Red Maple Swamp Preserve
Final Land Management Plan

Managed by:

Collier County, FL
Conservation Collier Program

March 2023 - March 2028
(Final Plan)

Prepared by: Collier County Conservation Collier Staff

Table of Contents

Land Management Plan Executive Summary

The most recent Interim Management Plan was approved by the Board of County Commissioners on January 26, 2021. After 17 years of management under an Interim Management Plan, now that a majority (77.7%) of the multi-parcel project boundary has been acquired this now becomes a Final Management Plan.

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

Properties included in this Plan: Red Maple Swamp Preserve
Preserve lands consist of 83 parcels located within Section 8, Township 48, and Range 27 in Collier County, Florida. Full legal descriptions are provided in the appendix (Table 12.2).

Total Acreage: 237.43

Management Responsibilities: Collier County Conservation Collier Program staff

Designated Land Use: Preservation

Unique Features: Red Maple Swamp Preserve is an excellent example of a wetland hardwood forest community and contains many mature red maples in areas outside of those historically farmed. Even previously farmed areas show significant red maple re-growth.

Desired Future Conditions:

Vegetation: A preserve with high quality wetland hardwood forest 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 Final Land Management Plan drafting process, a public meeting will be held in May 2023, to gather input from members of the public and preserve stakeholders.

Introduction

The 305.69-acre target area was approved for acquisition by the Board of County Commissioners (BCC) on January 27, 2004; since then, Conservation Collier has acquired 83 parcels in a checkerboard fashion for a total of 237.43 acres. The Red Maple Swamp Preserve is a nature preserve located in the North Golden Gate Estates (NGGE) Unit 53. It is largely comprised of wetland hardwood swamp dominated by red maple (*Acer rubrum)*. Currently, the preserve is designated resource protection and closed to the public, but there is a sixty-foot platted Right of Way easement dedicated for public right away, including utilities, along the preserve's northern boundary, Shady Hollow Blvd. W. A second platted Right of Way easement is oriented along an east-west direction, 41st Ave NW, and bisects the preserve. The County holds fee simple title. The Conservation Collier Program manages this parcel under authority granted by the Conservation Collier Ordinance 2002-63, as amended (available from www.municode.com). Management activities allowed are those necessary to preserve and maintain this environmentally sensitive land for the benefit of present and future generations. Future public use of this site must be consistent with these goals.

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 and 2020 ballot referendum. Both 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 the 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 BCC established the Conservation Collier Program to implement the program and to manage acquired lands. As such, Conservation Collier holds management authority for the Red Maple Swamp Preserve.

Purpose and Scope of Plan

The purpose of the final management plan is to provide long term management direction for the Red Maple Swamp 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 educational use. This plan is divided into sections that include an introduction, parcel description, management element conditions, objectives, potential tools, and a projected budget.

Parcel Description

1. Location

1.1. Description

The Preserve is in the North Golden Gates Estates Unit 53 area of Collier County, FL in Section 8, Township 48, and Range 27. The Preserve is situated immediately south of CREW Bird Rookery Swamp trailhead, approximately 1 mile west of Wilson Blvd. N. (Figure 1.1.1). The Preserve is comprised of 83 mostly contiguous parcels ranging from 1.12 to 9.16-acres for a total of 237.43-acres (Table 12.1).

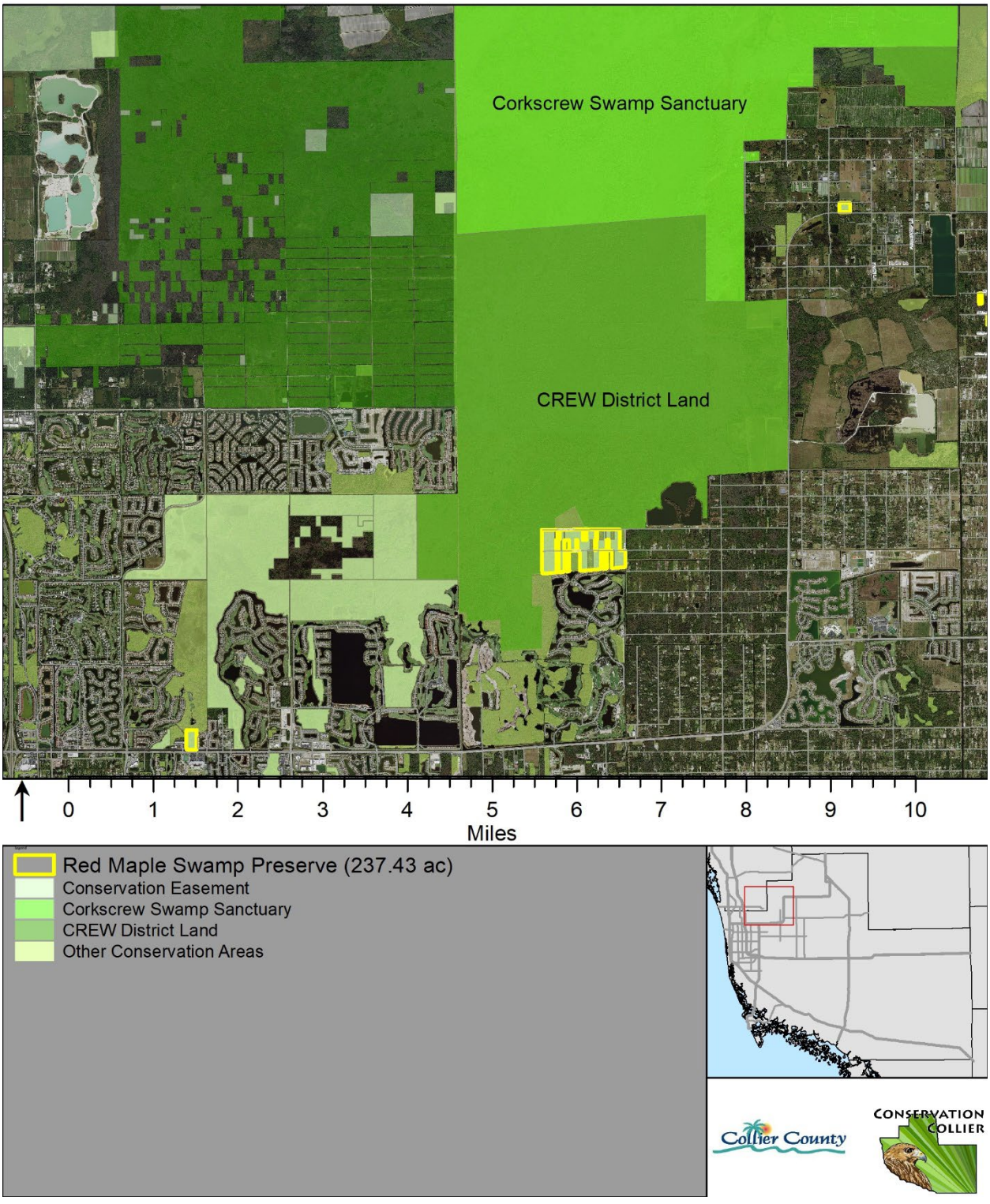


Figure 1.1.1. Overview map of Red Maple Swamp Preserve and surrounding conservation areas

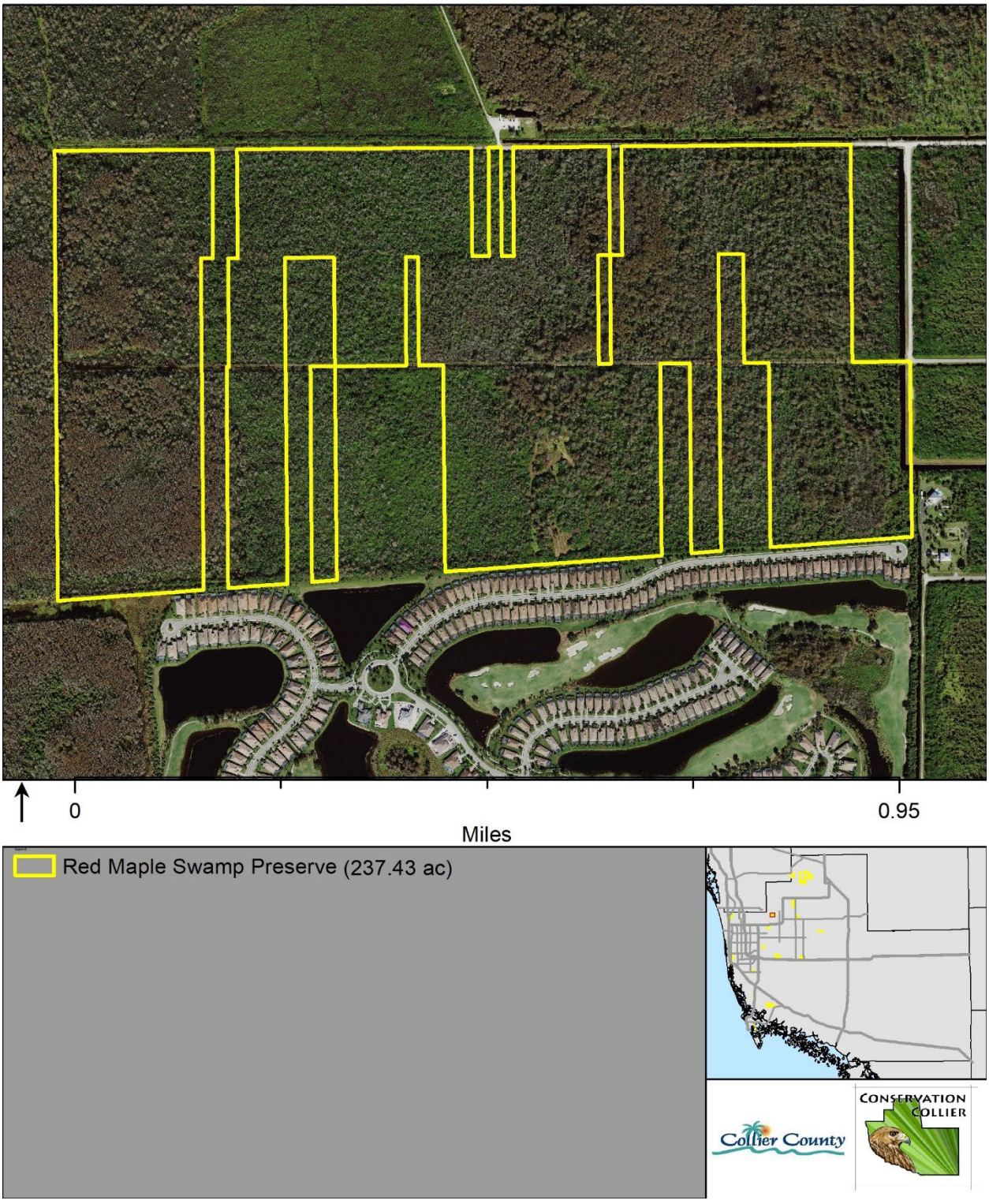


Figure 1.1.2. 2022 Aerial close-up

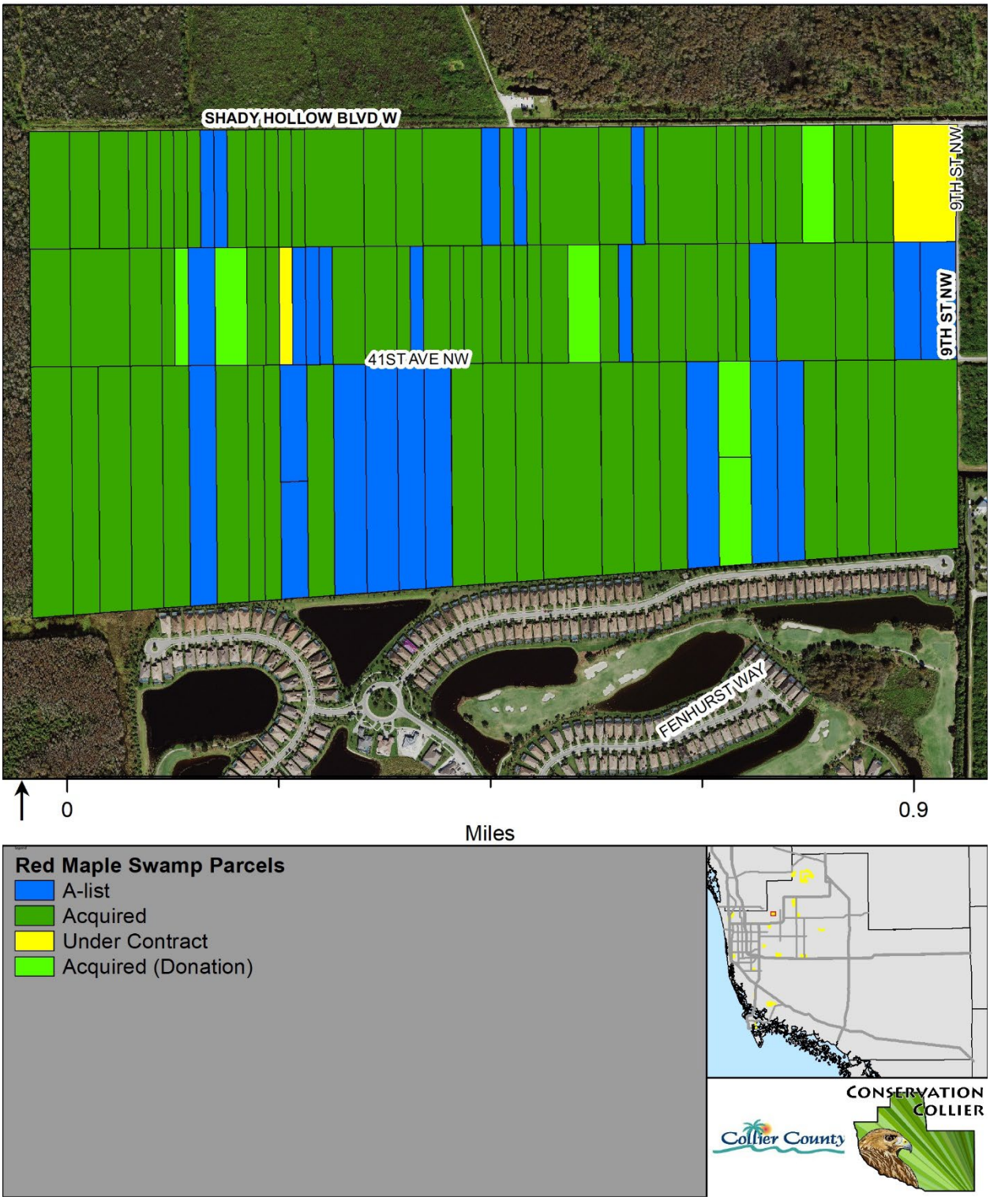


Figure 1.1.3 Red Maple Swamp Target Area Status

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 yellow and blue. The preserve is an excellent example of a wetland hardwood forest community where most, if not all, of the preserve experiences surface water ponding at some point during the year.

Aquifer Recharge Potential

The preserve is within a Priority 6 CLIP4 Aquifer Recharge designation and is not within a wellfield protection zone as designated by 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 4 soil types mapped within the preserve (Figure 2.1.3), three of which are hydric soil. Hydric soil present consists of one fine sand and two depressional sands. A hydric soil is 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 entire area is comprised of hydric soil expect a 3-acre portion of Boca fine sand in the southeastern corner of the preserve.

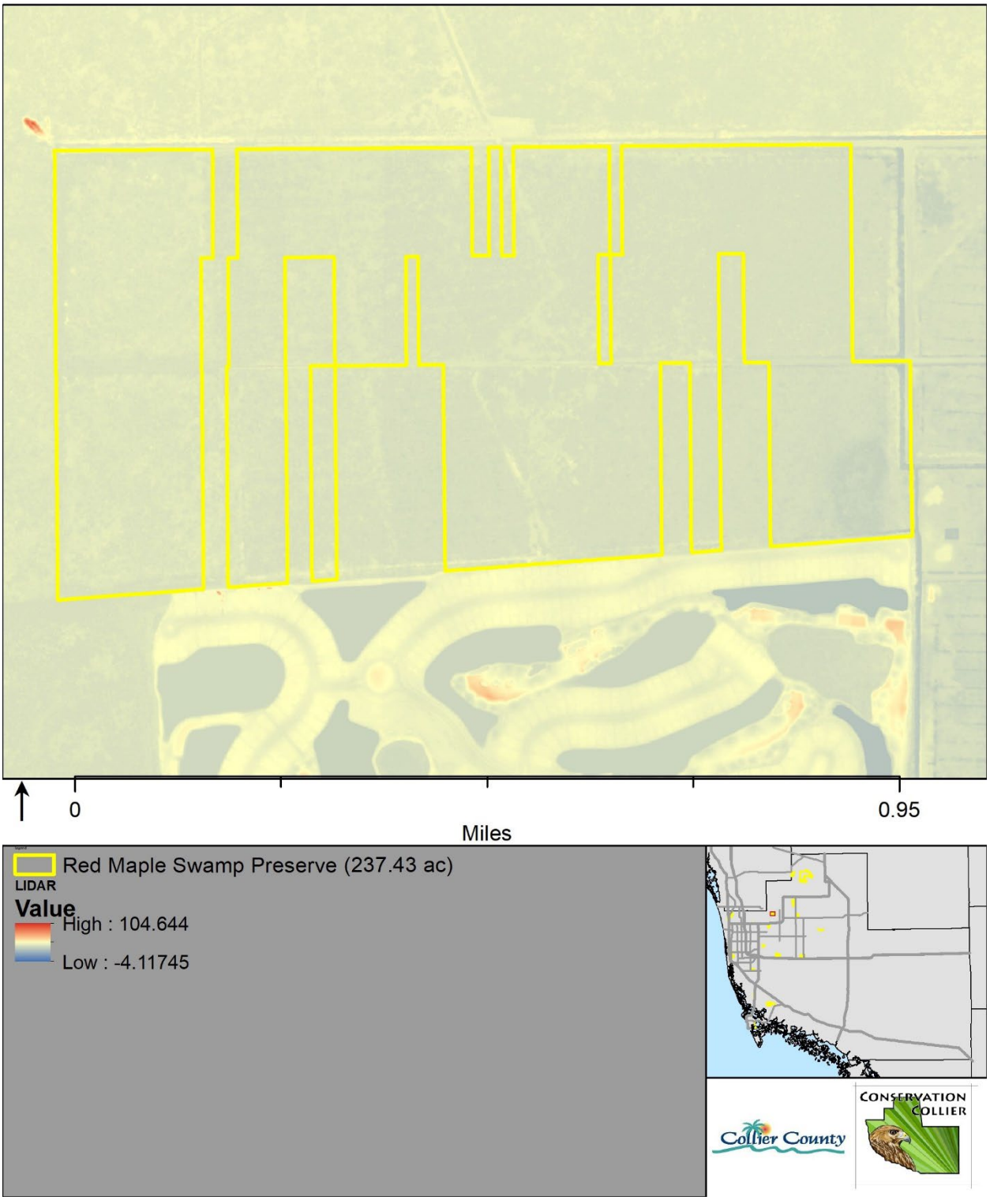


Figure 2.1.1. Topographical Map (LIDAR)

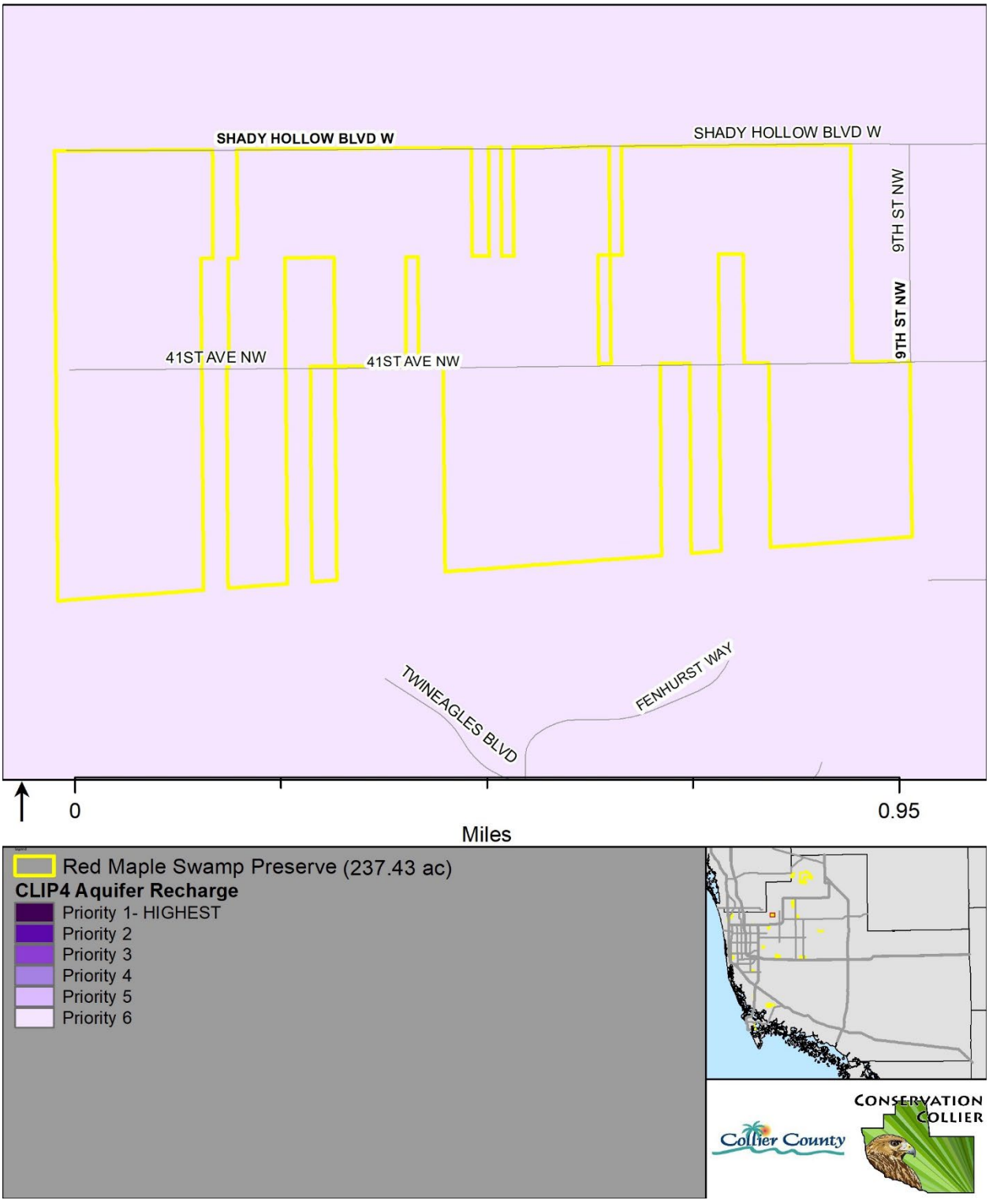


Figure 2.1.2. Aquifer Map (CLIP4 Aquifer Priority Map and Wellfield Protection Zones)

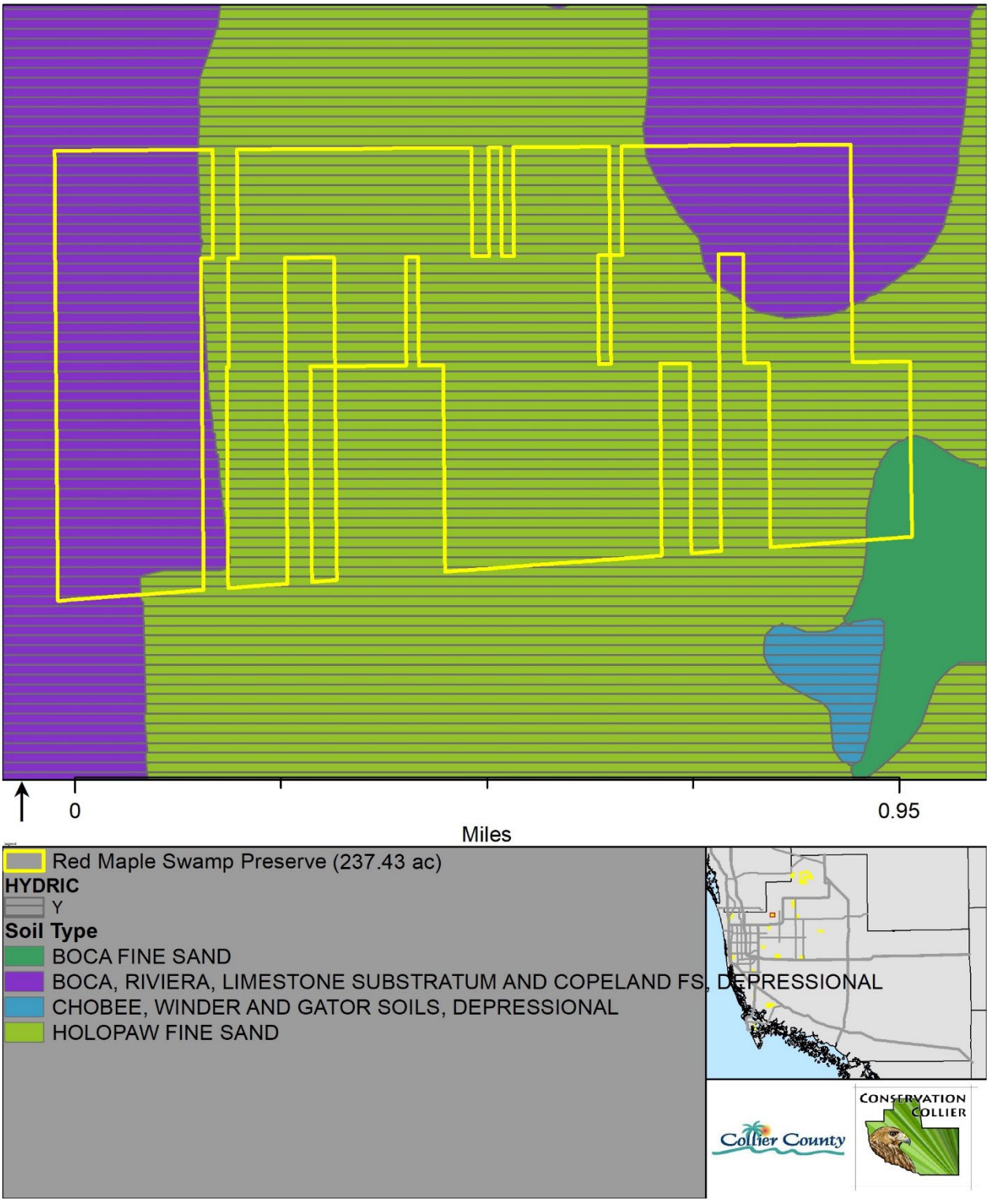


Figure 2.1.3. Hydric Soils Map (Collier County Soils Survey)

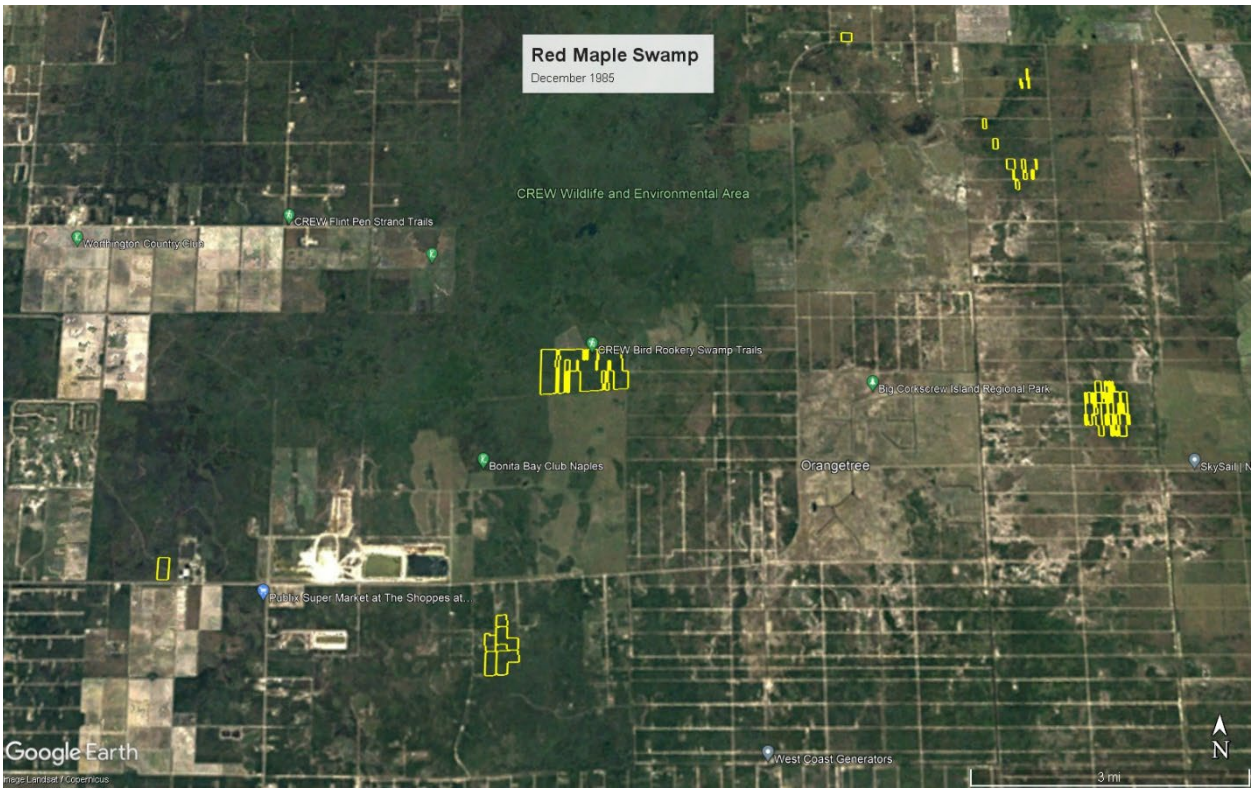
3. Historical Land Use

3.1. Description

Aerial imagery (Photoset 3.1.1) dating back to 1969 shows significant alteration to nearby lands inside and surrounding the preserve. Adjacent land to the south is cleared of timber that would eventually be developed into the Twin Eagles community. Immediately north and west of the preserve, the Corkscrew Swamp watershed remains intact, while lands east of the preserve are subdivided by a network of roads and most of the land east of Immokalee Road has been deforested. By 2006, lands to the south and southwest have begun development into private communities; adjacent parcels to the east display an increase in single family home construction, while lands along Immokalee Road have received extensive development. This development pattern would continue, as evidenced by the aerial imagery from 2022. Corkscrew Regional Ecosystem Watershed Trust, Inc. (CREW) land and other conservation lands directly to the north and west of Red Maple Swamp, comprising a large, regional watershed, have generally remained intact.

Photoset 3.1.1. Historical Aerial Imagery

1969 Aerial Imagery of Preserve's Western Half



December 1985

January 2006

September 2022

4. Adjacent Land Use

4.1. Description

Red Maple Swamp Preserve is adjacent to South Florida Water Management District (SFWMD) lands to the north and west. A 43-acre Collier County-owned, un-restored, fallow agricultural, wetland mitigation parcel also exists to the north of the preserve. To the east, the preserve is bordered by Estates zoned property that is mostly undeveloped and to the south by Phase II of the Twin Eagles Development (Figure 1.1.1).

5. Acquisition and Expansion

5.1. Acquisition Description

On January 27th, 2004, the CCLAAC recommended the multi-parcel project area for the acquisition A-list. Since then, Conservation Collier has acquired 83 parcels in a checkerboard fashion for a total of 237.43 acres.

5.2. Potential Preserve Expansion

Conservation Collier is targeting the remaining parcels within the multi-parcel project area. Acquiring the remaining parcels in this area would simplify land management by allowing us to treat non-native plants across the entirety of the project area.

Management

6. Vegetation Management

6.1. Current Vegetative Community Conditions

The following are the Cooperative 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. Four plant communities have been identified across Red Maple Swamp Preserve – these plant communities, along with general descriptions, can be found below. There has been significant recolonization of red maple (*Acer rubrum)* across the preserve since historical logging and farming occurred.

2240 Mixed Hardwood Coniferous Swamps – Includes mixed wetlands forest communities in which neither hardwoods nor conifers achieve a 66 percent dominance of the crown canopy composition.

Notes: These areas were at high infestations of *Lygodium* spp.* and Brazilian pepper at the time of acquisition.

Major Canopy Components: Bald cypress (*Taxodium distichum),* red maple (*Acer rubrum),* laurel oak (*Quercus laurifolia),* cardinal airplant (*Tillandsia fasciculata)*

Major Midstory Components: Pop ash (*Fraxinus caroliniana),* Pond apple (*Annona glabra),* swamp bay (*Persea palustris),* climbing fern* (*Lygodium spp.),* Brazilian pepper* (*Schinus terebinthifolia)*

Major Understory Components: Sawgrass (*Cladium jamaicense)*, royal fern (*Osmunda regalis)* swamp fern (*Blechnum serrulatum*), crinum lily (*Crinum americanum),* peppervine (*Ampelopsis arborea),* false nettle (*Boehmeria cylindrica),* whitevine (*Funastrum clausum),* greenbriar (*Smilax* spp.), poison ivy (*Toxicodendron radicans*), pickerel weed (*Pontederia cordata),* alligator flag (*Thalia geniculata)*

2233 Mixed Wetland Hardwoods – Wetland hardwood communities which are composed of a large variety of hardwood species tolerant of hydric conditions yet exhibit an ill-defined mixture of species.

Notes: These areas were at high infestations of *Lygodium* spp.* and Brazilian pepper at the time of acquisition.

Major Canopy Components: Red maple (*Acer rubrum),* laurel oak (*Quercus laurifolia),* pop ash (*Fraxinus caroliniana),* pond apple (*Annona glabra),* swamp bay (*Persea palustris),* dahoon holly (*Ilex cassine)*

Major Midstory Components: Swamp dogwood (*Cornus foemina),* buttonbush (*Cephalanthus occidentalis), w*ax myrtle (*Myrica cerifera),* pop ash (*Fraxinus caroliniana),* pond apple (*Annona glabra),* climbing fern* (*Lygodium spp.)*

Major Understory Components: Royal fern (*Osmunda regalis),* crinum lily (*Crinum americanum),* false nettle (*Boehmeria cylindrica),* greenbriar (*Smilax* spp.), poison ivy (*Toxicodendron radicans*), wild coco (*Eulophia alta).*

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

Notes: These areas were at high infestations of *Lygodium* spp.* at the time of acquisition.

Major Canopy Components: Cypress (*Taxodium distichum),* melaleuca* (*Melaleuca quinquenervia),* cabbage palm (*Sabal palmetto),* cardinal airplant (*Tillandsia fasciculata)*

Major Midstory Components: Melaleuca* (*Melaleuca quinquenervia),* cabbage palm (*Sabal palmetto), w*ax myrtle (M*yrica cerifera),* pop ash (*Fraxinus caroliniana)*, pond apple (*Annona glabra),* climbing fern* (*Lygodium spp.)*

Major Understory Components: Sawgrass (*Cladium jamaicense)*, royal fern (*Osmunda regalis)* swamp fern (*Blechnum serrulatum*), crinum lily (*Crinum americanum),* peppervine (*Ampelopsis arborea),* false nettle (*Boehmeria cylindrica),* whitevine (*Funastrum clausum),* greenbriar (*Smilax* spp.), poison ivy (*Toxicodendron radicans*), pickerel weed (*Pontederia cordata),* alligator flag (*Thalia geniculata)*

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 dried sites. Persistent examples of shrub wetlands include shrub bogs and willow swamps.

Notes: These areas were at high infestations of *Lygodium* spp.* at the time of acquisition.

Major Canopy Components: Carolina willow (*Salix caroliniana),* buttonbush (*Cephalanthus occidentalis),* swamp dogwood (*Cornus foemina),* melaleuca* (*Melaleuca quinquenervia)*

Major Midstory Components: Melaleuca* (*Melaleuca quinquenervia),* Brazilian pepper* (*Schinus terebinthifolia)*

Major Understory Components: swamp fern (*Blechnum serrulatum)*, broomsedge (*Andropogon* spp.)*,* Sawgrass (*Cladium jamaicense),* pickerel weed (*Pontederia cordata),* alligator flag (*Thalia geniculata)*

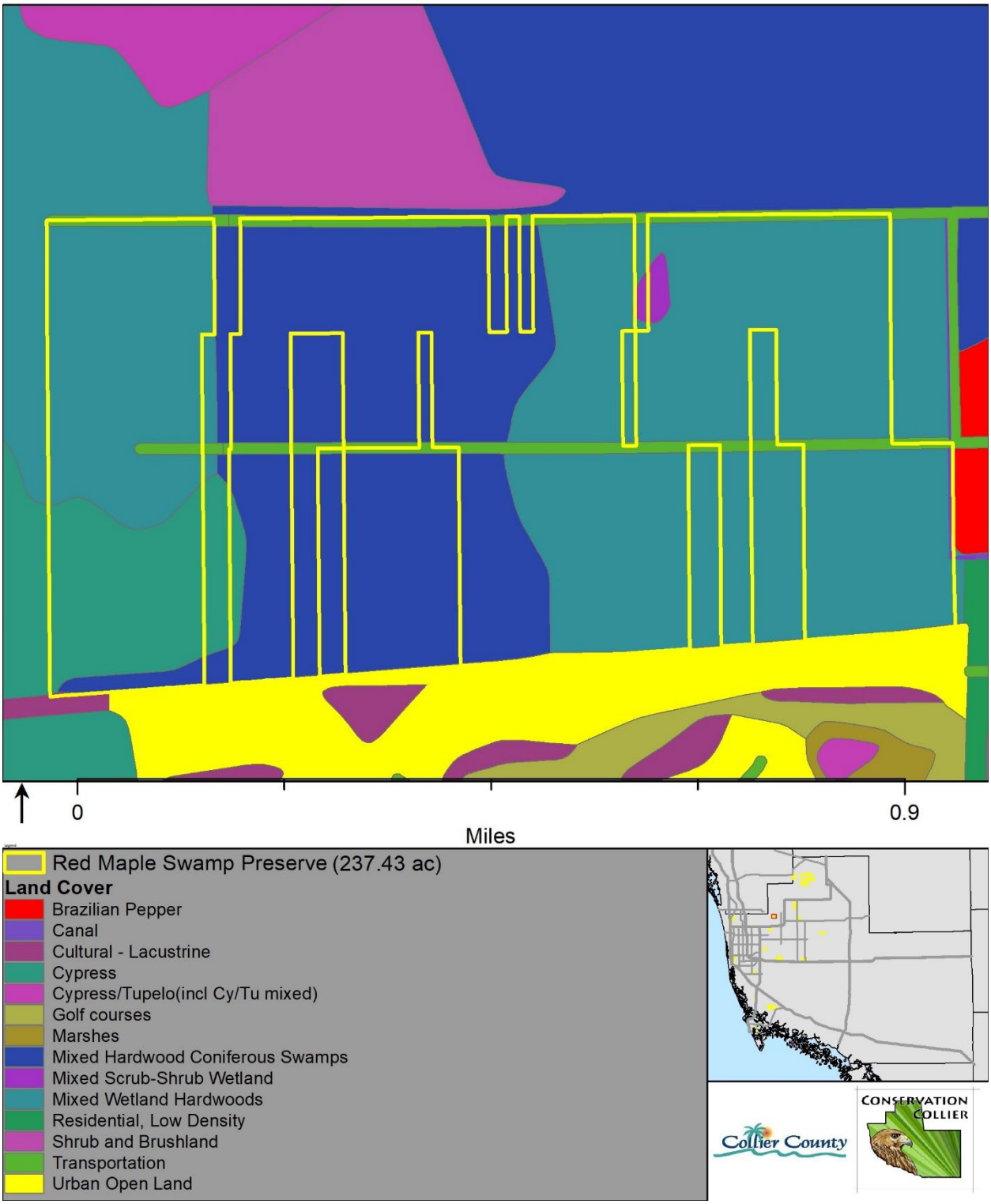


Figure 6.1.1. Cooperative Land Cover Classification Map

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
Night Scented Orchid	*Epidendrum nocturnum*	Endangered	Not Listed
Stiff-Flower Star Orchid	*Epidendrum rigidum*	Endangered	Not Listed

6.1.3. Vegetation Management Concerns

Restoring native plant communities and reducing all Category I and II invasive plants below 10% infestation are the primary vegetation management concerns on this preserve. Historically, sections of the preserve were cleared for agriculture and furrows were installed; commercial logging also occurred. Since clearing, native and non-native vegetation has recolonized, including a significant regeneration of the native red maple (*Acer rubrum).* *Lygodium* spp. is the most prevalent non-native, invasive species found on the preserve. Brazilian pepper (*Schinus terebinthifolia)* is also a problematic species dispersed across the preserve. Para grass (*Brachiaria mutica)* and creeping signal grass (*Urochloa humidicola)* are the most prevalent non-native, invasive grasses found on the preserve, however they are mostly confined to the roadside swales and the partially cleared Cabrera parcel that was recently purchased. Special consideration should be made to monitor and plan for subsequent herbicide applications targeting these nuisance species.

6.2. Desired Future Conditions

A preserve with a matrix of hydric plant communities and less than 10% infestation of non-native, invasive species.

6.3. Management Tools

6.3.1. Invasive Plant Removal

The preserve is >30% infested with non-native, invasive plants, primarily *Lygodium* spp., Brazilian pepper (*Schinus terebinthifolia),* Peruvian primrose willow (*Ludwigia peruviana),* para grass (*Brachiaria mutica),* and creeping signal grass (*Urochloa humidicola).* Herbicidal treatments will be the primary method used to control Category I and II invasive species. Herbicide applications have been occurring since 2013, with treatments initially focused on large, contiguous blocks of parcels. As more interior parcels have been acquired, Conservation Collier is now treating the entirety of the preserve's 237.43 acres.

In January of 2018, Florida Fish and Wildlife Conservation Commission (FWC) CREW biologists notified Conservation Collier land managers of aerial observations of a high-density area of an invasive climbing fern (*Lygodium* spp.) seen during a monthly wading bird monitoring flight. Conservation Collier staff mapped the area of concern, carried out a site inspection, and collected data on the area of infestation. Staff set up “before and after” photo monitoring points (Photoset 6.3.2) and coordinated with the FWC Upland Invasive Plant Management Section (IPMS) to secure funding for an Early Detection Rapid Response (EDRR) treatment for the 12.78-acre infestation area given its size and location to adjacent natural areas.

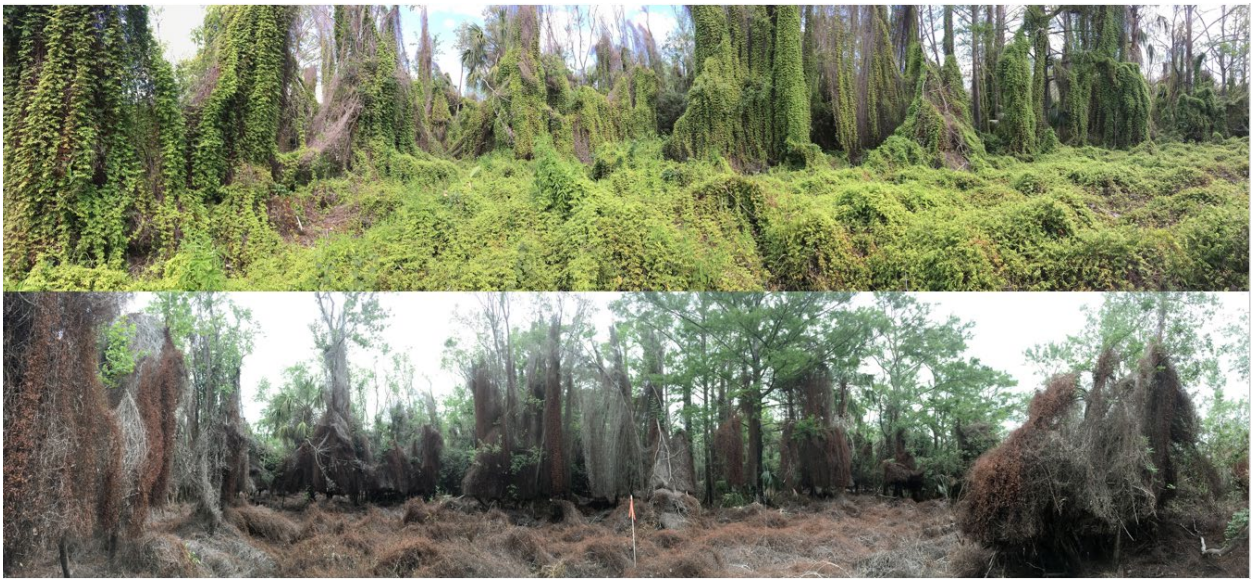
Beginning in FY2018-19, Conservation Collier has been applying for yearly funding assistance through FWC’s IPMS program. The IPMS program, during its more than two decades of operation, has spent $251 million on 3,438 invasive plant treatments across more than 700 federal, state, and local managed areas that comprise over 10 million acres, or 90% of all conservation land in the state. Conservation Collier has been awarded IPMS funding on three separate occasions at Red Maple Swamp Preserve totaling 303.1 treatment acres across the 237.43-acre preserve.

Included in those 303.1 acres, is IPMS funding for a 107.1-acre initial treatment during FY2022-23. After this treatment occurs, every Red Maple Swamp Preserve parcel will have received at least one invasive plant treatment, with many parcels having received several iterations; initial treatments will continue to be enacted as new parcels are acquired. After the FY2022-23 treatments (Photoset 6.3.3), the entire preserve will be in maintenance phase for the treatment of nuisance, invasive plants. Maintenance phase for invasive plants is defined by the IPMS program as utilizing control techniques in a coordinated manner on a continuous basis to maintain nuisance plant populations at the lowest feasible level if they cannot be completely eradicated.

Monitoring of the site shall consist of a walk-through by staff at semi-annual intervals. Conservation Collier shall be responsible for exotic plant treatment with tasks contracted out as deemed necessary. Prior to any land management activities, photo monitoring points will also be established at strategic locations within the project area to monitor vegetation communities.

Photoset 6.3.2 EDRR Treatment for Lygodium

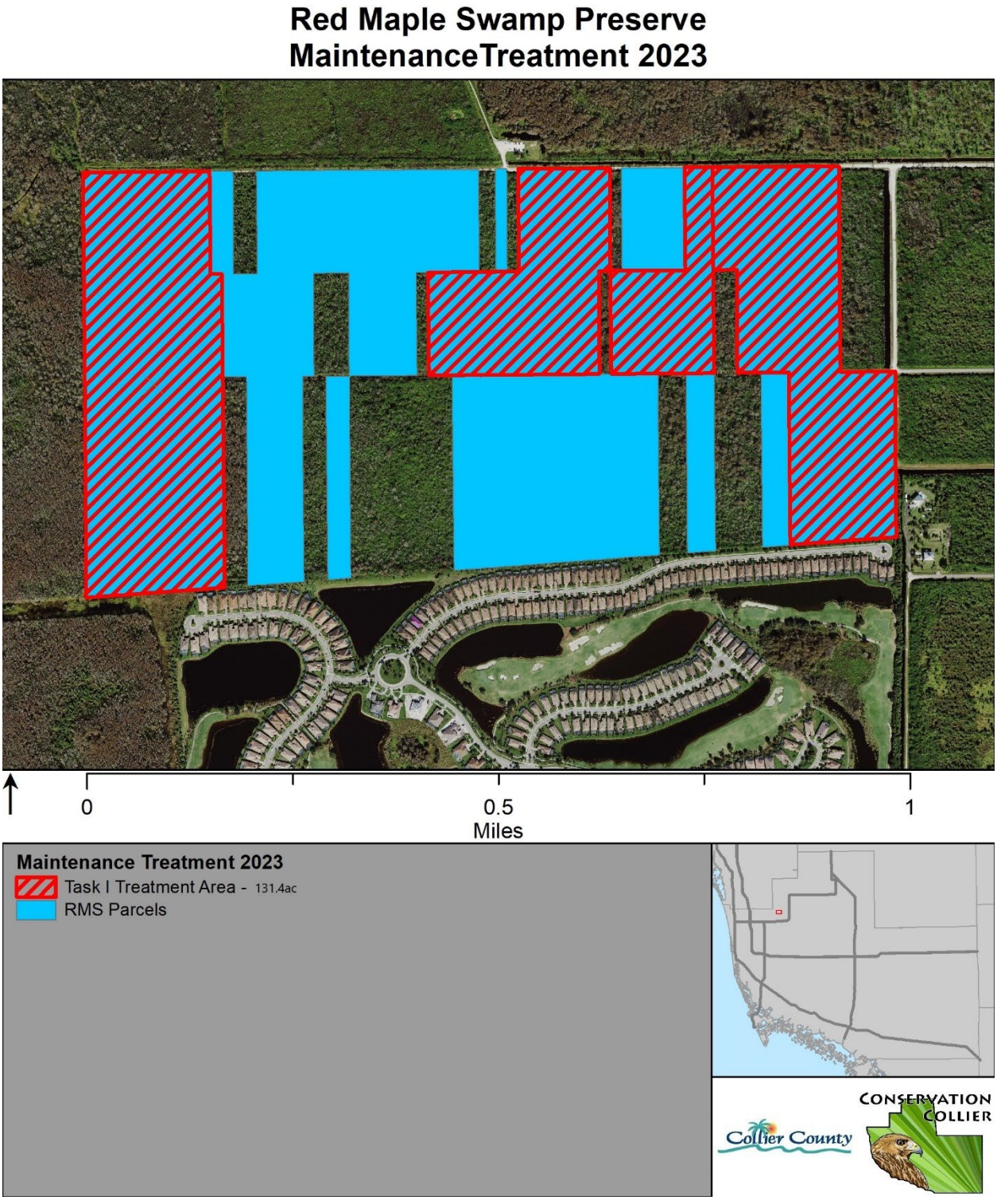
Before and After Treatment Photo of Photo monitoring Point 5



Before and After Treatment Photo of Photo monitoring Point 2

Photoset 6.3.3 – 2023 Invasive Plant Treatments

2023 IPMS Funded Invasive Plant Treatment Shown in Red



2023 Inhouse Funded Invasive Plant Treatment Shown in Red

6.3.4. Native Plant Restoration

Native plantings will be appropriately utilized should management deem vegetative restoration necessary.

6.3.5. Prescribed Fire

Plant communities within this preserve aren't historically dependent on prescribed fire. The recently acquired Cabrera parcel has a cleared, upland area comprised of grasses and other herbaceous plants. Prescribed fire will be considered in this area as maintaining a shrub-free, diverse grassland would be beneficial for insects and wildlife.

6.3.6. Hydrological Restoration

The preserve sits on the edge of the Corkscrew Regional Ecosystem Watershed. While the bottom lands of this watershed have generally remained intact, they were historically logged and areas peripheral to the watershed were cleared and drained to promote agricultural and residential uses. Despite land alterations adjacent to and within the preserve (41st Ave. NW bisects the preserve), it receives substantial inundation during the wet season which continues to promote the wetland plant communities found across the preserve. Currently, no hydrological restoration projects are being considered. However, when situations arise where preserves could be part of a water management/restoration plan, Conservation Collier will support these plans as long as they don't negatively affect the preserve.

6.4. Partnership Opportunities

Conservation Collier will continue to seek funding assistance from the FWC IPMS program. This program has been critical in conducting initial, and otherwise cost prohibitive, invasive plant removal projects over the past 20 years. SFWMD staff has indicated that they are open to the potential for expanding the CREW project boundaries around NGGE Unit 53, or portions thereof, and there may be opportunity for management assistance once a larger area of contiguous parcels is acquired. County staff has also had discussions with CREW about the possibility of CREW acquiring and conveying NGGE Unit 53 properties over to Collier County. In May 2011, the CREW Land and Water Trust conveyed two parcels to Collier County to be incorporated within the boundary layer of the NGGE Unit 53 acquisition parcels.

7. Wildlife Management

7.1. Current Wildlife Community Conditions

State and federally listed imperiled species observed utilizing the preserve lands include the woodstork *(Mycteria americana)*, little blue heron (Egretta caerulea), crested caracara (Caracara cheriway), Florida panther (Puma concolor coryi), Florida bonneted bat (Eumops floridanus), and American alligator (*Alligator mississippiensis*). The seasonally inundated portions of the property provide habitat for a variety of imperiled wading birds, reptiles, and amphibians.

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*	
	Florida bonneted bat	*Eumops floridanus*	Federally Endangered
Birds			
	Red-bellied woodpecker	*Melanerpes carolinus*	
	Blue jay	*Cyanocitta cristata*	
	Northern mockingbird	*Mimus polyglottos*	
	Woodstork	*Mycteria americana*	
	northern cardinal	*Cardinalis cardinalis*	
	European starling*	*Sturnus vulgaris*	
	Crested caracara	*Caracara cheriway*	Federally Threatened
	Great blue heron	*Ardea herodia*	
	Great egret	*Ardea alba*	
	Red-shouldered hawk	*Buteo lineatus*	
	Little blue heron	*Egretta caerulea*	State Threatened
	Wild turkey	*Meleagris gallipavo*	
Reptiles			
	American alligator	*Alligator mississippiensis*	
	Black and white tegu lizard	*Salvator merianae*	
Amphibians			
	brown anole*	*Anolis sagrei*	
	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

Birds	Everglade's snail kite	*Rostrhamus sociabilis plumbeus*	Federally Endangered
	Roseate spoonbill	*Platalea ajaja*	State Threatened
	Tricolored heron	*Egretta tricolor*	State Threatened

7.1.2. Wildlife Management Concerns

Due to the preserve's proximity to the Golden Gate Estates, an existing network of access roads, and private inholdings within the preserve, poaching of game at the preserve is of management concern. An exotic black and white tegu has been observed on Shady Hollow Blvd. near the preserve. These exotic reptiles can grow up to 4-feet in length and display an omnivorous diet. They prey on a wide variety of items such as small birds, snakes, anurans, insects, and eggs. Tegus tend to prefer habitat where they can burrow, so the seasonal flooding of Red Maple Swamp would seem to be a hinderance to an established population.

7.2. Desired Future Conditions

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

7.3. Management Tools

7.3.1. Habitat Improvements

Treatment and removal of invasive plant species, primarily lygodium, Brazilian pepper, Peruvian primrose willow, para grass, and signal grass, will allow desired native species to recover. As invasive plant treatments are reduced in cost and reach maintenance level across all acquired parcels, land managers will investigate and monitor encroachment of native plants such as Carolina willow (*Salix caroliniana)* into interior wetlands. Due to canals and excessive drainage altering the preserve's hydroperiod, the establishment of a shrubby midstory can become more likely across seasonally flooded areas. While isolated clusters of shrubs can provide important nesting and rookery habitat for birds, when left unchecked woody shrub encroachment can reduce plant diversity in the understory, especially along the margins of cypress swamps and across depressional wetlands.

7.3.2. Connectivity

Land to the south and east of the preserve is zoned for residential development. Twin Eagles subdivision has already been developed to the south, while single family homes continue to be developed east of the preserve. Lands to the west and north of the preserve consist of a network of conservation lands under permanent protection. These lands along with Red Maple Swamp Preserve have a well-documented history of Florida panther (*Puma concolor coryi)* observations (Figure 7.3.2). Maintaining these connected lands allows for panthers to disperse north out of the Golden Gate Estates area without having to cross a multitude of highways.

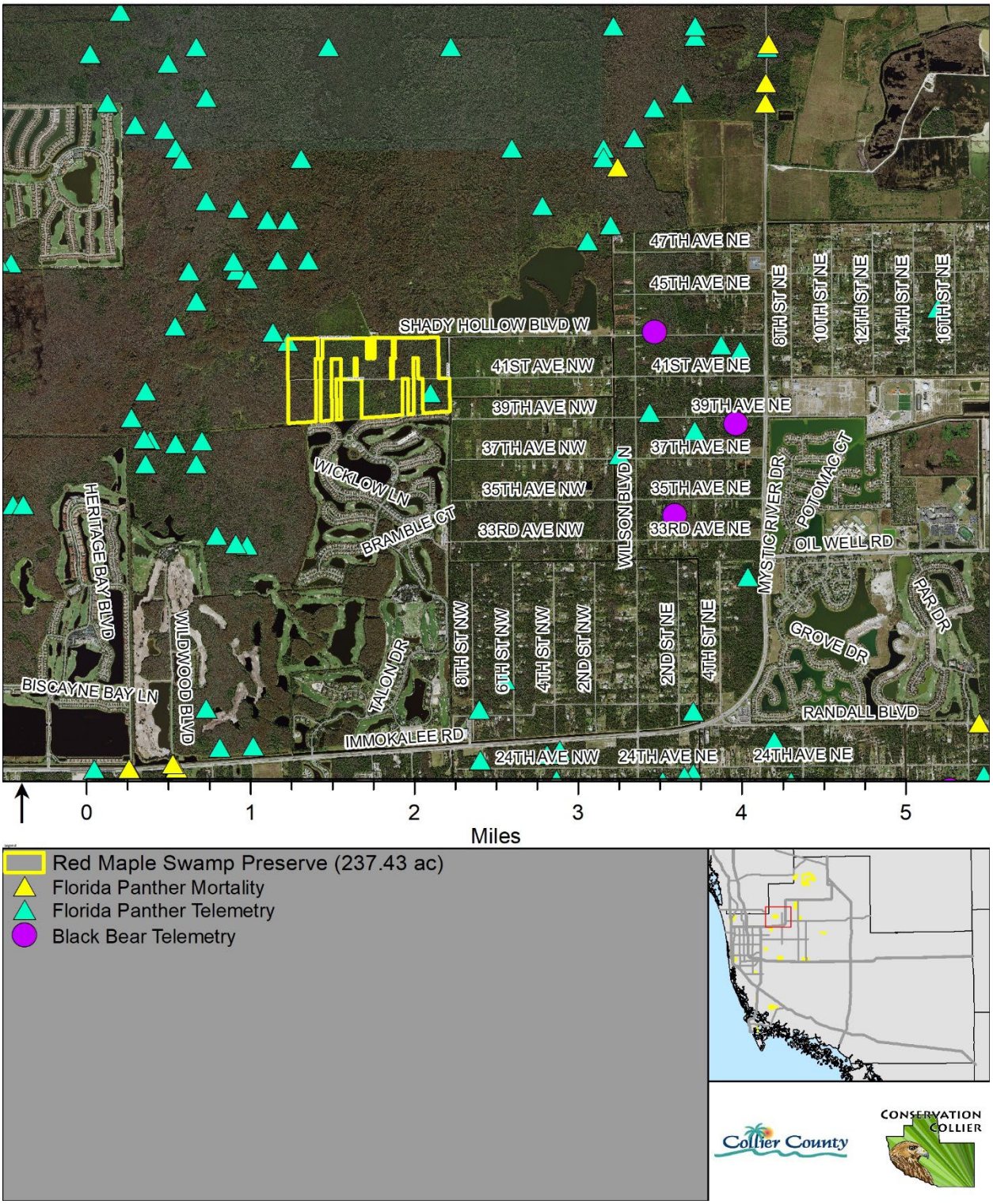

47TH AVE NE
45TH AVE NE
SHADY HOLLOW BLVD W
41ST AVE NW
41ST AVE NE
39TH AVE NW
39TH AVE NE
37TH AVE NW
37TH AVE NE
35TH AVE NW
35TH AVE NE
33RD AVE NW
33RD AVE NE
24TH AVE NW
24TH AVE NE
24TH AVE NE
8TH ST NE
10TH ST NE
12TH ST NE
14TH ST NE
16TH ST NE
WICKLOW LN
BRAMBLE CT
WILSON BLVD N
MYSTIC RIVER DR
POTOMAC CT
OIL WELL RD
PAR DR
GROVE DR
RANDALL BLVD
HERITAGE BAY BLVD
BISCAYNE BAY LN
WILDWOOD BLVD
TALON DR
IMMOKALEE RD
8TH ST NW
6TH ST NW
4TH ST NW
2ND ST NW
2ND ST NE
4TH ST NE
0
1
2
3
4
5
Miles
Red Maple Swamp Preserve (237.43 ac)
Florida Panther Mortality
Florida Panther Telemetry
Black Bear Telemetry
Collier County
CONSERVATION COLLIER

Figure 7.3.3. – Florida Panther Telemetry Locations

7.3.4. Consumptive Wildlife Use

Portions of the preserve were 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 of the preserve would make hunting large game difficult. Hunting occurred on the recently acquired Cabrera parcel and the Osceola turkey (*Meleagris gallipavo)* is known to frequent this area of the preserve. Guided, limited entry, special opportunity turkey 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.

7.3.5. Monitoring

It is presumed that several listed species, such as Florida bonneted bats, Big Cypress fox squirrels, and wood storks will be documented on the preserve. Conservation Collier staff will deploy trail cameras on the preserve to monitor wildlife utilization.

7.4. Partnership Opportunities

Conservation Collier staff will continue to partner and share data and observations with wildlife management agencies such as the FWC 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. As the preserve continues to become more contiguous, a seasonal trail could be installed with the trailhead strategically located near the Bird Rookery Swamp parking lot. A conceptual drawing of this trail can be seen on Figure 8.3.3.

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	No

8.3. Management Tools

8.3.1. Access Improvements

Future access to the preserve should it be opened to the public would be via Shady Hollow Blvd. and 41st Ave. NW. (Figure 8.3.3). Parking for the preserve and the conceptual hiking trail could be coordinated through the CREW parking lot at Bird Rookery Swamp, however a partnership and agreement would need to be discussed before this could be implemented.

8.3.2. Amenity Installation/Enhancement

Once public access has been granted, a primitive hiking trail could be installed. A kiosk at the trailhead would need to be installed and the trail would be under water for most of the year, likely limiting visitor use to the dry season. Trails and amenities will be designed in such a way as to minimize disturbance to sensitive species and habitats. A conceptual drawing of the trail can be seen in Figure 8.3.3. and is subject to change based on ground truthing and the acquisition of new parcels.

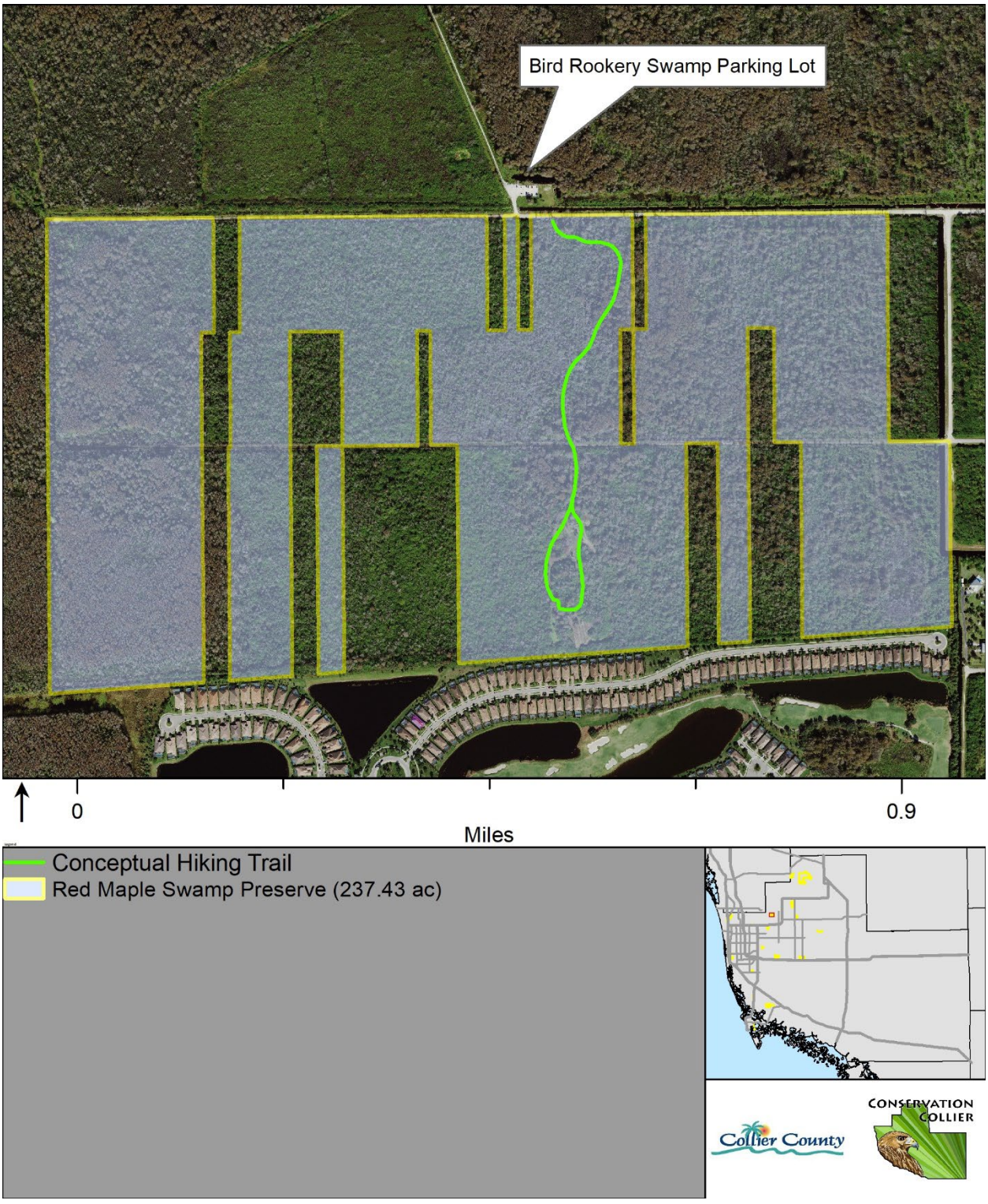


Figure 8.3.3 - Conceptual Hiking Trail

8.4. Partnership Opportunities

There is an opportunity for a partnership with CREW Bird Rookery Swamp to share their parking lot for access to Conservation Collier's hiking trail, should one be installed.

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 the west end of Shady Hollow Blvd. along with an off-road trail along the western boundary of the preserve. The preserve could also be utilized by people looking to poach game. With the network of conservation lands in the immediate area, FWC Law Enforcement does provide some security at the preserve, however regular off-road access appears to occur along the western boundary of the preserve.

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 and FWC Law Enforcement to address issues as they arise. Site security may be enhanced by increasing law enforcement presence in the area.

9.3.2. Debris Removal

There are remnants of a dilapidated travel trailer and hunting blind on the recently acquired Cabrera parcel that will need to be removed. 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 and FWC Law Enforcement 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.

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.

11. Budget

Table 11.1. Projected Expenditures Table

Projected Operating Costs	2023	2024	2025	2026	2027
Vegetation Treatment/Removal	$35,475	$30,000	$30,000	$30,000	$27,500
Trailhead Kiosk**					$2,500
Debris Removal		$6,000			
Total Projected Costs	$35,475	$36,000	$30,000	$30,000	$30,000

** Pending parcel acquisition to create more contiguity – no definite timeline

12. Appendix

Table 12.1. Legal Description

Folio	Calculated Acres	Legal Description
39490040007	7.33	GOLDEN GATE EST UNIT 53 TR 1
39490080009	3.44	GOLDEN GATE EST UNIT 53 TR 2
39490120008	3.43	GOLDEN GATE EST UNIT 53 TR 3 OR 1899 PG 1291
39490160000	2.50	GOLDEN GATE EST UNIT 53 E1/2 OF TR 4
39490160107	2.51	GOLDEN GATE EST UNIT 53 W1/2 OF TR 4
39490200009	5.00	GOLDEN GATE EST UNIT 53 TR 5 OR 979 PG 1453
39490240001	4.79	GOLDEN GATE EST UNIT 53 W 150FT OF TR 6
39490280003	5.71	GOLDEN GATE EST UNIT 53 E 180FT OF TR 6
39490320002	5.66	GOLDEN GATE EST UNIT 53 W 180FT OF TR 7 OR 1899 PG 1291
39490360004	4.68	GOLDEN GATE EST UNIT 53 E 150FT OF TR 7 OR 1565 PG 2015
39490400003	1.14	GOLDEN GATE EST UNIT 53 W 75FT OF E 150FT OF TR 8 OR 585 PG 1740
39490440005	2.73	GOLDEN GATE EST UNIT 53 W 180FT OF TR 8
39490480007	1.14	GOLDEN GATE EST UNIT 53 E 75FT OF TR 8
39490520006	1.14	GOLDEN GATE EST UNIT 53 E 75FT OF W 180FT OF TR 9 OR 951 PG 270

39490560008	1.59	GOLDEN GATE EST UNIT 53 W 105FT OF TR 9
39490600007	1.14	GOLDEN GATE EST UNIT 53 E 75FT OF TR 9
39490640009	1.14	GOLDEN GATE EST UNIT 53 W 75FT OF E 150FT OF TR 9 OR 1740 PG 1617
39490680001	1.59	GOLDEN GATE EST UNIT 53 E 105FT OF TR 10 OR 1801 PG 734
39490760002	1.14	GOLDEN GATE EST UNIT 53 W 75FT OF TR 10
39490840100	2.73	GOLDEN GATE EST UNIT 53 E1/2 OF TR 11
39490920004	5.52	GOLDEN GATE EST UNIT 53 E 180FT OF TR 12 OR 627 PG 1256
39490960006	2.73	GOLDEN GATE EST UNIT 53 E 90FT OF W 180FT OF TR 13
39491080008	1.14	GOLDEN GATE EST UNIT 53 E 75FT OF W 180FT OF TR 14
39491100001	2.74	GOLDEN GATE EST UNIT 53 W 90FT OF TR 13 2.83AC
39491120007	1.59	GOLDEN GATE EST UNIT 53 W 105FT OF TR 14 OR 597 PG 167
39491200008	1.14	GOLDEN GATE EST UNIT 53 W 75FT OF E 150FT OF TR 15
39491240000	1.14	GOLDEN GATE EST UNIT 53 E 75FT OF W 180FT OF TR 15
39491280002	1.14	GOLDEN GATE EST UNIT 53 E 75FT OF TR 15 OR 492 PG 195
39491320001	1.59	GOLDEN GATE EST UNIT 53 W 105FT OF TR 15
39491360003	5.01	GOLDEN GATE EST UNIT 53 TR 16
39491440004	2.73	GOLDEN GATE EST UNIT 53 E 180FT OF TR 17 OR 396 PG 341
39491520005	4.49	GOLDEN GATE EST UNIT 53 W 150FT OF TR 18
39491680000	1.14	GOLDEN GATE EST UNIT 53 W 75FT OF E 150FT OF TR 20 OR 1453 PG 825
39491720009	2.74	GOLDEN GATE EST UNIT 53 W 180FT OF TR 20
39491800000	2.73	GOLDEN GATE EST UNIT 53 W 180FT OF TR 21 OR 630 PG 662
39491840002	2.28	GOLDEN GATE EST UNIT 53 E 150FT OF TR 21 OR 606 PG 1573
39491880004	5.01	GOLDEN GATE EST UNIT 53 TR 22
39491920003	1.14	GOLDEN GATE EST UNIT 53 W 75FT OF E 180FT OF TR 23
39491960005	2.27	GOLDEN GATE EST UNIT 53 W 150FT OF TR 23
39492000003	1.59	GOLDEN GATE EST UNIT 53 E 105FT OF TR 23 OR 651 PG 1380
39492080007	5.13	GOLDEN GATE EST UNIT 53 E 180FT OF TR 24
39492120006	5.11	GOLDEN GATE EST UNIT 53 W 180FT OF TR 25
39492160008	4.22	GOLDEN GATE EST UNIT 53 E 150FT OF TR 25 OR 299 PG 336
39492200007	1.14	GOLDEN GATE EST UNIT 53 E 75FT OF TR 26
39492240009	1.59	GOLDEN GATE EST UNIT 53 W 105FT OF TR 26
39492280001	1.14	GOLDEN GATE EST UNIT 53 E 75FT OF W 180FT OF TR 26
39492320000	1.14	GOLDEN GATE EST UNIT 53 W 75FT OF E150FT OF TR 26 OR 1397 PG 2231-48
39492360002	1.15	GOLDEN GATE EST UNIT 53 E 75FT OF W 180FT OF TR 27
39492400001	1.14	GOLDEN GATE EST UNIT 53 E 75FT OF TR 27
39492520004	5.02	GOLDEN GATE EST UNIT 53 TR 28 OR 607 PG 1825
39492560006	2.73	GOLDEN GATE EST UNIT 53 E 180FT OF TR 29
39492600005	2.28	GOLDEN GATE EST UNIT 53 W 150FT OF TR 29 OR 351 PG 843

39492640007	9.16	GOLDEN GATE EST UNIT 53 E 150FT OF TR 25 OR 299 PG 336
39492680009	4.91	GOLDEN GATE EST UNIT 53 W 180FT OF TR 31
39492720008	4.05	GOLDEN GATE EST UNIT 53 E 150FT OF TR 31
39492800009	1.59	GOLDEN GATE EST UNIT 53 W 105FT OF TR 32
39492840001	2.27	GOLDEN GATE EST UNIT 53 E150FT OF TR 32
39492920002	2.73	GOLDEN GATE EST UNIT 53 W 180FT OF TR 33
39492960004	1.14	GOLDEN GATE EST UNIT 53 E 75FT OF TR 33
39493000002	5.01	GOLDEN GATE EST UNIT 53 TR 34 OR 1903 PG 333
39493040004	2.27	GOLDEN GATE EST UNIT 53 W 150FT OF TR 35 OR 651 PG 386
39493080006	2.73	GOLDEN GATE EST UNIT 53 E 180FT OF TR 35
39493120005	4.06	GOLDEN GATE EST UNIT 53 W 150FT OF TR 36 OR 1574 PG 8016
39493200006	2.23	GOLDEN GATE EST UNIT 53 W 180FT OF TR 37, LESS THE S 2.26 AC
39493200103	2.51	GOLDEN GATE EST UNIT 53 W 180FT OF TR 37, LESS THE N 2.5 AC
39493320009	1.58	GOLDEN GATE EST UNIT 53 W 105FT OF TR 38
39493360001	1.15	GOLDEN GATE EST UNIT 53 E 75FT OF W 180FT OF TR 38
39493400000	1.12	GOLDEN GATE EST UNIT 53 W 75FT OF E 150FT OF TR 39
39493440002	1.14	GOLDEN GATE EST UNIT 53 E 75FT OF TR 39 OR 1802 PG 1617
39493480004	1.59	GOLDEN GATE EST UNIT 53 W 105FT OF TR 39
39493520003	1.15	GOLDEN GATE EST UNIT 53 E 75FT OF W 180FT OF TR 39 OR 778 PG 947
39493560005	2.73	GOLDEN GATE EST UNIT 53 TR 41
39493600004	2.29	GOLDEN GATE EST UNIT 53 W 150FT OF TR 40
39493640006	5.00	GOLDEN GATE EST UNIT 53 TR 41
39493760009	4.61	GOLDEN GATE EST UNIT 53 E 180FT OF TR 42 OR 1319 PGS 770 -775
39493800008	4.53	GOLDEN GATE EST UNIT 53 W 180FT OF TR 43
39493840000	3.76	GOLDEN GATE EST UNIT 53 E 150FT OF TR 43
39493880002	8.67	GOLDEN GATE EST UNIT 53 TR 44 OR 1122 PG 133
39540040009	2.29	GOLDEN GATE EST UNIT 53A REPLAT E 150FT OF TR 45
39540080001	2.71	GOLDEN GATE EST UNIT 53A REPLAT W 180FT OF TR 45 OR 1551 PG 1494
39540120000	2.29	GOLDEN GATE EST UNIT 53A E 150 FT OF TR 46
39540160002	1.58	GOLDEN GATE EST UNIT 53A W 105FT OF TR 46
39540200001	1.14	GOLDEN GATE EST UNIT 53A E 75FT OF W 180FT OF TR 46

12.2. Public Meeting Comments and Staff Responses

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