	1,419.84	17.7 %
Transportation	1840	Transportation	1840	52.18	0.65 %
Improved Pasture	183313	Improved Pasture	183313	2,315.11	28.87 %
Rural	1830	Unimproved/Woodland Pasture	183314	83.67	1.04 %
Orchards/Groves	18332	Citrus	183321	0.16	0 %
Freshwater Forested Wetlands	2200	Mixed Wetland Hardwoods	2233	23.41	0.29 %
Shrub and Brushland	1500	Shrub and Brushland	1500	10.95	0.14 %
Rural	1830	Rural Open	1831	40.06	0.5 %
Communication	1850	Communication	1850	0.16	0 %
Mesic Hammock	1120	Mesic Hammock	1120	622.44	7.76 %
Mesic Flatwoods	1311	Mesic Flatwoods	1311	225.66	2.81 %
Mixed Hardwood-Coniferous	1400	Mixed Hardwood-Coniferous	1400	126.29	1.57 %
Cypress	2211	Cypress	2211	0.82	0.01 %
Isolated Freshwater Swamp	2213	Isolated Freshwater Swamp	2213	1.97	0.02 %
Strand Swamp	2214	Strand Swamp	2214	737.80	9.2 %
Prairies and Bogs	2110	Mixed Scrub-Shrub Wetland	2112	618.19	7.71 %
Marshes	2120	Marshes	2120	1,671.42	20.84 %
Marshes	2120	Slough Marsh	2124	16.05	0.2 %
TOTAL:				8,020.31	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	5.04	0.06 %
CLIP P1 in submerged lands/state waters	45.64	0.57 %
CLIP P1 in terrestrial	7,967.05	99.34 %
CLIP P2 in terrestrial	2.31	0.03 %
TOTAL:	8,020.04	100 %

CLIP- Landscape Category

Priority	Total Area (acres)	Percent of Area
2	5.51	0.07 %
3	19.80	0.25 %
5	7,994.99	99.68 %
TOTAL:	8,020.31	100 %

CLIP- Biodiversity Category

Priority	Total Area (acres)	Percent of Area
0	1,211.50	15.11 %
1	32.95	0.41 %
2	131.67	1.64 %
3	62.41	0.78 %
4	3,067.83	38.25 %
5	3,513.94	43.81 %
TOTAL:	8,020.31	100 %

Priority FWC Strategic Habitat Conservation Areas 2021

Priority	Total Area (acres)	Percent of Area
0	3,849.15	47.99 %
1	1,544.76	19.26 %

2	1,376.69	17.17 %
3	1,249.63	15.58 %
4	0.08	0 %
TOTAL:	8,020.31	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
Big Cypress fox squirrel		0.38 0 %
Big Cypress fox squirrel	Florida burrowing owl	0.21 0 %
Florida burrowing owl		1,240.63 15.47 %
Florida panther		1,059.71 13.21 %
Florida panther	Florida snail kite	497.30 6.2 %
Florida snail kite		1,368.70 17.07 %
	TOTAL:	4,166.94 51.95 %
Panther location		
DATE	# Features	
11/13/1989 12:00:00 AM	1	
9/11/1998 12:00:00 AM	1	
10/5/1998 12:00:00 AM	1	
10/7/1998 12:00:00 AM	1	
10/14/1998 12:00:00 AM	1	
10/19/1998 12:00:00 AM	1	
10/21/1998 12:00:00 AM	1	
10/30/1998 12:00:00 AM	1	
11/11/1998 12:00:00 AM	1	
11/23/1998 12:00:00 AM	1	
12/4/1998 12:00:00 AM	1	
12/16/1998 12:00:00 AM	1	
12/18/1998 12:00:00 AM	1	
1/6/1999 12:00:00 AM	1	
2/15/1999 12:00:00 AM	1	
3/1/1999 12:00:00 AM	1	
3/3/1999 12:00:00 AM	1	
3/17/1999 12:00:00 AM	1	
3/19/1999 12:00:00 AM	1	
4/7/1999 12:00:00 AM	1	
4/9/1999 12:00:00 AM	1	
4/14/1999 12:00:00 AM	1	
5/19/1999 12:00:00 AM	1	
6/21/1999 12:00:00 AM	1	
7/9/2004 12:00:00 AM	1	
7/28/2004 12:00:00 AM	1	
7/30/2004 12:00:00 AM	1	
2/21/2005 12:00:00 AM	1	
2/23/2005 12:00:00 AM	1	
5/30/2005 12:00:00 AM	1	
6/19/2006 12:00:00 AM	1	
11/17/2006 12:00:00 AM	1	
5/14/2007 12:00:00 AM	1	
12/5/2007 12:00:00 AM	1	
12/12/2007 12:00:00 AM	1	
2/29/2008 12:00:00 AM	1	
12/15/2008 12:00:00 AM	1	
6/11/2010 12:00:00 AM	1	
6/25/2010 12:00:00 AM	1	
12/30/2019 12:00:00 AM	1	
TOTAL:	40	
Panther mortality		
DATE	# Features	
11/20/2016	1	
TOTAL:	1	
Panther Priority Habitat		
ZONE	Total Area (acres)	Percent of Area
Dispersal	1,733.77	21.62 %
Primary	6,181.88	77.08 %
Secondary	104.16	1.3 %
TOTAL:	8,019.81	99.99 %
Bear Range		
Bear Range	Total Area (acres)	Percent of Area
Common	7,713.97	96.18 %
Occasional	306.33	3.82 %
TOTAL:	8,020.31	100 %
Rare Fish		
No Records Found		

Rare Fish Imperiled Waters									
No Records Found									
Southern bald eagle nest									
No Records Found									
Imperiled Species Richness									
Number of Species		Total Area (acres)				Percent of Area			
0		1,667.97				20.8 %			
1		58.18				0.73 %			
2		0.00				0 %			
3		139.30				1.74 %			
4		0.14				0 %			
5		1,811.78				22.59 %			
6		7.97				0.1 %			
7		1,206.03				15.04 %			
8		1,409.39				17.57 %			
9		1,389.06				17.32 %			
10		330.48				4.12 %			
TOTAL:		8,020.31				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
Crested Caracara	Caracara plancus	G5	S2	FT	T	E	1989-03-14	466.80	5.82 %
Florida Panther	Puma concolor coryi	G5T1	S1	FE	E	C	2018-02-27	8,019.34	99.99 %
Glossy Ibis	Plegadis falcinellus	G5	S3	N	N	E	1988-05-06	1,112.84	13.88 %
Glossy Ibis	Plegadis falcinellus	G5	S3	N	N	E	1989-02-04	868.73	10.83 %
Gopher Tortoise	Gopherus polyphemus	G3	S3	ST	N	CD	2005	0.47	0.01 %
Small's flax	Linum carteri var. smallii	G2T2	S2	E	N	F	1966-03-14	343.66	4.28 %
Snowy Egret	Egretta thula	G5	S3	N	N	E	1988-05-06	1,112.84	13.88 %
Tricolored Heron	Egretta tricolor	G5	S4	ST	N	E	1988-05-06	1,112.84	13.88 %
Wood Stork	Mycteria americana	G4	S2	FT	DL	E	1974-05-05	637.12	7.94 %
							TOTAL:	13,674.65	170.5 %
Suitable Habitat that Supports Species Known to Occur in the Vicinity									
COMMON NAME		SCIENTIFIC NAME				Total Area (acres)		Percent of Area	
Big Cypress Fox Squirrel		Sciurus niger avicennia				567.51		7.08 %	
Crested Caracara		Caracara cheriway				4,933.43		61.51 %	
Eastern Indigo Snake		Drymarchon couperi				1,878.98		23.43 %	
Florida Long-tailed Weasel		Mustela frenata peninsulae				564.48		7.04 %	
Florida Panther		Puma concolor coryi				6,559.74		81.79 %	
Florida Sandhill Crane		Antigone canadensis pratensis				5,610.54		69.95 %	
redmargin zephyrlily		Zephyranthes simpsonii				0.03		0 %	
Wood Stork		Mycteria americana				3,077.55		38.37 %	
						TOTAL:	23,192.25	289.17 %	

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
1	7,995.63	99.69 %
2	18.94	0.24 %
5	2.04	0.03 %
TOTAL:	8,016.62	99.95 %

Water Resources

FDEP Surface Water Classification

Waterbody Name	Water Type	Water Basin	Classification	Total Area (acres)	Percent of Area
OKALOACOOCHEE SLOUGH	STREAM	3278T	3F	315.19	3.93 %
TOWNSEND CANAL	STREAM	3235L	3F	9.52	0.12 %
GOODNO CANAL	STREAM	3235M	3F	40.86	0.51 %
ROBERTS CANAL	STREAM	3235N	3F	6,618.02	82.52 %
OKALOACOOCHEE BRANCH	STREAM	3235O	3F	1,036.71	12.93 %
		TOTAL:		8,020.31	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	PEM1Ad	30.75	0.38 %
FRESHWATER POND	PAB4Fd	36.23	0.45 %
FRESHWATER POND	PABHh	0.25	0 %
FRESHWATER EMERGENT WETLAND	PEM1Fd	1,914.41	23.87 %
FRESHWATER EMERGENT WETLAND	PEM1F	139.75	1.74 %
FRESHWATER EMERGENT WETLAND	PEM1Cd	294.36	3.67 %
FRESHWATER EMERGENT WETLAND	PEM1C	34.57	0.43 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO1Fd	10.27	0.13 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO1Cd	5.72	0.07 %
FRESHWATER FORESTED/SHRUB WETLAND	PFO2Cd	2.91	0.04 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS1/3Cd	601.65	7.5 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS1F	27.84	0.35 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS1/3C	0.99	0.01 %
FRESHWATER FORESTED/SHRUB WETLAND	PSS1/3Ad	1.92	0.02 %
RIVERINE	R2ABHx	20.42	0.25 %
RIVERINE	R2UBHx	4.44	0.06 %
FRESHWATER POND	PUBHx	1.50	0.02 %
RIVERINE	R5UBH	1.44	0.02 %
RIVERINE	R5UBFx	57.53	0.72 %
	TOTAL:	3,186.96	39.74 %

Priority Floodplain Resources

Priority	Total Area (acres)	Percent of Area
6	1,310.39	16.34 %
5	2,186.96	27.27 %
4	1,421.24	17.72 %
0	230.09	2.87 %
3	1,128.16	14.07 %
1	430.11	5.36 %
2	1,313.36	16.38 %
TOTAL:	8,020.31	100 %