# SOUTHWEST FLORIDA LANDSCAPE CONSERVATION DESIGN

## Document Appendices

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U.S. FISH & WILDLIFE SERVICE

PENINSULAR FLORIDA LANDSCAPE CONSERVATION COOPERATIVE

NATIONAL Wildlife Refuge ASSOCIATION

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Prepared by:
National Wildlife Refuge Association
University of Florida Center for Landscape Conservation Planning

Prepared for:
The Peninsular Florida Landscape Conservation Cooperative and US Fish and Wildlife Service
Cover and facing photo credits: Larry Richardson/US Fish and Wildlife Service

# Contents



# Appendix A: Descriptions of Focal Species and Natural Communities

The following includes descriptions of selected focal natural communities and species. More information about focal natural communities and species can be obtained at http://fnai.org/natcom_accounts.cfm and http://fnai.org/trackinglist.cfm.

## Natural Community Descriptions

### *Hydric, Mesic, and Scrubby Pineland Flatwoods*

Flatwoods have highly variable plant species compositions with two principal types of pine forest: one with a groundcover dominated by saw palmetto and the other under a slightly wetter regime with groundcover dominated by mixed grasses. In drier areas, the saw palmetto ground cover also includes wax myrtle, gallberry, sumac, American beautyberry, snowberry, and velvet seed. The groundcover in a wet pine forest is comprised mainly of grasses and forbs, including wiregrass, bluestems, and blazing star. Fire frequency and hydrology distinguish the subtle differences between the two types, which are often found in close association. Canopies are dominated by south Florida slash pine, with sparse to abundant cabbage palms. The Florida black bear, Florida panther, and swallow-tailed kite are closely associated with flatwoods. Panthers and bears rely on the understory for cover and food, while the swallow-tailed kite relies on the overstory for nesting and hunting.

### *Mesic Temperate Hammock*

Hammocks are found on elevated bedrock overlain by sandy peat dominated by live oak, laurel oak, and water oak. A hammock may have an open understory or grow as a dense woody thicket. The interior floor is sparsely covered with shade loving plants. In addition to the several species of oaks, the flora is characterized by cabbage palm, strangler fig, red bay, wild coffee, myrsine, and cocoplum. Soils in mesic temperate hammock are moist due to a dense litter layer and the humid conditions that prevail under the closed canopy, but are rarely inundated. The moist microclimate of hammocks is generally conducive to orchids (terrestrial and epiphytic) and bromeliads. Florida panther and Florida black bear use this habitat to hunt, for dens, and as cover. The federally threatened eastern indigo snake and the federal endangered Florida bonneted bat are also found in these habitats.

### *Scrub*

Scrub in southwest Florida is a xeric upland habitat found in upland patches within pine flatwoods and prairie habitats. Vegetation consists of short scrub oaks with interspersed south Florida slash pine, sparse groundcover, and open sandy patches. Intense, infrequent fire maintains the low structure of the canopy and the open sandy patches. This habitat is home to the Florida scrub-jay and gopher tortoise. Fire suppression allows for oak expansion and causes the habitat to transition to xeric hammock.

### *Freshwater Marshes and Wet Prairies*

Frequent fires maintain grasses, herbs, and shrubs on flatland with sand substrate. Wet prairies are seasonally flooded and support plants such as sawgrass; maidencane; beakrush; spikerush; muley grass; and terrestrial orchids, particularly the grass pinks (Calopogon sp.). Southeastern American kestrel and Audubon's crested caracara are often found hunting in this habitat. Marshes are defined as wetlands that are flooded with water and dominated by grasses and sedges, as well as other plants that are adapted to saturated soils. Within these marshes, plant communities are variable due to local geology, hydrology, and fire. Shallow open wetland marshes with a low density of emergent vegetation support the native

apple snail, which is the primary food source of the Everglade snail kite. These communities also provide habitat that allows for the survival of wading birds, alligators, and many other species of wildlife during periods of flooding and drought.

*Freshwater Wetland Forests*

Freshwater wetland forests include mixed swamp forests and cypress domes or strands. Mixed swamp forests, once dominated by bald cypress, have been extensively logged and are now dominated by red maple, pop ash, dahoon holly, myrsine, willow, swampbay, and water oak. Epiphytic bromeliads and orchids can be abundant. Pond cypress forests have a greater density of small cypress trees and few hardwoods. Cypress domes and smaller strands are characterized by monotypic stands of pond cypress with a groundcover of woody species such as buttonbush; cocoplum; willow; wax myrtle; and herbaceous species such as bladderwort, swamp fern, spikerush, and marsh fleabane. The wood stork, little blue heron, and white ibis use these wetland habitats for roosting and feeding. Wood storks, especially, rely on specific water levels near mature cypress domes for feeding and roosting during the nesting season.

*Sandhill*

Sandhill is a xeric upland habitat found on gently rolling hills of often yellowish sand with vegetation comprised of longleaf pine (Pinus palustris) and turkey oak (Quercus spp.), with a wiregrass (Aristida beyrichiana) understory. Frequent fire maintains the herbaceous groundcover diversity and keeps the oaks from invading the open understory into the pine canopy. This habitat is home to reptiles endemic to Florida, such as the Florida pine snake (Pituophis melanoleucus mugitus, state species of special concern), and short-tailed snake (Stilosoma extenuatum, state threatened), as well as the federally threatened eastern indigo snake and the federal candidate and state threatened gopher tortoise. The federally endangered red-cockaded woodpecker is also found in this habitat.

*Cutthroat Grass Communities*

Cutthroat grass (Panicum abscissum) is found in association with the side slopes of the central Florida ridges. Cutthroat grass communities are mostly associated with areas of slight to strong groundwater seepage, however, not all cutthroat grass communities are well-developed seepage slopes. Cutthroat grass communities are fire-maintained and support populations of the endemic Florida hartwrightia (Hartwrightia floridana), swamp bayberry (Myrica heterophylla), and featherbristle beaksedge (Rhynchospora oligantha).

*Dry Prairie*

Florida dry prairie is endemic to the south-central Florida peninsula. It occurs on nearly level, poorly to somewhat poorly drained flatlands above major river floodplain valleys. Dry prairie is a pyrogenic landscape dominated by wiregrass, low stunted saw palmetto, and low-growing runner oak (Quercus pumila). It is the preferred natural habitat for the federally endangered Florida grasshopper sparrow and often used by the federally threatened Audubon's crested caracara and the burrowing owl (Athene cunicularia), a federal bird of conservation concern and a state species of special concern.

## Focal Species Descriptions

American swallow-tailed kite - *Elanoides forficatus*

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 logging and conversion to agriculture. Satellite telemetry data of individual kites have revealed a complex migratory route back and forth between the United States and Central America and South America. The entire U.S. population migrates to South America by late summer, and returns to Florida and six other southeastern states in February each year. Currently, there are only around 2,500 breeding pairs of this bird in the U.S., and approximately two-thirds of the U.S. population breeds in Florida.

Big Cypress fox squirrel - *Sciurus niger avicennia*
*State Threatened*

The big cypress fox squirrel is a large tree squirrel, highly variable in color and patterning. The most

common pattern includes a black head and dorsal fur, buff sides and belly, buff and black tail, and white nose and ears. The big cypress fox squirrel is the only subspecies of fox squirrel endemic to Florida. The extent of occurrence is recognized as being limited to southwestern peninsular Florida, south of the Caloosahatchee River, in Hendry, Lee, and Collier Counties, the northern part of mainland Monroe County, and extreme western Miami-Dade County (a strip of land that occurs largely within Big Cypress National Preserve). Preferred habitats include mangroves, pinelands, and the Big Cypress National Preserve west of the Everglades and south of the Caloosahatchee River.

While considered a tree squirrel, the big cypress fox squirrel spends a large proportion of its time on the ground. It inhabits a range of natural, rural, and urbanized habitat. Optimal habitat conditions for big cypress fox squirrel are dependent upon the availability of appropriate trees for nest sites, abundant year-round food resources, and an open understory with little or no bushes or shrub layer present.

### Eastern diamondback rattlesnake - *Crotalus adamanteus*

The eastern diamondback is a large, heavy-bodied rattlesnake. Adults can grow to an average 3-6 feet in length and can weigh up to 10 pounds. The background color is brown, tan or yellow with brown diamonds down the back which are outlined in cream. They have large, broad heads with a dark stripe which is bordered in cream on both sides running diagonally through the eye. There is a facial pit between the eye and the nostril, and the tail ends in a rattle. Eastern diamondbacks are found throughout Florida, primarily in areas that contain palmetto thickets including pine flatwoods, sand pine scrub, and longleaf pine and turkey oak habitats.

### Eastern indigo snake - *Drymarchon couperi* *Federal Threatened*

The eastern indigo snake is a massive, black snake. It is the longest snake native to the United States, ranging in size from 60-84 inches (152-213 cm), and is entirely shiny bluish-black color, including the belly. The chin and sides of the head are usually colored reddish or orange-brown. Juvenile indigo snakes look very similar to adults but have much more red on their heads. Indigo snakes are sexually dimorphic, with males growing to larger lengths than females. Eastern indigo snakes are restricted to Florida and southern areas of Georgia, Alabama, and Mississippi. In the Southeast, indigo snakes are restricted to areas of xeric pine-oak sandhills, which are usually inhabited by gopher tortoises. These snakes use gopher tortoise burrows as shelter during the winter and during the warmer months for nesting and refuge from intense summer heat. During the active season, indigo snakes may move long distances and often forage along wetland margins

### Florida black bear - *Ursus americanus floridanus*

The Florida black bear is one of 16 subspecies of the American black bear. Like all members of the bear family, black bears are large, powerful mammals with rounded ears, short tails, 5-toed feet, and large canine teeth. With their stout, heavily-curved claws, black bears climb trees very well. Their claws are non-retractable and can be easily seen in their tracks. Although black bears in other parts of North America may have several color phases, such as cinnamon, blonde, or even white, all black bears in the Southeast, including Florida black bears, are black. The muzzle, or snout, may be tan or nearly black and blonde or white chest blazes of all shapes and sizes are common. Adult males in Florida normally weigh between 250 - 450 pounds, with adult females weighing between 125 - 250 pounds.  Black bears prefer habitats with a dense understory such as forested wetlands and uplands, natural pinelands, hammocks, scrub, and shrub lands. Black bears are considered an umbrella species – a wide-ranging species whose protection (and habitat's protection) in turn protects numerous other species.

### Florida burrowing owl - *Athene cunicularia* *State Species of Special Concern*

The burrowing owl is a pint-sized bird that lives in open, treeless areas. The burrowing owl spends most of its time on the ground, where its sandy brown plumage provides camouflage from potential preda-

tors. One of Florida's smallest owls, it averages nine inches in height with a wingspan of 21 inches. The burrowing owl lacks the ear tufts of the more familiar woodland owls. Bright yellow eyes and a white chin accent the face. Unusually long legs provide additional height for a better view from its typical ground-level perch.

The Florida burrowing owl occurs throughout the state although its distribution is considered local and spotty. The presence of burrowing owls is primarily dependent upon habitat. Humans have created new habitat for burrowing owls by clearing forests and draining wetlands. Burrowing owls inhabit open native prairies and cleared areas that offer short groundcover including pastures, agricultural fields, golf courses, airports, and vacant lots in residential areas. Historically, the burrowing owl occupied the prairies of central Florida. Recently, these populations have decreased because of disappearing habitat while populations in south Florida coastal areas have increased due to modification of habitat by humans.

Burrowing owls live as single breeding pairs or in loose colonies consisting of two or more families. Unlike most owls, burrowing owls are active during both day and night. During the day, they are usually seen standing erect at the mouth of the burrow or on a nearby post. When disturbed, the owl bobs in agitation and utters a chattering or clucking call. In flight, burrowing owls typically undulate as if they are flying an invisible obstacle course. They also can hover in midair, a technique effective for capturing food. Burrowing owls use burrows year-round; for roosting during the winter and for raising young during the breeding season (Feb - July). Florida's owls typically dig their own burrows but will use gopher tortoise or armadillo burrows. Burrows extend 4 to 8 feet underground and are lined with materials such as grass clippings, feathers, paper, and manure.

### Florida Panther – *Puma Concolor Coryi*
### *Federal Endangered*

A wide-ranging federally endangered feline that has been severely affected by habitat fragmentation and human development, and potentially by climate change, the Florida panther requires intact landscapes with low human activity dominated by land cover types and land uses that support suitable cover and prey. The panther relies on a diverse mid-story cover for hunting, denning, and moving. The extensive areas of undeveloped pine flatwoods, mixed hardwoods, and forested wetlands found within the study area represent high-quality habitat for maintaining panther corridors that range northward from Big Cypress National Preserve, the Florida Panther NWR, and the Okaloacoochee Slough State Forest. Radio-telemetry of collared panthers within this vicinity indicates their consistent use of these areas east of I-75 and south of the Caloosahatchee River. Restoration and management of these habitats and surrounding agricultural lands would augment panther population growth. Male and female panther home range sizes are inversely related to habitat quality. The greater the extent of agricultural land and wetland habitats, the larger the home range; whereas, the greater the extent of mixed hardwood forest and dry pine forests, the smaller the home range. High-quality habitat concentrates prey and increases female panther reproductive success. Additional habitat is needed to conserve and recover this species because panther habitat throughout Florida and the southeast continues to be affected by urbanization. Habitat loss, fragmentation, and degradation are the greatest threats to panther survival and recovery.

### Gopher tortoise - *Gopherus polyphemus*
### *Federal Candidate, State Threatened*

The gopher tortoise is a moderate-sized, terrestrial turtle, averaging 23–28 cm (9–11 in) in length. The species is identified by its stumpy, elephantine hind feet and flattened, shovel-like forelimbs adapted for digging. The shell is oblong and generally tan, brown, or gray in coloration. Gopher tortoises can live 40 to 60 years in the wild.

Gopher tortoises are ancient: their ancestors are a species of land tortoise that originated in western North America some 60 million years ago. They are members of the Class Reptilia, Order Testudines, and Family Testudinidae. Of five North American tortoise species (genus Gopherus), the gopher tortoise is the only one that occurs east of the Mississippi River.

Gopher tortoises live in well-drained sandy areas with a sparse tree canopy and abundant low growing vegetation. They are commonly found in habitats such as sandhill, pine flatwoods, scrub, scrubby flatwoods, dry prairies, xeric hammock, pine-mixed hardwoods, and coastal dunes which have historically been maintained by periodic wild fires. When fire is suppressed in gopher tortoise habitat, small trees, shrubs, and brambles begin to grow making it difficult for the gopher tortoise to move around and eventually shade out the low growing plants that gopher tortoises eat.

During winter, tortoises are much less active; although on warm afternoons some individuals trudge to the earth's surface to bask on the sandy aprons of their burrows. A superb earth-mover, it lives in long burrows that offer refuge from cold, heat, drought, forest fires and predators. The record length for a burrow is over 47 feet long, however, the burrows average 15 feet long and 6.5 feet deep. The burrows maintain a fairly constant temperature and humidity throughout the year and protect the gopher tortoise and other species from heat, cold, drought, and predators. Burrows also act as a refuge from the periodic, regenerative fires that are required to maintain the quality of their habitat.

Gopher tortoises have adapted to living in dry habitats with frequent fire occurrence by digging burrows deep into the sandy soil. The absence of natural cycles of burning in pine forests spells hardship for tortoises. The dense vegetation (shrubs, brambles, small trees) that grows in a forest in the absence of fire shades out the tender herbs tortoises like to eat, and limits their food supplies. Fire is vital in maintaining many native ecosystems, like longleaf pine sandhills, where gophers live.

### Mangrove cuckoo - *Coccyzus minor*

The mangrove cuckoo is a tropical bird that is found in the United States only in the mangroves along the southern coasts of Florida. In the main part of its range, from Mexico to South America and in the Caribbean, it is not restricted to mangroves, but lives in a variety of lowland habitats.

It is a slender, medium-sized bird reaching lengths of 12.6 inches, with a long tail having large white spots along the edges, a dull brown back, brown wings, buff underside, and a black facemask. Its bill is black above with a yellow lower mandible. Like other cuckoos, the mangrove cuckoo has four toes on each foot in a zygodactyl arrangement; two toes forward and two behind, unlike most other passerines.

The seasonal movements of the mangrove cuckoo are perplexing. Once thought to be fully migratory in Florida, winter sightings are becoming increasingly frequent in all parts of its Florida range. The tendency of this species to remain silent when not breeding renders it almost undetectable to casual observers during fall and winter months. Further study of mangrove cuckoos wintering in Florida may indicate that the species is not migratory, and hence the few purported migrants collected on wintering grounds in South America may be pale variants of resident populations.

The range of the mangrove cuckoo in Florida is restricted to southern and central coastal areas that are popular for residential and recreational purposes. Because the species is highly sensitive to habitat fragmentation that characterizes this type of development, it may already be extirpated from many unprotected areas. Fortunately, large tracts of mangrove are located in state and national parks within its range. Continued acquisition of lands for protection is essential to ensure that the mangrove cuckoo maintains a continuous breeding distribution in Florida.

### Red-cockaded woodpecker - *Picoides borealis*
*Federal Endangered*

Once common in the vast expanses of mature pine forests that covered much of the southeastern coastal plain, the red-cockaded woodpecker is now a federally listed endangered species. Today, the birds' preferred habitat, the longleaf pine ecosystem, has been eliminated from 97 percent of the lands it once occupied.

Patches of fire-managed mature south Florida slash pine with open groundcover in the study area provide cavity nesting and feeding habitat for this federally endangered bird. Through further conservation and restoration management of this area, the potential

exists to increase the amount of available habitat for this species in the study area. Isolated populations exist in Big Cypress National Preserve and Picayune Strand State Forest; this LCD seeks to connect populations by increasing quality habitats to the north in order to connect those populations to populations north of the Caloosahatchee River.

### Snowy Plover - *Charadrius nivosus*
*Federal Threatened (Pacific Coast population), State Threatened*

The snowy plover is an inconspicuous, pale little bird, easily overlooked as it runs around on white sand beaches or on the salt flats around lakes in the arid west. Where it lives on beaches, its nesting attempts are often disrupted by human visitors who fail to notice that they are keeping the bird away from its nest; as a result, the Snowy Plover populations have declined in many coastal regions.

Along coast, snowy plovers feed mostly on tiny crustaceans, mollusks, marine worms, and also some insects. At inland sites, their diet may be mostly insects, including various flies and beetles. They may nest in loose colonies or as isolated pairs; sometimes nests close to tern colonies. Unlike many shorebirds, the male seems to have no aerial display over territory. Nest sites are on open bare ground, sometimes close to a grass clump or piece of driftwood. The nest is a shallow scrape in the ground, lined with bits of shell, grass, pebbles, and other debris, and sometimes surrounded with similar items. The original selection of piping plover/shorebirds and resulting nomination comments included snowy plover as a member of the shorebird group. Birds in this category have similar habitat types, as well as shared threats due to urbanization along the terrestrial side of coastal strand habitats, and sea level rise and storm surge threats from climate change on the marine side.

### Southern chorus frog - *Pseudacris nigrita*

The body of the southern chorus frog is whitish gray to tan; their skin is somewhat warty. Their back is marked with dark, broken lines or rows of spots (frogs found in peninsular Florida). The frog's upper lip is usually marked with a distinct light line; the upper lip of individuals found in peninsular Florida may be nearly black. The snout is more pointed than that of other chorus frogs. Digits are tipped with small toe pads. The southern chorus frog is found throughout Florida, with the exception of the Keys, usually burrowed in the loose, sandy soils of habitats near breeding sites, including sandhills, pine flatwoods, and pine-oak forests. It breeds in shallow, temporary wetlands, including sinkhole ponds, cypress domes, wet flatwoods, and flooded ditches and fields.

### Wading birds (as a group)

The Florida Fish and Wildlife Conservation Commission's grouped wading birds category includes:

1. Roseate spoonbill (*Platalea ajaja*)
   State Threatened
2. Little blue heron (*Egretta caerulea*)
   State Species of Special Concern
3. Reddish egret (*Egretta rufescens*)
   State Species of Special Concern-
4. Snowy egret (*Egretta thula*)
   State Species of Special Concern
5. Tricolored heron (*Egretta tricolor*)
   State Species of Special Concern
6. White ibis (*Eudocimus albus*)
   State Species of Special Concern

They are collectively referred to in "A Species Action Plan for Six Imperiled Wading Birds", published by the Florida Fish and Wildlife Conservation Commission, as the 'imperiled wading birds.' "Because of significant overlap in habitat, distribution, and geographic range, as well as shared threats faced by each species, the combined management needs for all six species are addressed in this multi-species plan.

Wading birds depend on healthy wetlands, mangrove and other islands, and vegetated areas suitable for resting and breeding and which are near foraging habitat. The little blue heron, roseate spoonbill, snowy egret, tricolored heron, and white ibis forage in shallow marine, brackish, or freshwater sites, including tidal ponds and sloughs, mudflats, mangrove-dominated pools, freshwater sloughs and marshes, and human-created impoundments. The white ibis and little blue heron rely on freshwater forage sites to raise

young until they become more salt tolerant. Reddish egrets are restricted to coastal areas of Florida and forage in mostly shallow marine environments such as sandbars and sandy shorelines that are devoid of grass. Nesting occurs on coastal islands near foraging sites.

### Audubon's Crested Caracara - *Polyborus plancus audubonii* *Federal Threatened*

The study area represents the federally threatened Audubon's crested caracara's southern range limit in Florida with prairies as the last strongholds for this federal and state threatened bird. The caracara relies on open groundcover for hunting and mature cabbage palm clumps for nesting. Key management practices in the area should improve the reproductive potential for caracara and expand its range.

### Everglade Snail Kite - *Rostrhamus sociabilis* *Federally Endangered*

The Everglade snail kite requires open wetland marshes with a low density of emergent vegetation in depths less than or equal to 4 feet and low-growing shrubs, trees, or taller, non-woody vegetation along the edges. This habitat supports the native apple snail, which is the kite's primary source of food, and provides nesting sites along the edges of these marshes. Wetland restoration activity in the study area would greatly improve and increase this species' habitat.

### Florida Grasshopper Sparrow – *Ammodramus savannarum floridanus* *Federal Endangered*

Critically imperiled, this federally endangered species is endemic to the dry prairie habitat of south and central Florida and requires specific habitat parameters that allow for cover while feeding or nesting. By using prescribed burning primarily during the growing season, the dry prairie is comprised of a diverse herbaceous groundcover and few low growing shrubs with a network of bare ground under and between vegetation clumps. The historic range of this species includes areas within Collier and Hendry counties. Potential land acquisition and easements could link existing populations found in the Fisheating Creek watershed in Glades County back to its original southern range.

### Florida Sandhill Crane – *Grus canadensis* *State Threatened*

The Florida sandhill crane is the non-migratory subspecies of the sandhill crane, 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 wetlands and adjacent natural and semi-natural upland habitats, including rangeland. Degradation or direct loss of habitat due to wetland drainage and conversion of prairie for development or agricultural use are the primary threats facing Florida sandhill cranes.

### Woodstork - *Mycteria americana* *Federal Threatened*

The wood stork is a gregarious species, which nests in colonies and roosts and feeds in flocks, often in association with other wading birds. They use freshwater and estuarine wetlands as feeding, nesting, and roosting sights. Although wood storks are not habitat specialists, their needs are exacting enough and their available habitat is limited enough that nesting success and the size of regional populations are closely regulated by year-to-year differences in quality and quantity of suitable habitat. The SWFLCD study area encompasses numerous wading bird rookeries, including the largest wood stork rookery in the United States at Audubon's Corkscrew Swamp Sanctuary. The wood stork requires mature cypress domes near feeding areas of specific water depth. Wetlands in the study area are located within the critical feeding radius of this rookery and of many other wading bird rookeries.

# Appendix B: GIS Methods and Results

## Identifying Ecological Conservation Priorities

The ecological prioritization process was developed by conducting three separate modeling processes that were then combined into a final layer of Ecological Priority Tiers. These models were a Florida panther conservation priorities analysis, a focal species habitat priorities overlay model, and a Marxan analysis run with both focal species habitat and focal natural communities land cover data. We have included summaries of the methods and results for these analyses in the main body of the report.

### *A. Panther Model*

The panther prioritization was developed by merging five relevant GIS data layers into one model to identify areas that are highest priority for conserving panther habitat and corridors within the study area. All models were converted to 1-0 grids, where 1 represented areas of potential significance and 0 represented all other areas. Then the five reclassified layers were added together to develop the final priority layer (**Figure 1**).

#### 1) Potential panther habitat

A new potential panther habitat model was created using the Florida Cooperative Land Cover Data version 3.1 and applying a modified set of rules based on the potential panther habitat model developed by Kautz et al. (2006). The model rules were:

- All patches of forested land in patches 5 acres or larger
- All non-urban open land cover within 200 meters and connected to forest patches 5 acres or larger
- Closed narrow gaps (such as roads) of more intensive land use before assessing patch connectivity. Narrow gaps were defined as areas less than 200 meters in width.
- Identified all patches of habitat identified above that were also connected to areas of panther habitat identified by Thatcher et al. (2006; 2009) as potential habitat.

All areas meeting these criteria were given a value of 1 and all other areas were given a value of 0.

#### 2) Frakes et al. habitat panther habitat model

This model was constructed following the recommendation of Frakes et al. (2015) where all areas with index scores of 0.338 or higher were identified as potential habitat. In addition, since the Frakes et al. model uses a 1 square mile cell size, we also included all areas of potential habitat from the potential panther habitat model within 0.5 miles and connected to Frakes et al. identified habitat. All such areas were given a value of 1 and all other areas were given a value of 0.

#### 3) Florida Panther Subteam Conservation Zones

The Primary Zone, the Dispersal Zone, the Secondary Zone, and the North Focal Area were all given a value of 1 and all other areas were given a 0.

#### 4) CLIP 4.0 Landscape Integrity

The CLIP Landscape Integrity layer identifies the larger areas dominated by natural and semi-natural land cover as having higher landscape integrity and more likely to support functional habitat. The model has index scores ranging from 1-10 and based on the CLIP work, we selected areas with index scores from 6-10 as being the most likely to have intact landscape characteristics. All such areas were given a value of 1 and all other areas were given a value of 0.

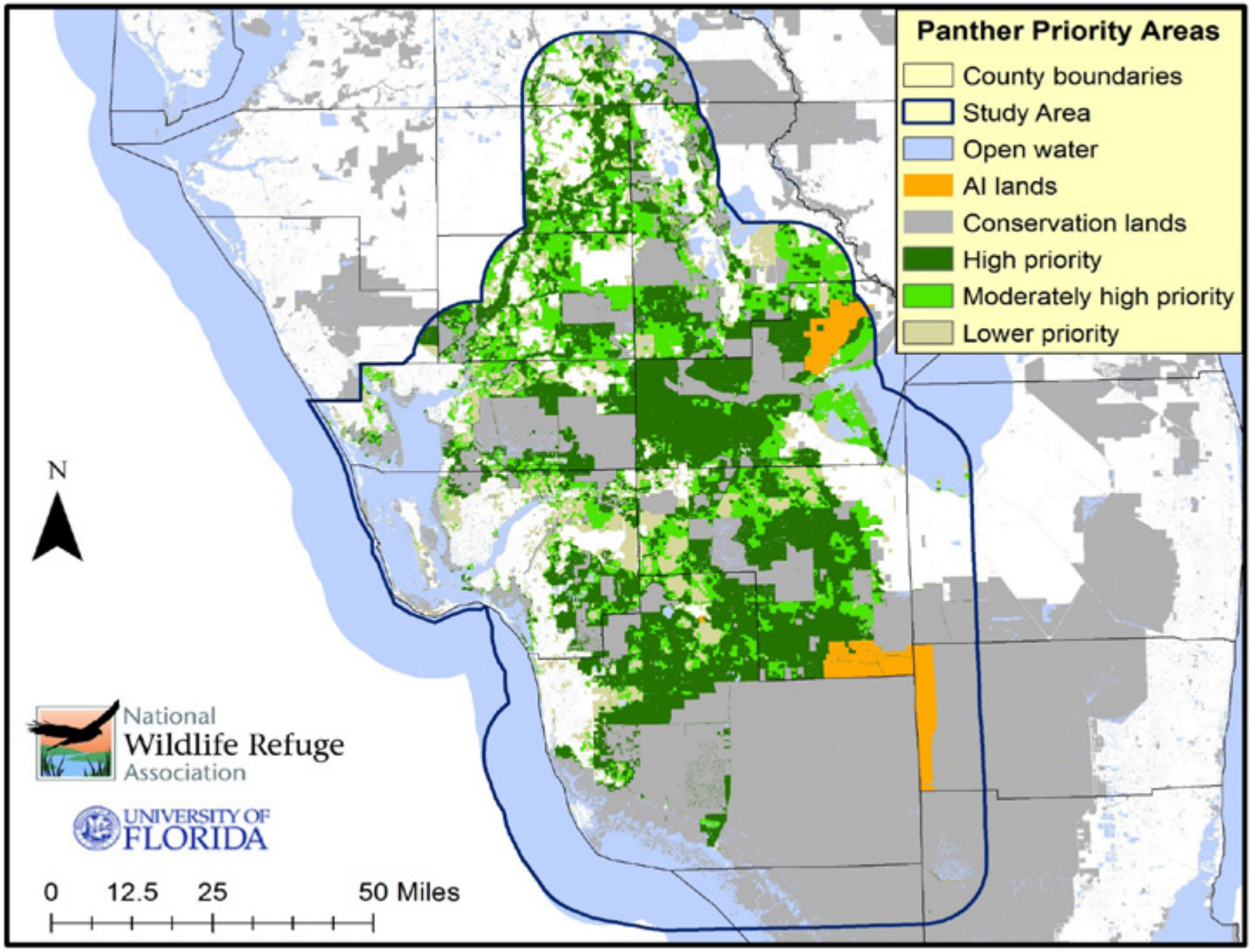


Figure 1. Panther Priority Area Results. On this map High priority = Tier 1 Priorities; Moderately high priority = Tier 2 Priorities; Lower priority = Tier 3 Priorities

### 5) Florida Ecological Greenways Network

All areas within the Florida Ecological Greenways Network were given a value of 1 and all other areas were given a value of 0.

These five layers were then simply added together in ArcGIS where the resulting scores ranged from 0 to 5, where 0 would occur in areas where none of the five layers have a value of 1 and areas with a score of 5 have all five layers. Finally, for combining with other layers described below these 5 priority levels (not including values of 0) were combined as follows:

- Values from 3-5 = Tier 1 Priorities
- Values of 2 = Tier 2 Priorities
- Values of 1 = Tier 3 Priorities

*B. Focal Species Overlay Model*

The Focal Species Overlay Model combines various habitat and landscape factors to identify cumulative focal species priorities using an overlay index approach. The factors were separated into two categories. Each of the individual index layers was created with a rank of 9 to 1 where 9 represents the highest priority and 1 the lowest. The categories and layers were:

1) Species Habitat Richness and Protection Priorities

- Species habitat richness: Cells were ranked based on the number of species with potential habitat, where more species received higher priority
- Species habitat weighted by G rank: Cells were ranked based on species Natural Heritage Global Ranks, where species with G1 ranks received higher priority. Whenever species habitat overlapped, that cell was given the value of the species with the highest G Rank.
- Species habitat weighted by federal and state listing status: Cells were ranked based on species federal and state listing status, where locations with species listed as federally endangered received higher priority. Whenever species habitat overlapped, that cell was given the value of the species with the highest listing status.
- Species habitat ranked by percent and acres protected: Cells were ranked based both on percentage of species habitat protected and the acres of habitat protected, where species with the lowest percentage of habitat protected or lowest amount of acres protected received the highest priority. Whenever species habitat overlapped, that cell was given the value of the species with the highest priority based on percent or acres of habitat protected.

2) Landscape Priorities

- FEGN prioritization: Habitat within the Florida Ecological Greenways Network (FEGN) received a 9, habitat connected to the FEGN received a 5, and habitat outside the FEGN received a 1.
- CLIP Landscape Integrity prioritization: Habitat was ranked based on its overlap with the CLIP Landscape Integrity index, where habitat in areas with the highest landscape integrity (index ranks of 9 or 10) received a rank of 9 and habitat with the lowest index scores received a 1.
- Distance from conservation lands: Habitat was ranked based on its distance from existing conservation lands with the following ranking scheme:
  - 9 = within ¼ mile of existing conservation lands
  - 7 = within ½ mile of existing conservation lands
  - 5 = within 1 mile of existing conservation lands
  - 3 = within 2 miles of existing conservation lands
  - 1 = beyond 2 miles from existing conservation lands
- Connectedness to conservation lands: Habitat in patches connected to existing conservation lands received a 9 and patches not connected to existing conservation lands received a 1.

These individual layers were then averaged to create the category layers. Then these two category layers were combined through averaging to create the cumulative species prioritization layer (**Figure 2**).

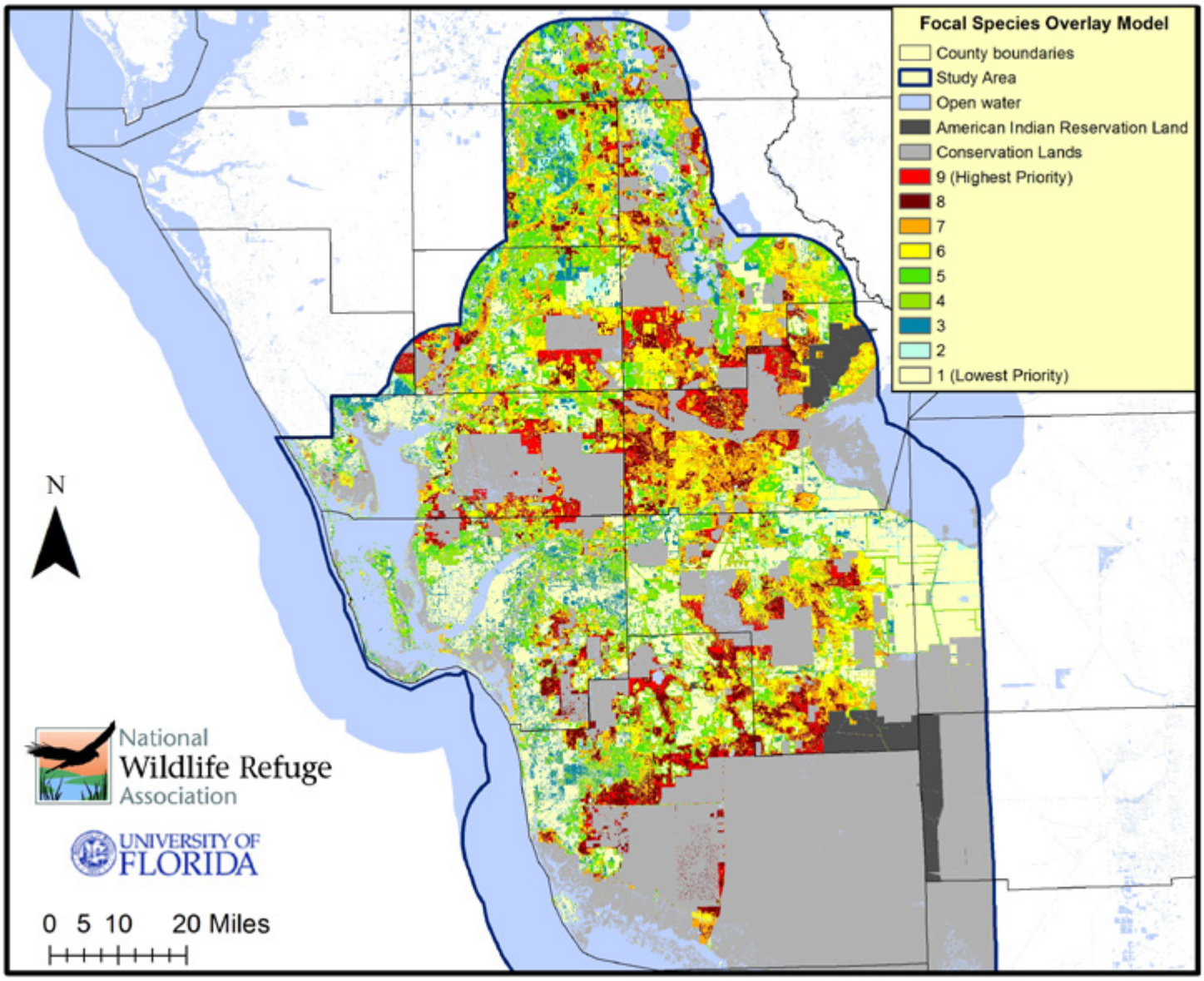


Figure 2. Focal Species Overlay Model.

*C. Marxan Analysis*

Marxan is a modeling tool frequently used in conservation biology and natural resource management to identify unprotected lands that are most important for attaining conservation goals. It is a form of representation and efficiency analysis, which ensures that all selected focal natural resources are included within a proposed conservation protection plan and that the plan is as efficient as possible regarding cost. Cost is usually represented by total acres of land, so the most efficient plan is the one that achieves the selected conservation goals with the smallest increase in protected lands feasible (Ball et al. 2009).

Marxan requires GIS layers representing focal natural resources and quantitative goals for each of those resources. Although other natural resource features can be included, typically the layers used represent focal species habitat and/or natural communities. For the SWFLCD we used the selected focal species and natural communities discussed in the Focal Species and Natural Communities Selection section of the main report.

Marxan also requites the selection of quantitative goals. Goals were discussed among the project team including review of other projects using Marxan. We determined to set goals based on a complimentary set of rules based on listing status (federal and state), Natural Heritage ranking, percent of habitat protected, total acres, and FWC Strategic Habitat Conservation Areas species. In addition, for running Marxan, we also reclassified all species habitat models to only two classes, primary or secondary, while some species ONLY had primary habitat. Therefore, for species these criteria were:

1. G1 or SHCA or less than 25,000 acres of total habitat = 100 (of primary habitat) and 75 (of secondary habitat) percent of all currently unprotected habitat
2. G2 or less than 50,000 acres of habitat = 90 and 70 percent
3. G3 or federally listed or less than 100,000 acres of habitat or less than 25 percent protected = 75 and 50 percent
4. State listed or less than 250,000 acres of habitat or less than 50 percent protected = 60 and 40 percent
5. G4 or 75 percent or less habitat protected = 50 and 25 percent
6. 90 percent or less habitat protected = 40 and 20 percent

For natural communities the criteria were:

1. Less than 5,000 acres = 90 percent
2. S2 or less than 10,000 acres or less than 10% protected = 80 percent
3. S3 or less than 25,000 acres or less than 25% protected = 70 percent
4. S4 or less than 50,000 acres or less than 50% protected = 60 percent
5. S5 or less than 100,000 acres or 75% or less habitat protected = 50 percent

We ran Marxan through various iterations with changes in parameters that seemed to best meet our conservation goals. This included the decision to not run Marxan with a boundary modifier since it seemed to add additional land to the results without appropriately addressing ecological connectivity (one of the goals of using the boundary modifier) and given that we had another layer (discussed below) that better addressed additional connectivity needs. After identifying efficient run parameters through trial and error we ran Marxan through 1000 iterations to determine which additional lands were needed to meet the species habitat and natural community protection goals (**Figure 3**).

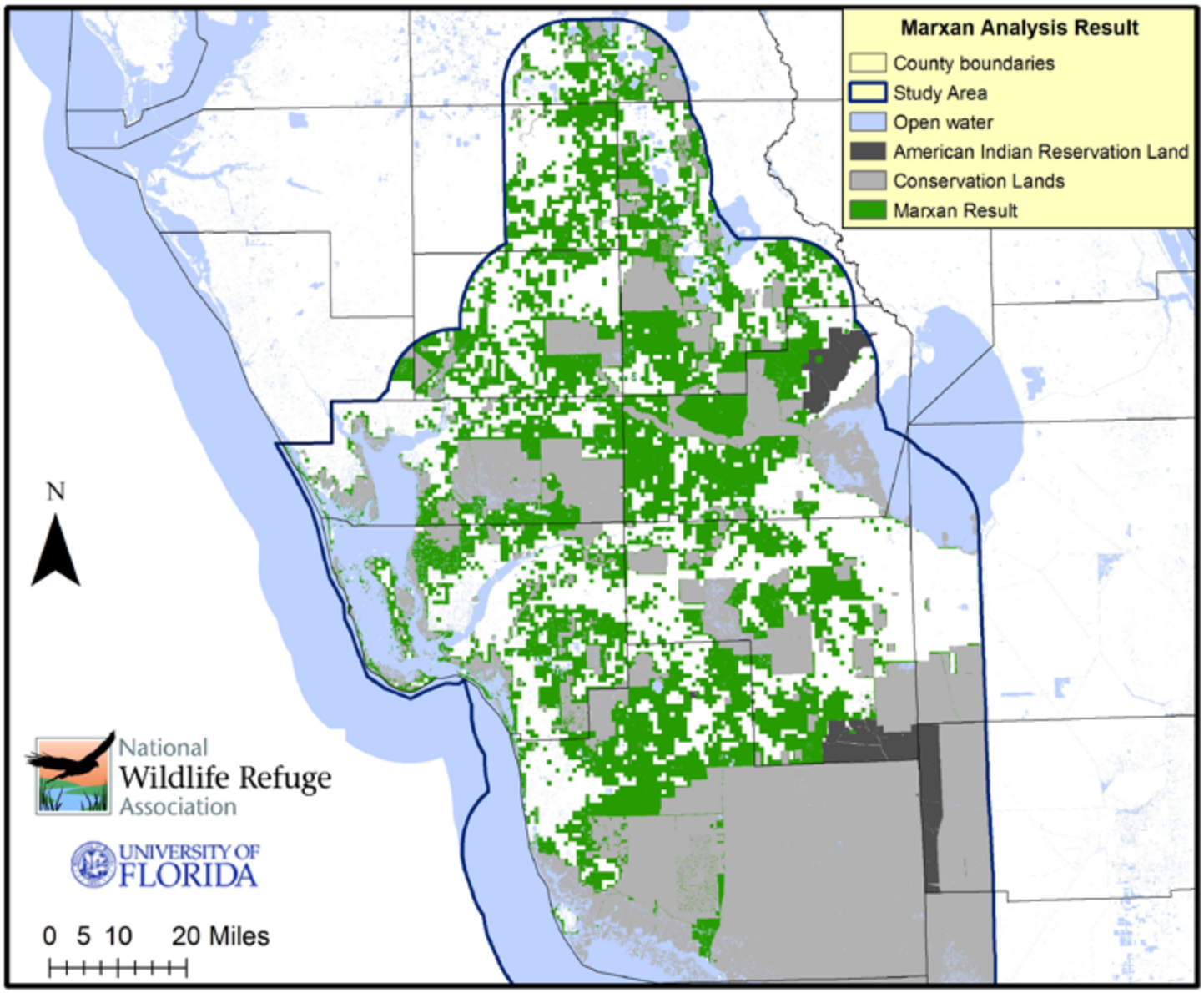


Figure 3. Marxan modeling results showing the additional areas needing protection to meet the goals set for focal species and natural communities in green.

*D. Combining All Models into Ecological Priority Tiers*

We combined the Panther, Species Overlay, and Marxan model results into a combined set of priorities using the following rules:

1. Areas with values 3-5 in the Panther model were identified as most significant for panther conservation and were combined.
2. Areas with values of 6-9 from the Species Overlay model were identified as most significant for focal species conservation efforts and were combined.
3. All of the Maxent model results were used.

Then the overlap between these three reclassified layers was determined where:

1. Areas included in all three models were identified as Tier 1 Ecological Priorities
2. Areas included in two of the three models were identified as Tier 2 Ecological Priorities
3. Areas in only one of the three models were identified as Tier 3 Ecological Priorities

It should be kept in mind that ALL Tiers are considered to be significant and worthy of protection; however, this overlay methods ensures that areas with the most cumulative conservation value are likely to be in the Tier 1 Ecological Priorities, which makes these areas the primary focus of protection efforts (See **Figure 4**).

In addition, not all potentially significant panther and other wildlife corridors were incorporated. Therefore, we also identified all Cooperative Conservation Blueprint (CCB) strategic corridors that were not included in the three Ecological Priority Tiers described above. We also identified panther habitat conservation area recommendations that did not overlap with the three Ecological Priority Tiers (See **Figure 5**).

In the final version of the Ecological Priority Tiers, Tier 1 and Tier 2 remained the same, but Tier 3 was revised into a combination of both areas in only one of the three models or CCB Strategic Corridor areas, or Panther Review Team (PRT) panther habitat conservation area recommendations (See **Figure 6**). **Table 1** shows the land category composition of the three Ecological Priority Tiers. Most existing conservation lands are in Priority Tier 1. However, we are primarily interested in the currently unprotected lands in the three Ecological Priority Tiers. There are approximately 900,000 acres of unprotected land in Tier 1 priorities, with over a third of those acres in Florida Forever or Rural and Family Protection Program projects. There are approximately 430,000 acres of unprotected land in Tier 2 priorities, with only approximately 17 percent of those acres in Florida Forever or Rural and Family Protection Program projects. There are approximately 640,000 acres of unprotected land in Tier 3 priorities, with only approximately 7 percent of those acres in Florida Forever or Rural and Family Protection Program projects. In addition, we have provided statistics showing how many acres are in each of the Ecological Priority Tiers for each focal species and natural communitiy in **Table 2, Table 3, Table 4**, and **Table 5**. **Table 2** and **Table 3** show overlap with the Ecological Priority Tiers regardless of protection, whereas **Table 4** and **Table 5** show the overlap between Ecological Priority Tiers and focal species habitat or natural communities that are NOT currently protected.

Table 1. Ecological Priority Tiers by Major Land and Water Categories

| Land Category | Ecological Priority Tier | Acres | Percent |
|---|---|---|---|
| Open Water | Tier 1 | 49,156 | 1.1% |
| Existing Conservation Land | Tier 1 | 1,830,776 | 40.8% |
| Florida Forever or RFLPP | Tier 1 | **323,869** | 7.2% |
| Other private wetlands | Tier 1 | **231,351** | 5.2% |
| Other private uplands | Tier 1 | **336,049** | 7.5% |
| | | | 61.8% |
| Open Water | Tier 2 | 71,869 | 1.6% |
| Existing Conservation Land | Tier 2 | 159,081 | 3.5% |
| Florida Forever or RFLPP | Tier 2 | **72,523** | 1.6% |
| Other private wetlands | Tier 2 | **91,255** | 2.0% |
| Other private uplands | Tier 2 | **276,500** | 6.2% |
| | | | 15.0% |
| Open Water | Tier 3 | 199,440 | 4.4% |
| Existing Conservation Land | Tier 3 | 84,928 | 1.9% |
| Florida Forever or RFLPP | Tier 3 | **42,171** | 0.9% |
| Other private wetlands | Tier 3 | **66,113** | 1.5% |
| Other private uplands | Tier 3 | **531,156** | 11.8% |
| | | | 20.6% |
| | | 4,366,238 | 97.3% |

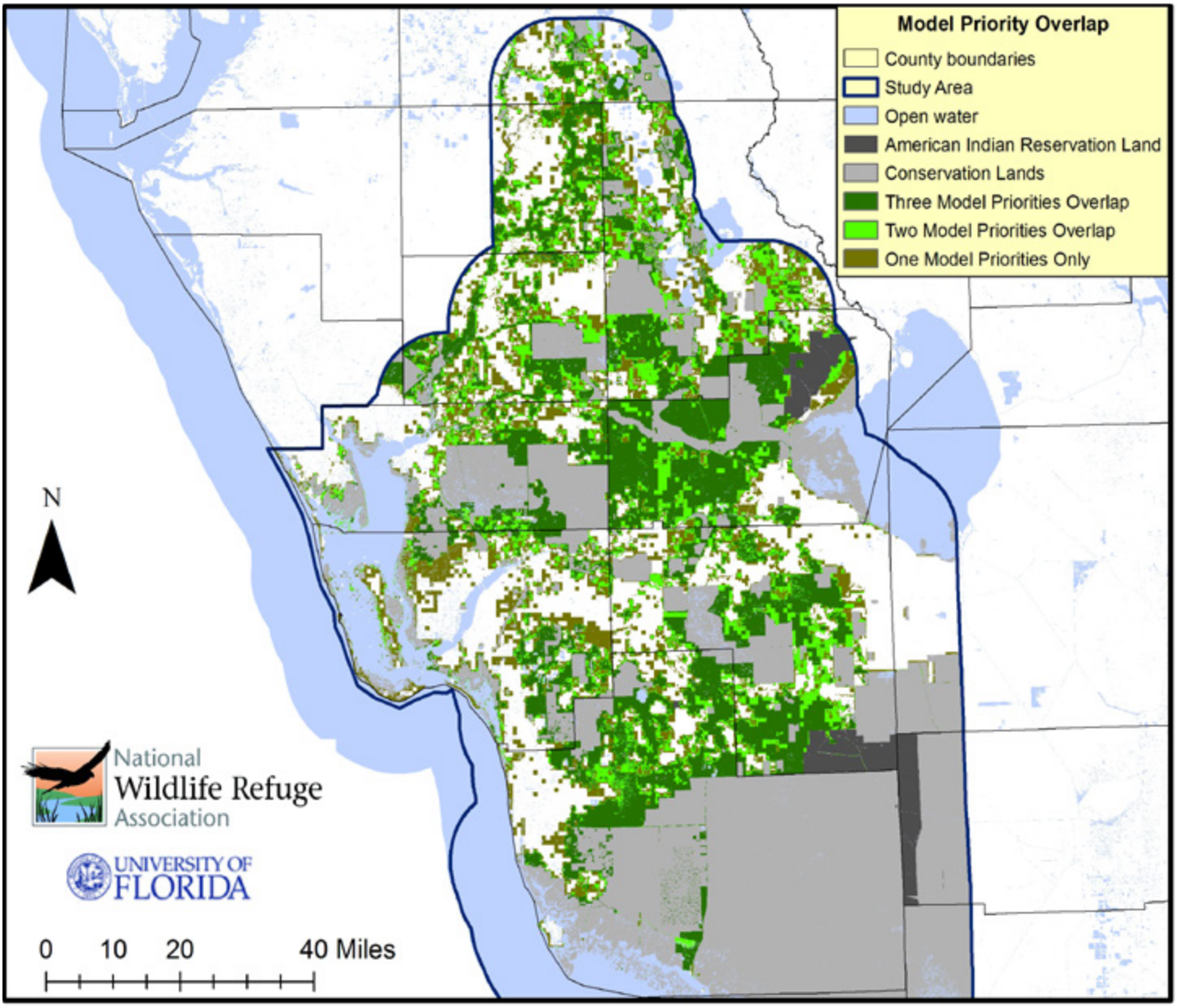


Figure 4. Original Ecological Priority Tiers based on the overlap of high priorities from the Panther, Species Overlay, and Marxan models.

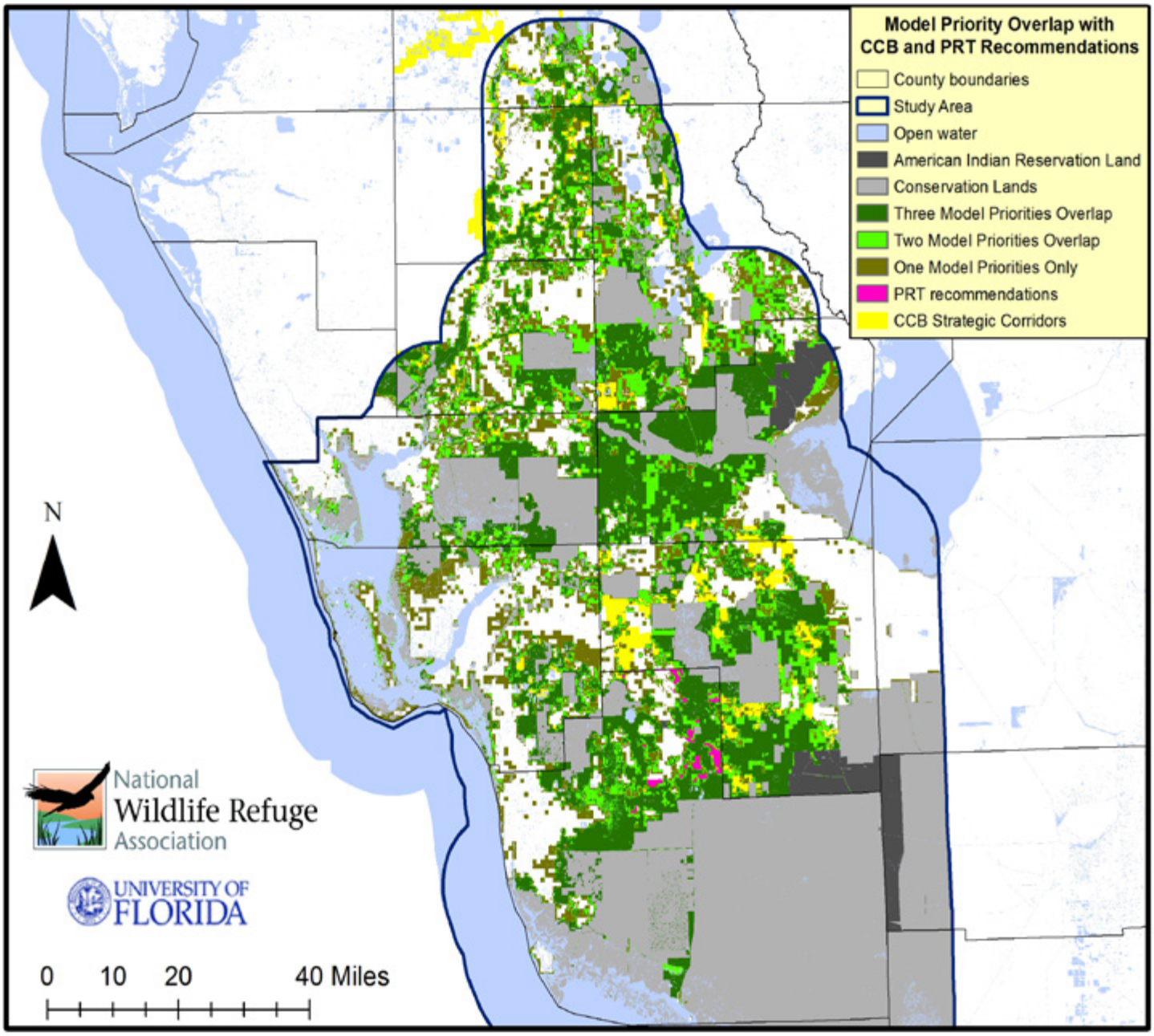


Figure 5. Original Ecological Priority Tiers based on the overlap of high priorities from the Panther, Species Overlay, and Marxan models with additional PRT panther habitat recommendations and CCB Strategic Corridors shown in pink and yellow respectively.

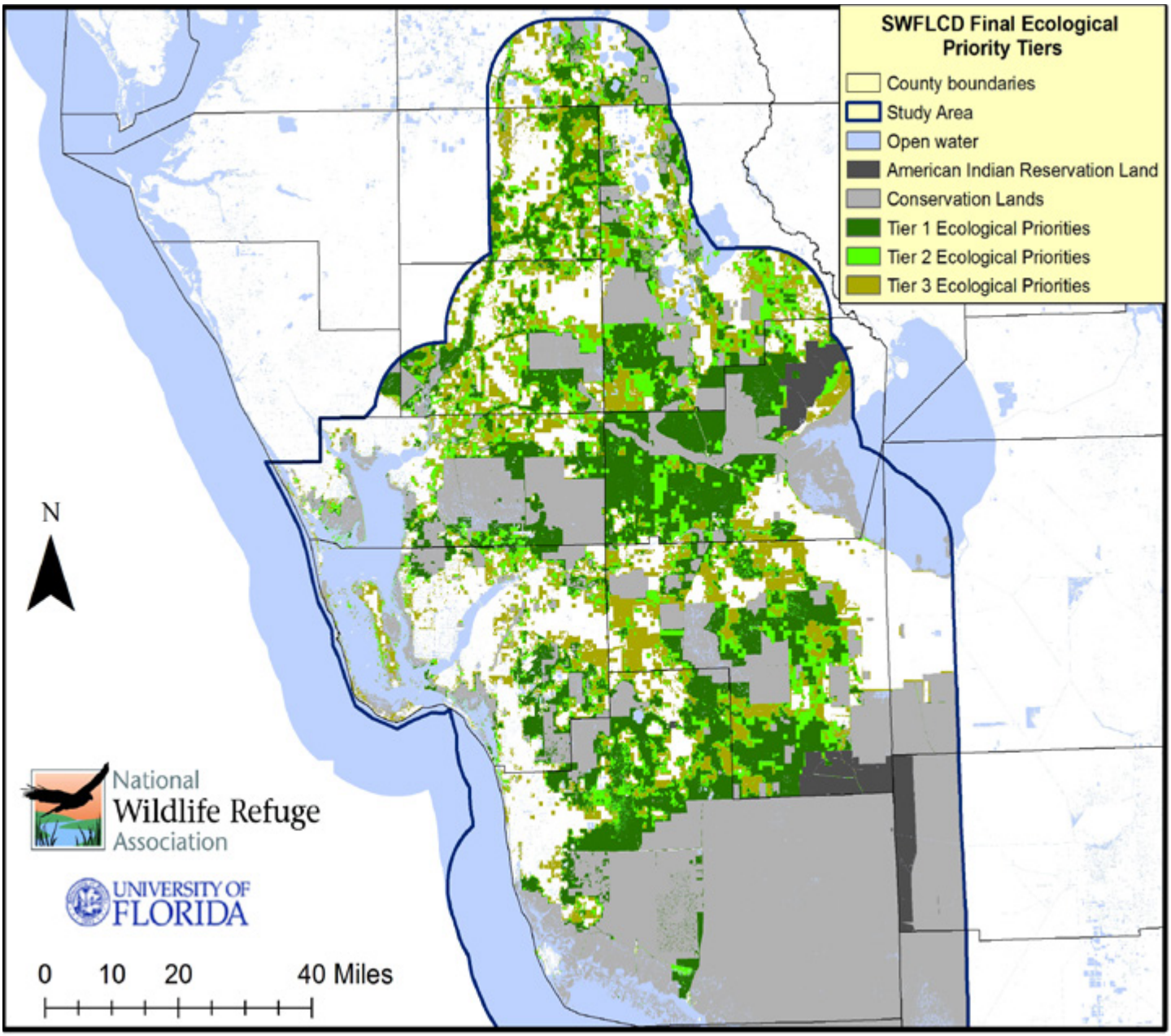


Figure 6. The Final Ecological Priority Tiers.

Table 2. Potential Species Habitat included in Ecological Priority Tiers.

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| American Crocodile | 1 | Other | 313 | 0.4% |
| American Crocodile | 1 | SWLCD Tier 1 | 57,998 | 67.1% |
| American Crocodile | 1 | SWLCD Tier 2 | 23,381 | 27.0% |
| American Crocodile | 1 | SWLCD Tier 3 | 4,786 | 5.5% |
| American Oystercatcher | 1 | Other | 1,631 | 5.7% |
| American Oystercatcher | 1 | SWLCD Tier 1 | 6,732 | 23.6% |
| American Oystercatcher | 1 | SWLCD Tier 2 | 14,365 | 50.3% |
| American Oystercatcher | 1 | SWLCD Tier 3 | 5,841 | 20.4% |
| Bald Eagle | 1 | Other | 147,113 | 27.0% |
| Bald Eagle | 1 | SWLCD Tier 1 | 203,486 | 37.3% |
| Bald Eagle | 1 | SWLCD Tier 2 | 79,178 | 14.5% |
| Bald Eagle | 1 | SWLCD Tier 3 | 115,292 | 21.2% |
| Bald Eagle | 2 | Other | 225,462 | 16.5% |
| Bald Eagle | 2 | SWLCD Tier 1 | 864,095 | 63.1% |
| Bald Eagle | 2 | SWLCD Tier 2 | 164,449 | 12.0% |
| Bald Eagle | 2 | SWLCD Tier 3 | 115,420 | 8.4% |
| Big Cypress Fox Squirrel | 1 | Other | 26,553 | 3.8% |
| Big Cypress Fox Squirrel | 1 | SWLCD Tier 1 | 593,237 | 85.2% |
| Big Cypress Fox Squirrel | 1 | SWLCD Tier 2 | 50,140 | 7.2% |
| Big Cypress Fox Squirrel | 1 | SWLCD Tier 3 | 26,004 | 3.7% |
| Black-whiskered Vireo | 1 | Other | 767 | 0.5% |
| Black-whiskered Vireo | 1 | SWLCD Tier 1 | 125,680 | 74.9% |
| Black-whiskered Vireo | 1 | SWLCD Tier 2 | 28,992 | 17.3% |
| Black-whiskered Vireo | 1 | SWLCD Tier 3 | 12,390 | 7.4% |
| Bonneted Bat | 1 | Other | 11,514 | 1.3% |
| Bonneted Bat | 1 | SWLCD Tier 1 | 768,830 | 88.5% |
| Bonneted Bat | 1 | SWLCD Tier 2 | 64,277 | 7.4% |
| Bonneted Bat | 1 | SWLCD Tier 3 | 24,233 | 2.8% |
| Burrowing Owl | 1 | Other | 24,463 | 15.4% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Burrowing Owl | 1 | SWLCD Tier 1 | 73,768 | 46.4% |
| Burrowing Owl | 1 | SWLCD Tier 2 | 24,909 | 15.7% |
| Burrowing Owl | 1 | SWLCD Tier 3 | 35,903 | 22.6% |
| Caracara | 1 | Other | 111,873 | 8.9% |
| Caracara | 1 | SWLCD Tier 1 | 605,276 | 47.9% |
| Caracara | 1 | SWLCD Tier 2 | 328,321 | 26.0% |
| Caracara | 1 | SWLCD Tier 3 | 217,545 | 17.2% |
| Caracara | 2 | Other | 80,527 | 17.6% |
| Caracara | 2 | SWLCD Tier 1 | 208,225 | 45.4% |
| Caracara | 2 | SWLCD Tier 2 | 95,502 | 20.8% |
| Caracara | 2 | SWLCD Tier 3 | 73,928 | 16.1% |
| Diamondback Terrapin | 1 | Other | 11,405 | 5.4% |
| Diamondback Terrapin | 1 | SWLCD Tier 1 | 85,678 | 40.8% |
| Diamondback Terrapin | 1 | SWLCD Tier 2 | 68,783 | 32.8% |
| Diamondback Terrapin | 1 | SWLCD Tier 3 | 43,934 | 20.9% |
| Eastern Diamondback Rattlesnake | 1 | Other | 3,459 | 0.5% |
| Eastern Diamondback Rattlesnake | 1 | SWLCD Tier 1 | 583,061 | 85.9% |
| Eastern Diamondback Rattlesnake | 1 | SWLCD Tier 2 | 71,819 | 10.6% |
| Eastern Diamondback Rattlesnake | 1 | SWLCD Tier 3 | 20,717 | 3.1% |
| Eastern Diamondback Rattlesnake | 2 | Other | 38,447 | 11.5% |
| Eastern Diamondback Rattlesnake | 2 | SWLCD Tier 1 | 171,666 | 51.3% |
| Eastern Diamondback Rattlesnake | 2 | SWLCD Tier 2 | 67,956 | 20.3% |
| Eastern Diamondback Rattlesnake | 2 | SWLCD Tier 3 | 56,491 | 16.9% |
| Eastern Indigo Snake | 1 | Other | 42,458 | 7.3% |
| Eastern Indigo Snake | 1 | SWLCD Tier 1 | 413,381 | 71.4% |
| Eastern Indigo Snake | 1 | SWLCD Tier 2 | 73,437 | 12.7% |
| Eastern Indigo Snake | 1 | SWLCD Tier 3 | 49,728 | 8.6% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Eastern Indigo Snake | 2 | Other | 89,828 | 19.2% |
| Eastern Indigo Snake | 2 | SWLCD Tier 1 | 211,094 | 45.1% |
| Eastern Indigo Snake | 2 | SWLCD Tier 2 | 73,031 | 15.6% |
| Eastern Indigo Snake | 2 | SWLCD Tier 3 | 93,977 | 20.1% |
| Everglades Mink | 1 | Other | 618 | 0.0% |
| Everglades Mink | 1 | SWLCD Tier 1 | 1,363,397 | 94.6% |
| Everglades Mink | 1 | SWLCD Tier 2 | 76,393 | 5.3% |
| Everglades Mink | 1 | SWLCD Tier 3 | 1,359 | 0.1% |
| Everglades Snail Kite | 1 | Other | 11,855 | 1.3% |
| Everglades Snail Kite | 1 | SWLCD Tier 1 | 679,611 | 76.4% |
| Everglades Snail Kite | 1 | SWLCD Tier 2 | 163,352 | 18.4% |
| Everglades Snail Kite | 1 | SWLCD Tier 3 | 34,392 | 3.9% |
| FL Grasshopper Sparrow | 1 | Other | 1 | 0.0% |
| FL Grasshopper Sparrow | 1 | SWLCD Tier 1 | 51,423 | 99.4% |
| FL Grasshopper Sparrow | 1 | SWLCD Tier 2 | 290 | 0.6% |
| FL Grasshopper Sparrow | 1 | SWLCD Tier 3 | 13 | 0.0% |
| Florida Black Bear | 1 | Other | 15,108 | 0.9% |
| Florida Black Bear | 1 | SWLCD Tier 1 | 1,427,279 | 89.5% |
| Florida Black Bear | 1 | SWLCD Tier 2 | 121,466 | 7.6% |
| Florida Black Bear | 1 | SWLCD Tier 3 | 31,234 | 2.0% |
| Florida Panther | 1 | Other | 16,453 | 0.7% |
| Florida Panther | 1 | SWLCD Tier 1 | 1,928,560 | 87.9% |
| Florida Panther | 1 | SWLCD Tier 2 | 192,082 | 8.8% |
| Florida Panther | 1 | SWLCD Tier 3 | 57,706 | 2.6% |
| Florida Panther | 2 | Other | 27,965 | 7.0% |
| Florida Panther | 2 | SWLCD Tier 1 | 260,617 | 65.4% |
| Florida Panther | 2 | SWLCD Tier 2 | 63,632 | 16.0% |
| Florida Panther | 2 | SWLCD Tier 3 | 46,232 | 11.6% |
| Florida Sandhill Crane | 1 | Other | 90,889 | 7.7% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Florida Sandhill Crane | 1 | SWLCD Tier 1 | 588,018 | 49.8% |
| Florida Sandhill Crane | 1 | SWLCD Tier 2 | 303,605 | 25.7% |
| Florida Sandhill Crane | 1 | SWLCD Tier 3 | 197,660 | 16.7% |
| Florida Scrub Lizard | 1 | Other | 15 | 0.5% |
| Florida Scrub Lizard | 1 | SWLCD Tier 1 | 1,954 | 60.2% |
| Florida Scrub Lizard | 1 | SWLCD Tier 2 | 1,060 | 32.7% |
| Florida Scrub Lizard | 1 | SWLCD Tier 3 | 217 | 6.7% |
| Florida Scrub Lizard | 2 | Other | 76 | 7.1% |
| Florida Scrub Lizard | 2 | SWLCD Tier 1 | 727 | 67.8% |
| Florida Scrub Lizard | 2 | SWLCD Tier 2 | 102 | 9.5% |
| Florida Scrub Lizard | 2 | SWLCD Tier 3 | 168 | 15.6% |
| Florida Scrub-Jay | 1 | Other | 164 | 0.4% |
| Florida Scrub-Jay | 1 | SWLCD Tier 1 | 34,402 | 77.7% |
| Florida Scrub-Jay | 1 | SWLCD Tier 2 | 7,521 | 17.0% |
| Florida Scrub-Jay | 1 | SWLCD Tier 3 | 2,170 | 4.9% |
| Florida Scrub-Jay | 2 | Other | 710 | 4.1% |
| Florida Scrub-Jay | 2 | SWLCD Tier 1 | 13,057 | 75.4% |
| Florida Scrub-Jay | 2 | SWLCD Tier 2 | 2,248 | 13.0% |
| Florida Scrub-Jay | 2 | SWLCD Tier 3 | 1,296 | 7.5% |
| Gopher Tortoise | 1 | Other | 16,129 | 4.3% |
| Gopher Tortoise | 1 | SWLCD Tier 1 | 284,868 | 75.6% |
| Gopher Tortoise | 1 | SWLCD Tier 2 | 46,048 | 12.2% |
| Gopher Tortoise | 1 | SWLCD Tier 3 | 29,944 | 7.9% |
| Gopher Tortoise | 2 | Other | 18,092 | 13.9% |
| Gopher Tortoise | 2 | SWLCD Tier 1 | 72,355 | 55.6% |
| Gopher Tortoise | 2 | SWLCD Tier 2 | 21,510 | 16.5% |
| Gopher Tortoise | 2 | SWLCD Tier 3 | 18,166 | 14.0% |
| Least Tern | 1 | Other | 5 | 0.6% |
| Least Tern | 1 | SWLCD Tier 1 | 6 | 0.7% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Least Tern | 1 | SWLCD Tier 2 | 362 | 39.5% |
| Least Tern | 1 | SWLCD Tier 3 | 544 | 59.3% |
| Limpkin | 1 | Other | 19,108 | 1.2% |
| Limpkin | 1 | SWLCD Tier 1 | 1,369,012 | 84.6% |
| Limpkin | 1 | SWLCD Tier 2 | 186,771 | 11.5% |
| Limpkin | 1 | SWLCD Tier 3 | 43,453 | 2.7% |
| Mangrove Cuckoo | 1 | Other | 656 | 0.4% |
| Mangrove Cuckoo | 1 | SWLCD Tier 1 | 146,178 | 78.0% |
| Mangrove Cuckoo | 1 | SWLCD Tier 2 | 29,124 | 15.6% |
| Mangrove Cuckoo | 1 | SWLCD Tier 3 | 11,334 | 6.1% |
| Mottled Duck | 1 | Other | 113,344 | 7.4% |
| Mottled Duck | 1 | SWLCD Tier 1 | 881,090 | 57.3% |
| Mottled Duck | 1 | SWLCD Tier 2 | 326,732 | 21.3% |
| Mottled Duck | 1 | SWLCD Tier 3 | 215,598 | 14.0% |
| Piping Plover | 1 | Other | 8 | 0.4% |
| Piping Plover | 1 | SWLCD Tier 1 | 89 | 4.6% |
| Piping Plover | 1 | SWLCD Tier 2 | 779 | 40.4% |
| Piping Plover | 1 | SWLCD Tier 3 | 1,054 | 54.6% |
| Red-cockaded Woodpecker | 1 | Other | 6,311 | 1.2% |
| Red-cockaded Woodpecker | 1 | SWLCD Tier 1 | 473,228 | 88.2% |
| Red-cockaded Woodpecker | 1 | SWLCD Tier 2 | 46,010 | 8.6% |
| Red-cockaded Woodpecker | 1 | SWLCD Tier 3 | 11,153 | 2.1% |
| Red-cockaded Woodpecker | 2 | Other | 290 | 4.4% |
| Red-cockaded Woodpecker | 2 | SWLCD Tier 1 | 4,278 | 65.4% |
| Red-cockaded Woodpecker | 2 | SWLCD Tier 2 | 1,470 | 22.5% |
| Red-cockaded Woodpecker | 2 | SWLCD Tier 3 | 500 | 7.6% |
| Sherman’s Fox Squirrel | 1 | Other | 6,116 | 1.2% |
| Sherman’s Fox Squirrel | 1 | SWLCD Tier 1 | 422,998 | 83.6% |
| Sherman’s Fox Squirrel | 1 | SWLCD Tier 2 | 55,697 | 11.0% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Sherman's Fox Squirrel | 1 | SWLCD Tier 3 | 21,456 | 4.2% |
| Short-tailed Hawk | 1 | Other | 6,815 | 0.4% |
| Short-tailed Hawk | 1 | SWLCD Tier 1 | 1,403,796 | 84.2% |
| Short-tailed Hawk | 1 | SWLCD Tier 2 | 190,533 | 11.4% |
| Short-tailed Hawk | 1 | SWLCD Tier 3 | 65,194 | 3.9% |
| Snowy Plover | 1 | Other | 17 | 1.0% |
| Snowy Plover | 1 | SWLCD Tier 1 | 111 | 6.5% |
| Snowy Plover | 1 | SWLCD Tier 2 | 504 | 29.5% |
| Snowy Plover | 1 | SWLCD Tier 3 | 1,077 | 63.0% |
| Southeastern American Kestrel | 1 | Other | 53,476 | 8.5% |
| Southeastern American Kestrel | 1 | SWLCD Tier 1 | 310,922 | 49.7% |
| Southeastern American Kestrel | 1 | SWLCD Tier 2 | 147,972 | 23.6% |
| Southeastern American Kestrel | 1 | SWLCD Tier 3 | 113,835 | 18.2% |
| Southern Chorus Frog | 1 | Other | 1,563 | 0.6% |
| Southern Chorus Frog | 1 | SWLCD Tier 1 | 240,753 | 92.2% |
| Southern Chorus Frog | 1 | SWLCD Tier 2 | 15,035 | 5.8% |
| Southern Chorus Frog | 1 | SWLCD Tier 3 | 3,844 | 1.5% |
| Southern Chorus Frog | 2 | Other | 105,991 | 6.8% |
| Southern Chorus Frog | 2 | SWLCD Tier 1 | 1,156,879 | 74.5% |
| Southern Chorus Frog | 2 | SWLCD Tier 2 | 185,568 | 11.9% |
| Southern Chorus Frog | 2 | SWLCD Tier 3 | 104,723 | 6.7% |
| Swallow-tailed Kite | 1 | Other | 58,703 | 2.4% |
| Swallow-tailed Kite | 1 | SWLCD Tier 1 | 2,013,990 | 82.4% |
| Swallow-tailed Kite | 1 | SWLCD Tier 2 | 270,902 | 11.1% |
| Swallow-tailed Kite | 1 | SWLCD Tier 3 | 101,199 | 4.1% |
| Swallow-tailed Kite | 2 | Other | 57,630 | 20.2% |
| Swallow-tailed Kite | 2 | SWLCD Tier 1 | 69,636 | 24.4% |
| Swallow-tailed Kite | 2 | SWLCD Tier 2 | 74,608 | 26.1% |
| Swallow-tailed Kite | 2 | SWLCD Tier 3 | 83,683 | 29.3% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Wading Bird Guild | 1 | Other | 18,668 | 1.0% |
| Wading Bird Guild | 1 | SWLCD Tier 1 | 1,487,838 | 82.9% |
| Wading Bird Guild | 1 | SWLCD Tier 2 | 213,945 | 11.9% |
| Wading Bird Guild | 1 | SWLCD Tier 3 | 74,100 | 4.1% |
| Wood Stork | 1 | Other | 33,357 | 3.0% |
| Wood Stork | 1 | SWLCD Tier 1 | 949,296 | 85.3% |
| Wood Stork | 1 | SWLCD Tier 2 | 88,524 | 8.0% |
| Wood Stork | 1 | SWLCD Tier 3 | 41,672 | 3.7% |
| Wood Stork | 2 | Other | 16,490 | 2.5% |
| Wood Stork | 2 | SWLCD Tier 1 | 451,493 | 69.7% |
| Wood Stork | 2 | SWLCD Tier 2 | 145,679 | 22.5% |
| Wood Stork | 2 | SWLCD Tier 3 | 34,305 | 5.3% |

Table 3. Focal Natural Community Acres included in Ecological Priority Tiers.

| COMMUNITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|
| Bay Wetlands Category | SWLCD Other | 184 | 1.2% |
| Bay Wetlands Category | SWLCD Tier 1 | 14,621 | 91.6% |
| Bay Wetlands Category | SWLCD Tier 2 | 936 | 5.9% |
| Bay Wetlands Category | SWLCD Tier 3 | 228 | 1.4% |
| Coastal Grass and Shrubs Category | SWLCD Other | 31 | 1.8% |
| Coastal Grass and Shrubs Category | SWLCD Tier 1 | 111 | 6.6% |
| Coastal Grass and Shrubs Category | SWLCD Tier 2 | 402 | 23.9% |
| Coastal Grass and Shrubs Category | SWLCD Tier 3 | 1,141 | 67.7% |
| Coastal Scrub | SWLCD Other | 0 | 0.1% |
| Coastal Scrub | SWLCD Tier 1 | 106 | 38.9% |
| Coastal Scrub | SWLCD Tier 2 | 126 | 46.2% |
| Coastal Scrub | SWLCD Tier 3 | 40 | 14.8% |
| Coastal Upland Hammock Category | SWLCD Other | 23 | 1.1% |
| Coastal Upland Hammock Category | SWLCD Tier 1 | 364 | 17.2% |
| Coastal Upland Hammock Category | SWLCD Tier 2 | 432 | 20.4% |

| COMMUNITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|
| Coastal Upland Hammock Category | SWLCD Tier 3 | 1,293 | 61.2% |
| Cypress, Pine, Cabbage Palm | SWLCD Other | 808 | 1.9% |
| Cypress, Pine, Cabbage Palm | SWLCD Tier 1 | 39,308 | 90.5% |
| Cypress, Pine, Cabbage Palm | SWLCD Tier 2 | 2,324 | 5.4% |
| Cypress, Pine, Cabbage Palm | SWLCD Tier 3 | 991 | 2.3% |
| Dry Prairie Category | SWLCD Other | 284 | 0.4% |
| Dry Prairie Category | SWLCD Tier 1 | 67,018 | 96.9% |
| Dry Prairie Category | SWLCD Tier 2 | 1,358 | 2.0% |
| Dry Prairie Category | SWLCD Tier 3 | 523 | 0.8% |
| Freshwater Hardwood Wetlands Category | SWLCD Other | 12,586 | 6.9% |
| Freshwater Hardwood Wetlands Category | SWLCD Tier 1 | | 70.3% |
| Freshwater Hardwood Wetlands Category | SWLCD Tier 2 | 25,434 | 14.0% |
| Freshwater Hardwood Wetlands Category | SWLCD Tier 3 | 15,932 | 8.8% |
| Freshwater Marshes Category | SWLCD Other | 9,669 | 3.5% |
| Freshwater Marshes Category | SWLCD Tier 1 | | 51.0% |
| Freshwater Marshes Category | SWLCD Tier 2 | 99,139 | 35.4% |
| Freshwater Marshes Category | SWLCD Tier 3 | 28,386 | 10.1% |
| Hydric Flatwoods Category | SWLCD Other | 6,076 | 4.5% |
| Hydric Flatwoods Category | SWLCD Tier 1 | | 88.8% |
| Hydric Flatwoods Category | SWLCD Tier 2 | 4,813 | 3.6% |
| Hydric Flatwoods Category | SWLCD Tier 3 | 4,176 | 3.1% |
| Inland Hydric Hammock Category | SWLCD Other | 2 | 0.0% |
| Inland Hydric Hammock Category | SWLCD Tier 1 | 5,594 | 95.8% |
| Inland Hydric Hammock Category | SWLCD Tier 2 | 197 | 3.4% |
| Inland Hydric Hammock Category | SWLCD Tier 3 | 49 | 0.8% |
| Mangrove Swamp | SWLCD Other | 2,128 | 1.1% |
| Mangrove Swamp | SWLCD Tier 1 | | 77.3% |
| Mangrove Swamp | SWLCD Tier 2 | 27,145 | 13.9% |

| COMMUNITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|
| Mangrove Swamp | SWLCD Tier 3 | 15,200 | 7.8% |
| Mesic Flatwoods Category | SWLCD Other | 5,225 | 1.6% |
| Mesic Flatwoods Category | SWLCD Tier 1 | | 87.1% |
| Mesic Flatwoods Category | SWLCD Tier 2 | 26,694 | 8.2% |
| Mesic Flatwoods Category | SWLCD Tier 3 | 10,003 | 3.1% |
| Salt Marsh | SWLCD Other | 335 | 0.7% |
| Salt Marsh | SWLCD Tier 1 | 31,521 | 69.9% |
| Salt Marsh | SWLCD Tier 2 | 9,698 | 21.5% |
| Salt Marsh | SWLCD Tier 3 | 3,545 | 7.9% |
| Sandhill Category | SWLCD Other | 23 | 0.6% |
| Sandhill Category | SWLCD Tier 1 | 3,958 | 96.8% |
| Sandhill Category | SWLCD Tier 2 | 105 | 2.6% |
| Sandhill Category | SWLCD Tier 3 | 3 | 0.1% |
| Scrub Category | SWLCD Other | 251 | 1.1% |
| Scrub Category | SWLCD Tier 1 | 17,662 | 75.5% |
| Scrub Category | SWLCD Tier 2 | 3,502 | 15.0% |
| Scrub Category | SWLCD Tier 3 | 1,973 | 8.4% |
| Scrubby Flatwoods Category | SWLCD Other | 56 | 0.2% |
| Scrubby Flatwoods Category | SWLCD Tier 1 | 17,656 | 78.8% |
| Scrubby Flatwoods Category | SWLCD Tier 2 | 4,238 | 18.9% |
| Scrubby Flatwoods Category | SWLCD Tier 3 | 445 | 2.0% |
| Upland Hammock Category | SWLCD Other | 1,400 | 1.9% |
| Upland Hammock Category | SWLCD Tier 1 | 51,287 | 70.9% |
| Upland Hammock Category | SWLCD Tier 2 | 14,671 | 20.3% |
| Upland Hammock Category | SWLCD Tier 3 | 4,939 | 6.8% |
| Upland Hardwoods Category | SWLCD Other | 126 | 9.6% |
| Upland Hardwoods Category | SWLCD Tier 1 | 829 | 63.2% |
| Upland Hardwoods Category | SWLCD Tier 2 | 209 | 15.9% |
| Upland Hardwoods Category | SWLCD Tier 3 | 147 | 11.2% |
| Wet Prairie | SWLCD Other | 931 | 1.3% |

| COMMUNITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|
| Wet Prairie | SWLCD Tier 1 | 44,762 | 63.7% |
| Wet Prairie | SWLCD Tier 2 | 21,558 | 30.7% |
| Wet Prairie | SWLCD Tier 3 | 3,030 | 4.3% |

Table 4. Potential Species Habitat included in Ecological Priority Tiers in Unprotected Habitat.

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| American Crocodile | 1 | Protected | 75,403.52 | 87.2% |
| American Crocodile | 1 | SWLCD Tier 1 | 3,140.73 | 3.6% |
| American Crocodile | 1 | SWLCD Tier 2 | 5,567.23 | 6.4% |
| American Crocodile | 1 | SWLCD Tier 3 | 2,366.01 | 2.7% |
| American Oystercatcher | 1 | Protected | 19,320.57 | 67.6% |
| American Oystercatcher | 1 | SWLCD Tier 1 | 839.24 | 2.9% |
| American Oystercatcher | 1 | SWLCD Tier 2 | 3,142.34 | 11.0% |
| American Oystercatcher | 1 | SWLCD Tier 3 | 5,267.69 | 18.4% |
| Bald Eagle | 1 | Protected | 319,471.13 | 58.6% |
| Bald Eagle | 1 | SWLCD Tier 1 | 80,241.74 | 14.7% |
| Bald Eagle | 1 | SWLCD Tier 2 | 46,366.71 | 8.5% |
| Bald Eagle | 1 | SWLCD Tier 3 | 98,989.65 | 18.2% |
| Bald Eagle | 2 | Protected | 1,036,672.17 | 75.7% |
| Bald Eagle | 2 | SWLCD Tier 1 | 238,719.10 | 17.4% |
| Bald Eagle | 2 | SWLCD Tier 2 | 48,569.53 | 3.5% |
| Bald Eagle | 2 | SWLCD Tier 3 | 45,465.22 | 3.3% |
| Big Cypress Fox Squirrel | 1 | Protected | 471,792.39 | 67.8% |
| Big Cypress Fox Squirrel | 1 | SWLCD Tier 1 | 172,378.03 | 24.8% |
| Big Cypress Fox Squirrel | 1 | SWLCD Tier 2 | 27,472.19 | 3.9% |
| Big Cypress Fox Squirrel | 1 | SWLCD Tier 3 | 24,291.56 | 3.5% |
| Black-whiskered Vireo | 1 | Protected | 149,326.74 | 89.0% |
| Black-whiskered Vireo | 1 | SWLCD Tier 1 | 6,215.58 | 3.7% |
| Black-whiskered Vireo | 1 | SWLCD Tier 2 | 6,784.09 | 4.0% |
| Black-whiskered Vireo | 1 | SWLCD Tier 3 | 5,502.02 | 3.3% |
| Bonneted Bat | 1 | Protected | 619,279.90 | 71.3% |
| Bonneted Bat | 1 | SWLCD Tier 1 | 192,728.11 | 22.2% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Bonneted Bat | 1 | SWLCD Tier 2 | 32,908.92 | 3.8% |
| Bonneted Bat | 1 | SWLCD Tier 3 | 23,936.76 | 2.8% |
| Burrowing Owl | 1 | Protected | 61,245.52 | 38.5% |
| Burrowing Owl | 1 | SWLCD Tier 1 | 42,689.59 | 26.8% |
| Burrowing Owl | 1 | SWLCD Tier 2 | 20,137.92 | 12.7% |
| Burrowing Owl | 1 | SWLCD Tier 3 | 34,969.56 | 22.0% |
| Caracara | 1 | Protected | 430,878.05 | 34.1% |
| Caracara | 1 | SWLCD Tier 1 | 390,254.38 | 30.9% |
| Caracara | 1 | SWLCD Tier 2 | 238,526.06 | 18.9% |
| Caracara | 1 | SWLCD Tier 3 | 203,357.36 | 16.1% |
| Caracara | 2 | Protected | 255,837.00 | 55.8% |
| Caracara | 2 | SWLCD Tier 1 | 90,048.25 | 19.7% |
| Caracara | 2 | SWLCD Tier 2 | 45,496.40 | 9.9% |
| Caracara | 2 | SWLCD Tier 3 | 66,799.67 | 14.6% |
| Diamondback Terrapin | 1 | Protected | 163,317.72 | 77.8% |
| Diamondback Terrapin | 1 | SWLCD Tier 1 | 5,914.14 | 2.8% |
| Diamondback Terrapin | 1 | SWLCD Tier 2 | 12,581.55 | 6.0% |
| Diamondback Terrapin | 1 | SWLCD Tier 3 | 27,986.72 | 13.3% |
| Eastern Diamondback Rattlesnake | 1 | Protected | 338,953.38 | 49.9% |
| Eastern Diamondback Rattlesnake | 1 | SWLCD Tier 1 | 277,195.82 | 40.8% |
| Eastern Diamondback Rattlesnake | 1 | SWLCD Tier 2 | 44,854.62 | 6.6% |
| Eastern Diamondback Rattlesnake | 1 | SWLCD Tier 3 | 18,052.70 | 2.7% |
| Eastern Diamondback Rattlesnake | 2 | Protected | 123,688.36 | 37.0% |
| Eastern Diamondback Rattlesnake | 2 | SWLCD Tier 1 | 105,787.08 | 31.6% |
| Eastern Diamondback Rattlesnake | 2 | SWLCD Tier 2 | 53,378.73 | 16.0% |
| Eastern Diamondback Rattlesnake | 2 | SWLCD Tier 3 | 51,705.34 | 15.5% |
| Eastern Indigo Snake | 1 | Protected | 247,687.08 | 42.8% |
| Eastern Indigo Snake | 1 | SWLCD Tier 1 | 231,582.38 | 40.0% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Eastern Indigo Snake | 1 | SWLCD Tier 2 | 53,033.23 | 9.2% |
| Eastern Indigo Snake | 1 | SWLCD Tier 3 | 46,700.47 | 8.1% |
| Eastern Indigo Snake | 2 | Protected | 200,929.90 | 42.9% |
| Eastern Indigo Snake | 2 | SWLCD Tier 1 | 127,336.69 | 27.2% |
| Eastern Indigo Snake | 2 | SWLCD Tier 2 | 56,004.87 | 12.0% |
| Eastern Indigo Snake | 2 | SWLCD Tier 3 | 83,659.10 | 17.9% |
| Everglades Mink | 1 | Protected | 1,308,040.33 | 90.7% |
| Everglades Mink | 1 | SWLCD Tier 1 | 126,105.22 | 8.7% |
| Everglades Mink | 1 | SWLCD Tier 2 | 6,361.57 | 0.4% |
| Everglades Mink | 1 | SWLCD Tier 3 | 1,260.11 | 0.1% |
| Everglades Snail Kite | 1 | Protected | 674,956.73 | 75.9% |
| Everglades Snail Kite | 1 | SWLCD Tier 1 | 130,635.17 | 14.7% |
| Everglades Snail Kite | 1 | SWLCD Tier 2 | 56,436.95 | 6.3% |
| Everglades Snail Kite | 1 | SWLCD Tier 3 | 27,180.56 | 3.1% |
| FL Grasshopper Sparrow | 1 | Protected | 33,982.89 | 65.7% |
| FL Grasshopper Sparrow | 1 | SWLCD Tier 1 | 17,473.63 | 33.8% |
| FL Grasshopper Sparrow | 1 | SWLCD Tier 2 | 257.85 | 0.5% |
| FL Grasshopper Sparrow | 1 | SWLCD Tier 3 | 12.63 | 0.0% |
| Florida Black Bear | 1 | Protected | 1,040,087.83 | 65.2% |
| Florida Black Bear | 1 | SWLCD Tier 1 | 457,502.35 | 28.7% |
| Florida Black Bear | 1 | SWLCD Tier 2 | 70,201.52 | 4.4% |
| Florida Black Bear | 1 | SWLCD Tier 3 | 27,295.79 | 1.7% |
| Florida Panther | 1 | Protected | 1,342,366.18 | 61.2% |
| Florida Panther | 1 | SWLCD Tier 1 | 678,616.70 | 30.9% |
| Florida Panther | 1 | SWLCD Tier 2 | 119,786.35 | 5.5% |
| Florida Panther | 1 | SWLCD Tier 3 | 54,032.05 | 2.5% |
| Florida Panther | 2 | Protected | 242,142.66 | 60.8% |
| Florida Panther | 2 | SWLCD Tier 1 | 69,289.97 | 17.4% |
| Florida Panther | 2 | SWLCD Tier 2 | 46,566.10 | 11.7% |
| Florida Panther | 2 | SWLCD Tier 3 | 40,446.54 | 10.2% |
| Florida Sandhill Crane | 1 | Protected | 422,015.31 | 35.8% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Florida Sandhill Crane | 1 | SWLCD Tier 1 | 348,539.65 | 29.5% |
| Florida Sandhill Crane | 1 | SWLCD Tier 2 | 223,339.63 | 18.9% |
| Florida Sandhill Crane | 1 | SWLCD Tier 3 | 186,277.51 | 15.8% |
| Florida Scrub Lizard | 1 | Protected | 1,192.95 | 36.7% |
| Florida Scrub Lizard | 1 | SWLCD Tier 1 | 1,014.49 | 31.2% |
| Florida Scrub Lizard | 1 | SWLCD Tier 2 | 861.48 | 26.5% |
| Florida Scrub Lizard | 1 | SWLCD Tier 3 | 177.54 | 5.5% |
| Florida Scrub Lizard | 2 | Protected | 583.17 | 54.3% |
| Florida Scrub Lizard | 2 | SWLCD Tier 1 | 225.14 | 21.0% |
| Florida Scrub Lizard | 2 | SWLCD Tier 2 | 96.99 | 9.0% |
| Florida Scrub Lizard | 2 | SWLCD Tier 3 | 167.81 | 15.6% |
| Florida Scrub-Jay | 1 | Protected | 20,464.03 | 46.2% |
| Florida Scrub-Jay | 1 | SWLCD Tier 1 | 15,820.45 | 35.7% |
| Florida Scrub-Jay | 1 | SWLCD Tier 2 | 5,842.01 | 13.2% |
| Florida Scrub-Jay | 1 | SWLCD Tier 3 | 2,130.59 | 4.8% |
| Florida Scrub-Jay | 2 | Protected | 10,327.23 | 59.7% |
| Florida Scrub-Jay | 2 | SWLCD Tier 1 | 3,791.65 | 21.9% |
| Florida Scrub-Jay | 2 | SWLCD Tier 2 | 1,932.29 | 11.2% |
| Florida Scrub-Jay | 2 | SWLCD Tier 3 | 1,260.41 | 7.3% |
| Gopher Tortoise | 1 | Protected | 174,987.16 | 46.4% |
| Gopher Tortoise | 1 | SWLCD Tier 1 | 134,676.52 | 35.7% |
| Gopher Tortoise | 1 | SWLCD Tier 2 | 39,180.85 | 10.4% |
| Gopher Tortoise | 1 | SWLCD Tier 3 | 28,144.69 | 7.5% |
| Gopher Tortoise | 2 | Protected | 35,035.39 | 26.9% |
| Gopher Tortoise | 2 | SWLCD Tier 1 | 61,702.84 | 47.4% |
| Gopher Tortoise | 2 | SWLCD Tier 2 | 16,639.58 | 12.8% |
| Gopher Tortoise | 2 | SWLCD Tier 3 | 16,745.76 | 12.9% |
| Least Tern | 1 | Protected | 314.76 | 34.3% |
| Least Tern | 1 | SWLCD Tier 1 | 0.35 | 0.0% |
| Least Tern | 1 | SWLCD Tier 2 | 246.98 | 26.9% |
| Least Tern | 1 | SWLCD Tier 3 | 355.93 | 38.8% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Limpkin | 1 | Protected | 1,323,033.03 | 81.8% |
| Limpkin | 1 | SWLCD Tier 1 | 199,144.12 | 12.3% |
| Limpkin | 1 | SWLCD Tier 2 | 63,721.44 | 3.9% |
| Limpkin | 1 | SWLCD Tier 3 | 32,445.85 | 2.0% |
| Mangrove Cuckoo | 1 | Protected | 169,678.40 | 90.6% |
| Mangrove Cuckoo | 1 | SWLCD Tier 1 | 7,594.95 | 4.1% |
| Mangrove Cuckoo | 1 | SWLCD Tier 2 | 5,511.55 | 2.9% |
| Mangrove Cuckoo | 1 | SWLCD Tier 3 | 4,507.59 | 2.4% |
| Mottled Duck | 1 | Protected | 738,834.61 | 48.1% |
| Mottled Duck | 1 | SWLCD Tier 1 | 362,218.54 | 23.6% |
| Mottled Duck | 1 | SWLCD Tier 2 | 232,729.47 | 15.1% |
| Mottled Duck | 1 | SWLCD Tier 3 | 202,980.87 | 13.2% |
| Piping Plover | 1 | Protected | 391.14 | 20.3% |
| Piping Plover | 1 | SWLCD Tier 1 | 70.60 | 3.7% |
| Piping Plover | 1 | SWLCD Tier 2 | 623.99 | 32.3% |
| Piping Plover | 1 | SWLCD Tier 3 | 843.42 | 43.7% |
| Red-cockaded Woodpecker | 1 | Protected | 282,330.41 | 52.6% |
| Red-cockaded Woodpecker | 1 | SWLCD Tier 1 | 213,382.70 | 39.8% |
| Red-cockaded Woodpecker | 1 | SWLCD Tier 2 | 31,114.37 | 5.8% |
| Red-cockaded Woodpecker | 1 | SWLCD Tier 3 | 9,874.41 | 1.8% |
| Red-cockaded Woodpecker | 2 | Protected | 3,301.25 | 50.5% |
| Red-cockaded Woodpecker | 2 | SWLCD Tier 1 | 2,013.34 | 30.8% |
| Red-cockaded Woodpecker | 2 | SWLCD Tier 2 | 841.81 | 12.9% |
| Red-cockaded Woodpecker | 2 | SWLCD Tier 3 | 381.43 | 5.8% |
| Sherman’s Fox Squirrel | 1 | Protected | 241,225.01 | 47.6% |
| Sherman’s Fox Squirrel | 1 | SWLCD Tier 1 | 201,993.88 | 39.9% |
| Sherman’s Fox Squirrel | 1 | SWLCD Tier 2 | 43,291.21 | 8.6% |
| Sherman’s Fox Squirrel | 1 | SWLCD Tier 3 | 19,756.66 | 3.9% |
| Short-tailed Hawk | 1 | Protected | 1,226,911.61 | 73.6% |
| Short-tailed Hawk | 1 | SWLCD Tier 1 | 274,878.02 | 16.5% |
| Short-tailed Hawk | 1 | SWLCD Tier 2 | 101,716.79 | 6.1% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Short-tailed Hawk | 1 | SWLCD Tier 3 | 62,830.70 | 3.8% |
| Snowy Plover | 1 | Protected | 669.78 | 39.2% |
| Snowy Plover | 1 | SWLCD Tier 1 | 1.33 | 0.1% |
| Snowy Plover | 1 | SWLCD Tier 2 | 255.48 | 15.0% |
| Snowy Plover | 1 | SWLCD Tier 3 | 782.11 | 45.8% |
| Southeastern American Kestrel | 1 | Protected | 204,582.26 | 32.7% |
| Southeastern American Kestrel | 1 | SWLCD Tier 1 | 199,025.95 | 31.8% |
| Southeastern American Kestrel | 1 | SWLCD Tier 2 | 115,950.64 | 18.5% |
| Southeastern American Kestrel | 1 | SWLCD Tier 3 | 106,646.29 | 17.0% |
| Southern Chorus Frog | 1 | Protected | 155,085.99 | 59.4% |
| Southern Chorus Frog | 1 | SWLCD Tier 1 | 92,529.53 | 35.4% |
| Southern Chorus Frog | 1 | SWLCD Tier 2 | 10,003.90 | 3.8% |
| Southern Chorus Frog | 1 | SWLCD Tier 3 | 3,575.19 | 1.4% |
| Southern Chorus Frog | 2 | Protected | 969,324.71 | 62.4% |
| Southern Chorus Frog | 2 | SWLCD Tier 1 | 374,867.65 | 24.1% |
| Southern Chorus Frog | 2 | SWLCD Tier 2 | 116,652.83 | 7.5% |
| Southern Chorus Frog | 2 | SWLCD Tier 3 | 92,315.66 | 5.9% |
| Swallow-tailed Kite | 1 | Protected | 1,536,054.45 | 62.8% |
| Swallow-tailed Kite | 1 | SWLCD Tier 1 | 666,828.26 | 27.3% |
| Swallow-tailed Kite | 1 | SWLCD Tier 2 | 151,503.41 | 6.2% |
| Swallow-tailed Kite | 1 | SWLCD Tier 3 | 90,408.50 | 3.7% |
| Swallow-tailed Kite | 2 | Protected | 126,661.55 | 44.4% |
| Swallow-tailed Kite | 2 | SWLCD Tier 1 | 40,503.67 | 14.2% |
| Swallow-tailed Kite | 2 | SWLCD Tier 2 | 52,077.01 | 18.2% |
| Swallow-tailed Kite | 2 | SWLCD Tier 3 | 66,314.38 | 23.2% |
| Wading Bird Guild | 1 | Protected | 1,510,060.16 | 84.1% |
| Wading Bird Guild | 1 | SWLCD Tier 1 | 186,854.30 | 10.4% |
| Wading Bird Guild | 1 | SWLCD Tier 2 | 48,562.85 | 2.7% |
| Wading Bird Guild | 1 | SWLCD Tier 3 | 49,073.89 | 2.7% |
| Wood Stork | 1 | Protected | 815,305.55 | 73.3% |
| Wood Stork | 1 | SWLCD Tier 1 | 201,925.19 | 18.1% |

| SPECIES NAME | HABITAT PRIORITY | SWFLCD TIER | ACRES | PERCENT |
|---|---|---|---|---|
| Wood Stork | 1 | SWLCD Tier 2 | 56,376.14 | 5.1% |
| Wood Stork | 1 | SWLCD Tier 3 | 39,242.79 | 3.5% |
| Wood Stork | 2 | Protected | 477,773.04 | 73.7% |
| Wood Stork | 2 | SWLCD Tier 1 | 106,729.47 | 16.5% |
| Wood Stork | 2 | SWLCD Tier 2 | 40,095.01 | 6.2% |
| Wood Stork | 2 | SWLCD Tier 3 | 23,370.23 | 3.6% |

Table 5. Focal Natural Community Acres included in Ecological Priority Tiers in Unprotected Areas.

| COMMUNITY | TIER | ACRES | PERCENT |
|---|---|---|---|
| Bay Wetlands Category | Protected | 12,332.42 | 77.2% |
| Bay Wetlands Category | Tier 1 | 2,794.56 | 17.5% |
| Bay Wetlands Category | Tier 2 | 643.93 | 4.0% |
| Bay Wetlands Category | Tier 3 | 198.08 | 1.2% |
| Coastal Grass and Shrubs Category | Protected | 1,249.41 | 74.1% |
| Coastal Grass and Shrubs Category | Tier 1 | 3.01 | 0.2% |
| Coastal Grass and Shrubs Category | Tier 2 | 86.96 | 5.2% |
| Coastal Grass and Shrubs Category | Tier 3 | 346.12 | 20.5% |
| Coastal Scrub | Protected | 234.68 | 86.2% |
| Coastal Scrub | Tier 1 | - | 0.0% |
| Coastal Scrub | Tier 2 | 30.89 | 11.3% |
| Coastal Scrub | Tier 3 | 6.77 | 2.5% |
| Coastal Upland Hammock Category | Protected | 1,876.56 | 88.8% |
| Coastal Upland Hammock Category | Tier 1 | 8.70 | 0.4% |
| Coastal Upland Hammock Category | Tier 2 | 40.80 | 1.9% |
| Coastal Upland Hammock Category | Tier 3 | 186.14 | 8.8% |
| Cypess, Pine, Cabbage Palm | Protected | 21,777.31 | 50.1% |
| Cypess, Pine, Cabbage Palm | Tier 1 | 19,140.75 | 44.1% |
| Cypess, Pine, Cabbage Palm | Tier 2 | 1,605.44 | 3.7% |
| Cypess, Pine, Cabbage Palm | Tier 3 | 906.68 | 2.1% |
| Dry Prairie Category | Protected | 44,224.33 | 63.9% |
| Dry Prairie Category | Tier 1 | 23,303.14 | 33.7% |
| Dry Prairie Category | Tier 2 | 1,144.89 | 1.7% |

| COMMUNITY | TIER | ACRES | PERCENT |
|---|---|---|---|
| Dry Prairie Category | Tier 3 | 511.33 | 0.7% |
| Freshwater Hardwood Wetlands Category | Protected | 80,734.74 | 44.5% |
| Freshwater Hardwood Wetlands Category | Tier 1 | 66,973.49 | 36.9% |
| Freshwater Hardwood Wetlands Category | Tier 2 | 19,221.19 | 10.6% |
| Freshwater Hardwood Wetlands Category | Tier 3 | 14,460.07 | 8.0% |
| Freshwater Marshes Category | Protected | 121,324.21 | 43.3% |
| Freshwater Marshes Category | Tier 1 | 93,660.73 | 33.4% |
| Freshwater Marshes Category | Tier 2 | 42,104.17 | 15.0% |
| Freshwater Marshes Category | Tier 3 | 22,965.54 | 8.2% |
| Hydric Flatwoods Category | Protected | 96,337.54 | 71.6% |
| Hydric Flatwoods Category | Tier 1 | 30,253.58 | 22.5% |
| Hydric Flatwoods Category | Tier 2 | 3,917.87 | 2.9% |
| Hydric Flatwoods Category | Tier 3 | 4,014.81 | 3.0% |
| Inland Hydric Hammock Category | Protected | 4,288.33 | 73.4% |
| Inland Hydric Hammock Category | Tier 1 | 1,339.56 | 22.9% |
| Inland Hydric Hammock Category | Tier 2 | 167.88 | 2.9% |
| Inland Hydric Hammock Category | Tier 3 | 45.64 | 0.8% |
| Mangrove Swamp | Protected | 175,145.60 | 89.6% |
| Mangrove Swamp | Tier 1 | 8,186.27 | 4.2% |
| Mangrove Swamp | Tier 2 | 5,139.54 | 2.6% |
| Mangrove Swamp | Tier 3 | 7,045.33 | 3.6% |
| Mesic Flatwoods Category | Protected | 177,995.54 | 54.8% |
| Mesic Flatwoods Category | Tier 1 | 119,470.60 | 36.8% |
| Mesic Flatwoods Category | Tier 2 | 17,713.82 | 5.5% |
| Mesic Flatwoods Category | Tier 3 | 9,336.89 | 2.9% |
| Salt Marsh | Protected | 37,583.16 | 83.3% |
| Salt Marsh | Tier 1 | 3,103.05 | 6.9% |
| Salt Marsh | Tier 2 | 2,595.57 | 5.8% |
| Salt Marsh | Tier 3 | 1,816.27 | 4.0% |
| Sandhill Category | Protected | 3,528.17 | 86.3% |
| Sandhill Category | Tier 1 | 522.58 | 12.8% |
| Sandhill Category | Tier 2 | 38.70 | 0.9% |

| COMMUNITY | TIER | ACRES | PERCENT |
|---|---|---|---|
| Sandhill Category | Tier 3 | 0.74 | 0.0% |
| Scrub Category | Protected | 9,589.40 | 41.0% |
| Scrub Category | Tier 1 | 8,959.56 | 38.3% |
| Scrub Category | Tier 2 | 2,884.51 | 12.3% |
| Scrub Category | Tier 3 | 1,955.79 | 8.4% |
| Scrubby Flatwoods Category | Protected | 11,588.16 | 51.7% |
| Scrubby Flatwoods Category | Tier 1 | 7,177.78 | 32.1% |
| Scrubby Flatwoods Category | Tier 2 | 3,209.84 | 14.3% |
| Scrubby Flatwoods Category | Tier 3 | 418.55 | 1.9% |
| Upland Hammock Category | Protected | 29,701.55 | 41.1% |
| Upland Hammock Category | Tier 1 | 33,290.78 | 46.0% |
| Upland Hammock Category | Tier 2 | 6,681.99 | 9.2% |
| Upland Hammock Category | Tier 3 | 2,622.57 | 3.6% |
| Upland Hardwoods Category | Protected | 204.06 | 15.6% |
| Upland Hardwoods Category | Tier 1 | 771.24 | 58.8% |
| Upland Hardwoods Category | Tier 2 | 188.39 | 14.4% |
| Upland Hardwoods Category | Tier 3 | 147.37 | 11.2% |
| Wet Prairie | Protected | 31,362.42 | 44.6% |
| Wet Prairie | Tier 1 | 24,961.48 | 35.5% |
| Wet Prairie | Tier 2 | 10,982.95 | 15.6% |
| Wet Prairie | Tier 3 | 2,974.08 | 4.2% |

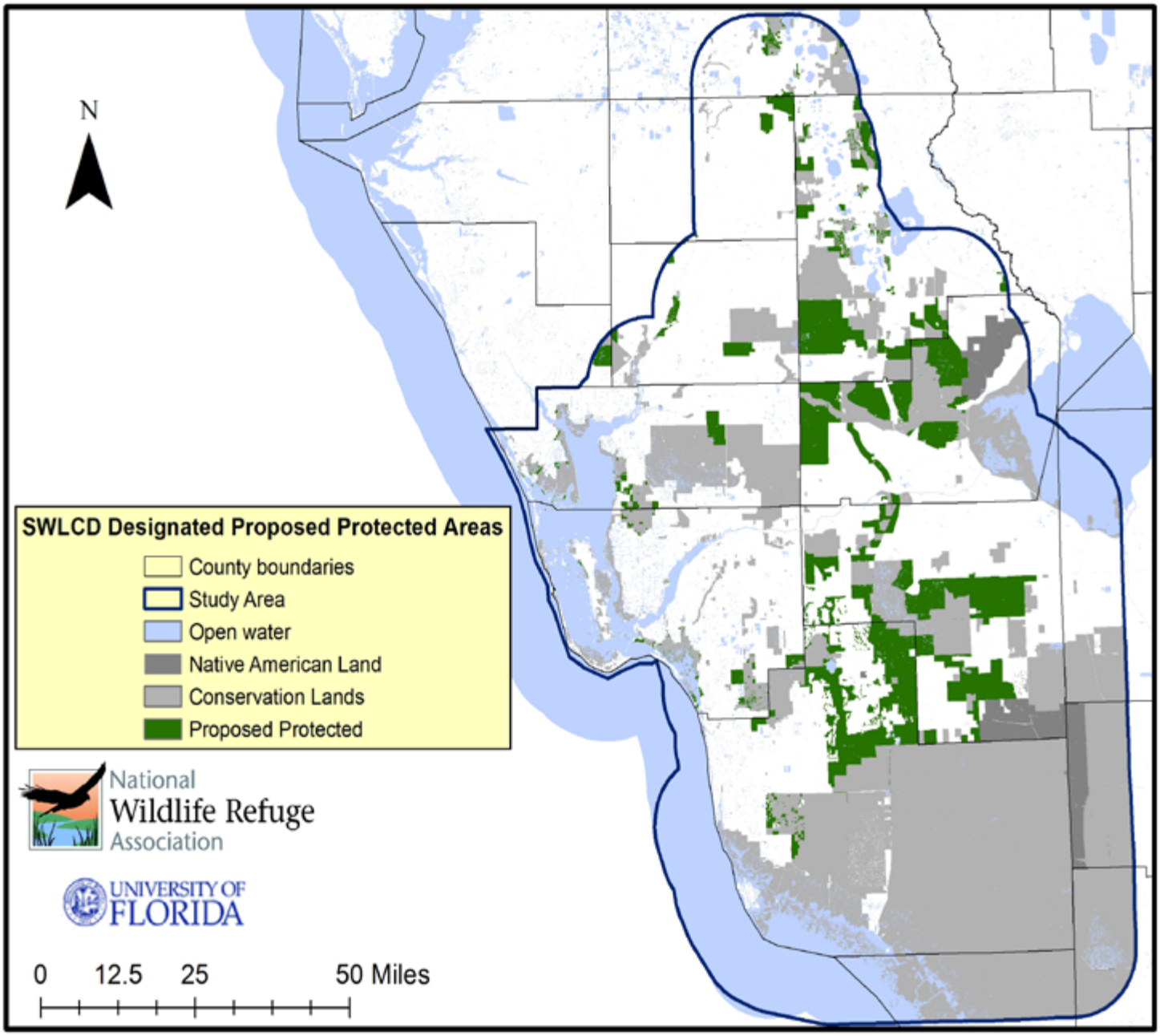


Figure 7. Designated Proposed Protected Areas.

## Identifying Protection Opportunities

We identified potential protection opportunities based on the concept of protection feasibility regarding existing programs that provide funds for conservation easements and fee simple acquisitions. The goal was to provide spatial information that could be used to determine the potential feasibility of protecting areas within the identified Ecological Priority Tiers.

### *A. Designated Proposed Protected Areas*

Designated proposed protected areas included all Florida Forever projects, all Tier 1 Rural and Family Lands Protection Program projects, all proposed protected land in the Collier County RLSA, the Florida Panther HCP proposed protected lands, and any approved Sector Plan proposed protected lands (**Figure 7**).

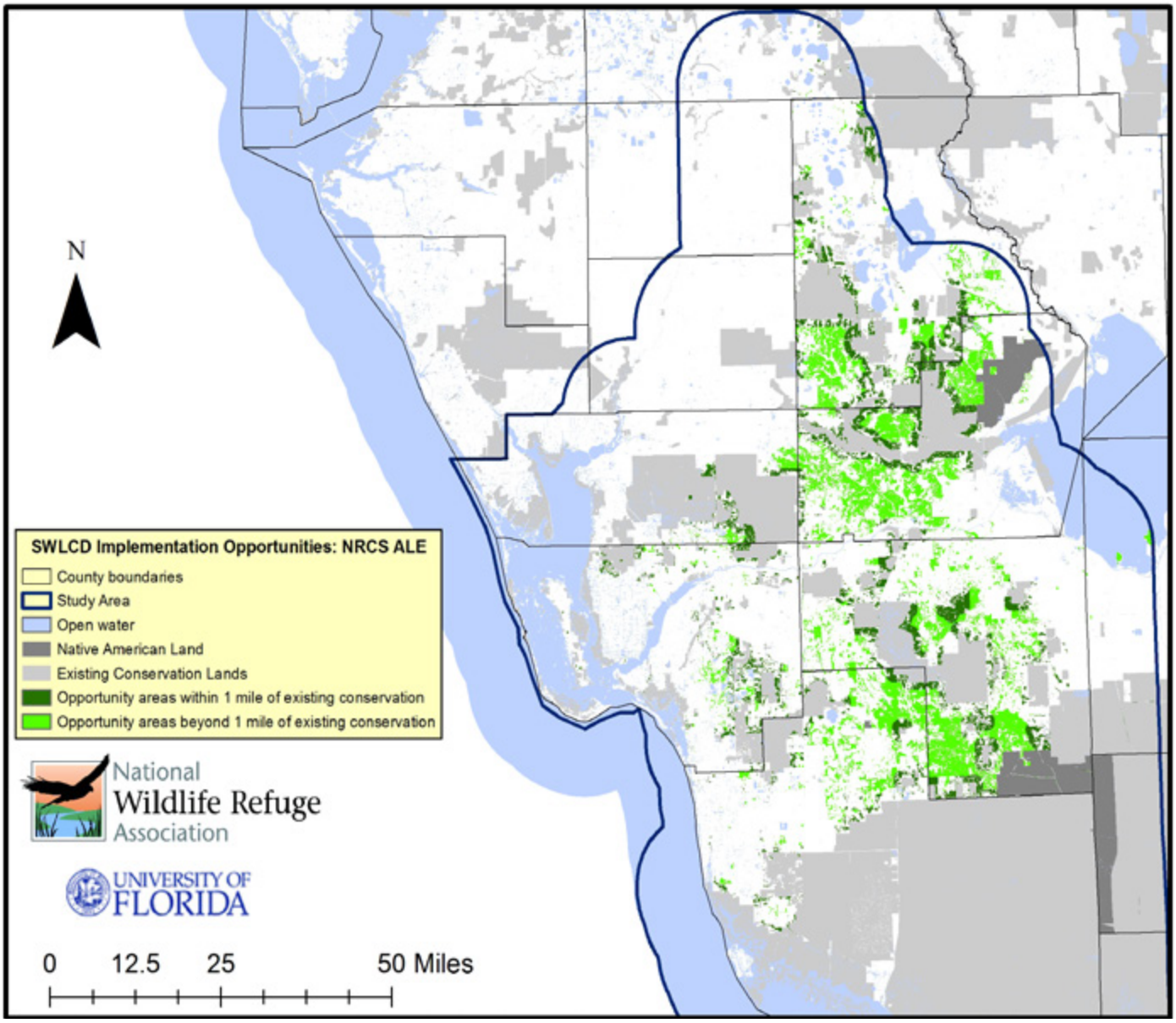


Figure 8. Lands that are potential candidate areas for the NRCS ALE program.

*B. NRCE ALE Easement Program*

We used spatial high point criteria used in both the ALE and ALE-Grassland easement program evaluation processes to identify areas that are potentially better candidates for these programs. The criteria used for the ALE program were (**Figure 8**):

Tier 1 Priority (areas had to meet ALL of these criteria to be included):

1. Counties within Gulf or Everglades Priority areas
2. Prime farmland soils (state and Collier County)
3. CLIP 4.0 Biodiversity Resource Category Priority 1 or Priority 2
4. Within parcels 40 acres or larger (to focus on larger agricultural lands more likely to be feasible for protection)
5. Within 1 mile of existing conservation lands (FNAI database plus all NRCS easements)

Tier 2 Priority (areas had to meet ALL of these criteria to be included):

1. Counties within Gulf or Everglades Priority areas
2. Prime farmland soils
3. CLIP 4.0 Biodiversity Resource Category Priority 1 or Priority 2
4. Within parcels 40 acres or larger

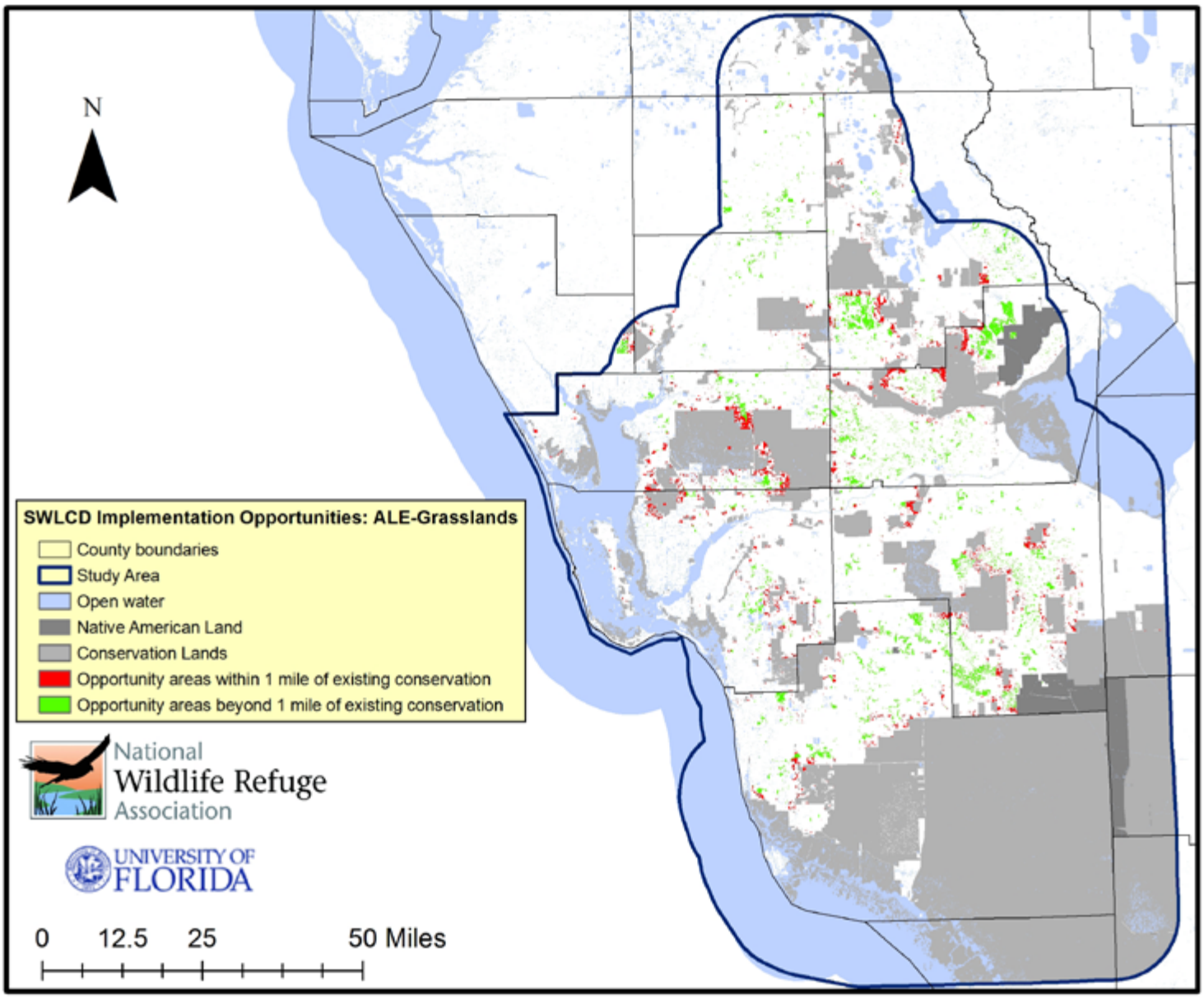


Figure 9. Lands that are potential candidate areas for the NRCS ALE-Grasslands program

The criteria for the ALE-Grassland program were (**Figure 9**):

Tier 1 Priority (areas had to meet ALL of these criteria to be included)

1. Priority natural communities from the Cooperative Land Cover data version 3.1 (dry prairie, wet prairie, scrub, scrubby flatwoods, sandhill, upland pine, marl prairie, freshwater marsh, wet flatwoods, mesic flatwoods)
2. Prime farmland soils (state and Collier County)
3. Within parcels 40 acres or larger (to focus on larger agricultural lands more likely to be feasible for protection)
4. Within 1 mile of existing conservation lands (FNAI database plus all NRCS easements)

Tier 2 Priority (areas had to meet ALL of these criteria to be included)

1. Priority natural communities
2. Prime farmland soils
3. Within parcels 40 acres or larger

These two maps were then combined into a final NRCS ALE program opportunities map (**Figure 10**).

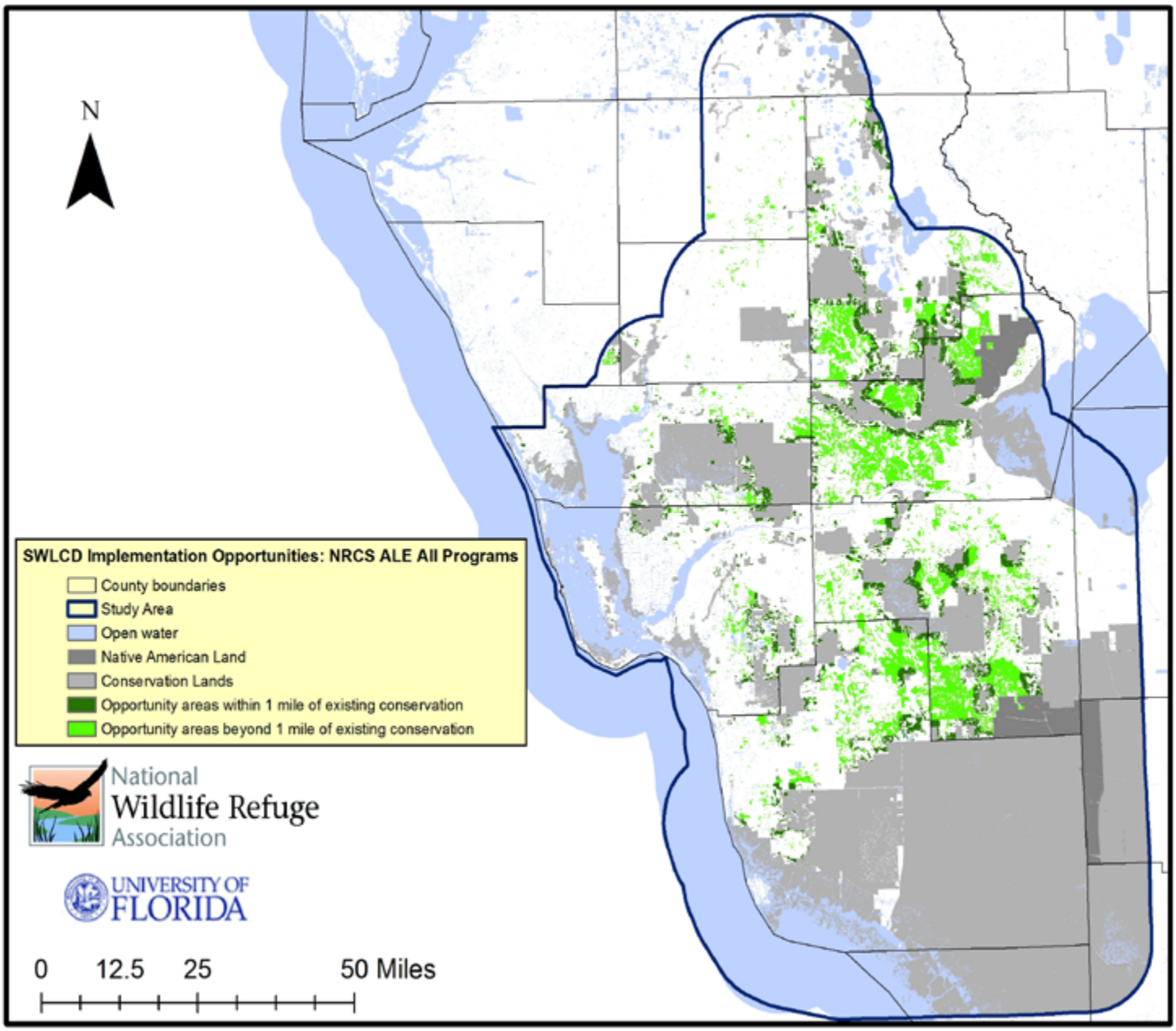

Figure 10. Lands that are potential candidate areas for all NRCS ALE programs combined.

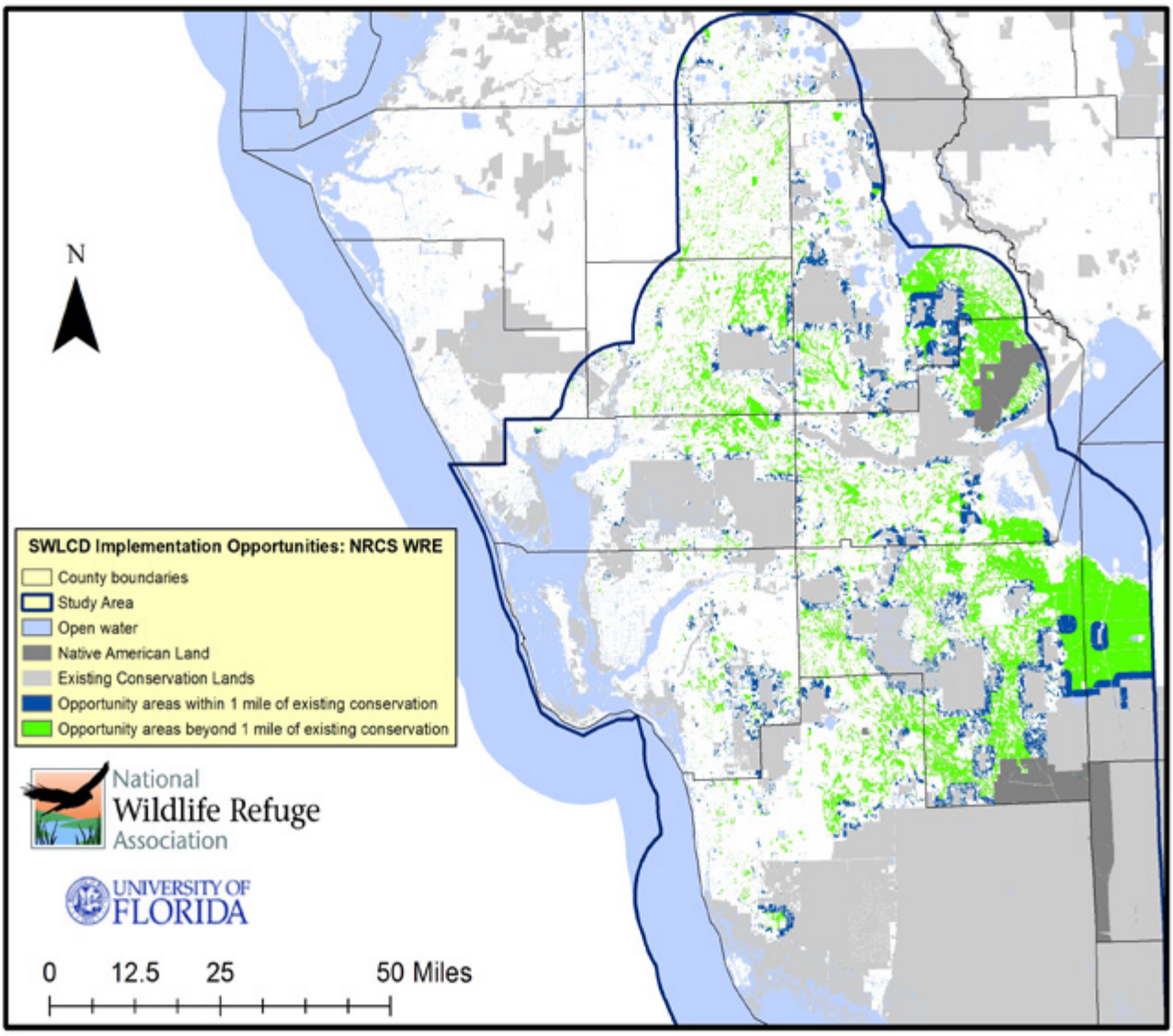


Figure 11. Lands that are potential candidate areas for the NRCS WRE program.

*C. NRCS WRE*

We used high point criteria used in the WRE program evaluation process that could be mapped in GIS to identify areas that are potentially better candidates for this program. The criteria used for the WRE program were (**Figure 11**):

Tier 1 Priority (areas had to meet ALL of these criteria to be included)

1. Potential former wetlands that are still potentially restorable, which were located by identifying all areas with hydric soils and undeveloped and non-wetland current land cover using NRCS soils data and CLC version 3.1 data
2. Within parcels 40 acres or larger (to focus on larger agricultural lands more likely to be feasible for protection)
3. Within 1 mile of existing conservation lands (FNAI database plus all NRCS easements)

Tier 2 Priority (areas had to meet ALL of these criteria to be included)

1. Potential former wetlands that are still potentially restorable, which were located by identifying all areas with hydric soils and undeveloped and non-wetland current land cover using NRCS soils data and CLC version 3.1 data
2. Within parcels 40 acres or larger (to focus on larger agricultural lands more likely to be feasible for protection)

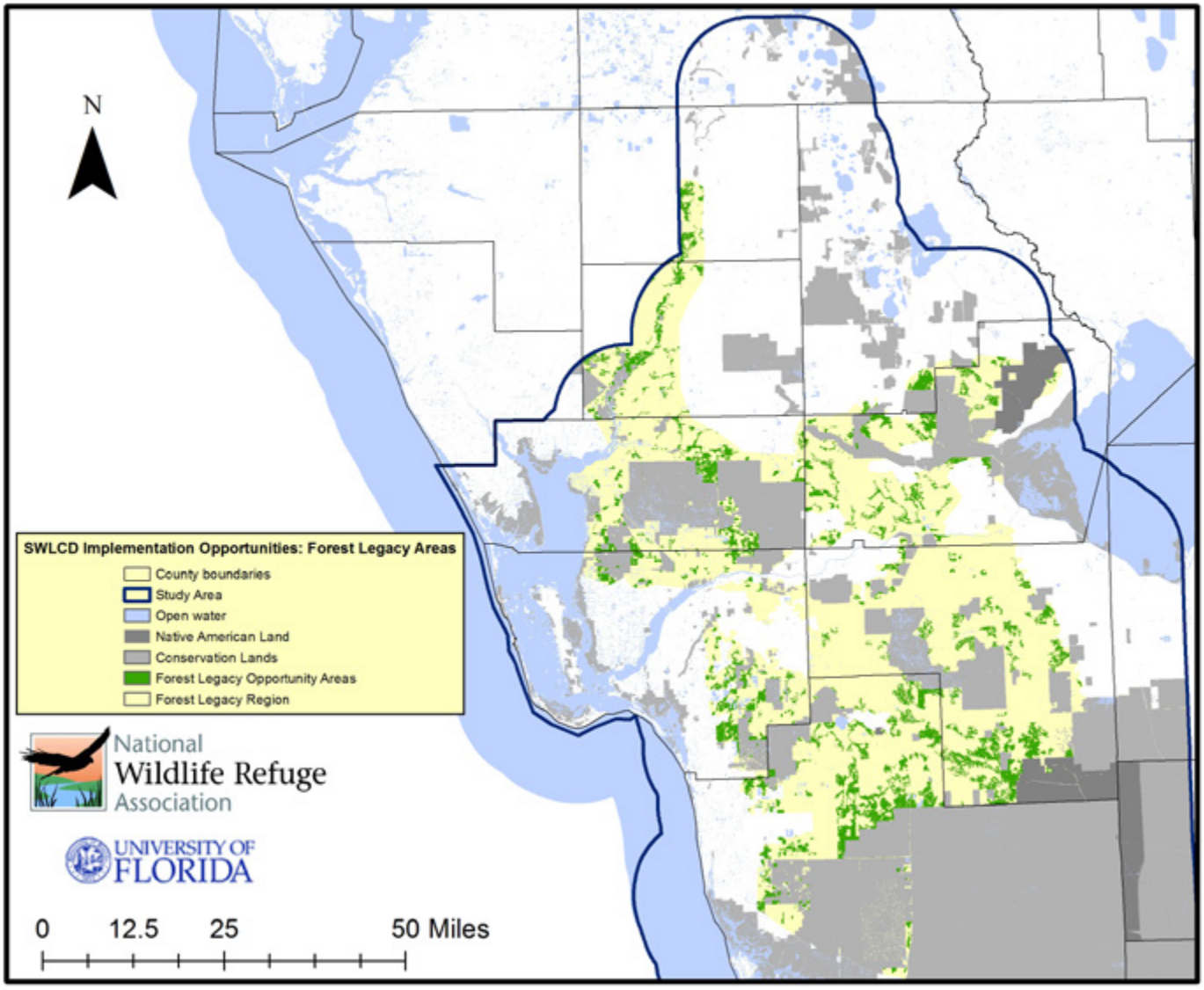


Figure 12. Lands that are potential candidate areas for the Forest Legacy program.

### *D. Forest Legacy*

We used criteria from the Forest Legacy evaluation process that could be mapped in GIS to identify areas that are potentially better candidates for this program. The criteria used for the Forest Legacy program were (**Figure 12**):

1. Lands within Forest Legacy program opportunity areas
2. All natural forest types in patches 100 acres or larger
3. Within parcels 40 acres or larger (to focus on larger agricultural lands more likely to be feasible for protection)

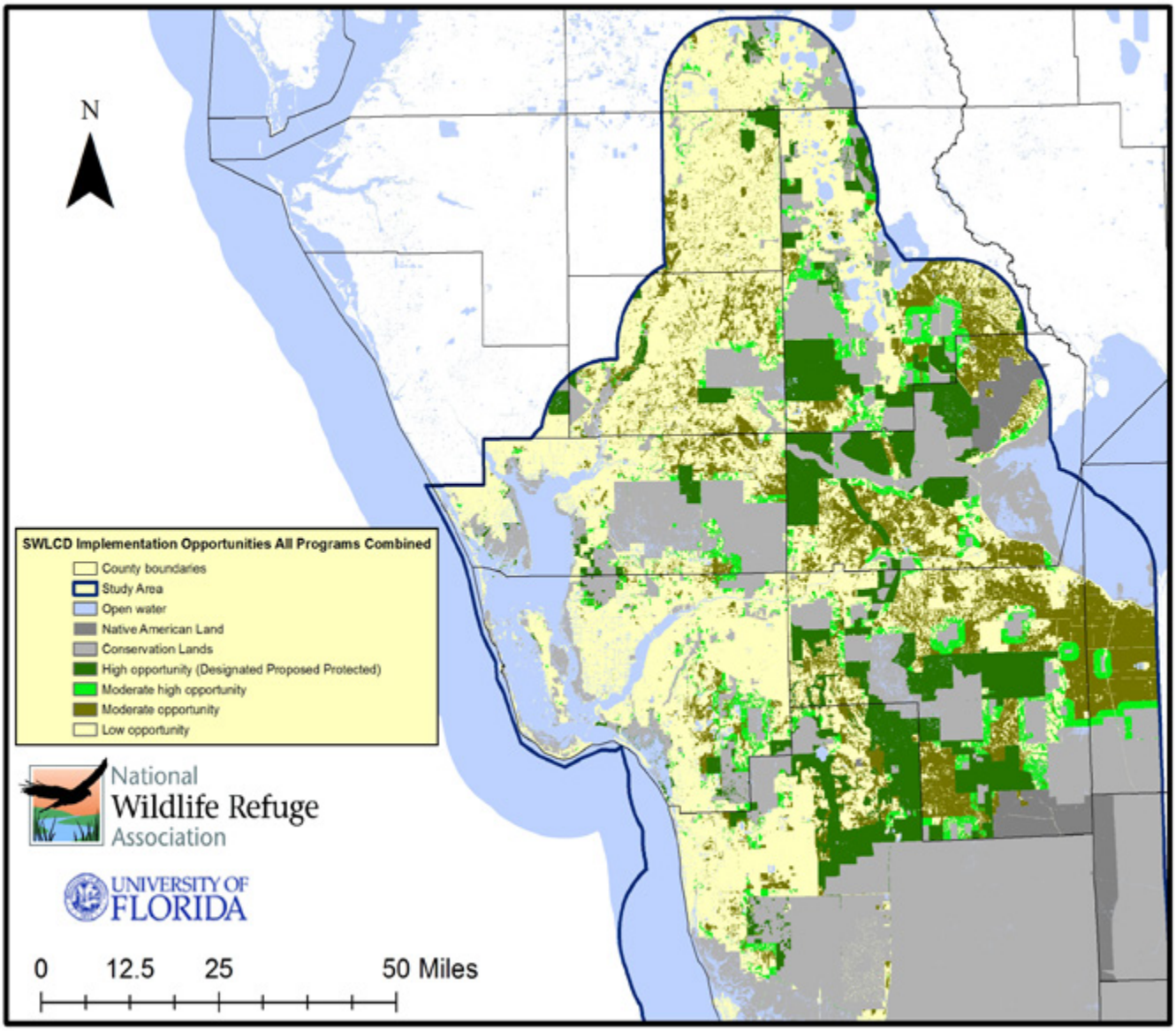


Figure 13. All potential protection opportunities combined.

### *E. Combining All Opportunity Areas*

We then aggregated all of the Opportunity layers into one combined layer depicting potential protection opportunities using four tiers (**Figure 13**):

- Tier 1 (high opportunity): Designated Proposed Protected Areas
- Tier 2 (moderate high opportunity): All NRCS program opportunity areas within 1 mile of existing conservation lands
- Tier 3 (moderate opportunity): All other NRCS program opportunity areas or Forest Legacy opportunity areas
- Tier 4 (low opportunity): All other unprotected areas

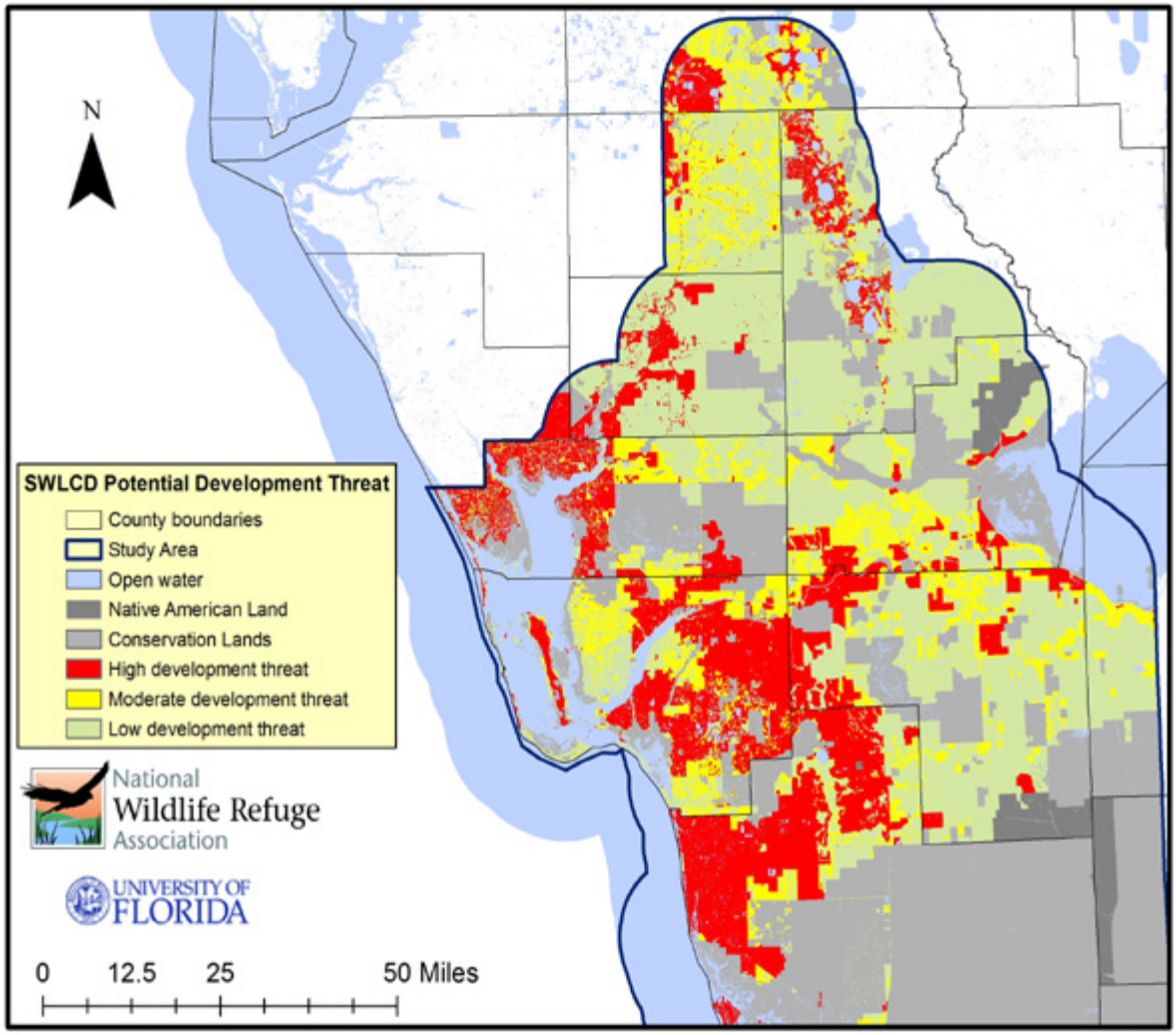


Figure 14. Potential Threat from future development.

## Identifying Threats from Potential Future Development and Sea Level Rise

We identified potential threats based the possibility that current ecological priority areas could be lost to either land development or inundation due to sea level rise. The goal was to provide spatial information that could be used to determine potential threats to the identified Ecological Priority Tiers.

### *A. Potential Future Development*

Potential future development was identified using several GIS layers that depict lands that are more likely to be converted to development in the future. These data sources included Future Land Use maps from counties and municipalities, the RLSA program areas in eastern Collier County, the Florida panther HCP proposed developed areas, approved Sector Plans, GeoAdaptive's Scenario 1 statewide projection, and the new Florida 2070 development projection model. These layers were organized into three tiers of potential development threat as follows (**Figure 14**):

- Tier 1 (highest threat of development, approximate 2017-2030 time frame): All developed land use categories in Future Land Use data; All RLSA proposed developed areas; all Panther HCP proposed developed areas; all approved Sector Plan proposed developed areas
- Tier 2 (moderate threat of development, approximate 2030-2070 time frame): All projected development from the GeoAdaptive and Florida 2070 growth projection models (where they did not overlap with Tier 1 projected development)
- Tier 3: All other areas that are not currently developed

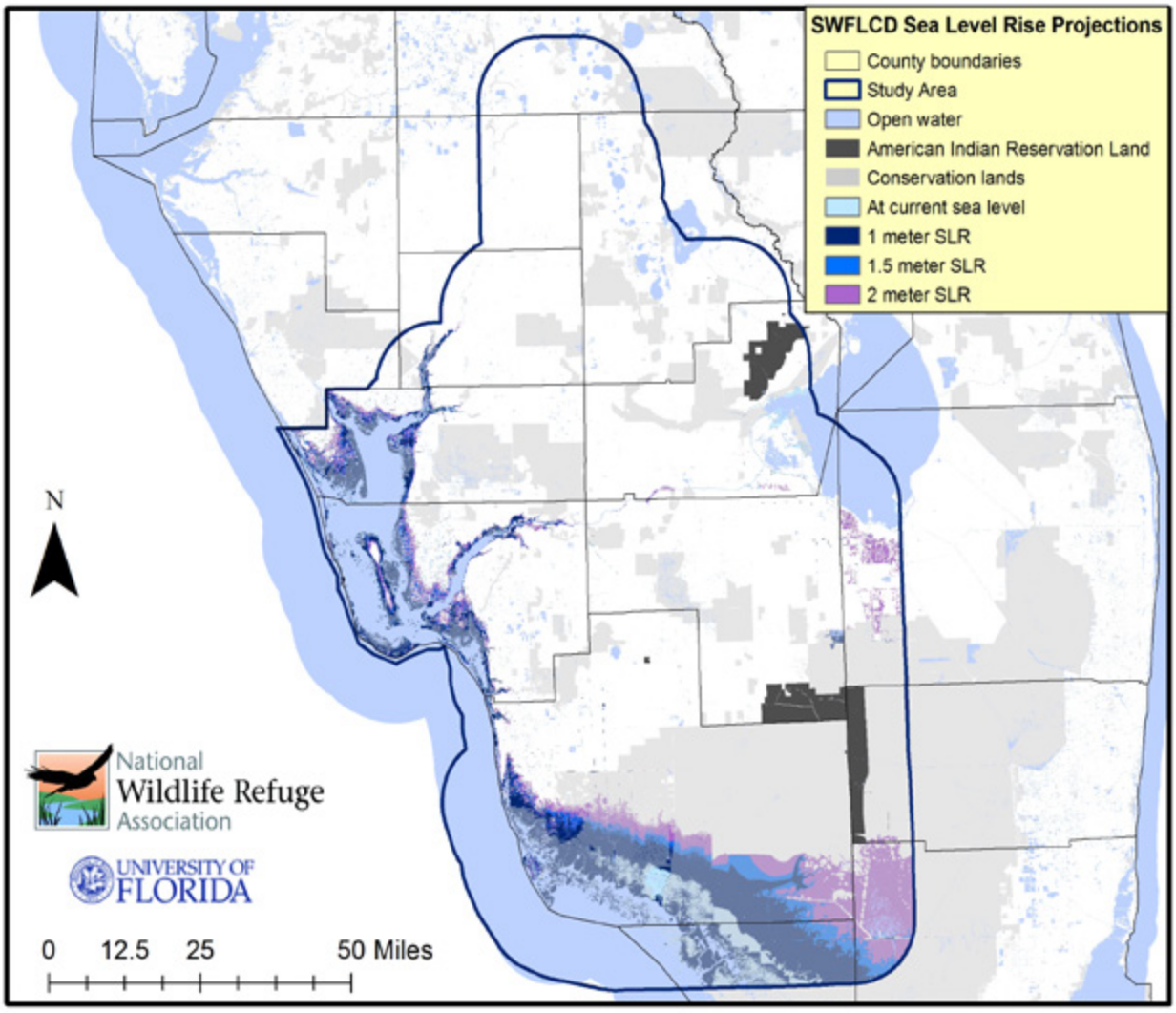


Figure 15. Potential Threat from Sea Level Rise (SLR).

*B. Sea Level Rise*

We used bathtub based sea level rise scenarios created for a statewide sea level rise impact assessment by Noss et al. (2014) to identify areas potentially at risk from sea level rise. Scenarios were created using the best available high resolution LiDAR-based digital elevation model (DEM) data, and adjusted for MHHW tide levels and hydrologic connectivity. Scenarios used included sea level rise projections of 1 meter, 1.5 meters, and 2 meters (**Figure 15**).

## Ecological Priorities, Opportunities, and Threats Analysis

### *A. Comparison of Ecological Priority Tiers to Opportunities*

We combined the Ecological Priority Tiers and the Opportunities layer to identify the best potential protection opportunities in each priority tier, with the most focus on the Tier 1 Ecological Priorities that have the highest protection opportunity (**Figure 16**). In addition we identified the acres of each Ecological Priority Tier in each of the opportunity tiers (**Table 6**).

Table 6. Acres Statistics for Ecological Priority Tiers in the Protection Opportunity Tiers.

| Category | Acres | Percent |
|---|---|---|
| Tier 1 Ecological Priority-High Opportunity | 370,691 | 41.1% |
| Tier 1 Ecological Priority-Moderate High Opportunity | 75,443 | 8.4% |
| Tier 1 Ecological Priority-Moderate Opportunity | 157,655 | 17.5% |
| Tier 1 Ecological Priority-Low Opportunity | 297,392 | 33.0% |
| | 901,181 | |
| Tier 2 Ecological Priority-High Opportunity | 88,597 | 19.4% |
| Tier 2 Ecological Priority-Moderate High Opportunity | 42,252 | 9.3% |
| Tier 2 Ecological Priority-Moderate Opportunity | 84,087 | 18.4% |
| Tier 2 Ecological Priority-Low Opportunity | 240,826 | 52.8% |
| | 455,762 | |
| Tier 3 Ecological Priority-High Opportunity | 69,852 | 9.4% |
| Tier 3 Ecological Priority-Moderate High Opportunity | 45,811 | 6.2% |
| Tier 3 Ecological Priority-Moderate Opportunity | 103,399 | 13.9% |
| Tier 3 Ecological Priority-Low Opportunity | 524,906 | 70.6% |
| | 743,968 | |

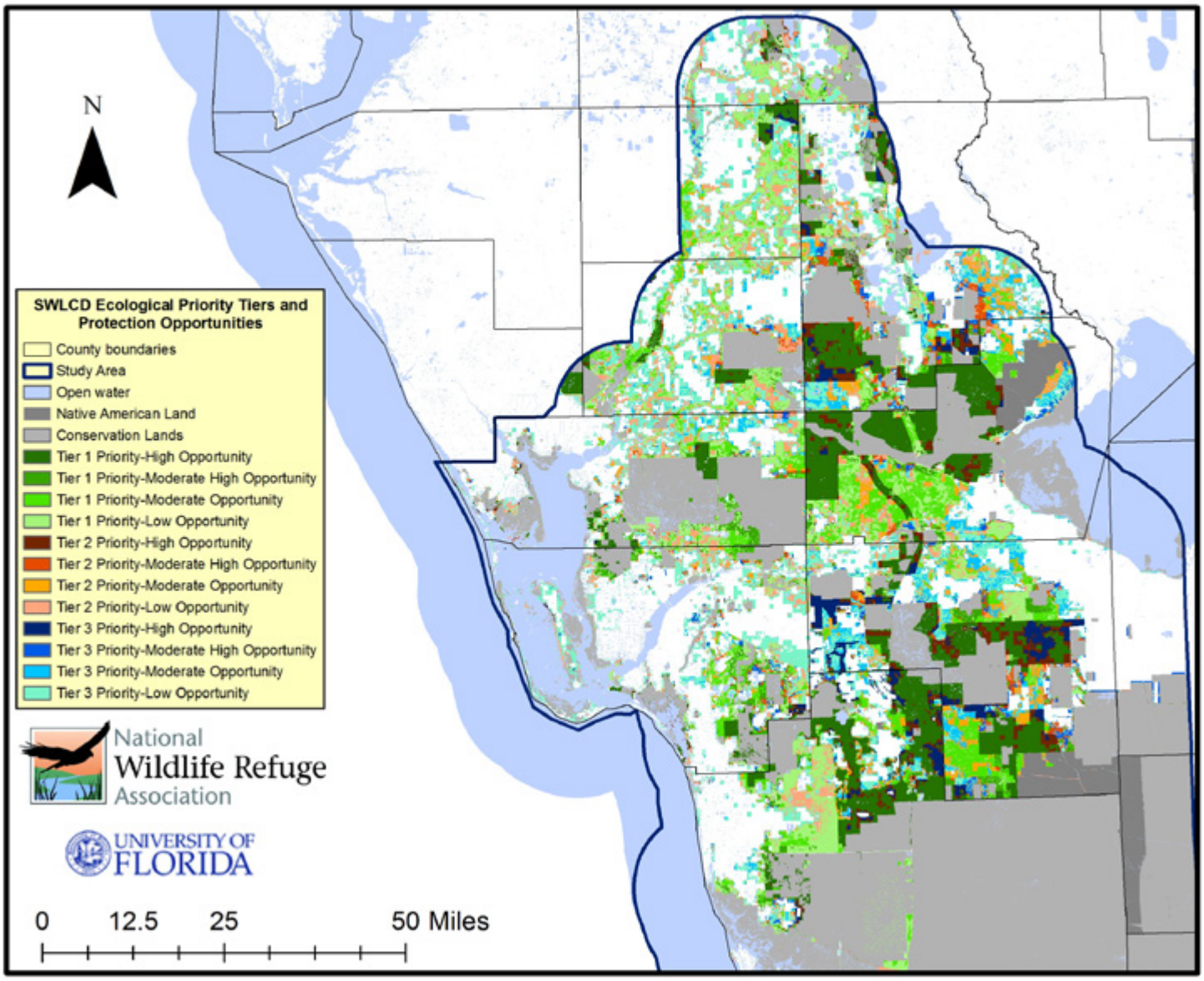


Figure 16. Comparison of Ecological Priority Tiers and Protection Opportunities.

*B. Comparison of Ecological Priority Tiers to Potential Development Threats*

We combined the Ecological Priority Tiers and the Potential Development Threats layer to identify the ecological priorities that are most threatened by potential conversion to future development, with the most focus on the Tier 1 Ecological Priorities that have the highest potential threat due to conversion (**Figure 17**). In addition we identified the acres of each Ecological Priority Tier in the three Threat Tiers (**Table 7**).

Table 7. Acres Statistics for Ecological Priority Tiers potentially threatened by future development.

| Category | Acres | Percent |
|---|---|---|
| Tier 1 Ecological Priority-High Development Threat | 149,854 | 16.6% |
| Tier 1 Ecological Priority-Moderate Development Threat | 170,064 | 18.9% |
| Tier 1 Ecological Priority-Low Development Threat | 581,263 | 64.5% |
| | 901,181 | |
| Tier 2 Ecological Priority-High Development Threat | 97,836 | 21.5% |
| Tier 2 Ecological Priority-Moderate Development Threat | 75,115 | 16.5% |
| Tier 2 Ecological Priority-Low Development Threat | 282,812 | 62.1% |
| | 455,762 | |
| Tier 3 Ecological Priority-High Development Threat | 191,704 | 25.8% |
| Tier 3 Ecological Priority-Moderate Development Threat | 112,313 | 15.1% |
| Tier 3 Ecological Priority-Low Development Threat | 439,951 | 59.1% |
| | 743,968 | |

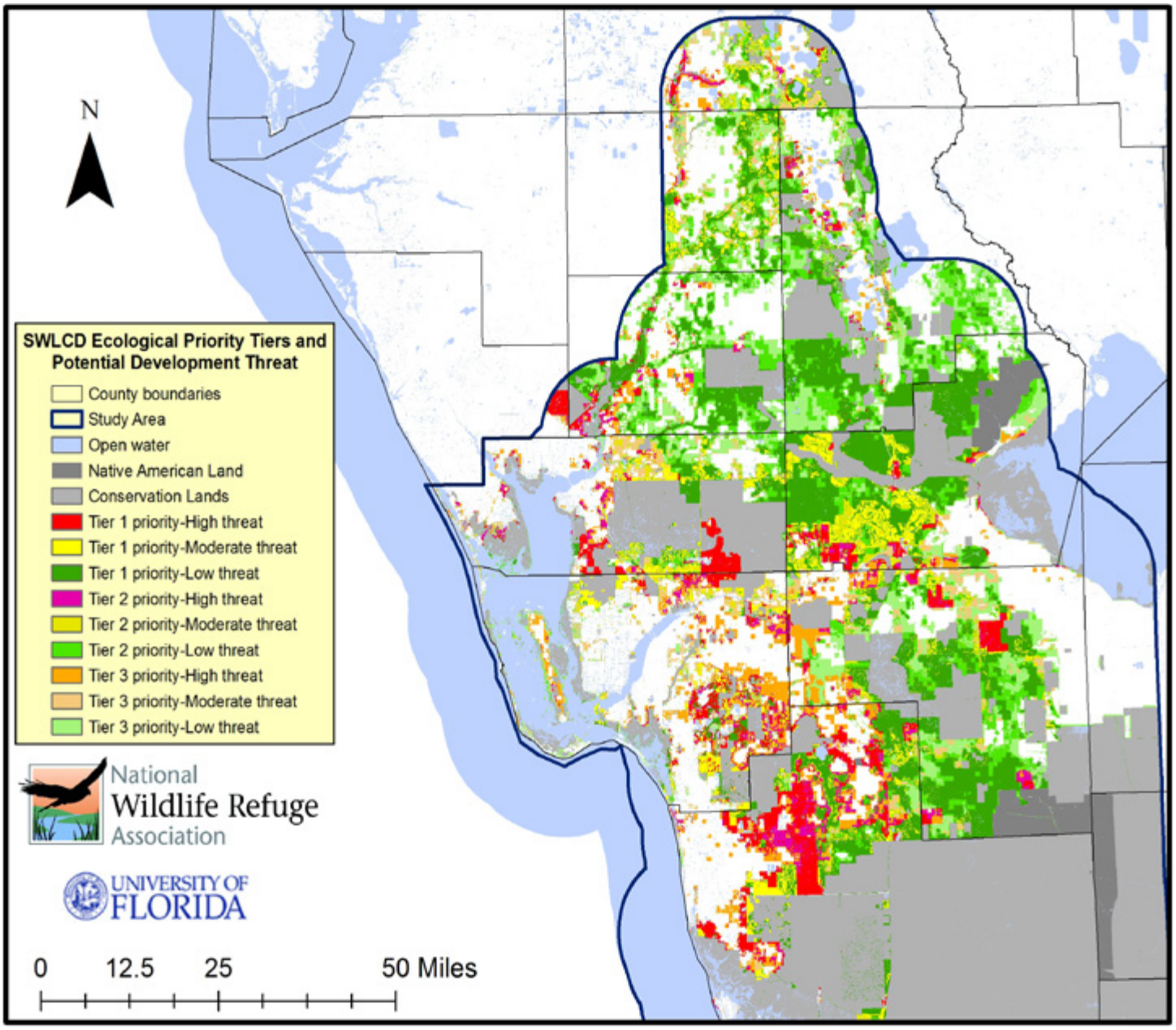


Figure 17. Comparison of Ecological Priority Tiers and Potential Threat from Future Development.

**Table 8** and **Table 9** provide statistics regarding the potential loss of focal species habitat and natural communities to future development. These are based on the selected focal species potential habitat models used in this study and the CLC version 3.1 reclassification used to identify our focal natural communities. Impacts assume that any habitat or natural communities overlain by potential future development are lost as habitat, though it is possible that specific development plan designs could result in the protection of some of this habitat or natural communities if development proceeds as projected.

Table 8. Focal Species Potential Habitat Loss from Future Development. Habitat on conservation lands is NOT included in these statistics.

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| American Crocodile | 1 | Low Development Threat | 7,232.57 | 8.4% |
| American Crocodile | 1 | Moderate Development Threat | 2,357.41 | 2.7% |
| American Crocodile | 1 | High Development Threat | 1,724.35 | 2.0% |
| American Oystercatcher | 1 | Low Development Threat | 8,782.48 | 30.7% |
| American Oystercatcher | 1 | Moderate Development Threat | 486.50 | 1.7% |
| American Oystercatcher | 1 | High Development Threat | 1,580.26 | 5.5% |
| Bald Eagle | 1 | Low Development Threat | 253,358.26 | 46.5% |
| Bald Eagle | 1 | Moderate Development Threat | 41,008.63 | 7.5% |
| Bald Eagle | 1 | High Development Threat | 76,442.72 | 14.0% |
| Bald Eagle | 2 | Low Development Threat | 421,382.03 | 30.8% |
| Bald Eagle | 2 | Moderate Development Threat | 57,391.45 | 4.2% |
| Bald Eagle | 2 | High Development Threat | 68,618.04 | 5.0% |
| Big Cypress Fox Squirrel | 1 | Low Development Threat | 83,297.56 | 12.0% |
| Big Cypress Fox Squirrel | 1 | Moderate Development Threat | 49,426.21 | 7.1% |
| Big Cypress Fox Squirrel | 1 | High Development Threat | 117,755.07 | 16.9% |
| Black-whiskered Vireo | 1 | Low Development Threat | 9,603.44 | 5.7% |
| Black-whiskered Vireo | 1 | Moderate Development Threat | 6,327.89 | 3.8% |

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| Black-whiskered Vireo | 1 | High Development Threat | 3,185.75 | 1.9% |
| Bonneted Bat | 1 | Low Development Threat | 159,502.08 | 18.4% |
| Bonneted Bat | 1 | Moderate Development Threat | 44,875.78 | 5.2% |
| Bonneted Bat | 1 | High Development Threat | 56,652.92 | 6.5% |
| Burrowing Owl | 1 | Low Development Threat | 40,524.08 | 25.5% |
| Burrowing Owl | 1 | Moderate Development Threat | 25,754.20 | 16.2% |
| Burrowing Owl | 1 | High Development Threat | 55,688.89 | 35.0% |
| Caracara | 1 | Low Development Threat | 721,760.52 | 57.1% |
| Caracara | 1 | Moderate Development Threat | 103,298.46 | 8.2% |
| Caracara | 1 | High Development Threat | 115,119.99 | 9.1% |
| Caracara | 2 | Low Development Threat | 181,327.30 | 39.6% |
| Caracara | 2 | Moderate Development Threat | 55,576.58 | 12.1% |
| Caracara | 2 | High Development Threat | 45,190.02 | 9.9% |
| Diamondback Terrapin | 1 | Low Development Threat | 48,099.53 | 22.9% |
| Diamondback Terrapin | 1 | Moderate Development Threat | 4,089.98 | 1.9% |
| Diamondback Terrapin | 1 | High Development Threat | 5,373.10 | 2.6% |
| Eastern Diamondback Rattlesnake | 1 | Low Development Threat | 201,707.17 | 29.7% |
| Eastern Diamondback Rattlesnake | 1 | Moderate Development Threat | 88,560.85 | 13.0% |
| Eastern Diamondback Rattlesnake | 1 | High Development Threat | 53,185.15 | 7.8% |
| Eastern Diamondback Rattlesnake | 2 | Low Development Threat | 91,041.32 | 27.2% |
| Eastern Diamondback Rattlesnake | 2 | Moderate Development Threat | 56,227.61 | 16.8% |
| Eastern Diamondback Rattlesnake | 2 | High Development Threat | 101,523.73 | 30.3% |
| Eastern Indigo Snake | 1 | Low Development Threat | 194,782.74 | 33.6% |
| Eastern Indigo Snake | 1 | Moderate Development Threat | 97,224.94 | 16.8% |
| Eastern Indigo Snake | 1 | High Development Threat | 81,509.41 | 14.1% |
| Eastern Indigo Snake | 2 | Low Development Threat | 129,869.10 | 27.8% |
| Eastern Indigo Snake | 2 | Moderate Development Threat | 85,074.84 | 18.2% |

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| Eastern Indigo Snake | 2 | High Development Threat | 140,881.95 | 30.1% |
| Everglades Mink | 1 | Low Development Threat | 76,453.60 | 5.3% |
| Everglades Mink | 1 | Moderate Development Threat | 30,343.16 | 2.1% |
| Everglades Mink | 1 | High Development Threat | 27,443.58 | 1.9% |
| Everglades Snail Kite | 1 | Low Development Threat | 177,305.87 | 19.9% |
| Everglades Snail Kite | 1 | Moderate Development Threat | 25,444.28 | 2.9% |
| Everglades Snail Kite | 1 | High Development Threat | 22,487.91 | 2.5% |
| FL Grasshopper Sparrow | 1 | Low Development Threat | 15,833.90 | 30.6% |
| FL Grasshopper Sparrow | 1 | Moderate Development Threat | 1,413.98 | 2.7% |
| FL Grasshopper Sparrow | 1 | High Development Threat | 496.31 | 1.0% |
| Florida Black Bear | 1 | Low Development Threat | 344,060.25 | 21.6% |
| Florida Black Bear | 1 | Moderate Development Threat | 100,553.13 | 6.3% |
| Florida Black Bear | 1 | High Development Threat | 123,781.76 | 7.8% |
| Florida Panther | 1 | Low Development Threat | 503,767.13 | 23.0% |
| Florida Panther | 1 | Moderate Development Threat | 185,060.54 | 8.4% |
| Florida Panther | 1 | High Development Threat | 179,626.65 | 8.2% |
| Florida Panther | 2 | Low Development Threat | 86,200.85 | 21.6% |
| Florida Panther | 2 | Moderate Development Threat | 41,285.93 | 10.4% |
| Florida Panther | 2 | High Development Threat | 55,539.20 | 13.9% |
| Florida Sandhill Crane | 1 | Low Development Threat | 627,320.40 | 53.2% |
| Florida Sandhill Crane | 1 | Moderate Development Threat | 117,247.22 | 9.9% |
| Florida Sandhill Crane | 1 | High Development Threat | 103,662.75 | 8.8% |
| Florida Scrub Lizard | 1 | Low Development Threat | 77.17 | 2.4% |
| Florida Scrub Lizard | 1 | Moderate Development Threat | 438.54 | 13.5% |
| Florida Scrub Lizard | 1 | High Development Threat | 1,552.34 | 47.8% |
| Florida Scrub Lizard | 2 | Low Development Threat | 15.52 | 1.4% |
| Florida Scrub Lizard | 2 | Moderate Development Threat | 151.65 | 14.1% |
| Florida Scrub Lizard | 2 | High Development Threat | 398.16 | 37.1% |
| Florida Scrub-Jay | 1 | Low Development Threat | 10,189.23 | 23.0% |
| Florida Scrub-Jay | 1 | Moderate Development Threat | 5,518.20 | 12.5% |

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| Florida Scrub-Jay | 1 | High Development Threat | 8,239.22 | 18.6% |
| Florida Scrub-Jay | 2 | Low Development Threat | 2,925.62 | 16.9% |
| Florida Scrub-Jay | 2 | Moderate Development Threat | 1,720.27 | 9.9% |
| Florida Scrub-Jay | 2 | High Development Threat | 3,025.11 | 17.5% |
| Gopher Tortoise | 1 | Low Development Threat | 98,530.70 | 26.1% |
| Gopher Tortoise | 1 | Moderate Development Threat | 54,385.66 | 14.4% |
| Gopher Tortoise | 1 | High Development Threat | 65,130.65 | 17.3% |
| Gopher Tortoise | 2 | Low Development Threat | 38,758.57 | 29.8% |
| Gopher Tortoise | 2 | Moderate Development Threat | 39,689.26 | 30.5% |
| Gopher Tortoise | 2 | High Development Threat | 34,624.33 | 26.6% |
| Least Tern | 1 | Low Development Threat | 293.73 | 32.0% |
| Least Tern | 1 | Moderate Development Threat | 3.95 | 0.4% |
| Least Tern | 1 | High Development Threat | 310.31 | 33.8% |
| Limpkin | 1 | Low Development Threat | 232,896.39 | 14.4% |
| Limpkin | 1 | Moderate Development Threat | 34,466.58 | 2.1% |
| Limpkin | 1 | High Development Threat | 44,220.43 | 2.7% |
| Mangrove Cuckoo | 1 | Low Development Threat | 9,221.74 | 4.9% |
| Mangrove Cuckoo | 1 | Moderate Development Threat | 6,308.39 | 3.4% |
| Mangrove Cuckoo | 1 | High Development Threat | 2,590.70 | 1.4% |
| Mottled Duck | 1 | Low Development Threat | 639,369.78 | 41.6% |
| Mottled Duck | 1 | Moderate Development Threat | 138,380.95 | 9.0% |
| Mottled Duck | 1 | High Development Threat | 131,843.59 | 8.6% |
| Piping Plover | 1 | Low Development Threat | 935.42 | 48.5% |
| Piping Plover | 1 | Moderate Development Threat | 34.62 | 1.8% |
| Piping Plover | 1 | High Development Threat | 576.17 | 29.9% |
| Red-cockaded Woodpecker | 1 | Low Development Threat | 112,966.94 | 21.0% |
| Red-cockaded Woodpecker | 1 | Moderate Development Threat | 84,087.68 | 15.7% |
| Red-cockaded Woodpecker | 1 | High Development Threat | 63,525.38 | 11.8% |
| Red-cockaded Woodpecker | 2 | Low Development Threat | 1,130.58 | 17.3% |
| Red-cockaded Woodpecker | 2 | Moderate Development Threat | 420.77 | 6.4% |

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| Red-cockaded Woodpecker | 2 | High Development Threat | 1,973.21 | 30.2% |
| Sherman's Fox Squirrel | 1 | Low Development Threat | 153,606.52 | 30.3% |
| Sherman's Fox Squirrel | 1 | Moderate Development Threat | 65,908.83 | 13.0% |
| Sherman's Fox Squirrel | 1 | High Development Threat | 51,604.89 | 10.2% |
| Short-tailed Hawk | 1 | Low Development Threat | 359,013.91 | 21.5% |
| Short-tailed Hawk | 1 | Moderate Development Threat | 51,577.39 | 3.1% |
| Short-tailed Hawk | 1 | High Development Threat | 35,515.39 | 2.1% |
| Snowy Plover | 1 | Low Development Threat | 557.17 | 32.6% |
| Snowy Plover | 1 | Moderate Development Threat | 13.86 | 0.8% |
| Snowy Plover | 1 | High Development Threat | 483.93 | 28.3% |
| Southeastern American Kestrel | 1 | Low Development Threat | 313,385.73 | 50.0% |
| Southeastern American Kestrel | 1 | Moderate Development Threat | 94,604.77 | 15.1% |
| Southeastern American Kestrel | 1 | High Development Threat | 65,988.20 | 10.5% |
| Southern Chorus Frog | 1 | Low Development Threat | 55,408.63 | 21.2% |
| Southern Chorus Frog | 1 | Moderate Development Threat | 24,808.01 | 9.5% |
| Southern Chorus Frog | 1 | High Development Threat | 27,419.19 | 10.5% |
| Southern Chorus Frog | 2 | Low Development Threat | 364,928.30 | 23.5% |
| Southern Chorus Frog | 2 | Moderate Development Threat | 117,163.03 | 7.5% |
| Southern Chorus Frog | 2 | High Development Threat | 204,453.91 | 13.2% |
| Swallow-tailed Kite | 1 | Low Development Threat | 542,404.02 | 22.2% |
| Swallow-tailed Kite | 1 | Moderate Development Threat | 201,851.08 | 8.3% |
| Swallow-tailed Kite | 1 | High Development Threat | 221,600.45 | 9.1% |
| Swallow-tailed Kite | 2 | Low Development Threat | 109,486.94 | 38.3% |
| Swallow-tailed Kite | 2 | Moderate Development Threat | 33,016.51 | 11.6% |
| Swallow-tailed Kite | 2 | High Development Threat | 71,964.61 | 25.2% |
| Wading Bird Guild | 1 | Low Development Threat | 227,024.93 | 12.7% |
| Wading Bird Guild | 1 | Moderate Development Threat | 34,433.17 | 1.9% |
| Wading Bird Guild | 1 | High Development Threat | 39,439.47 | 2.2% |
| Wood Stork | 1 | Low Development Threat | 208,040.24 | 18.7% |
| Wood Stork | 1 | Moderate Development Threat | 52,656.59 | 4.7% |

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| Wood Stork | 1 | High Development Threat | 69,909.02 | 6.3% |
| Wood Stork | 2 | Low Development Threat | 147,888.19 | 22.8% |
| Wood Stork | 2 | Moderate Development Threat | 17,550.46 | 2.7% |
| Wood Stork | 2 | High Development Threat | 19,224.62 | 3.0% |

Table 9. Potential Natural Community Loss from Future Development. Natural Communities on conservation lands are NOT included in these statistics.

| COMMUNITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|
| Bay Wetlands Category | Low Development Threat | 3,332.43 | 20.9% |
| Bay Wetlands Category | Moderate Development Threat | 196.18 | 1.2% |
| Bay Wetlands Category | High Development Threat | 287.65 | 1.8% |
| Coastal Grass and Shrubs Category | Low Development Threat | 148.51 | 8.8% |
| Coastal Grass and Shrubs Category | Moderate Development Threat | 17.57 | 1.0% |
| Coastal Grass and Shrubs Category | High Development Threat | 294.43 | 17.5% |
| Coastal Scrub | Low Development Threat | 19.40 | 7.1% |
| Coastal Scrub | Moderate Development Threat | 6.55 | 2.4% |
| Coastal Scrub | High Development Threat | 11.89 | 4.4% |
| Coastal Upland Hammock Category | Low Development Threat | 144.04 | 6.8% |
| Coastal Upland Hammock Category | Moderate Development Threat | 18.29 | 0.9% |
| Coastal Upland Hammock Category | High Development Threat | 78.04 | 3.7% |
| Cypess, Pine, Cabbage Palm | Low Development Threat | 15,725.86 | 36.2% |
| Cypess, Pine, Cabbage Palm | Moderate Development Threat | 3,465.01 | 8.0% |
| Cypess, Pine, Cabbage Palm | High Development Threat | 3,264.23 | 7.5% |
| Dry Prairie Category | Low Development Threat | 20,502.08 | 29.6% |
| Dry Prairie Category | Moderate Development Threat | 2,433.05 | 3.5% |
| Dry Prairie Category | High Development Threat | 2,307.57 | 3.3% |
| Freshwater Hardwood Wetlands Category | Low Development Threat | 64,662.81 | 35.6% |
| Freshwater Hardwood Wetlands Category | Moderate Development Threat | 19,067.04 | 10.5% |
| Freshwater Hardwood Wetlands Category | High Development Threat | 29,278.38 | 16.1% |

| COMMUNITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|
| Freshwater Marshes Category | Low Development Threat | 131,658.11 | 47.0% |
| Freshwater Marshes Category | Moderate Development Threat | 18,904.84 | 6.8% |
| Freshwater Marshes Category | High Development Threat | 17,253.22 | 6.2% |
| Hydric Flatwoods Category | Low Development Threat | 9,767.96 | 7.3% |
| Hydric Flatwoods Category | Moderate Development Threat | 13,446.49 | 10.0% |
| Hydric Flatwoods Category | High Development Threat | 20,997.77 | 15.6% |
| Inland Hydric Hammock Category | Low Development Threat | 1,407.73 | 24.1% |
| Inland Hydric Hammock Category | Moderate Development Threat | 51.35 | 0.9% |
| Inland Hydric Hammock Category | High Development Threat | 95.70 | 1.6% |
| Mangrove Swamp | Low Development Threat | 9,576.88 | 4.9% |
| Mangrove Swamp | Moderate Development Threat | 7,398.42 | 3.8% |
| Mangrove Swamp | High Development Threat | 5,152.04 | 2.6% |
| Mesic Flatwoods Category | Low Development Threat | 65,316.55 | 20.1% |
| Mesic Flatwoods Category | Moderate Development Threat | 37,986.49 | 11.7% |
| Mesic Flatwoods Category | High Development Threat | 48,410.61 | 14.9% |
| Salt Marsh | Low Development Threat | 1,920.60 | 4.3% |
| Salt Marsh | Moderate Development Threat | 3,757.73 | 8.3% |
| Salt Marsh | High Development Threat | 2,136.10 | 4.7% |
| Sandhill Category | Low Development Threat | 108.90 | 2.7% |
| Sandhill Category | Moderate Development Threat | 307.10 | 7.5% |
| Sandhill Category | High Development Threat | 149.25 | 3.6% |
| Scrub Category | Low Development Threat | 5,644.10 | 24.1% |
| Scrub Category | Moderate Development Threat | 3,994.80 | 17.1% |
| Scrub Category | High Development Threat | 4,407.78 | 18.8% |
| Scrubby Flatwoods Category | Low Development Threat | 4,823.34 | 21.5% |
| Scrubby Flatwoods Category | Moderate Development Threat | 1,787.83 | 8.0% |
| Scrubby Flatwoods Category | High Development Threat | 4,242.79 | 18.9% |
| Upland Hammock Category | Low Development Threat | 33,498.54 | 46.3% |
| Upland Hammock Category | Moderate Development Threat | 4,719.36 | 6.5% |

| COMMUNITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|
| Upland Hammock Category | High Development Threat | 5,514.00 | 7.6% |
| Upland Hardwoods Category | Low Development Threat | 780.56 | 59.5% |
| Upland Hardwoods Category | Moderate Development Threat | 305.25 | 23.3% |
| Upland Hardwoods Category | High Development Threat | 147.15 | 11.2% |
| Wet Prairie | Low Development Threat | 32,887.33 | 46.8% |
| Wet Prairie | Moderate Development Threat | 4,692.25 | 6.7% |
| Wet Prairie | High Development Threat | 2,262.69 | 3.2% |

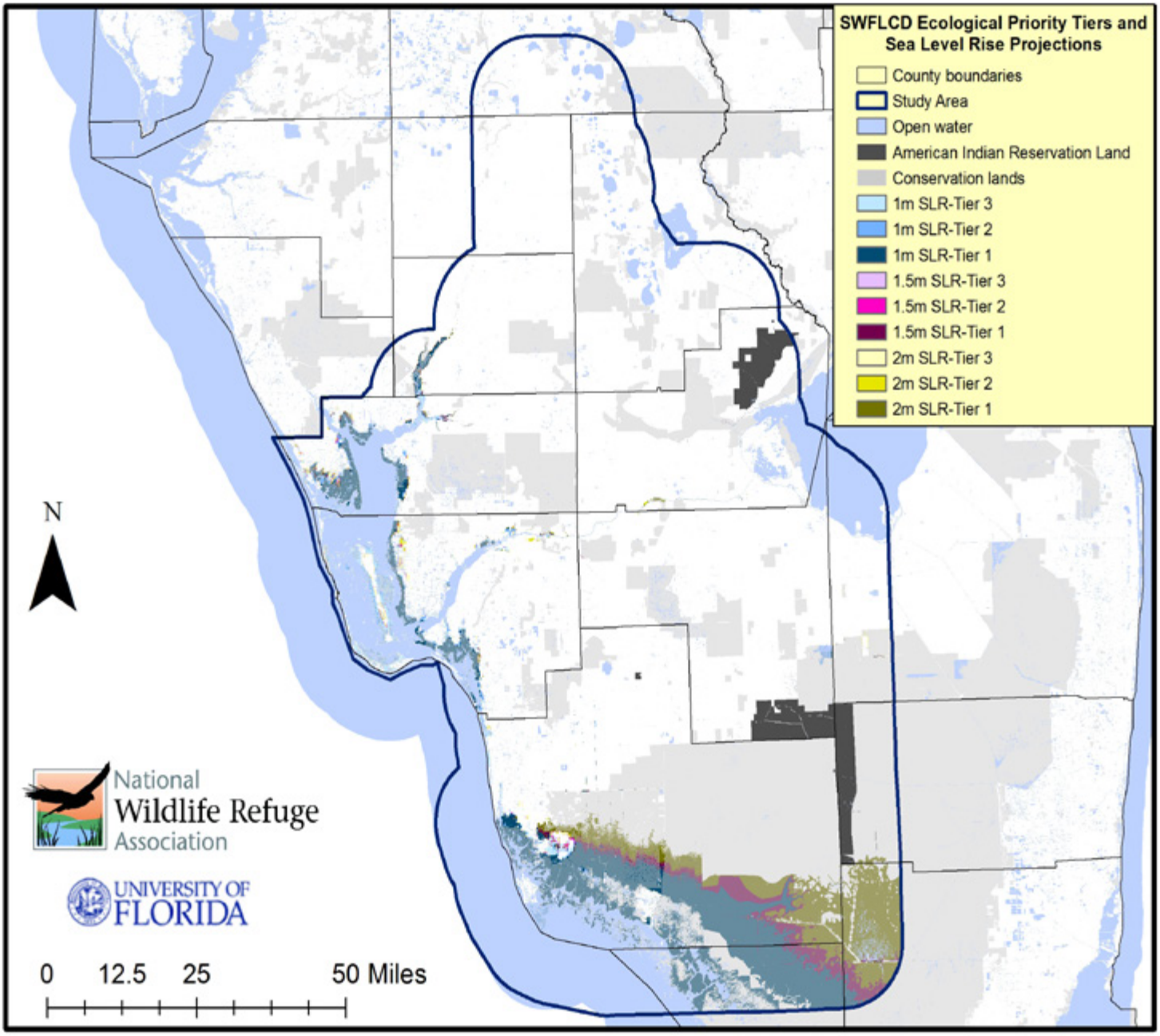


Figure 18. Comparison of Ecological Priority Tiers and Sea Level Rise Projections.

### *D. Comparison of Ecological Priority Tiers to Potential Sea Level Rise*

We combined the Ecological Priority Tiers and the Sea Level Rise Projection layer to identify the ecological priorities that are most threatened by potential future sea level rise, with the most focus on the Tier 1 Ecological Priorities that have the highest potential threat of inundation (**Figure 18**).

*E. Potential Focal Species and Natural Community Impacts from Sea Level Rise*

**Table 10** and **Table 11** provide statistics regarding the potential loss of focal species habitat and natural communities to potential sea level rise. These are based on the selected focal species potential habitat models used in this study and the CLC version 3.1 reclassification used to identify our focal natural communities. Impacts assume that any habitat or natural communities overlain by potential inundation are lost as habitat. However, this method may overestimate the loss of habitat for some estuarine/marine species based on the likelihood that new shorelines and estuarine wetlands would develop along with open water inundation. In addition, this method likely underestimates potential habitat loss for upland dependent species with current habitat near the current coastline, since some upland habitat that is not directly inundated could be lost to the development of coastal wetlands. Nevertheless, these statistics provide a starting point for identifying the species and natural communities potentially most threatened by sea level rise.

Table 10. Focal Species Potential Habitat Loss from Sea Level Rise.

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| American Crocodile | 1 | Near current sea level | 26,151.49 | 30.24% |
| American Crocodile | 1 | 1 meter | 60,029.37 | 69.42% |
| American Crocodile | 1 | 1.5 meters | 132.65 | 0.15% |
| American Crocodile | 1 | 2 meters | 123.53 | 0.14% |
| American Oystercatcher | 1 | Near current sea level | 24,921.31 | 87.23% |
| American Oystercatcher | 1 | 1 meter | 3,357.04 | 11.75% |
| American Oystercatcher | 1 | 1.5 meters | 115.77 | 0.41% |
| American Oystercatcher | 1 | 2 meters | 128.00 | 0.45% |
| Bald Eagle | 1 | Near current sea level | 187,768.74 | 34.45% |
| Bald Eagle | 1 | 1 meter | 63,003.13 | 11.56% |
| Bald Eagle | 1 | 1.5 meters | 5,414.22 | 0.99% |
| Bald Eagle | 1 | 2 meters | 9,117.09 | 1.67% |
| Bald Eagle | 2 | Near current sea level | 341,565.14 | 24.94% |
| Bald Eagle | 2 | 1 meter | 79,920.70 | 5.84% |

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| Bald Eagle | 2 | 1.5 meters | 28,624.92 | 2.09% |
| Bald Eagle | 2 | 2 meters | 50,370.03 | 3.68% |
| Big Cypress Fox Squirrel | 1 | 1 meter | 61,263.36 | 8.80% |
| Big Cypress Fox Squirrel | 1 | 1.5 meters | 17,539.83 | 2.52% |
| Big Cypress Fox Squirrel | 1 | 2 meters | 41,544.48 | 5.97% |
| Black-whiskered Vireo | 1 | Near current sea level | 48,756.02 | 29.05% |
| Black-whiskered Vireo | 1 | 1 meter | 118,253.68 | 70.46% |
| Black-whiskered Vireo | 1 | 1.5 meters | 341.82 | 0.20% |
| Black-whiskered Vireo | 1 | 2 meters | 358.65 | 0.21% |
| Bonneted Bat | 1 | 1 meter | 38,399.94 | 4.42% |
| Bonneted Bat | 1 | 1.5 meters | 12,188.65 | 1.40% |
| Bonneted Bat | 1 | 2 meters | 84,013.45 | 9.67% |
| Burrowing Owl | 1 | 1 meter | 2,368.25 | 1.49% |
| Burrowing Owl | 1 | 1.5 meters | 2,191.08 | 1.38% |
| Burrowing Owl | 1 | 2 meters | 4,307.34 | 2.71% |
| Caracara | 1 | 1 meter | 1,483.54 | 0.12% |
| Caracara | 1 | 1.5 meters | 545.88 | 0.04% |
| Caracara | 1 | 2 meters | 1,898.80 | 0.15% |
| Caracara | 2 | 1 meter | 7,267.19 | 1.59% |
| Caracara | 2 | 1.5 meters | 890.10 | 0.19% |
| Caracara | 2 | 2 meters | 1,466.62 | 0.32% |
| Diamondback Terrapin | 1 | Near current sea level | 125,019.76 | 59.59% |
| Diamondback Terrapin | 1 | 1 meter | 83,845.91 | 39.96% |
| Diamondback Terrapin | 1 | 1.5 meters | 404.14 | 0.19% |
| Diamondback Terrapin | 1 | 2 meters | 391.88 | 0.19% |
| Eastern Diamondback Rattlesnake | 1 | 1 meter | 7,054.92 | 1.04% |
| Eastern Diamondback Rattlesnake | 1 | 1.5 meters | 1,493.40 | 0.22% |
| Eastern Diamondback Rattlesnake | 1 | 2 meters | 3,008.16 | 0.44% |

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| Eastern Diamondback Rattlesnake | 2 | 1 meter | 16,108.65 | 4.81% |
| Eastern Diamondback Rattlesnake | 2 | 1.5 meters | 3,806.95 | 1.14% |
| Eastern Diamondback Rattlesnake | 2 | 2 meters | 10,167.53 | 3.04% |
| Eastern Indigo Snake | 1 | 1 meter | 13,716.28 | 2.37% |
| Eastern Indigo Snake | 1 | 1.5 meters | 1,107.33 | 0.19% |
| Eastern Indigo Snake | 1 | 2 meters | 3,527.89 | 0.61% |
| Eastern Indigo Snake | 2 | 1 meter | 42,197.82 | 9.02% |
| Eastern Indigo Snake | 2 | 1.5 meters | 5,220.34 | 1.12% |
| Eastern Indigo Snake | 2 | 2 meters | 10,492.25 | 2.24% |
| Everglades Mink | 1 | Near current sea level | 85,475.08 | 5.93% |
| Everglades Mink | 1 | 1 meter | 288,918.03 | 20.04% |
| Everglades Mink | 1 | 1.5 meters | 65,994.80 | 4.58% |
| Everglades Mink | 1 | 2 meters | 188,127.12 | 13.05% |
| Everglades Snail Kite | 1 | Near current sea level | 29,944.58 | 3.37% |
| Everglades Snail Kite | 1 | 1 meter | 65,598.42 | 7.38% |
| Everglades Snail Kite | 1 | 1.5 meters | 26,461.71 | 2.98% |
| Everglades Snail Kite | 1 | 2 meters | 99,328.67 | 11.17% |
| FL Grasshopper Sparrow | 1 | 1 meter | 0 | 0% |
| FL Grasshopper Sparrow | 1 | 1.5 meters | 0 | 0% |
| FL Grasshopper Sparrow | 1 | 2 meters | 0 | 0% |
| Florida Black Bear | 1 | 1 meter | 126,857.80 | 7.95% |
| Florida Black Bear | 1 | 1.5 meters | 35,353.41 | 2.22% |
| Florida Black Bear | 1 | 2 meters | 60,956.92 | 3.82% |
| Florida Panther | 1 | 1 meter | 176,296.79 | 8.03% |
| Florida Panther | 1 | 1.5 meters | 51,127.06 | 2.33% |
| Florida Panther | 1 | 2 meters | 109,275.49 | 4.98% |
| Florida Panther | 2 | Near current sea level | 39,456.14 | 9.90% |
| Florida Panther | 2 | 1 meter | 143,638.63 | 36.05% |
| Florida Panther | 2 | 1.5 meters | 3,370.19 | 0.85% |

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| Florida Panther | 2 | 2 meters | 8,863.51 | 2.22% |
| Florida Sandhill Crane | 1 | 1 meter | 2,595.64 | 0.22% |
| Florida Sandhill Crane | 1 | 1.5 meters | 251.40 | 0.02% |
| Florida Sandhill Crane | 1 | 2 meters | 1,547.96 | 0.13% |
| Florida Scrub Lizard | 1 | 1 meter | 478.57 | 14.74% |
| Florida Scrub Lizard | 1 | 1.5 meters | 100.37 | 3.09% |
| Florida Scrub Lizard | 1 | 2 meters | 229.93 | 7.08% |
| Florida Scrub Lizard | 2 | 1 meter | 149.42 | 13.92% |
| Florida Scrub Lizard | 2 | 1.5 meters | 32.99 | 3.07% |
| Florida Scrub Lizard | 2 | 2 meters | 71.14 | 6.63% |
| Florida Scrub-Jay | 1 | 1 meter | 469.03 | 1.06% |
| Florida Scrub-Jay | 1 | 1.5 meters | 190.96 | 0.43% |
| Florida Scrub-Jay | 1 | 2 meters | 562.19 | 1.27% |
| Florida Scrub-Jay | 2 | 1 meter | 425.37 | 2.46% |
| Florida Scrub-Jay | 2 | 1.5 meters | 130.47 | 0.75% |
| Florida Scrub-Jay | 2 | 2 meters | 352.05 | 2.03% |
| Gopher Tortoise | 1 | 1 meter | 8,284.20 | 2.20% |
| Gopher Tortoise | 1 | 1.5 meters | 1,937.45 | 0.51% |
| Gopher Tortoise | 1 | 2 meters | 3,662.99 | 0.97% |
| Gopher Tortoise | 2 | 1 meter | 2,968.18 | 2.28% |
| Gopher Tortoise | 2 | 1.5 meters | 1,526.00 | 1.17% |
| Gopher Tortoise | 2 | 2 meters | 4,048.20 | 3.11% |
| Least Tern | 1 | Near current sea level | 215.18 | 23.44% |
| Least Tern | 1 | 1 meter | 581.44 | 63.34% |
| Least Tern | 1 | 1.5 meters | 69.81 | 7.60% |
| Least Tern | 1 | 2 meters | 47.89 | 5.22% |
| Limpkin | 1 | Near current sea level | 40,386.25 | 2.50% |
| Limpkin | 1 | 1 meter | 189,081.58 | 11.68% |
| Limpkin | 1 | 1.5 meters | 63,209.24 | 3.91% |

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| Limpkin | 1 | 2 meters | 174,515.39 | 10.78% |
| Mangrove Cuckoo | 1 | Near current sea level | 49,671.74 | 26.52% |
| Mangrove Cuckoo | 1 | 1 meter | 136,638.09 | 72.95% |
| Mangrove Cuckoo | 1 | 1.5 meters | 414.40 | 0.22% |
| Mangrove Cuckoo | 1 | 2 meters | 415.06 | 0.22% |
| Mottled Duck | 1 | Near current sea level | 15,097.40 | 0.98% |
| Mottled Duck | 1 | 1 meter | 31,024.26 | 2.02% |
| Mottled Duck | 1 | 1.5 meters | 4,642.04 | 0.30% |
| Mottled Duck | 1 | 2 meters | 68,944.84 | 4.49% |
| Piping Plover | 1 | Near current sea level | 1,234.98 | 64.02% |
| Piping Plover | 1 | 1 meter | 590.98 | 30.63% |
| Piping Plover | 1 | 1.5 meters | 52.21 | 2.71% |
| Piping Plover | 1 | 2 meters | 43.44 | 2.25% |
| Red-cockaded Woodpecker | 1 | 1 meter | 15,956.29 | 2.97% |
| Red-cockaded Woodpecker | 1 | 1.5 meters | 3,690.91 | 0.69% |
| Red-cockaded Woodpecker | 1 | 2 meters | 6,594.44 | 1.23% |
| Red-cockaded Woodpecker | 2 | 1 meter | 732.07 | 11.20% |
| Red-cockaded Woodpecker | 2 | 1.5 meters | 441.55 | 6.75% |
| Red-cockaded Woodpecker | 2 | 2 meters | 1,069.22 | 16.35% |
| Sherman’s Fox Squirrel | 1 | 1 meter | 8,324.03 | 1.64% |
| Sherman’s Fox Squirrel | 1 | 1.5 meters | 1,914.87 | 0.38% |
| Sherman’s Fox Squirrel | 1 | 2 meters | 3,392.92 | 0.67% |
| Short-tailed Hawk | 1 | Near current sea level | 39,351.79 | 2.36% |
| Short-tailed Hawk | 1 | 1 meter | 196,022.76 | 11.76% |
| Short-tailed Hawk | 1 | 1.5 meters | 61,683.91 | 3.70% |
| Short-tailed Hawk | 1 | 2 meters | 172,875.45 | 10.37% |
| Snowy Plover | 1 | Near current sea level | 335.91 | 19.66% |
| Snowy Plover | 1 | 1 meter | 1,056.74 | 61.84% |
| Snowy Plover | 1 | 1.5 meters | 144.58 | 8.46% |

| SPECIES NAME | HABITAT PRIORITY | POTENTIAL THREAT | ACRES | PERCENT |
|---|---|---|---|---|
| Snowy Plover | 1 | 2 meters | 139.74 | 8.18% |
| Southeastern American Kestrel | 1 | 1 meter | 500.07 | 0.08% |
| Southeastern American Kestrel | 1 | 1.5 meters | 213.99 | 0.03% |
| Southeastern American Kestrel | 1 | 2 meters | 958.00 | 0.15% |
| Southern Chorus Frog | 1 | 1 meter | 4,627.21 | 1.77% |
| Southern Chorus Frog | 1 | 1.5 meters | 709.91 | 0.27% |
| Southern Chorus Frog | 1 | 2 meters | 1,140.14 | 0.44% |
| Southern Chorus Frog | 2 | 1 meter | 144,847.81 | 9.33% |
| Southern Chorus Frog | 2 | 1.5 meters | 38,372.02 | 2.47% |
| Southern Chorus Frog | 2 | 2 meters | 80,636.00 | 5.19% |
| Swallow-tailed Kite | 1 | 1 meter | 210,489.38 | 8.61% |
| Swallow-tailed Kite | 1 | 1.5 meters | 53,546.89 | 2.19% |
| Swallow-tailed Kite | 1 | 2 meters | 111,833.92 | 4.57% |
| Swallow-tailed Kite | 2 | 1 meter | 49,476.97 | 17.33% |
| Swallow-tailed Kite | 2 | 1.5 meters | 3,023.55 | 1.06% |
| Swallow-tailed Kite | 2 | 2 meters | 6,962.78 | 2.44% |
| Wading Bird Guild | 1 | Near current sea level | 193,615.14 | 10.79% |
| Wading Bird Guild | 1 | 1 meter | 356,579.43 | 19.87% |
| Wading Bird Guild | 1 | 1.5 meters | 64,131.06 | 3.57% |
| Wading Bird Guild | 1 | 2 meters | 181,991.57 | 10.14% |
| Wood Stork | 1 | Near current sea level | 30,336.61 | 2.73% |
| Wood Stork | 1 | 1 meter | 107,964.30 | 9.70% |
| Wood Stork | 1 | 1.5 meters | 41,307.08 | 3.71% |
| Wood Stork | 1 | 2 meters | 153,541.66 | 13.80% |
| Wood Stork | 2 | Near current sea level | 25,492.83 | 3.93% |
| Wood Stork | 2 | 1 meter | 56,639.78 | 8.74% |
| Wood Stork | 2 | 1.5 meters | 16,192.54 | 2.50% |
| Wood Stork | 2 | 2 meters | 20,963.55 | 3.24% |

Table 11. Potential Natural Community Loss from Sea Level Rise.

| COMMUNITY | SWLCDSLR | ACRES | PERCENT |
|---|---|---|---|
| Bay Wetlands Category | 1 meter | 98.05 | 0.6% |
| Bay Wetlands Category | 1.5 meters | 385.16 | 2.4% |
| Bay Wetlands Category | 2 meters | 3,597.11 | 22.5% |
| Coastal Grass and Shrubs Category | 1 meter | 882.12 | 52.3% |
| Coastal Grass and Shrubs Category | 1.5 meters | 234.33 | 13.9% |
| Coastal Grass and Shrubs Category | 2 meters | 381.01 | 22.6% |
| Coastal Scrub | 1 meter | 213.57 | 78.4% |
| Coastal Scrub | 1.5 meters | 19.92 | 7.3% |
| Coastal Scrub | 2 meters | 26.93 | 9.9% |
| Coastal Upland Hammock Category | 1 meter | 1,416.60 | 67.1% |
| Coastal Upland Hammock Category | 1.5 meters | 257.24 | 12.2% |
| Coastal Upland Hammock Category | 2 meters | 272.21 | 12.9% |
| Cypess, Pine, Cabbage Palm | 1 meter | 2,379.62 | 5.5% |
| Cypess, Pine, Cabbage Palm | 1.5 meters | 341.15 | 0.8% |
| Cypess, Pine, Cabbage Palm | 2 meters | 953.11 | 2.2% |
| Dry Prairie Category | 1 meter | 188.96 | 0.3% |
| Dry Prairie Category | 1.5 meters | 95.78 | 0.1% |
| Dry Prairie Category | 2 meters | 132.82 | 0.2% |
| Freshwater Hardwood Wetlands Category | 1 meter | 9,976.35 | 5.5% |
| Freshwater Hardwood Wetlands Category | 1.5 meters | 3,136.45 | 1.7% |
| Freshwater Hardwood Wetlands Category | 2 meters | 7,658.08 | 4.2% |
| Freshwater Marshes Category | 1 meter | 1,173.77 | 0.4% |
| Freshwater Marshes Category | 1.5 meters | 134.08 | 0.0% |
| Freshwater Marshes Category | 2 meters | 247.82 | 0.1% |
| Hydric Flatwoods Category | 1 meter | 12,727.32 | 9.5% |
| Hydric Flatwoods Category | 1.5 meters | 4,097.87 | 3.0% |
| Hydric Flatwoods Category | 2 meters | 6,519.25 | 4.8% |
| Inland Hydric Hammock Category | 1 meter | 265.88 | 4.6% |

| COMMUNITY | SWLCDSLR | ACRES | PERCENT |
|---|---|---|---|
| Inland Hydric Hammock Category | 1.5 meters | 1.43 | 0.0% |
| Inland Hydric Hammock Category | 2 meters | 42.43 | 0.7% |
| Mangrove Swamp | 1 meter | 150,593.22 | 77.0% |
| Mangrove Swamp | 1.5 meters | 474.81 | 0.2% |
| Mangrove Swamp | 2 meters | 456.97 | 0.2% |
| Mesic Flatwoods Category | 1 meter | 7,651.56 | 2.4% |
| Mesic Flatwoods Category | 1.5 meters | 1,434.82 | 0.4% |
| Mesic Flatwoods Category | 2 meters | 2,468.28 | 0.8% |
| Salt Marsh | 1 meter | 27,664.66 | 61.3% |
| Salt Marsh | 1.5 meters | 60.34 | 0.1% |
| Salt Marsh | 2 meters | 53.57 | 0.1% |
| Scrub Category | 1 meter | 242.31 | 1.0% |
| Scrub Category | 1.5 meters | 78.28 | 0.3% |
| Scrub Category | 2 meters | 237.22 | 1.0% |
| Scrubby Flatwoods Category | 1 meter | 102.28 | 0.5% |
| Scrubby Flatwoods Category | 1.5 meters | 107.07 | 0.5% |
| Scrubby Flatwoods Category | 2 meters | 323.78 | 1.4% |
| Upland Hammock Category | 1 meter | 572.62 | 0.8% |
| Upland Hammock Category | 1.5 meters | 90.27 | 0.1% |
| Upland Hammock Category | 2 meters | 249.16 | 0.3% |
| Upland Hardwoods Category | 2 meters | 0.02 | 0.0% |
| Wet Prairie | 1 meter | 1,814.64 | 2.6% |
| Wet Prairie | 1.5 meters | 331.96 | 0.5% |
| Wet Prairie | 2 meters | 91.40 | 0.1% |

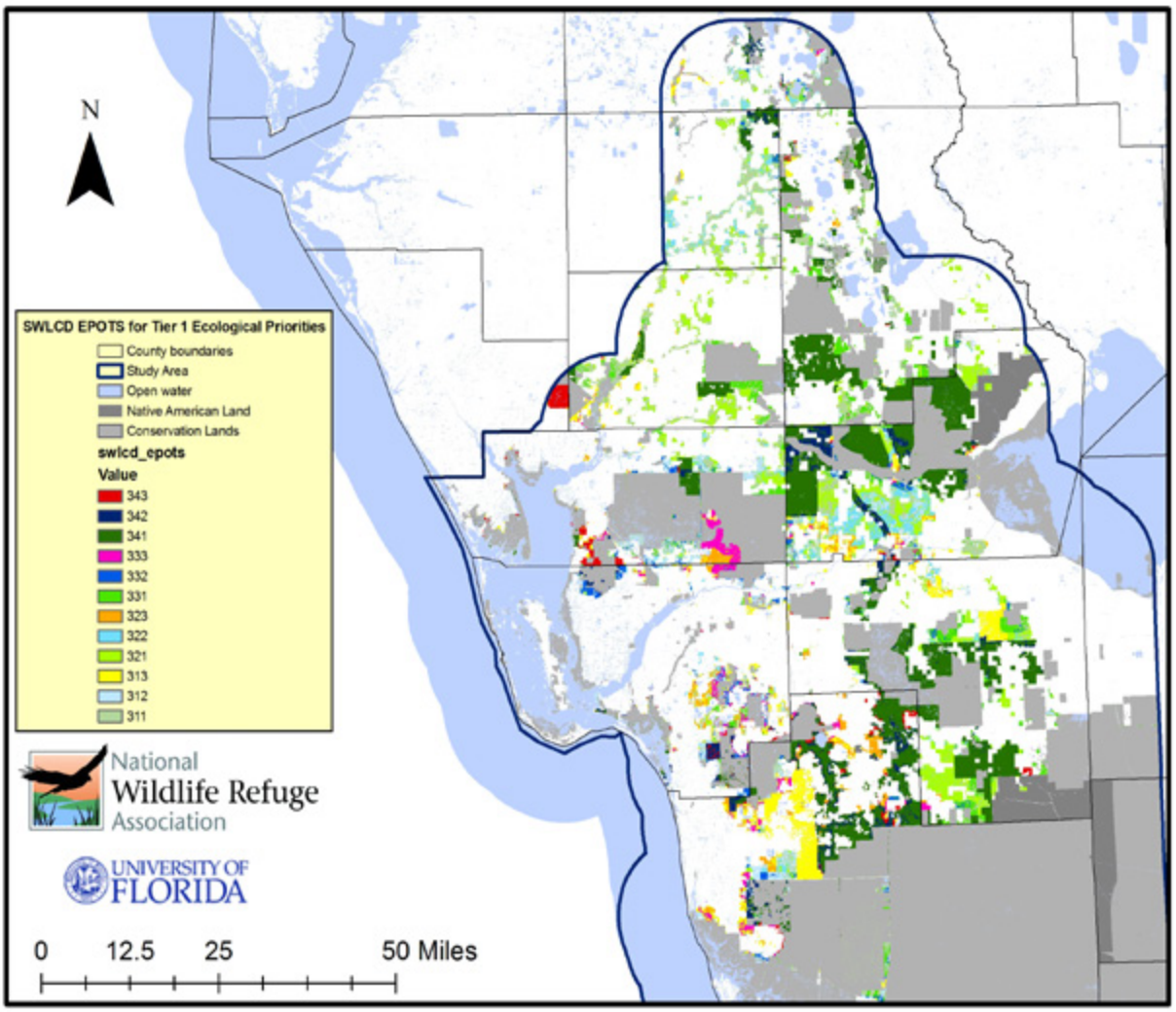


Figure 19. Comparison of Ecological Priority Tier 1, Opportunities, and Development Threat where a 343 represents an area that is a Tier 1 ecological priority, high protection opportunity, and high threat of conversion to development.

### *F. Ecological Priority, Opportunities, and Threats Matrix (EPOTS)*

To provide additional information regarding potential future protection priorities, we combined each of the three Ecological Priority Tiers with both the Opportunity Tiers and the Potential Development Threat Tiers (**Figures 19-21**). This index is intended to combine these three factors into a set of combinations that can inform conservation land protection decision making in the study area. These three categories of relevant decision-making criteria can be combined into a three way "matrix" to determine relative suitability for different actions.

A three tier matrix like this is combined in GIS by assigning each a numerical "rank" and then combining by multiplying one of the categories by 100, the other by 10, and keeping the third the same. The Ecological Priority Tiers are multiplied by 100, the Opportunity Tiers are multiplied by 10, and the Threat Tiers are kept the same. A Tier 1 Ecological Priority with a high opportunity and high threat is a 343; and a Tier 1 Ecological Priority with a high opportunity and low threat is a 341.

Though decision options will always be context specific, these combinations could help inform decisions. For example areas with a 343 index score are clear priorities where relatively quick action is warranted and lobbying for protecting such areas needs to be a priority. Areas that are 341 are also warranted as high action priorities given that they are likely to be good opportunities with less cost (potentially) than high priorities with high development threat. A 342 may be a good opportunity for consideration as a Florida Forever or RFLPP project or for one of the relevant federal conservation easement programs.

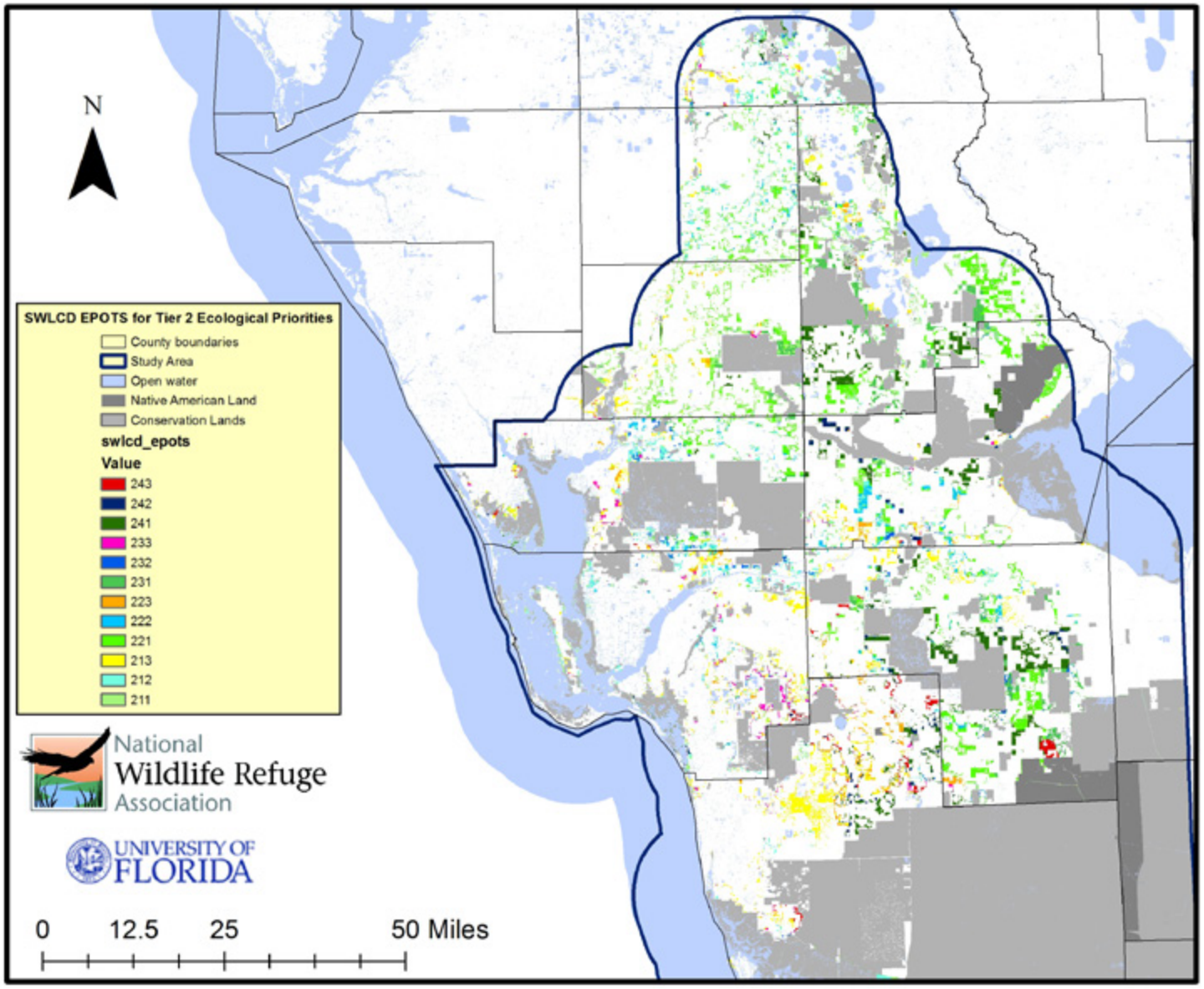


Figure 20. Comparison of Ecological Priority Tier 2, Opportunities, and Development Threat where a 243 represents an area that is a Tier 2 ecological priority, high protection opportunity, and high threat of conversion to development.

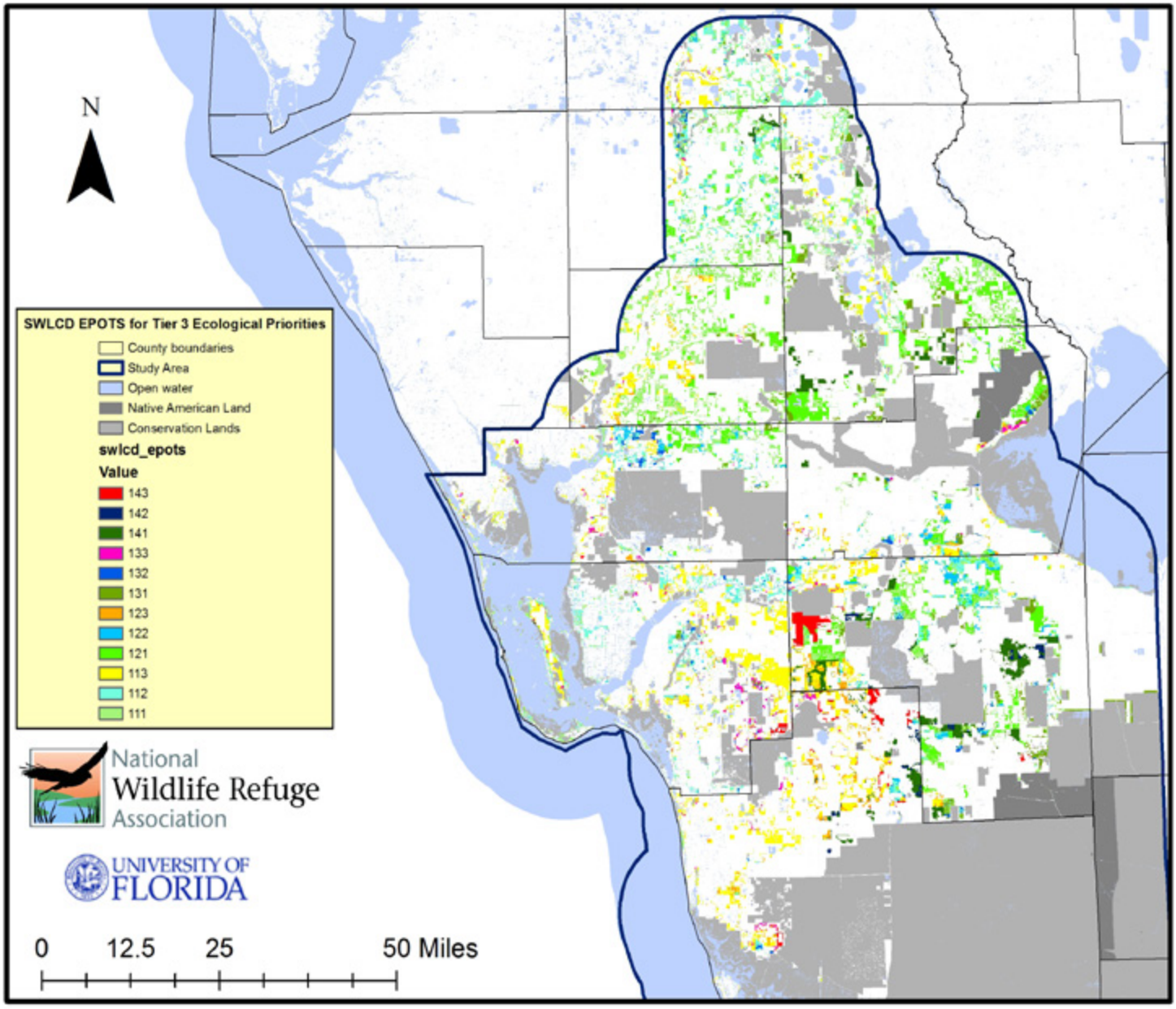


Figure 21. Comparison of Ecological Priority Tier 3, Opportunities, and Development Threat where a 143 represents an area that is a Tier 3 ecological priority, high protection opportunity, and high threat of conversion to development.

## Literature Cited


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# Appendix C: Focal Species Habitat Models

We used the best available source of potential habitat data for each of our focal species. The set of sources included:

- Florida Natural Areas Inventory Occurrence-based habitat models
- Florida Fish and Wildlife Conservation Commission (FWC) Potential Habitat models
- FWC ISMP (Imperiled Species Management Plant) Habitat or other updated habitat models
- University of Florida (UF) habitat models developed originally in work with the Southwest Florida Water Management District that run based on FLUCCS land use data
- New UF Habitat Models (for selected federally listed and candidate vertebrates) that run based on newer Cooperative Land Cover data and developed working with Wildlands Conservation in a project with Polk County and reviewed by USFWS staff.

The models used for each species are shown in **Table 1**.

Table 1. Focal Species Habitat Model Selection

| :COMMON NAME | FNAI MODEL | FWC POTENTIAL HABITAT MODEL | HABITAT MODEL SELECTED |
|---|---|---|---|
| American Crocodile | X | X | FWC potential habitat |
| Eastern Diamondback Rattlesnake | | | UF habitat model |
| Eastern Indigo Snake | X | X | Combined FWC and UF potential habitat |
| Gopher Tortoise | | X | New UF model |
| Ornate Diamondback Terrapin | | | UF model |
| Southern Chorus Frog | | | New UF model |
| Florida Scrub Lizard | | | UF model |
| Florida Grasshopper Sparrow | X | X | New UF model |
| Mottled Duck | | X | FWC potential habitat |
| Florida Scrub-Jay | X | X | New UF model |
| Limpkin | | X | New FWC ISMP model |
| Florida Burrowing Owl | | X | New FWC ISMP model |
| Short-tailed Hawk | | X | FWC potential habitat |
| Crested Caracara | X | X | New UF model |
| Piping Plover | X | | FNAI occurrence based model |
| Snowy Plover | X | X | New FWC ISMP model |
| Mangrove Cuckoo | | X | FWC potential habitat |
| Swallow-tailed Kite | | X | UF model |
| Southeastern American Kestrel | | X | FWC potential habitat |
| Florida Sandhill Crane | | X | FWC potential habitat |
| Bald Eagle | | X | UF model |
| American Oystercatcher | | | UF model |
| Wood Stork | X | | New UF model |
| Red-cockaded Woodpecker | X | X | New UF model |
| Snail Kite | X | X | New UF model |
| Least Tern | X | X | FNAI occurrence based model |
| Black-whiskered Vireo | | X | FWC potential habitat |
| Wading Bird Guild | | X | FWC potential habitat |
| Florida Bonneted Bat | X | | New UF model |
| Everglades Mink | | | New UF model |
| Florida Panther | X | X | Combination of models in consultation with USFWS |
| Big Cypress Fox Squirrel | X | X | Combined FWC and UF potential habitat |
| Sherman's Fox Squirrel | | X | Combined FWC and UF potential habitat |
| Florida Black Bear | X | X | FEGN Maxent Model |

Southwest Florida Landscape Conservation Design
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