HHH Ranch Preserve
Interim Land Management Plan

Managed by:

Collier County, FL
Conservation Collier Program

February 2023 - February 2025
(Interim Plan)

Prepared by: Collier County Conservation Collier Staff

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Land Management Plan Executive Summary

Lead Agency: Conservation Collier Program, Parks & Recreation Division, Collier County Public Services Department

Properties included in this Plan: HHH Ranch Preserve
Preserve lands consist of 36 parcels located within Section 33, Township 49, and Range 27 in Collier County, Florida. Full legal descriptions are provided in the appendix (Table 12.2).

Total Acreage: 256

Management Responsibilities: Collier County Conservation Collier Program staff

Designated Land Use: Preservation

Unique Features: HHH Ranch Preserve contributes to the conservation of ecologically sensitive lands within the North Belle Meade area of Collier County. The preserve contains pine flatwoods ecosystems that provide habitat for the federally endangered Florida panther and red-cockaded woodpecker.

Desired Future Conditions:

Vegetation: A preserve with a matric of high-quality hydric and mesic flatwoods, cypress swamp, glades marsh, and palmetto prairie with mixed age trees, a reduced density of cabbage palms, diverse understory, and less than 10% infestation of non-native species.

Wildlife: A preserve with the appropriate vegetative communities, resource use, and connectivity to support wildlife species native to that habitat.

Recreation: A preserve with the amenities required for the public to safely engage in passive natural resource-based recreation

Preserve Safety and Security: A preserve free of littering, dumping, illicit activities, neighbor disturbances, unauthorized vehicles, and after-hours trespass.

Additional Resource Uses: A preserve with the opportunity for additional resource use that is not only compatible with, but also facilitates vegetation, wildlife, recreation, and site security management goals.

Public Involvement
As part of the Interim Land Management Plan drafting process, a public meeting will be held in March 2023 to gather input from members of the public and preserve stakeholders.

Introduction

The HHH Ranch Preserve is a 256-acre nature preserve located in the North Belle area in Collier County, FL. It is largely comprised of pine flatwoods, cabbage palm forest, cypress, and mixed scrub-shrub wetland plant communities, as well as unimproved pasture. Future access to the preserve may come from Blackburn Rd or from the proposed Wilson Blvd Extension. The Preserve was purchased by Collier County in November 2022 with funds from the Conservation Collier Program acquisition fund. The County holds fee simple title. Prior to acquisition, the property was referred to as HHH Ranch. Nature-based recreation is planned for the site once a public access route becomes available. The Conservation Collier Program manages this parcel under authority granted by the Conservation Collier Ordinance 2002-63, as amended. Conservation, restoration, and passive public recreation are the designated uses of the property. Management activities allowed are those necessary to preserve and maintain this environmentally sensitive land for the benefit of present and future generations. Public use of this site must be consistent with these goals.

Table 1. Acquisition History and Status of the Rattlesnake Hammock Preserve

Year	**Benchmark**
2021	Acquisition Application submitted to the Conservation Collier Program for HHH Ranch Section 33 parcels (36 parcels, 256 acres) on February 24, 2021
2021	HHH Ranch parcels recommended for Cycle 10 Acquisition A -List by the Conservation Collier Land Acquisition Advisory Committee on December 9, 2021
2022	Proposal to purchase HHH Ranch Section 33 parcels approved by Board of County Commissioners on January 25, 2022
2022	Purchase agreement approved by Board of County Commissioners on September 13, 2022 for $2,072,500
2022	256 acres purchased by Conservation Collier on 11/14/2022
2023	Developed Interim Management Plan in January for review by subcommittee, committee, and BCC

Conservation Collier: Land Acquisition Program and Management Authority

The Conservation Collier Program was originally approved by voters in November 2002 and subsequently confirmed in the November 2006 by ballot referendum. On November 3, 2020, the Collier County electors approved the Conservation Collier referendum with a 76.5% majority which reestablished the acquisition portion of the Program. These voter-approved referendums enable the program to acquire environmentally sensitive lands within Collier County, Florida (Ordinance 2002-63, as amended). Properties must support at least two of the following qualities to qualify for consideration: rare habitat, aquifer recharge, flood control, water quality protection, and listed species habitat. The BCC appointed Conservation Collier Land Acquisition Advisory Committee (CCLAAC) to consider any selected or nominated properties that an owner has indicated a willingness to sell. The committee recommends property purchases for final approval by the BCC.

Lands acquired with Conservation Collier funds are titled to "COLLIER COUNTY, a political subdivision of the State of Florida, by and through its Conservation Collier program." The Board of County Commissioners of Collier County (BCC) established the Conservation Collier Program to implement the program and to manage acquired lands. As such, Conservation Collier holds management authority for the HHH Ranch Preserve.

Purpose and Scope of Plan

The purpose of the interim plan is to provide short term management direction for the HHH Ranch Preserve by identifying the desired future conditions of each element and the appropriate tools to achieve these conditions. This plan seeks to balance natural resource conservation (listed species protection, habitat restoration, and invasive species management) with outdoor recreational and education use. This plan is divided into sections that include an introduction, parcel description, management element conditions, objectives, and potential tools, and a projected budget. This plan will expire upon the completion of the Final Management Plan in 2025.

Parcel Description

1. Location

1.1. Description

The Preserve is in the North Belle Meade area of Collier County, FL in Section 33, Township 49, and Range 27. The Preserve is situated immediately north of I-75, approximately 4 miles south of Golden Gate Blvd W, and 4 miles east of Collier Blvd (Figure 1.1.1). The Preserve is currently accessible via Blackburn Rd (Figure 8.3.3). The Preserve is comprised of 36 parcels ranging from 1.16 to 20.71-acres for a total of 256-acres (Table 12.2).

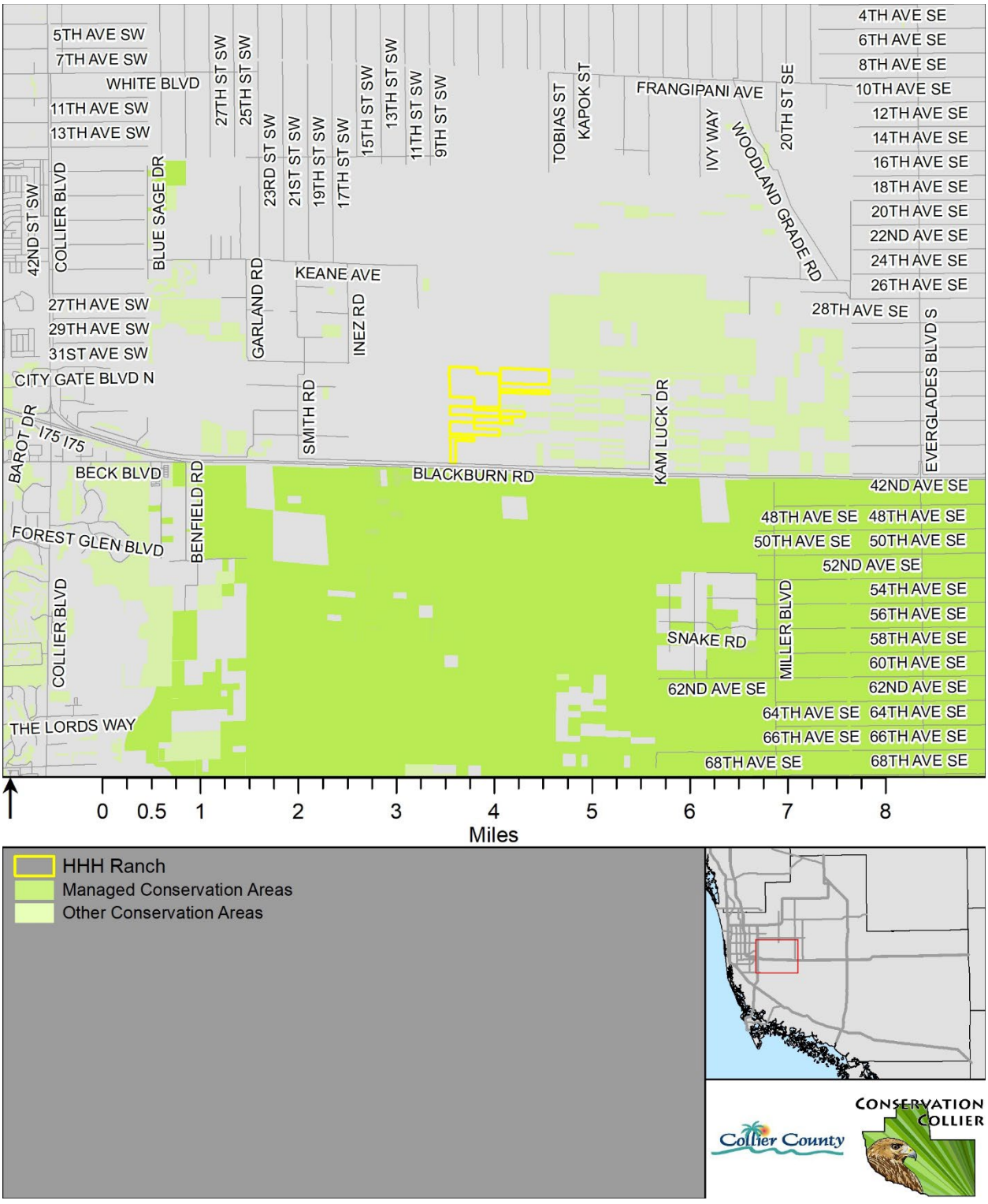


Figure 1.1.1. Overview map of HHH Ranch and surrounding conservation areas

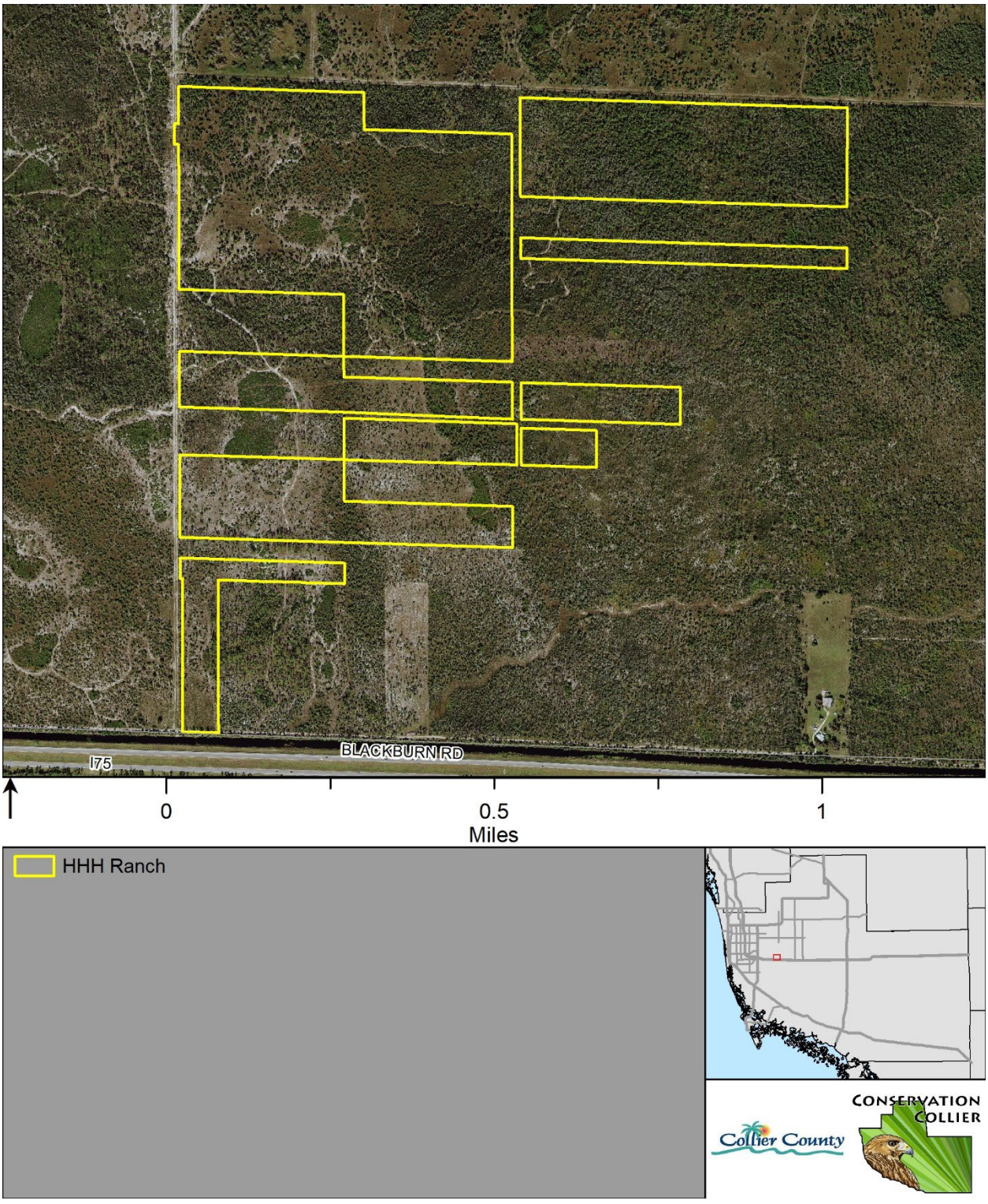


Figure 1.1.2. 2022 Aerial close-up

2. Physiography

2.1. Description

LIDAR and Surface Waters

A Light Detection and Ranging (LIDAR) map provides information about the elevation of the Earth's surface. The topographical map of the Preserve (Figure 2.1.1) indicates surface features of lower elevation in deepening shades of blue. A higher elevation ridge exists from the northwest corner of the preserve to the south-central portion of Section 33. The more yellow areas of the map are or were dominated by pine flatwoods. The darker sections are cypress and scrub-shrub wetlands. All but the highest elevation areas on the west side of the preserve experience surface water ponding at some point during the year. The Preserve is located within the Henderson-Belle Meade watershed and drained by the I-75N-1 canal along its southern boundary. The Collier County Watershed Management Plan includes a conceptual North Belle Meade spreader swale which would divert water from the Golden Gate Main Canal during periods of high flow. If implemented, the spreader swale would rehydrate wetlands in the North Belle Meade area and provide additional flow to the Rookery Bay and Ten Thousand Islands Estuaries.

Aquifer Recharge Potential

The preserve is within a Priority 6 CLIP4 Aquifer Recharge designation and the 20-year protection zone of the Collier County Utilities Golden Gate Wellfield (Figure 2.1.2). The preserve protects portions of the surficial aquifer that are sensitive to contamination.

Soils

There are 8 soil types mapped within the preserve (Figure 2.1.3). Soils present are various types of fine sands. 6 out of 8 soil types were hydric and one was depressional. A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). The ridge that runs from the northwest to the southeast of the preserve is composed of Boca fine sands (Figure 2.1.1).

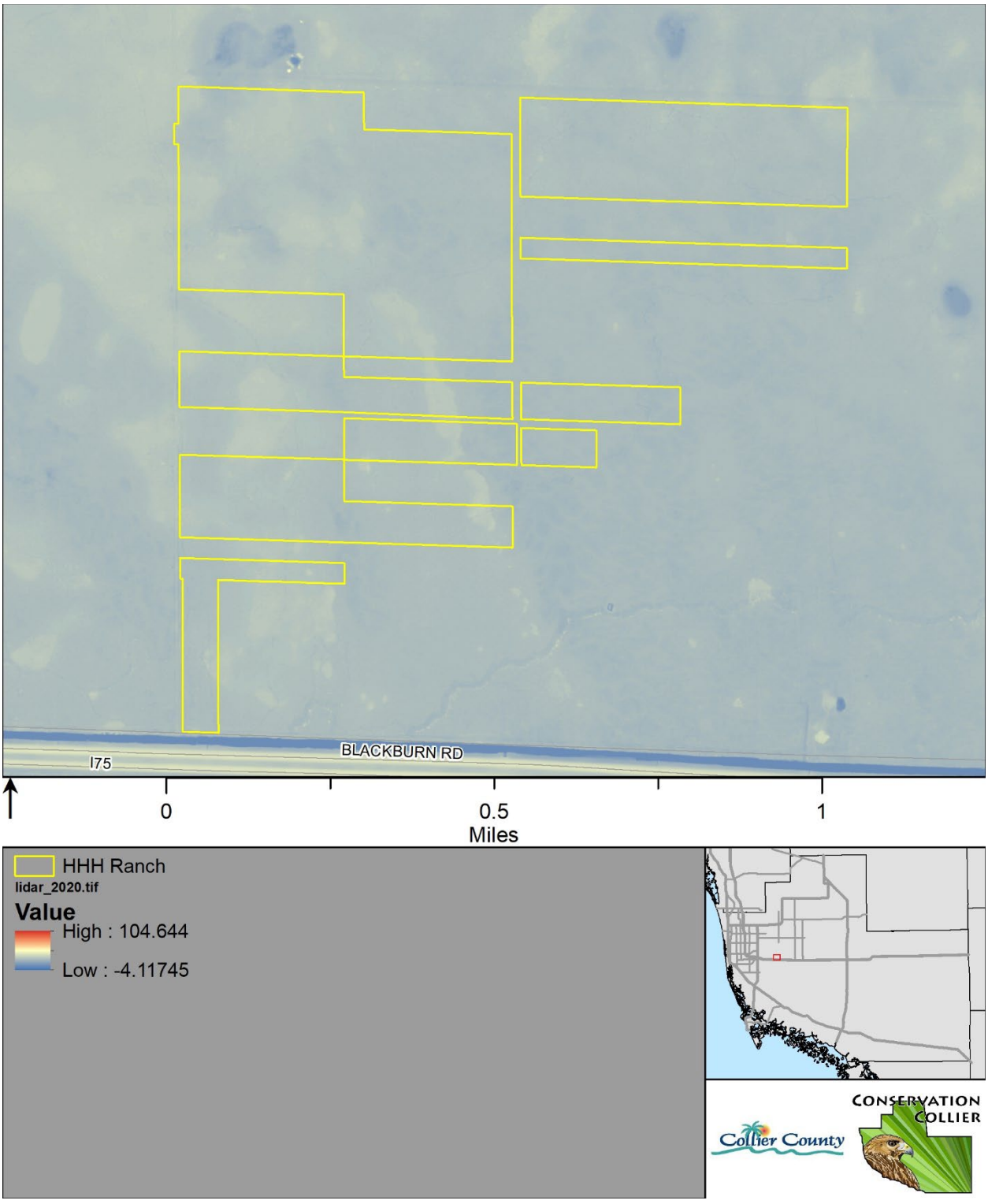


Figure 2.1.1. Topographical Map (LIDAR)

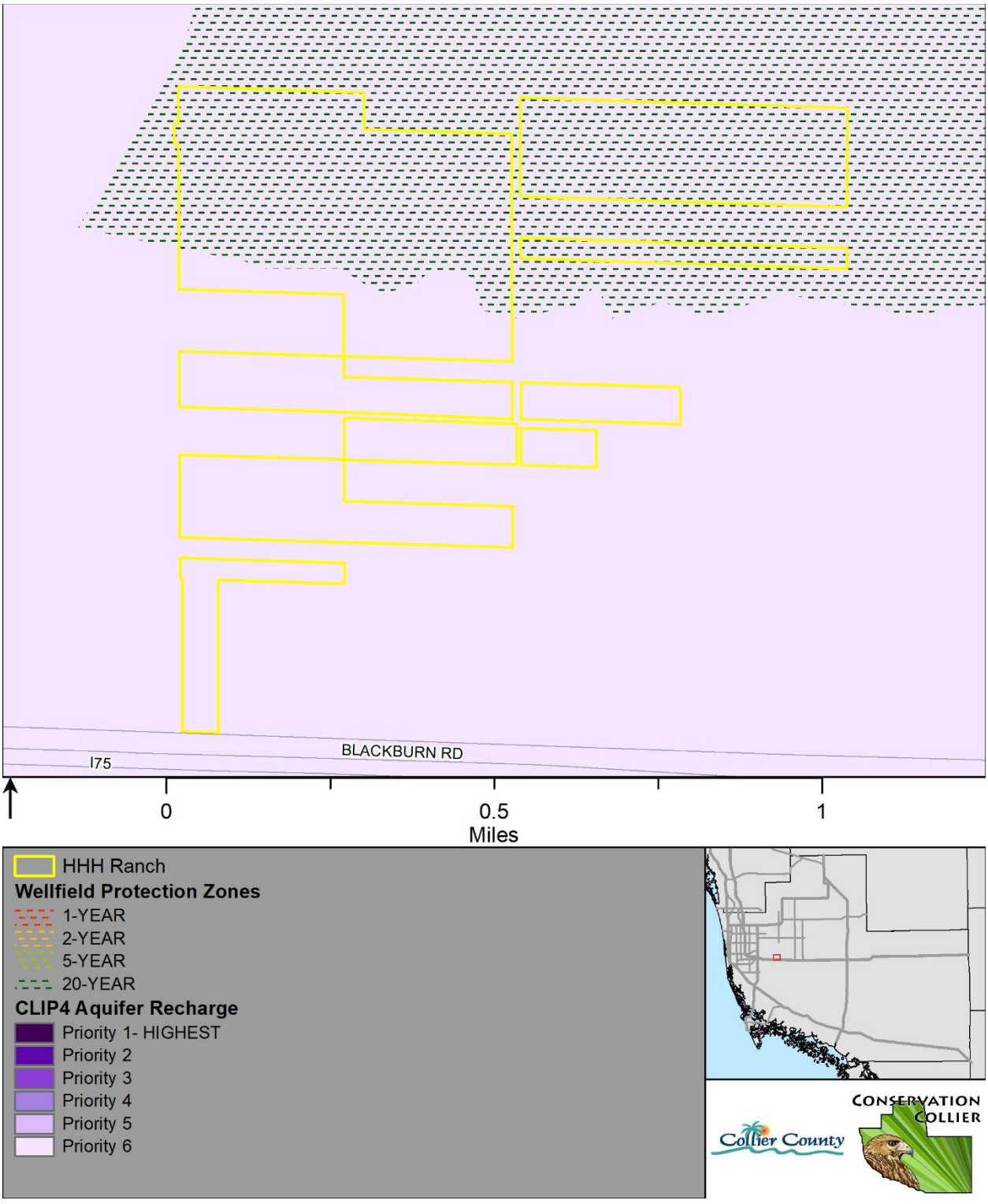


Figure 2.1.2. Aquifer Map (CLIP4 Aquifer Priority Map and Wellfield Protection Zones)

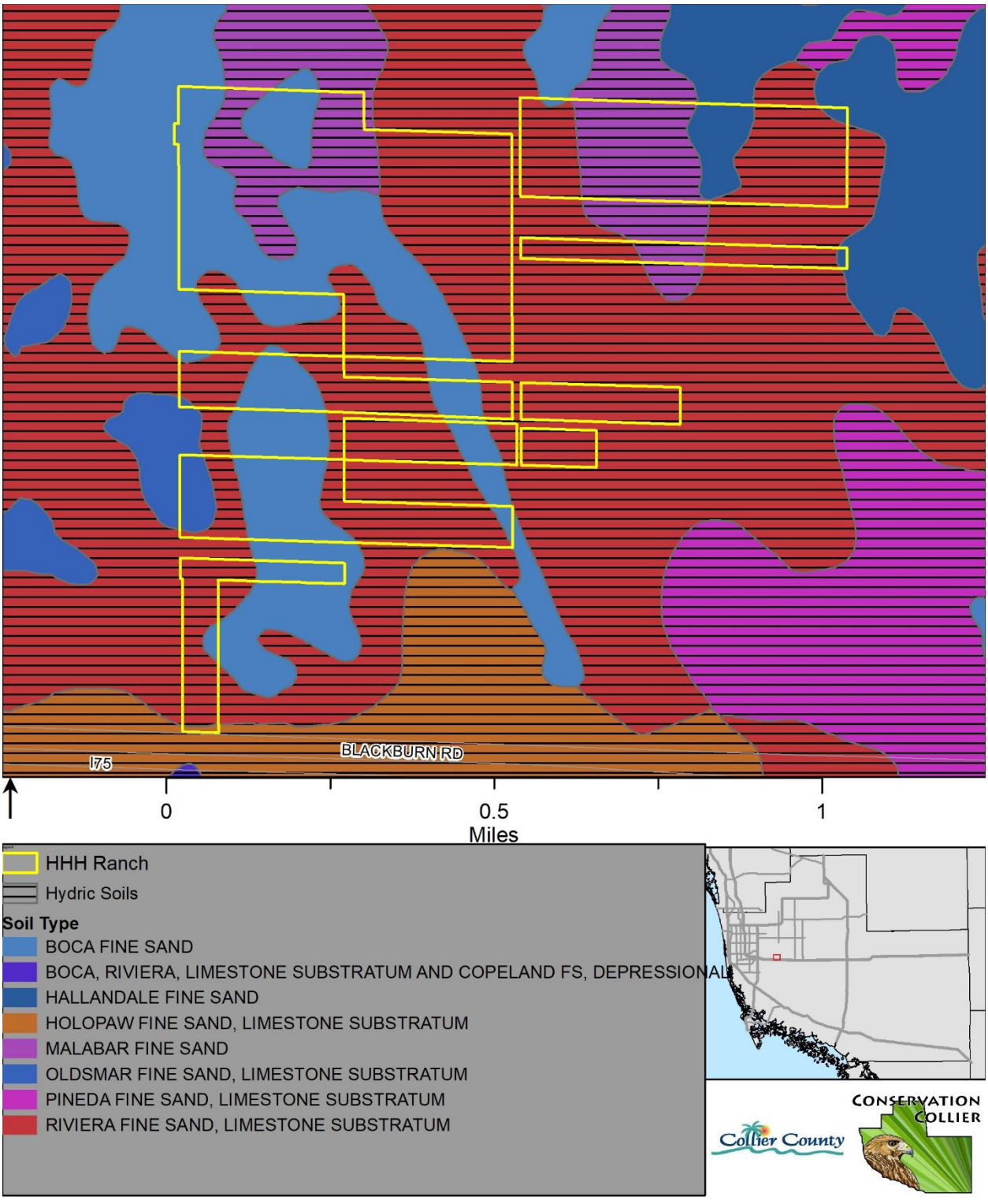


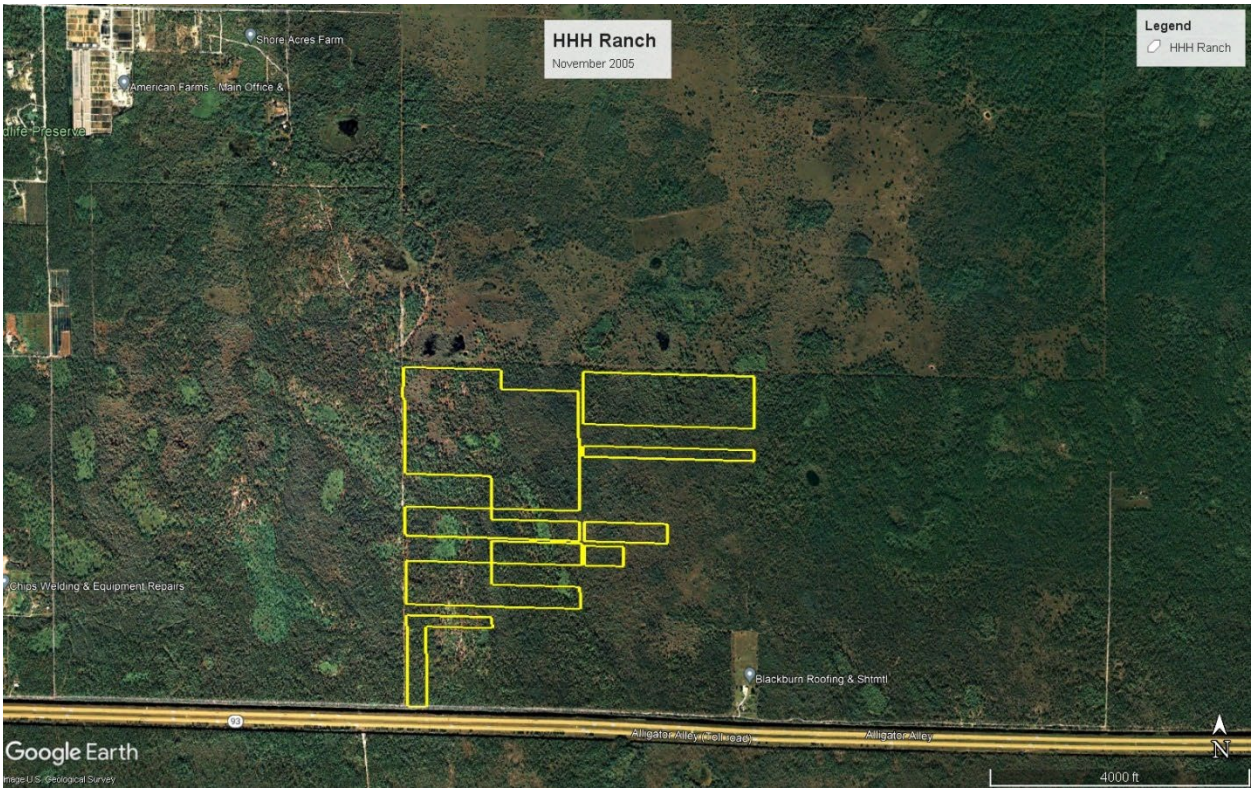
Figure 2.1.3. Hydric Soils Map (Collier County Soils Survey)

3. Historical Land Use

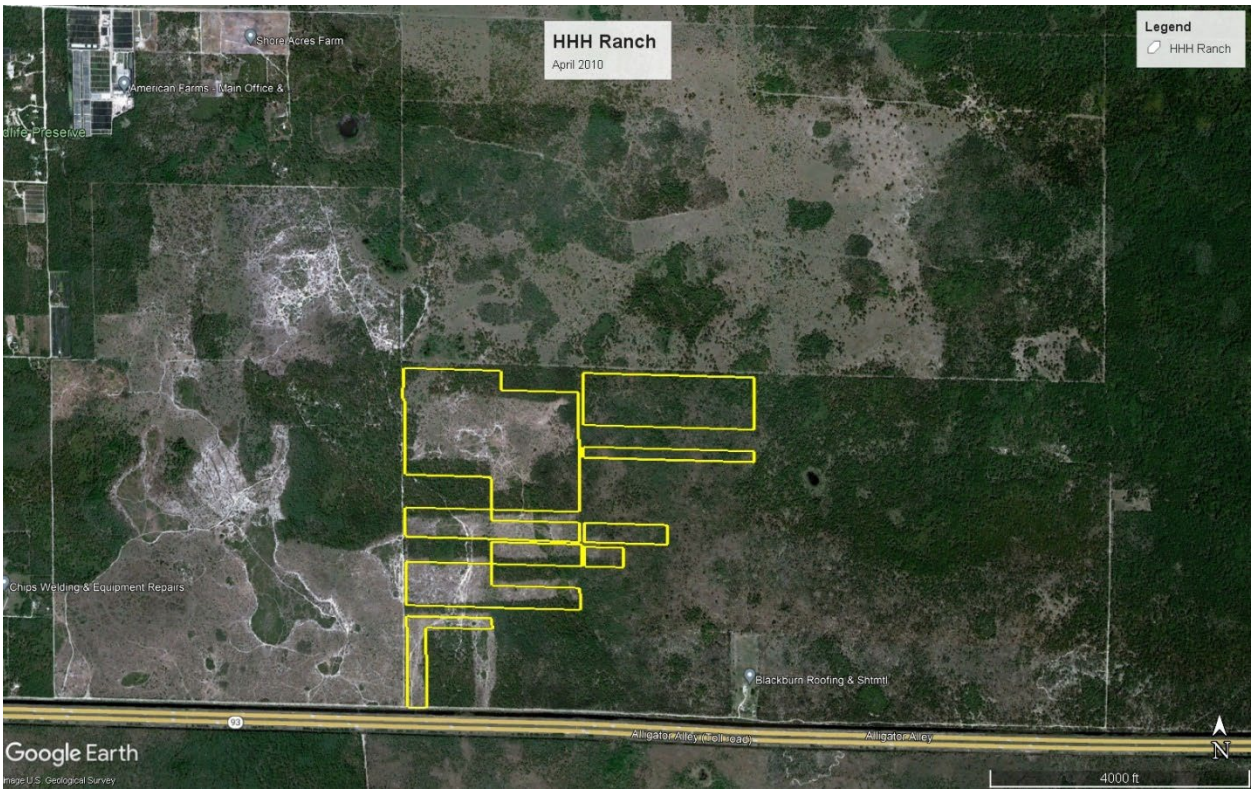
3.1. Description

Historic aerial imagery (Photoset 3.1.1) as recent as 2006 shows a contiguous tract of preserve lands comprised of diverse plant communities, including cypress strand swamp, mesic and hydric flatwoods, glades marsh, and mixed scrub-shrub wetlands. 2006 aerial imagery also shows significant cattle grazing to the north and fences along the north and west boundaries of the preserve. In early 2008, commercial logging occurred across the majority of preserve lands creating expansive clearings suitable for cattle grazing. Interstate 75 (also known as Alligator Alley) borders the preserve to the south. Construction of Alligator Alley finished in 1968, which included the installment of a canal between Alligator Alley and the preserve lands. Prior to the construction of these barriers, water on the preserve would sheet flow south to what is present day Picayune Strand State Forest. The installment of this canal, along with hydrological alterations to the north, significantly shortened the hydroperiod of the region. In early spring of 2018, a series of lightning induced wildfires affected the region, including one wildfire that burned across the preserve lands. The wildfire drastically altered plant community structure across the preserve, including significant mortality of slash pine (*Pinus elliottii*) in the mesic and hydric flatwoods plant communities, and low mortality of bald cypress (*Taxodium distichum*) in the cypress strand swamp plant community. Present day lands surrounding the preserve remain rural, with cattle grazing, off-road vehicle use, and hunting being the primary land-use activities.

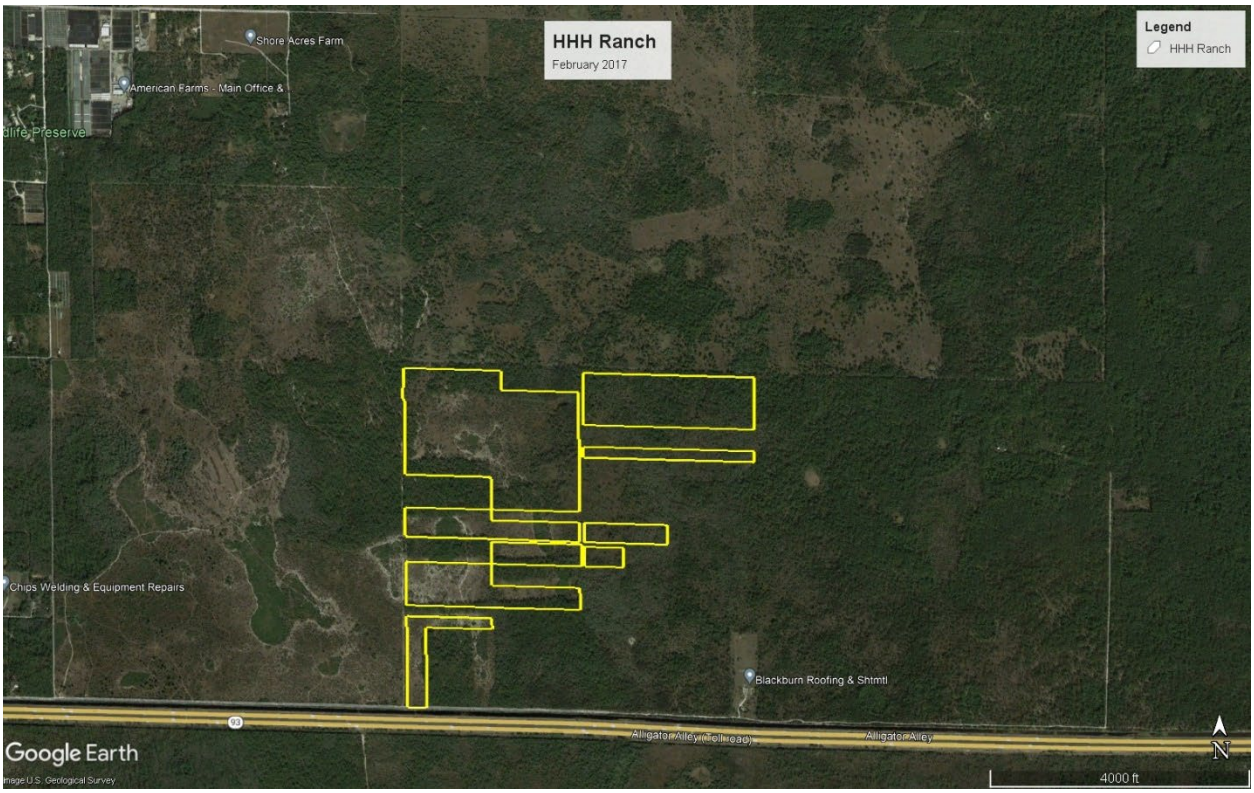
Photoset 3.1.1. Historical Aerial Imagery



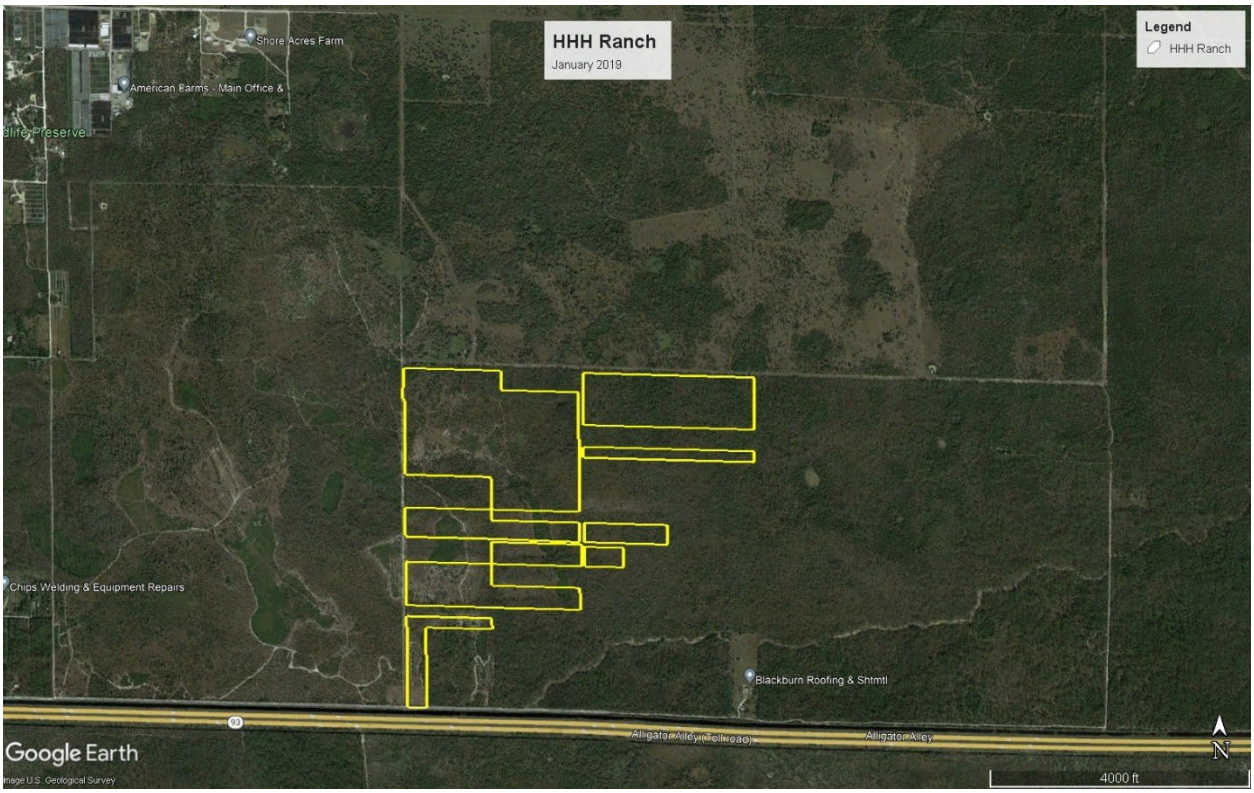
November 2005 pre-logging/clearing



April 2010 post-logging/land clearing



February 2017 pre-wildfire



January 2019 post-wildfire

4. Adjacent Land Use

4.1. Description

Surrounding land uses include cattle grazing, conservation, mining, and residential. Conservation lands include the Picayune Strand State Forest on the south side of I-75 and a large patchwork of offsite mitigation parcels to the east of the Preserve (Figure 1.1.1). Collier County owns 960-acres to the west of the Preserve, development has not yet begun on these parcels. There is an active gravel mine 1.5 miles north of the preserve. The mining company owns the land between the mine and the Preserve. All areas immediately adjacent to the preserve are being used for cattle grazing. There is one residential home within Section 33 to the southeast of the preserve.

5. Acquisition and Expansion

5.1. Acquisition Description

In 2021, Mary Beth Hussey and John Vega applied for 36 parcels totaling 256-acres during Conservation Collier Acquisition Cycle 10. In 2021, the Conservation Collier Land Acquisition Advisory Committee recommended the parcels for the acquisition A-list. In 2022, the Board of County Commissioners approved the purchase of the parcels for $2,072,500. Conservation Collier closed on the parcels on November 14th, 2022.

Table 5.1.1. Parcel Attributes Table

Folio(s)	Acreage	Seller	Acquisition Date	Price
342080005, 342120004, 342200005, 342560002, 342600003, 342760008, 342840009, 342880001, 342920000, 343080004, 343200004, 343480002, 343560003, 343640004, 343760007, 343840008, 344040001, 344160004, 344240005, 344360008, 344480001, 344520000, 344560002, 344600001, 344640003, 344760006, 344960000, 345000008, 345040000, 345120001, 345160003, 345200002, 345240004, 345280006, 345360007, 345400006	Total = 256, Range = 1.16-20.71	JOHN G. VEGA, AS TRUSTEE OF THE IRREVOCABLE TRUST FOR THE BENEFIT OF THE CHILDREN OF F. DESMOND HUSSEY, III, DATE JUNE 20, 2011; FRANCIS D. HUSSEY, JR. DECEASED, AND MARY PAT HUSSEY, HUSAND AND WIFE; SEAN MEADE HUSSEY, TRUSTEE, AND HHH INVESTMENTS LIMITED PARNERSHIP, A FOREIGN LIMITED PARTNERSHIP	11/14/2022	$2,072,500

5.2. Potential Preserve Expansion

During Acquisition Cycle 11 Conservation Collier targeted the remaining undeveloped and unpreserved parcels within Section 33 (41 parcels) for acquisition. Acquiring the remaining parcels in this section would simplify land management and connect the preserve to conservation areas to the east. The Program may revisit targeting adjacent parcels in this area in future acquisition cycles. These sections contain large swaths of pine flatwoods which are a priority natural community and provide important habitat for Florida panthers and red-cockaded woodpeckers.

Management

6. Vegetation Management

6.1. Current Vegetative Community Conditions

The following are the Florida Land Cover Classification System habitats identified. Non-native species are denoted with an *. Plant communities identified statewide under this cooperative land cover system partially rely on aerial imagery for plant community classification. Due to recent habitat impacts from hydrological alteration, commercial logging, cattle grazing, wildfire, introduction of non-native plant species, and the proliferation of cabbage palm (*Sabal palmetto*), the plant community coverage depicted on Figure 6.1.1 is not a historic representation of plant communities. The impacts listed above explain the transitional nature of the vegetative communities present and will require ground truthing by land managers. The mixed scrub-shrub

wetlands plant community that dominates coverage of the northeastern most parcel was historically hydric flatwoods; here, wildfire eliminated most of the slash pine (*Pinus elliottii)* canopy, as evidenced by mature fallen snags, and the subsequent invasion of melaleuca* (*Melaleuca quinquenervia)* and cabbage palm has transformed this area into a mixed scrub-shrub wetlands plant community. An area wide plant inventory will be needed to thoroughly assess the species composition across the various plant communities found on the preserve.

22211 Hydric Pine Flatwoods – Forest with sparse to moderate canopy of slash pine. The understory is grasses, wiregrass, forbs, and at times with sparse saw palmetto.

Notes: Has been impacted by recent wildfire (reduction in canopy trees) and the invasion of cabbage palm and non-native plant species.

Major Canopy Components: Slash pine (*Pinus elliottii), c*abbage palm (*Sabal palmetto),* laurel oak (*Quercus laurifolia),* live oak (*Quercus virginiana),* melaleuca* (*Melaleuca quinquenervia)*

Major Midstory Components: Cabbage palm (*Sabal palmetto),* melaleuca* (*Melaleuca quinquenervia),* wax myrtle (*Myrica cerifera),* Brazilian pepper* (*Schinus terebinthifolia),* earleaf acacia* (*Acacia auriculiformis),* swamp bay (*Persea palustris)*

Major Understory Components: Sawgrass (*Cladium jamaicense)*, broomsedge (*Andropogon* spp.), swamp fern (*Telmatoblechnum serrulatum*), *c*aesar weed* (*Urena lobata),* wiregrass (*Aristida stricta)*, shrubby false buttonweed* (*Spermacoce verticillata),* muhly grass (*Muhlenbergia capillaris*), dog fennel (*Eupatorium capillifolium*), blackberry (*Rubus* spp.), grapevine (*Vitis* spp.), torpedo grass* (*Panicum repens),* cogon grass* (*Imperata cylindrica),* greenbriar (*Smilax* spp.), poison ivy (*Toxicodendron radicans*)

1311 Mesic Flatwoods – Flatland with sand substrate; mesic; statewide except extreme southern peninsula and Keys; frequent fire (2-4 years); open pine canopy with a layer of low shrubs and herbs; longleaf pine and/or slash pine, saw palmetto, gallberry, dwarf live oak, wiregrass

Notes: The slash pine (*Pinus elliottii)* canopy component of this plant community was heavily affected by wildfire.

Major Canopy Components: Slash pine (*Pinus elliottii), c*abbage palm (*Sabal palmetto),* laurel oak (*Quercus laurifolia),* live oak (*Quercus virginiana),* melaleuca* (*Melaleuca quinquenervia)*

Major Midstory Components: Cabbage palm (*Sabal palmetto),* melaleuca* (*Melaleuca quinquenervia), w*ax myrtle (*Myrica cerifera),* Brazilian pepper* (*Schinus terebinthifolia),* earleaf acacia* (*Acacia auriculiformis),* dahoon holly (*Ilex cassine*)

Major Understory Components: Saw palmetto *(Serenoa repens),* wiregrass (*Aristida stricta)*, broomsedge (*Andropogon* spp.), bracken fern (*Pteridium aquilinum),* muhly grass (*Muhlenbergia capillaris*)*,* galberry (*Ilex glabra),* caesar weed* (*Urena lobata),* shrubby false buttonweed* (*Spermacoce verticillata),* swamp fern (*Telmatoblechnum serrulatum*), dog fennel (*Eupatorium capillifolium*), blackberry (*Rubus* spp.), grapevine (*Vitis* spp.), torpedo grass* (*Panicum repens),* cogon grass* (*Imperata cylindrica),* greenbriar (*Smilax* spp.), rattlebox* (*Crotalaria spp.)*, poison ivy (*Toxicodendron radicans*), blueberry (*Vaccinium* spp.), pennyroyal (*Mentha pulegium),* rusty lyonia (*Lyonia ferruginea)*, netted pawpaw (*Asimina reticulata)*

2125 Glades Marsh – Broad, shallow channel with peat/marl substrate directly overlying limestone; slow flowing water; south of Lake Okeechobee in central and southern peninsula; frequent to occasional fire (3-10 years); sawgrass, spikerush, maidencane, beaksedges, mixed emergents.

Notes: This plant community is being heavily invaded by melaleuca (*Melaleuca quinquenervia)*

Major Canopy Components: Melaleuca* (*Melaleuca quinquenervia),* cabbage palm (*Sabal palmetto),* cypress (*Taxodium distichum)*

Major Midstory Components: Melaleuca* (*Melaleuca quinquenervia),* cabbage palm (*Sabal palmetto), w*ax myrtle (M*yrica cerifera),* Carolina willow (*Salix caroliniana)*

Major Understory Components: Sawgrass (*Cladium jamaicense),* bulltongue arrowhead (*Sagittaria lancifolia),* string lily (*Crinum americanum),* spikerush (*Eleocharis spp.),* broomsedge (*Andropogon* spp.)

2112 Mixed Scrub-Shrub Wetlands – Wetlands that are dominated by woody vegetation less than 20ft in height. This can occur in many situations, but in most cases involves transitional or disturbed communities on hydrologically altered sites. Persistent examples of shrub wetlands include shrub bogs and willow swamps.

Notes: This plant community classification across the preserve is resultant from a conversion of hydric flatwoods due to wildfire induced canopy mortality, and an invasion of cabbage palms and non-native plant species.

Major Canopy Components: Cabbage palm (*Sabal palmetto),* melaleuca* (*Melaleuca quinquenervia)*

Major Midstory Components: Melaleuca* (*Melaleuca quinquenervia),* cabbage palm (*Sabal palmetto),* Brazilian pepper* (*Schinus terebinthifolia)*

Major Understory Components: Caesar weed* (*Urena lobata),* cogon grass* (*Imperata cylindrica),* shrubby false buttonweed* (*Spermacoce verticillata),* swamp fern (*Telmatoblechnum serrulatum)*, broomsedge (*Andropogon* spp.)*,* sawgrass (*Cladium jamaicense),* wiregrass (*Aristida stricta)*, grapevine (*Vitis* spp.), torpedo grass* (*Panicum repens)*

2211 Cypress – Dominated entirely by cypress, or species important in the canopy; long hydroperiod.

Notes: None

Major Canopy Components: Bald cypress (*Taxodium distichum),* cabbage palm (*Sabal palmetto),* laurel oak (*Quercus laurifolia)*

Major Midstory Components: Cabbage palm (*Sabal palmetto),* wax myrtle (*Myrica cerifera),* giant airplant (*Tillandsia utriculata)*

Major Understory Components: Swamp fern (*Telmatoblechnum serrulatum),* arrowhead (*Sagittaria sagittifolia),* maidencane (*Panicum hemitomon),* sawgrass (*Cladium jamaicense),* pickerel weed (*Pontederia cordata),* crinum lily (*Crinum americanum),* alligator flag (*Thalia geniculata),* melaleuca* (*Melaleuca quinquenervia), c*aesar weed* (*Urena lobata)*

1831 Rural Open – Herbaceous or shrubby vegetated areas in a rural setting. Ground typically appears improved of disturbed to some degree.

Notes: This description includes areas identified as 1832 Rural Structures

Major Canopy Components: Live oak (*Quercus virginiana),* laurel oak (*Quercus laurifolia),* slash pine (*Pinus elliottii)*

Major Midstory Components: Brazilian pepper (*Schinus terebinthifolia)*

Major Understory Components: Smutgrass* (*Sporobolus indicus),* shrubby false buttonweed* (*Spermacoce verticillata),* broomsedge (*Andropogon* spp.), saw palmetto (*Serenoa repens)*

1340 Palmetto Prairie – Expansive area mostly lacking canopy trees, and dominated by saw palmetto, grasses, and other understory components.

Notes: None

Major Canopy Components: Slash pine (*Pinus elliottii)*

Major Midstory Components: None.

Major Understory Components: Saw palmetto (*Serenoa repens),* bracken fern (*Pteridium aquilinum),* rusty lyonia (*Lyonia ferruginea),* gallberry (*Ilex glabra),* winged sumac (*Rhus copallinum),* wiregrass (*Aristrida stricta),* cogon grass* (*Imperata cylindrica),* pennyroyal (*Mentha pulegium)*

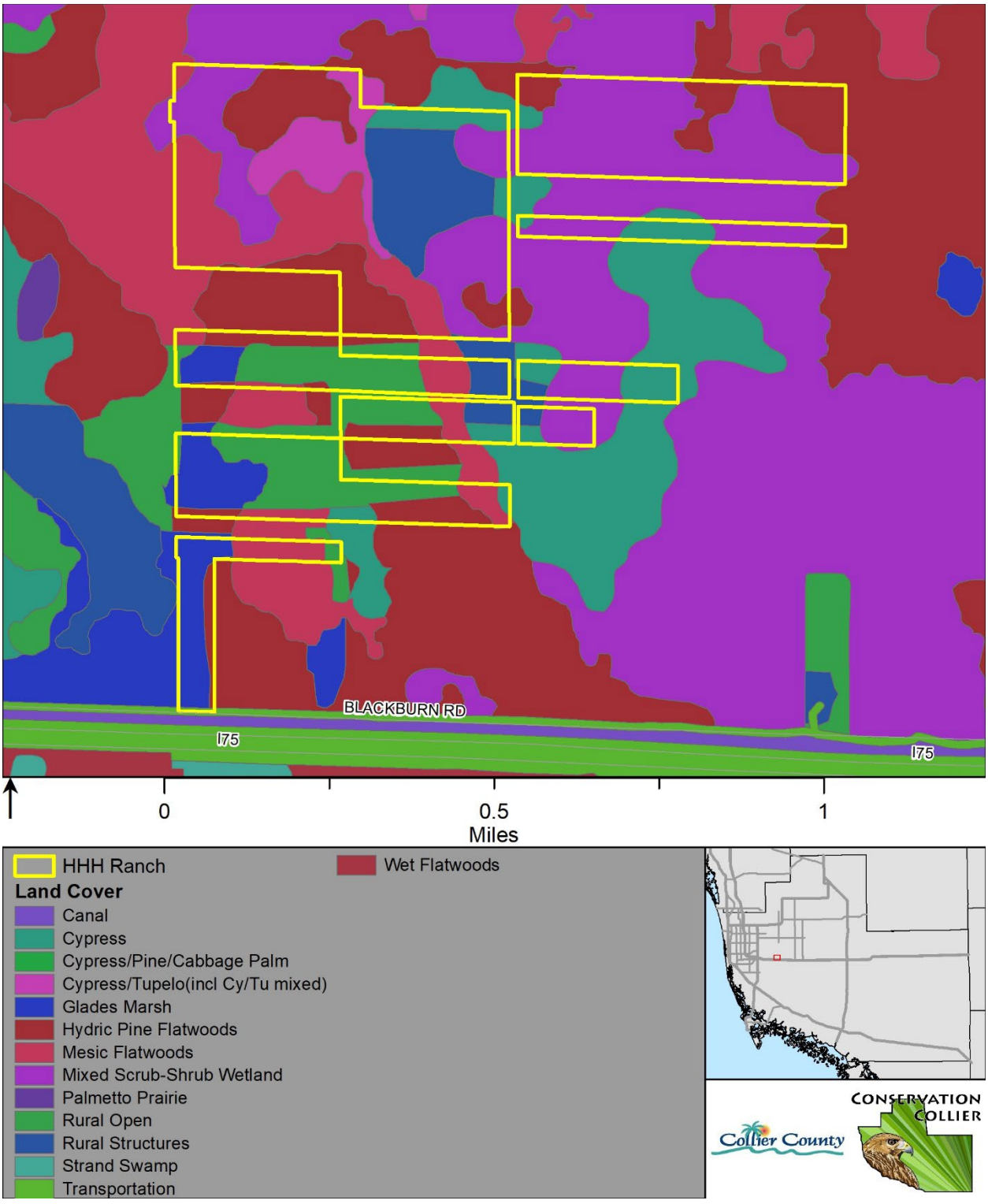


Figure 6.1.1. Florida Land Cover Classification Map

Table 6.1.2. Threatened and Endangered Plant Species Table

Imperiled Plant Species		Conservation Status	
Common Name	Scientific Name	State	Federal
Giant Airplant	*Tillandsia utriculata*	Endangered	Not Listed

6.1.3. Vegetation Management Concerns

Restoring native plant communities and reducing all Category I and II invasive plants are the primary vegetation management concerns on this preserve. Melaleuca (*Melaleuca quinquenervia)* is the most prevalent non-native, invasive species found on the preserve. Florida's native cabbage palm (*Sabal palmetto)* has invaded pine flatwoods plant communities and has completely replaced slash pine (*Pinus elliottii)* as the dominant canopy species in some areas. The cabbage palm canopy dominance is partially due to the region's altered hydroperiod and a 2018 wildfire that caused significant mortality in the slash pine overstory. Pine flatwood areas will require plantings after the removal of cabbage palm and melaleuca by a combination of mechanical and chemical means.

The removal of melaleuca and reduction of cabbage palm will allow large quantities of light to reach the forest floor, stimulating understory growth. This will create ideal growing conditions for non-native and invasive understory plants already present on the preserve, such as cogon grass (*Imperata cylindrica),* Caesar weed (*Urena lobata),* shrubby false buttonweed (*Spermacoce verticillata),* and torpedo grass (*Panicum repens).* Special consideration should be made to monitor these treatment areas and plan for subsequent herbicide applications targeting these non-native and invasive species.

6.2. Desired Future Conditions

A preserve with a matrix of high-quality hydric and mesic flatwoods, cypress swamp, glades marsh, and palmetto prairie with mixed age trees, a reduced density of cabbage palms, diverse understory, and less than 10% infestation of non-native species.

6.3. Management Tools

6.3.1. Invasive Plant Removal

The preserve is >70% infested with non-native, invasive plants, primarily melaleuca (*Melaleuca quinquenervia), c*aesar weed (*Urena lobata),* shrubby false buttonweed (*Spermacoce verticillata),* Brazilian pepper (*Schinus terebinthifolia),* and cogon grass (*Imperata cylindrica).* In addition, the native cabbage palm (*Sabal palmetto)* on the preserve can be categorized as a nuisance. These native nuisance and invasive plants occur at varying densities across the preserve, with some

areas being so dense that after treatment native vegetation will have difficulty recolonizing the area. A combination of mechanical and repeated herbicidal treatments of all Invasive Species Partnership Category I & II species, along with a reduction in cabbage palm density, will be implemented to achieve the desired future conditions.

6.3.2. Native Plant Restoration

Native plantings will be appropriately utilized following the reduction of non-native and invasive species by chemical and mechanical means. A combination of herbaceous plants, shrubs, and trees will be utilized to restore native plant communities as determined by Conservation Collier land managers.

6.3.3. Prescribed Fire

Plant communities within this preserve are dependent on varying fire return intervals; prescribed fire will be an important land management tool on this preserve. Before prescribed fire can be implemented, land managers will survey the property to design management zones. These management zones will require the installation of firebreaks around their perimeter that act as control lines for the safe application of prescribed fire. A fuel reduction of cabbage palms (*Sabal palmetto*) and melaleuca (*Melaleuca quinquenervia)* will also be necessary before prescribed fire can be applied to the preserve. These plant species enhance the intensity of fire, as evidenced by the slash pine (*Pinus elliottii)* mortality that occurred after a 2018 wildfire burned across the preserve.

6.3.4. Hydrological Restoration

The preserve sits within the center of an extensively altered watershed. The historic northeast to southwest flow through the area has been intercepted and drained by canals, swales, and mines, resulting in a shorter hydroperiod. This change in hydroperiod partially explains the transitional nature of the vegetative communities present. Due to the upstream and downstream hydrological alterations being largely off the property, the onsite flow cannot be restored to its pre-development state. The preserve must be managed to benefit the vegetative communities most suited for its current and future conditions.

6.4. Partnership Opportunities

Conservation Collier will continue to seek funding assistance from the Florida Fish and Wildlife Conservation Commission (FWC) Upland Invasive Exotic Plant Management Program. This program has been critical in conducting initial, and otherwise cost prohibitive, invasive plant removal projects over the past 20 years. Revegetation needs are expected to grow as invasive vegetation is removed, and Conservation Collier intends to cultivate a lasting partnership with Growing Climate Solutions to meet those needs when feasible. Like other Conservation Collier preserves implementing prescribed fire, management partnerships will continue to exist within the prescribed fire realm. In conducting prescribed burns, Conservation Collier will continue its partnerships with the Florida Forest Service, U.S. Fish and Wildlife Service, FWC, Greater Naples Fire Department, South Florida Water Management District, and the Florida Department of Environmental Protection. Partnership potential also exists with the FWC for limited entry quota

hunts on the preserve. Staff will seek opportunities to partner with researchers from higher education institutions to enhance conservation efforts of the native plant communities found on the preserve.

7. Wildlife Management

7.1. Current Wildlife Community Conditions

The HHH Ranch Preserve is within a large matrix of undeveloped, grazing, and conservation lands. This expanse provides habitat for wide ranging carnivores such as the federally endangered Florida panther (*Puma concolor coryi*), Florida black bear (*Ursus americanus floridanus*), and bobcat (*Lynx rufus*), as well as their prey such as white-tailed deer (*Odocoileus virginianus*) and feral hogs (*Sus scrofa*). The pinelands on the western side the preserve provide foraging habitat for the federally endangered red-cockaded woodpeckers (*Leuconotopicus borealis*). This species has been observed on site and nesting clusters have been documented on the adjoining Collier County properties and historically throughout the surrounding area. This population of woodpeckers is critical for the regional recovery of this species because it connects populations to the south in Picayune Strand State Forest to those to the east at the Florida Panther National Wildlife Refuge. Additional upland species documented thus far include eastern diamondback rattlesnakes (*Crotalus adamanteus*), six-lined racerunners (*Aspidocelis sexlineatus*), wild turkey (*Meleagris gallipavo*), and northern bobwhite (*Colinus virginianus*). The seasonally inundated portions of the property provide habitat for a variety of imperiled wading birds, reptiles, and amphibians. Ample opportunities exist to enhance the preserve's wildlife community conditions through habitat restoration activities and management.

Table 7.1.1. Observed Wildlife Species Table

Type	Common Name	Species	Protection Status
Mammals	Florida panther	*Puma concolor coryi*	Federally Endangered
	Bobcat	*Lynx rufus*	
	White-tailed deer	*Odocoileus virginianus*	
	Raccoon	*Procyon lotor*	
	Feral hog*	*Sus scrofa*	
	Gray squirrel	*Sciurus niger*	
	Eastern cottontail rabbit	*Sylvilagus floridanus*	
Birds	Red-cockaded woodpecker	*Leuconotopicus borealis*	Federally Endangered
	Red-bellied woodpecker	*Melanerpes carolinus*	
	Downy woodpecker	*Picoides pubescens*	
	Northern flicker	*Colaptes auratus*	
	Great-crested flycatcher	*Myiarchus crinitus*	
	Eastern phoebe	*Sayornis phoebe*	

	Blue jay	*Cyanocitta cristata*	
	Northern mockingbird	*Mimus polyglottos*	
	Gray catbird	*Dumetella carolinensis*	
	Palm warbler	*Setophaga palmarum*	
	Blue-gray gnatcatcher	*Polioptila caerula*	
	Brown-headed nuthatch	*Sitta pusilla*	
	Loggerhead shrike	*Lanius ludovicianus*	
	northern cardinal	*Cardinalis cardinalis*	
	Boat-tailed grackle	*Quiscalus major*	
	European starling*	*Sturnus vulgaris*	
	mourning dove	*Zenaida macroura*	
	Common ground dove	*Columbina passerina*	
	Great blue heron	*Ardea herodia*	
	Great egret	*Ardea alba*	
	Red-shouldered hawk	*Buteo lineatus*	
	Common nighthawk	*Chordeiles minor*	
	Wild turkey	*Meleagris gallipavo*	
	Northern bobwhite	*Colinus virginianus*	
Reptiles	Eastern diamondback rattlesnake	*Crotalus adamanteus*	
	Corn snake	*Pantherophis guttatus*	
	Six-lined racerunner	*Aspidocelis sexlineatus*	
	brown anole	*Anolis sagrei*	
Amphibians	Southern leopard frog	*Lithobates sphenocephalus*	

Table 7.1.2. Potential Threatened and Endangered Species Table

Type	Common Name	Species	Protection Status
Mammals	Big Cypress fox squirrel	*Sciurus niger avicennia*	State Threatened
	Everglade's mink	*Neovison vison evergladensis*	State Threatened
	Florida bonneted bat	*Eumops floridensis*	Federally Endangered
Birds	Audubon's crested caracara	*Polyborus plancus audubonii*	Federally Threatened
	Everglade's snail kite	*Rostrhamus sociabilis plumbeus*	Federally Endangered
	Little blue heron	*Egretta caerulea*	State Threatened
	Roseate spoonbill	*Platalea ajaja*	State Threatened
	Tricolored heron	*Egretta tricolor*	State Threatened
	Wood stork	*Mycteria americana*	Federally Threatened

Reptiles	American alligator	*Alligator mississippiensis*	Federally Threatened SA
	Eastern indigo snake	*Drymarchon corais couperi*	Federally Threatened
	Gopher tortoise	*Gopherus polyphemus*	State Threatened

Photoset 7.1.3. Wildlife Observations

Florida panther (*Puma concolor coryi*) scat

Eastern Diamondback Rattlesnake (*Crotalus adamanteus)*

Feral hog (*Sus scrofa*) rooting sign

Bobcat (*Lynx rufus*) track

7.1.4. Wildlife Management Concerns

Wildlife communities utilizing the preserve are threatened by habitat degradation, fragmentation, and poaching. Logging, wildfires, and infestation of nuisance native and invasive vegetation has dramatically altered vegetative communities to the detriment of wildlife by reducing plant diversity, habitat heterogeneity, and skewing forest age structure younger. The logging of slash pine (*Pinus elliottii*) and cypress (*Taxodium distichum*) and the subsequent wildfires cleared the canopy across much of the preserve. This clearing has created conditions for cabbage palm (*Sabal palmetto*) and melaleuca (*Melaleuca quinquenervia*) to proliferate unchecked. This suppresses the growth of a diverse herbaceous understory which many animals depend on. Dense cabbage palms prevent pine recruitment through shading and intensify fires which can kill any remaining canopy pines. Red-cockaded woodpeckers, a federally threatened species, require old growth pine flatwoods with a short, fire-maintained understory to survive. If left untreated, cabbage palm and melaleuca infestations will render this habitat unusable by this species. Special efforts will be made to preserve the remaining old growth and larger pines on the preserve by clearing around their bases. Red-cockaded woodpeckers are an “umbrella species” because managing land for their benefit, improves habitat for a wide variety of other species such as deer, tortoises, insects, and cavity nesting birds. Most vertebrate species require more land than the preserve protects to sustain healthy populations. Although there are no current obstacles to dispersal for wildlife at this time, except for I-75, several proposed projects could isolate and restrict wildlife movement in the area. The extension of Wilson Blvd, the development of the Collier County parcel to the west, and the mining of the section to the north could fragment the landscape in ways that are detrimental to wide ranging and sensitive species such as Florida panther, Florida black bear, eastern diamondback rattlesnake, and red-cockaded woodpecker. Poaching has an immediate impact on the individual but may also impact the food web both up and down the chain.

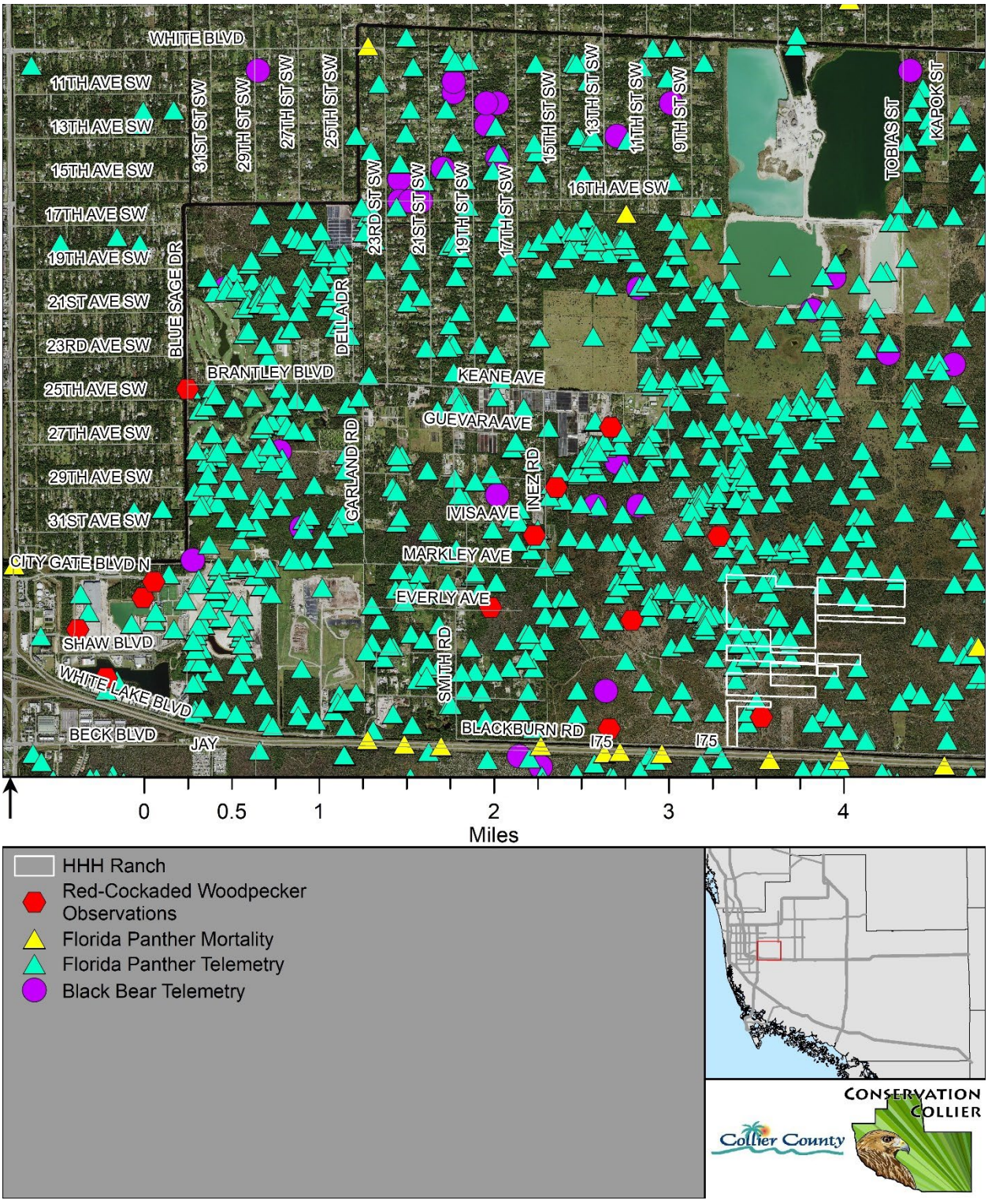


Figure 7.1.5 – Wildlife Spatial Data

7.2. Desired Future Conditions

A preserve with the appropriate vegetative communities, resource use, and connectivity to support wildlife species native to that habitat.

7.3. Management Tools

7.3.1. Habitat Improvements

Treatment and removal of invasive plant species, primarily melaleuca, cogon grass, cabbage palm, and Brazilian pepper will allow desired native species to recover. Removal of melaleuca thickets in the scrub-shrub wetlands will create openings that improve foraging for wading birds. Treatment and thinning of cabbage palms will also create more favorable conditions for native plant regeneration. Once major treatments have been completed, regular prescribed fire will help maintain a diverse understory and sparse midstory traditionally associated with pine flatwoods ecosystems. Major reforesting of slash pine is required to restore the preserve to its potential. Additional plantings of preferable forage, pollinator, and cover species would increase the restoration speed and benefit wildlife in the short term. Habitat improvements will be focused in the northwest portions of the preserve where the parcels are more contiguous and there is a history of red-cockaded woodpecker utilization.

7.3.2. Connectivity

Protecting land on both the north and south side of I-75 provides opportunity to install additional wildlife crossings, underpasses, or tunnels. Connecting the North Belle Meade area to Picayune Strand State Forest would greatly benefit many species, especially the Florida panther which has a well-documented history of highway mortality in this area (Figure 7.1.5). The proposed Wilson Blvd extension poses a major threat to wildlife in the area unless mitigated with a series of fencing and under/overpasses. These impacts will be evaluated by the permitting agencies as part of the construction plan review process.

7.3.3. Consumptive Wildlife Use

The preserve was previously utilized for hunting and the surrounding lands are still actively hunted. There is a plethora of game species present, most notably, white-tailed deer, feral hogs, and wild turkey. The restricted size and disjunct nature of the parcels would make managing hunters difficult. Safe hunting on this preserve can best be accomplished with a guide who is familiar with the area. Guided, limited entry, special opportunity hunts are the most appropriate for this preserve. These hunts may provide high quality opportunities for, but not limited to, youth, new, or disabled hunters. Recreational hunting is not an effective method for controlling feral hog populations, however hunting pressure can push hogs out of the area temporarily which may provide benefits during revegetation projects.

7.3.4. Monitoring

Conservation Collier staff will partner with the non-profit conservation organization called the fStop Foundation to install and maintain a network of motion-sensor trail cameras throughout the

preserve to contribute to data collection for a wildlife utilization species inventory. Footage is shared with the FWC Panther Team and provides opportunities for researchers to track utilization by imperiled wildlife species. Cameras will continue to be deployed at the preserve to maintain passive monitoring of wildlife. Property restoration, invasive vegetation removal, and plantings provide staff with an opportunity to utilize wildlife surveys to measure enhanced utilization of the preserve's plant communities by wildlife in response to management and maintenance actions. It is recommended that regular surveys for breeding birds, particularly red-cockaded woodpeckers, reptiles, amphibians, insects, and small and large mammals be conducted on a routine basis to enhance wildlife monitoring and data collection on the preserve. It is presumed that several additional listed species, such as Florida bonneted bats, Big Cypress fox squirrels, and wood storks will be documented on the preserve.

7.4. Partnership Opportunities

Conservation Collier staff will continue to partner and share data and observations with wildlife management agencies such as the Florida Fish and Wildlife Conservation Commission as well as the United States Fish and Wildlife Service (USFWS) where possible. Grant funding may be available to enhance imperiled wildlife species habitat such as the USFWS Partners Grant. Staff will continue to partner with organizations such as the fStop Foundation for monitoring and outreach opportunities. Staff will seek opportunities to partner with researchers from higher education institutions to enhance conservation efforts of the wildlife species that utilize the preserve.

8. Recreation Management

8.1. Current Recreational Opportunity Conditions

The preserve is currently closed to the public. The preserve can only be accessed via Blackburn Rd at this time and requires passing through two gates (Figure 8.3.3). There is a network of off-road vehicle trails that may be converted for visitor use.

8.2. Desired Future Conditions

A preserve with the amenities required for the public to safely engage in a variety of natural resource-based recreational activities.

Table 8.2.1. Compatible Recreational Activities

Recreational Activity	Compatible Use
Passive nature-based recreation (hiking, photography, wildlife viewing, environmental education, etc.)	Yes
Hunting	Yes
Fishing	No

Water-based Recreation (paddling, swimming, etc.)	No
Biking	Yes

8.3. Management Tools

8.3.1. Access Improvements

Current access via Blackburn Rd requires passing through the adjacent Collier County owned properties (Figure 8.3.1). There are locked cattle gates on both the east and west property lines. Public access to the preserve is contingent on approval to cross these properties. If approval is granted, installation of cattle guards in place of, or in addition to, the gates is proposed. This would facilitate access and reduce the risk of cattle escaping due to visitors leaving gates open. Additional access opportunities may become available when the adjacent county parcels are developed, and the Wilson Blvd Corridor Extension project is completed.

8.3.2. Amenity Installation/Enhancement

Once access is granted, amenity installation and enhancement can begin. There is a network of trails and roads through the preserve that can be modified for visitor use. Additions to this trail network can be made as adjacent parcels are acquired. Amenities to improve visitor experience include a parking lot, benches, interpretive signage, and hitching posts for horses. Trails and amenities will be designed in such a way as to minimize disturbance to sensitive species and habitats.

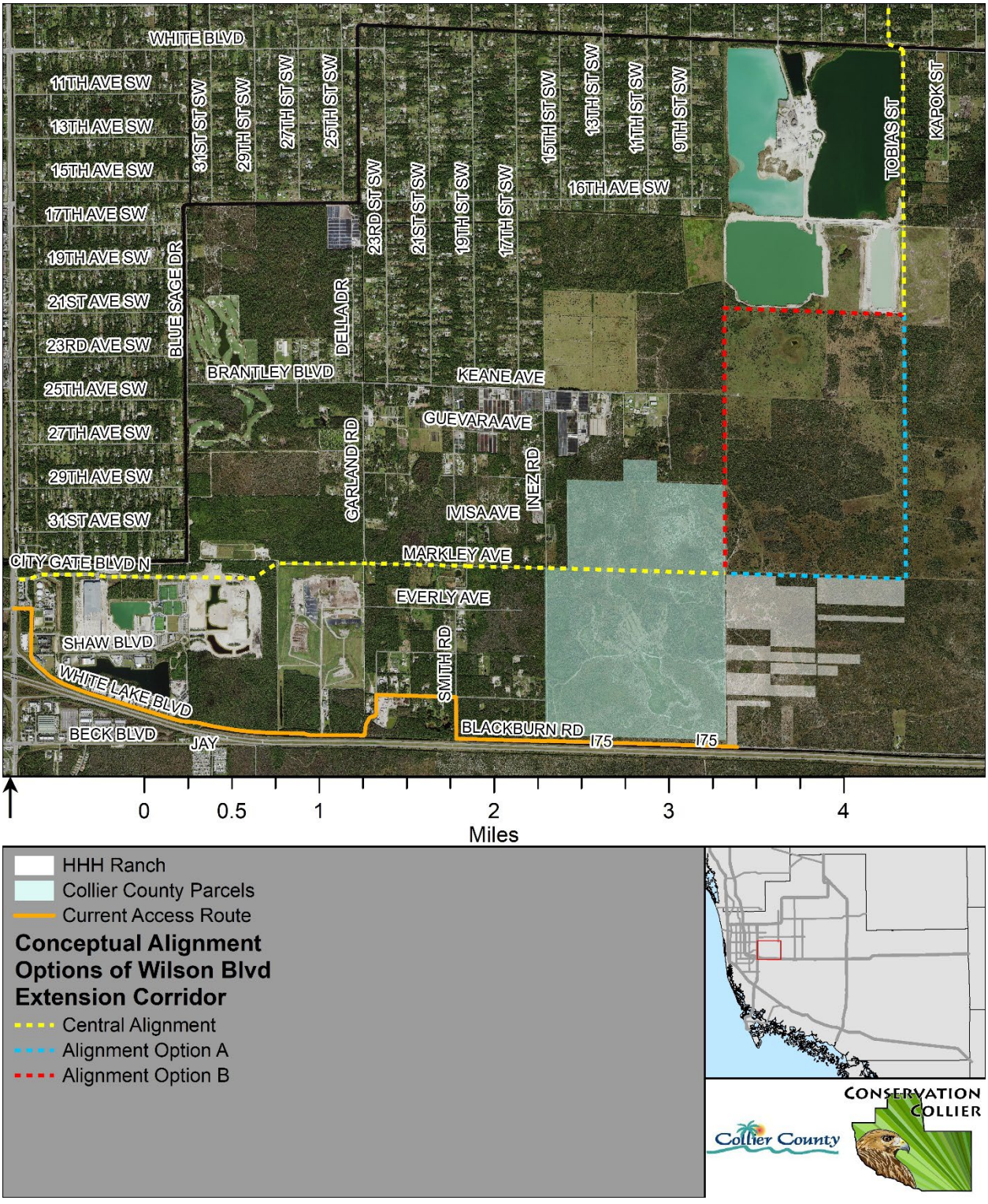


Figure 8.3.1. Current and Conceptual Routes to HHH Ranch

8.4. Partnership Opportunities

There is opportunity to share visitor amenities such as trails and parking lots with the adjoining Collier County properties, similar to the collaboration between Conservation Collier and the Parks and Recreation Department at the Gordon River Greenway and Freedom Park. This preserve may be suited to host hunts for the FWC Youth Hunting Program of Florida.

9. Preserve Safety and Security Management

9.1. Current/Predicted Human Conflict Conditions

Like other secluded, public properties, the preserve may attract those wishing to trespass and engage in illicit activities. There is dumping along Blackburn Road west of the Preserve. There does not appear to be dumping to the east of the locked gates on the adjoining Collier County property. There are numerous trails throughout the Preserve and the surrounding areas. It is unknown at this time if these are being used by the adjacent landowners to access their properties or if they are being used by off-road vehicle trespassers. Staff encountered a well-maintained hunting site including a corn feeder, tree stand, and trail camera post acquisition (Photoset 9.1.1). It is unclear at this time whether the users are intentionally trespassing and potentially poaching, or if they previously had legal access to the property and are unaware that it has changed ownership. FWC Division of Law Enforcement is currently investigating the matter. Construction of the proposed Wilson Corridor Extension will ease access to the Preserve, which may in turn increase conflict. There are still the remains of “Ray’s Camp” on the Preserve, including a concrete pad (Photoset 9.1.1).

Photoset 9.1.1: Structures

Hunt site with tree stand (left) and corn feeder (right).

Ray's camp. All structures and items were removed prior to purchase except for the concrete pad on the left side of the photo.

9.2. Desired Future Conditions

A preserve free of littering, dumping, illicit activities, neighbor disturbances, unauthorized vehicles, and after-hours trespass.

9.3. Management Tools

9.3.1. Site Security Improvements

Staff will monitor for signs of trespass/illegal activities. Staff will collaborate with adjacent landowners to address issues as they arise. Site security may be enhanced by installing and locking gates whenever feasible, and removable bollards at trailheads.

9.3.2. Debris Removal

Debris will continue to be removed and disposed of offsite as it is encountered. Staff will monitor the preserve boundaries for signs of illegal dumping. Staff will erect educational signage and work collaboratively with the Collier County Sheriff's Office to address repeat offenses.

9.4. Partnership Opportunities

Staff will collaborate with both the Collier County Sheriff's Office and FWC Law Enforcement to both prevent and respond to any criminal site security and safety issues as they present themselves.

10. Additional Resource Use Management

10.1. Current Additional Resource Use Conditions

Currently there are no sanctioned commercial uses on the Preserve. There was a cattle lease on the Preserve prior to acquisition and there are active cattle leases present on the surrounding parcels. There is no fencing present to exclude cattle from utilizing the Preserve at the time of this report.

10.2. Desired Future Conditions

A preserve with the opportunity for additional resource use that is not only compatible with, but also facilitates vegetation, wildlife, recreation, and site security management goals.

10.3. Management Tools

Cabbage palm reduction is required for habitat restoration on the Preserve. Permitting the commercial harvest of cabbage palms would assist in achieving this objective while lessening the budgetary impact. When stocked at an appropriate rate, cattle grazing can have a positive effect on habitat by reducing fuel loading and suppressing certain invasive plant species. Due the disjunct nature of the preserve, it is difficult to exclude cattle from adjacent leases. The clearing necessary to fence the current parcels would be more damaging than establishing a cattle lease at a conservation compatible stocking rate.

10.4. Partnership Opportunities

Local ranchers and cabbage palm harvesters.

11. Budget

Table 11.1. Projected Expenditures Table

Projected Operating Costs	2023	2024	2025
Vegetation Treatment/Removal	$55,000	$55,000	$53,000
Equipment and Supplies	$2,000	$1,000	$1,000
Trail/Firebreak Maintenance	$1,000	$1,000	$5,000
Fencing and Gates	$2,000	$3,000	$1,000
Total Projected Costs	$60,000	$60,000	$60,000

12. Appendix

Photoset 12.1: Representative Site Photos

Photo: Mesic flatwoods with slash pine regeneration

Photo: Cleared mesic flatwood, with uncleared slash pines in background

Photo: Wet flatwoods along northern boundary

Photo: Wet prairie

Table 12.2. Legal Description

Folio	Total Acres	Calculated Acres	Legal Description
342080005	9.74	10.38	33 49 27 N1/2 OF S1/2 OF S1/2 OF NE1/4 OF NW1/4, S1/2 OF N1/2 OF S1/2 OF NE1/4 OF NW1/4, LESS E 35FT
342120004	8.16	8.68	33 49 27 N1/2 OF N1/2 OF NE1/4 OF SW1/4 LESS N + E 50FT
342200005	8.55	8.56	33 49 27 S1/2 OF S1/2 OF SW1/4 OF NW1/4 LESS S & W 35FT
342560002	5	4.14	33 49 27 W1/2 OF W1/2 OF N1/2 OF N1/2 OF N1/2 OF SE1/4, LESS N + W 35FT
342600003	5	5.04	33 49 27 W1/2 OF S1/2 OF N1/2 OF S1/2 OF N1/2 OF SW1/4 LESS W 35 FT
342760008	8.71	9.02	33 49 27 E1/2 OF S1/2 OF S1/2 OF S1/2 OF NW1/4 LESS E 35FT & S 35FT
342840009	9.87	5.05	33 49 27 W1/2 OF S1/2 OF S1/2 OF S1/2 OF N1/2 OF NW1/4 LESS W 35FT
342880001	10	9.06	33 49 27 W1/2 OF N1/2 OF N1/2 OF N1/2 OF NW1/4 10AC
342920000	9.87	10.1	33 49 27 S1/2 OF N1/2 OF NW1/4 OF SW1/4, LESS W 35FT
343080004	4.87	5.05	33 49 27 W1/2 OF N1/2 OF S1/2 OF S1/2 OF N1/2 OF NW1/4 LESS W 35'
343200004	4.87	5.05	33 49 27 W1/2 OF S1/2 OF S1/2 OF S1/2 OF N1/2 OF SW1/4 LESS W 35 FT
343480002	5	5.05	33 49 27 W1/2 OF S1/2 OF N1/2 OF N1/2 OF S1/2 OF NW1/4 5 AC OR 340 PG 148
343560003	9.74	10.02	33 49 27 S1/2 OF S1/2 OF S1/2 OF N1/2 OF NE1/4 LESS W & E 35FT FOR R/W OR 130 PG 282
343640004	5	4.9	33 49 27 W1/2 OF N1/2 OF N1/2 OF S1/2 OF N1/2 OF NE1/4 5 AC
343760007	5	5.04	33 49 27 W1/2 OF N1/2 OF N1/2 OF S1/2 OF N1/2 OF NW1/4
343840008	7.84	8.17	33 49 27 W1/2 OF W1/2 OF SW1/4 OF SW1/4 LESS W 50 FT AND S 50FT OR 140 PG 336, LESSN 50FT OF S100FT OR 201 PG 815
344040001	5	5.04	33 49 27 W1/2 OF N1/2 OF N1/2 OF N1/2 OF S1/2 OF NW1/4, LESS W 35FT
344160004	10	8.75	33 49 27 W1/2 OF S1/2 OF S1/2 OF S1/2 OF NE1/4 10AC
344240005	5	5.05	33 49 27 W1/2 OF S1/2 OF S1/2 OF N1/2 OF N1/2 OF NW1/4
344360008	4.87	5.17	33 49 27 E1/2 OF S1/2 OF N1/2 OF S1/2 OF N1/2 OF SW1/4, LESSE 35 FEET
344480001	5	5.05	33 49 27 W1/2 OF S1/2 OF N1/2 OF S1/2 OF S1/2 OF NW1/4 5
344520000	4.87	5.04	33 49 27 W1/2 OF N1/2 OF N1/2 OF S1/2 OF N1/2 OF SW1/4 LESS W 35'

344560002	4.87	5.18	33 49 27 E1/2 OF S1/2 OF S1/2 OF N1/2 OF S1/2 OF NW1/4, LESS E 35FT
344600001	8.7	8.76	33 49 27 W1/2 OF N1/2 OF N1/2 OF N1/2 OF NE1/4, LESS W 35FT + N 35FT
344640003	5	5.17	33 49 27 E1/2 OF N1/2 OF N1/2 OF S1/2 OF N1/2 OF SW1/4
344760006	19.47	20.71	33 49 27 E1/2 OF S1/2 OF S1/2 OF S1/2 OF N1/2 OF NW1/4, N1/2 OF N1/2 OF SE1/4 OF NW1/4, N1/2 OF S1/2 OF N1/2 OF SE1/4 OF NW1/4 LESS E 35FT
344960000	9.74	10.34	33 49 27 E1/2 OF N1/2 OF N1/2 OF S1/2 OF N1/2 OF NW1/4, E1/2 OF S1/2 OF S1/2 OF N1/2 OF N1/2 OF NW1/4 LESS E 35 FT
345000008	10	9.8	33 49 27 S1/2 OF N1/2 OF NW1/4 OF NE1/4 10 AC
345040000	14.6	15.43	33 49 27 S1/2 OF N1/2 OF NE1/4 OF NE1/4, N1/2 OF N1/2 OF S1/2 OF NE1/4 OF NE1/4, LESS E 35FT FOR R/W OR 246 PG 566
345120001	5	5.18	33 49 27 N1/2 OF S1/2 OF N1/2 OF NE1/4 OF NW1/4 5 AC
345160003	5	5.19	33 49 27 N1/2 OF S1/2 OF N1/2 OF NW1/4 OF NW1/4 5 AC OR 1634PG 1608
345200002	8.7	9.22	33 49 27 N1/2 OF N1/2 OF NE1/4 OF NE1/4 LESS N 35FT ANDE 35FT FOR R/W OR 313 PG 720
345240004	5	5.18	33 49 27 E1/2 OF N1/2 OF N1/2 OF S1/2 OF S1/2 OF NW1/4
345280006	4.87	5.05	33 49 27 W1/2 OF S1/2 OF N1/2 OF S1/2 OF N1/2 OF NW1/4, LESS W 35FT
345360007	1.25	1.16	33 49 27 W1/2 OF W1/2 OF W1/2 OF N1/2 OF N1/2 OF NE1/4 OF NW1/4
345400006	1.84	1.94	33 49 27 N 50FT OF NE1/4 OF SW1/4, E 50FT OF S 280FT OF N1/2 OF NE1/4 OF NE1/4 OF SW1/4 1.84 AC OR 36 PG 378

12.3. Public Meeting Comments and Staff Responses

Questions, comments, and concerns from the public meeting will be addressed in this section