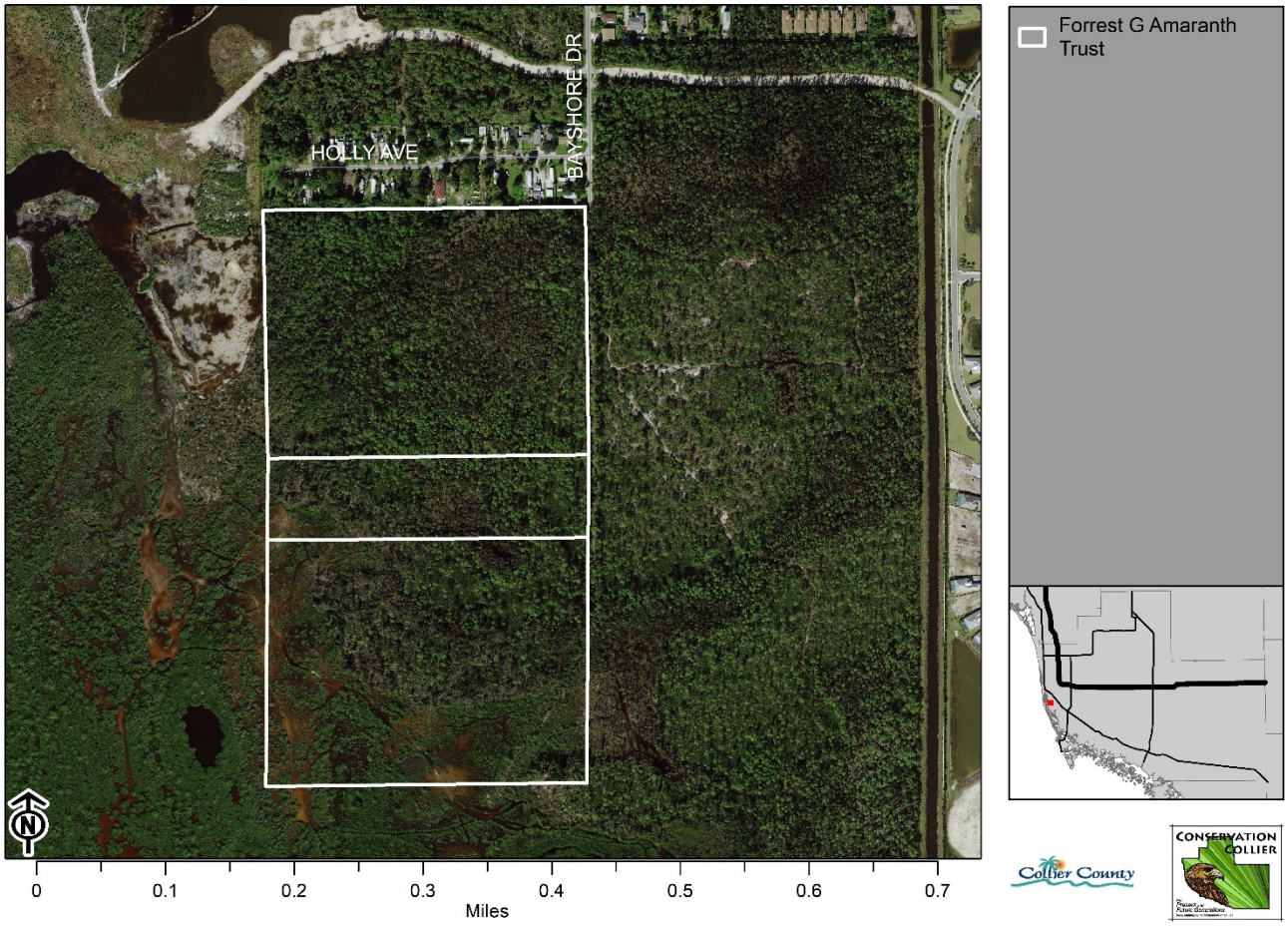
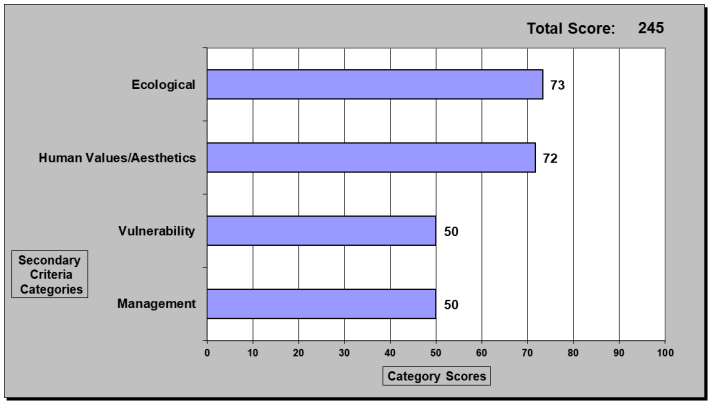
Conservation Collier
Initial Criteria Screening Report

Initial Criteria Screening Report - Forrest G Amaranth Trust
2021 Aerial



Owner Name(s): Forrest G Amaranth Trust, Allison DeFoor Trustee
Folio Number(s): 61837960006, 61838000004
Staff Report Date: October 11th, 2021



Contents

I. Introduction

The Conservation Collier Program (Program) is an environmentally sensitive land acquisition and management program approved by the Collier County Board of County Commissioners (Board) in 2002 and by Collier County Voters in 2002 and 2006. The Program was active in acquisition between 2003 and 2011, under the terms of the referendum. Between 2011 and 2016, the Program was in management mode. In 2017, the Collier County Board reauthorized Conservation Collier to seek additional lands (2/14/17, Agenda Item 11B). On November 3, 2020, the Collier County electors approved the Conservation Collier Re-establishment referendum with a 76.5% majority.

This Initial Criteria Screening Report (ICSR) has been prepared for the Conservation Collier Program in its 10th acquisition cycle to meet requirements specified in the Conservation Collier Implementation Ordinance, 2002-63, as amended, and for purposes of the Conservation Collier Program. The sole purpose of this report is to provide objective data to demonstrate how properties meet the criteria defined by the ordinance.

The following sections characterize the property location and assessed value, elaborate on the initial and secondary screening criteria scoring, and describe potential funding sources, appropriate use, site improvements, and estimated management costs.

II. Summary of Property Information

Table 1: Summary of Property Information

Characteristic	**Value**	**Comments**
Name	Forrest G Amaranth	
Folio Numbers	61837960006, 61838000004	
Target Protection Area	Bayshore	
Size	71.16 acres	Northern parcels – 40.29 acres Southern Parcel – 30.87 acres
Section, Township, and Range	S 23 & 26, T 50, R 25	Northern parcels – S 23 Southern Parcel – S 26
Zoning Category/TDRs	RSF-3 (Residential Single-Family Districts) A (Rural Agricultural Zoning District)	Northern parcels - RSF-3 Southern Parcel - A
Future Land Use	Urban Coastal Fringe Subdistrict, Conservation Designation	Conservation Designation along SW boundary
FEMA Flood Map Category	Zone AE	
Existing structures	None	
Adjoining properties and their Uses	E – Planned Urban Development N – Single family homes NE – Single family homes (Isles of Collier Preserve) S and SW - Conservation	
Development Plans Submitted	None submitted to Collier County	
Known Property Irregularities	According to the application, there are no leases or easements known	
Other County Dept Interest	Notified all Departments	No specific interest from Departments received

Figure 1: Location Overview

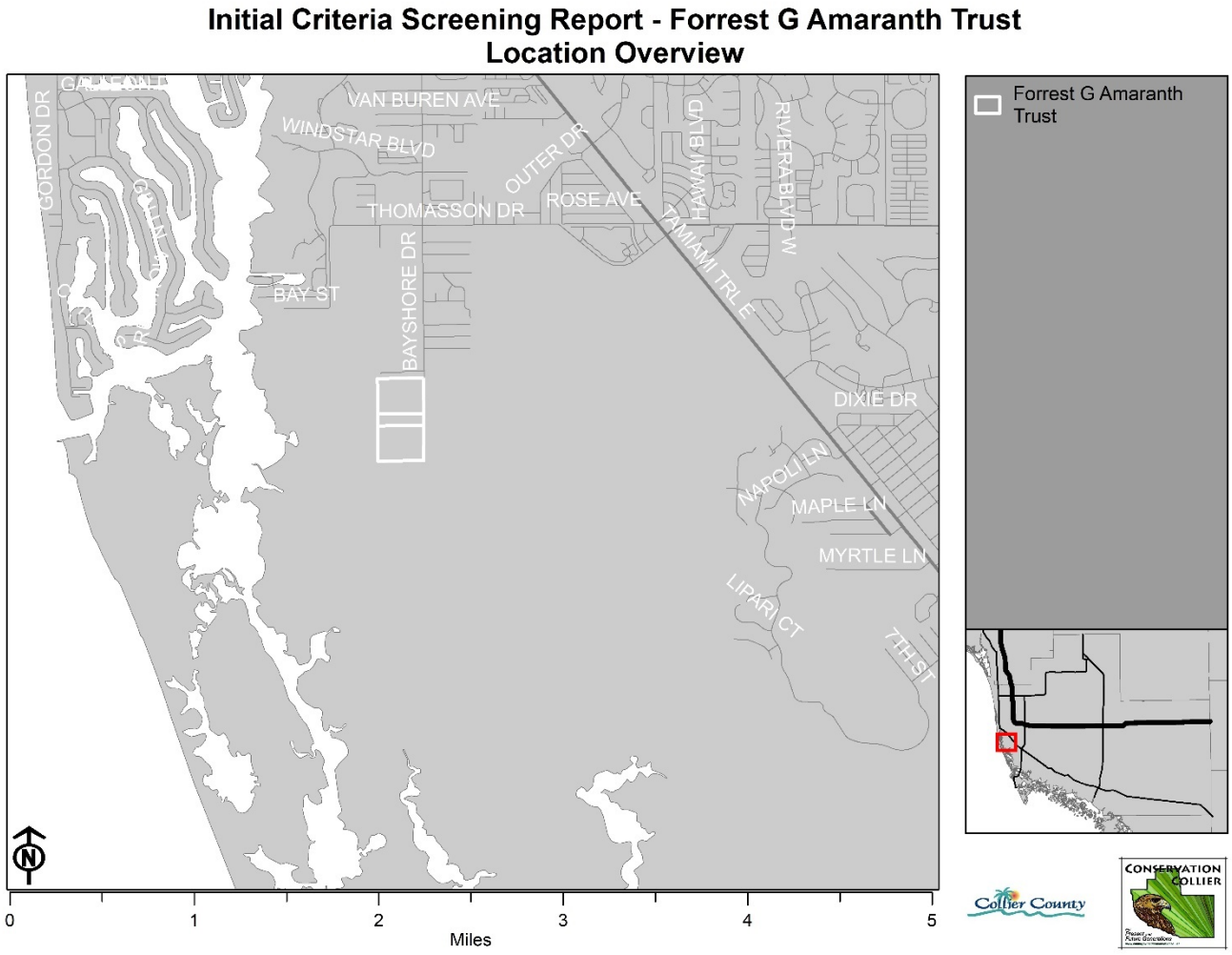


Figure 2: Location Overview Aerial with Surrounding Conservation Areas

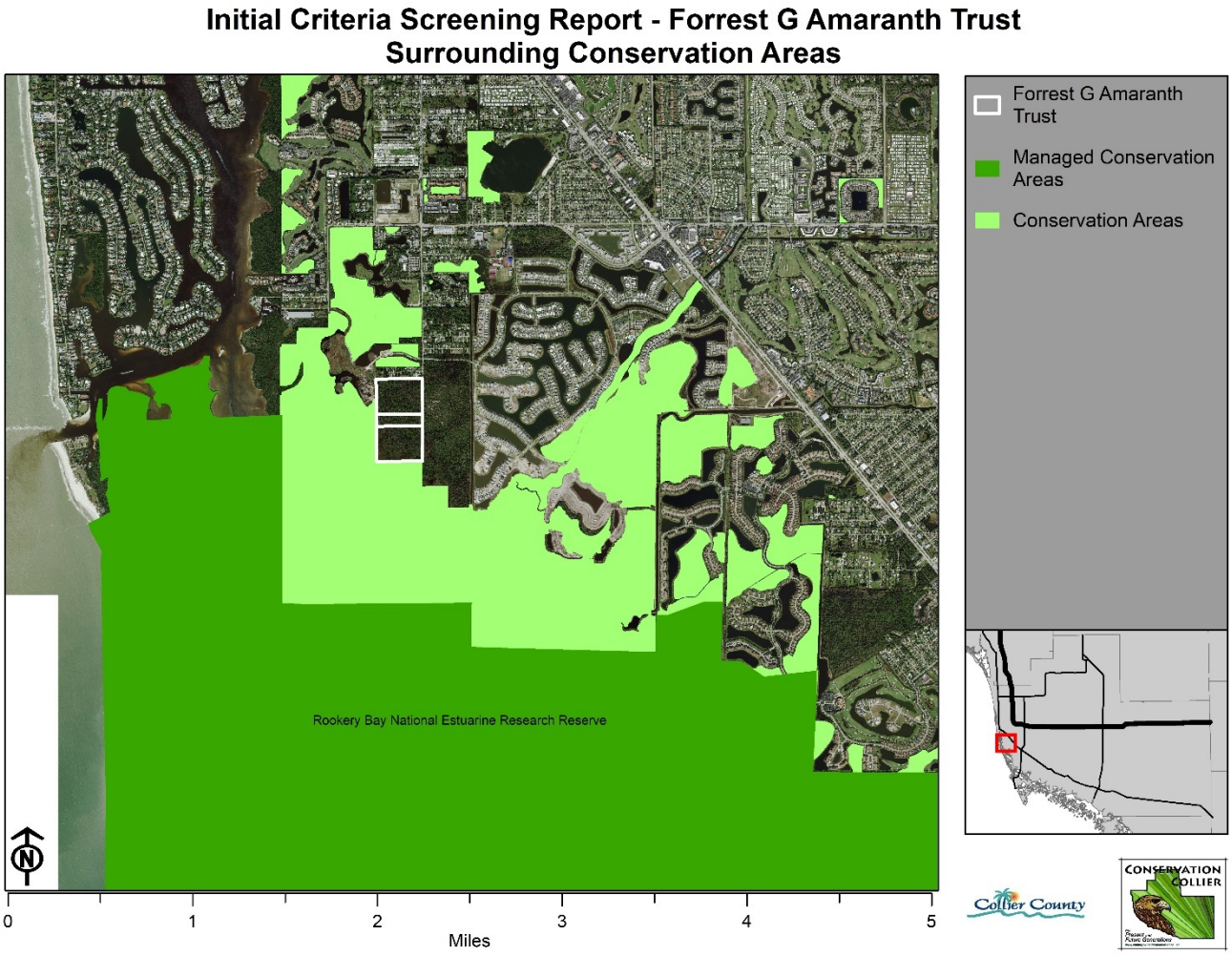
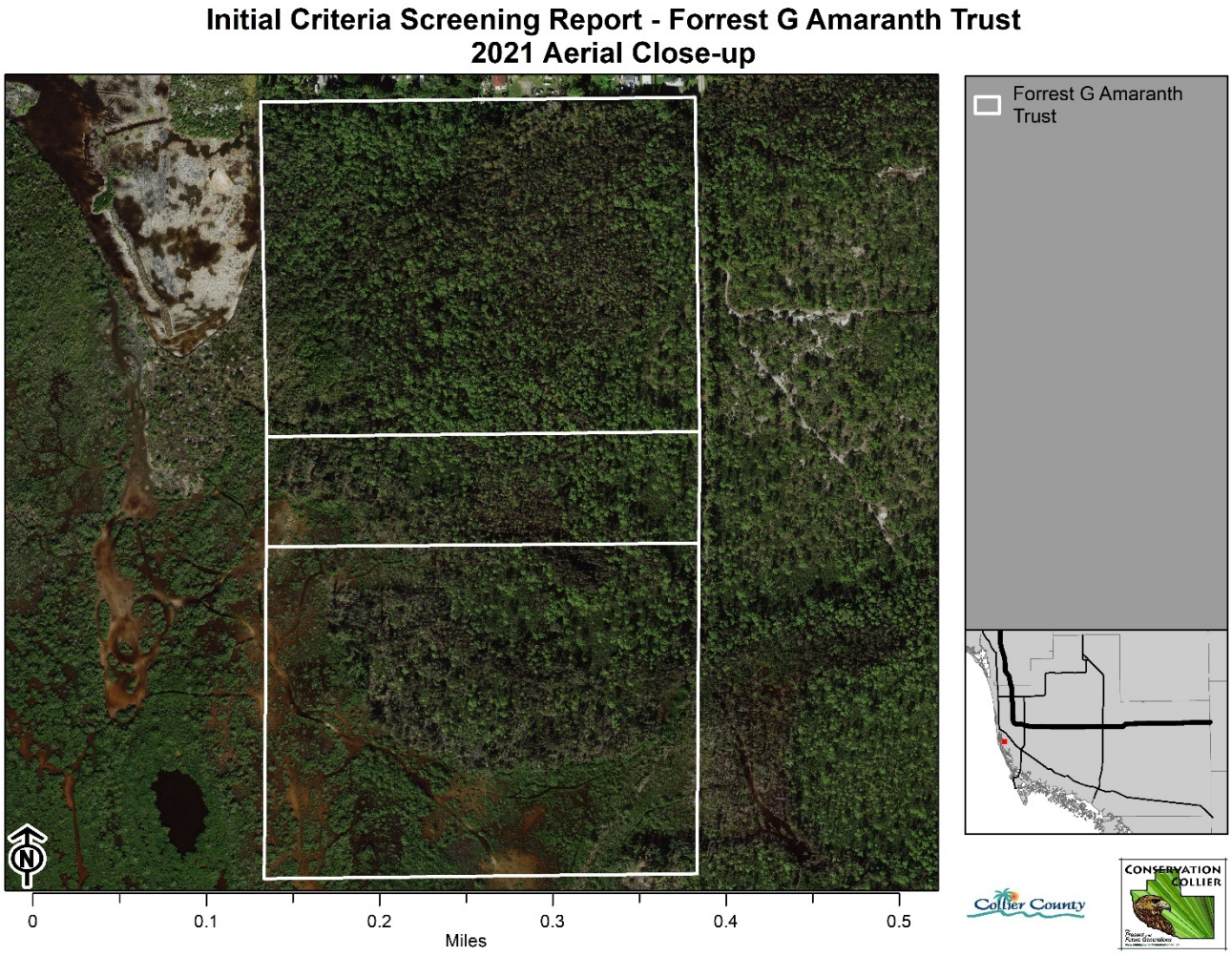


Figure 3: Location Close-up Aerial



Summary of Assessed Value and Property Costs Estimates

The interest being appraised is fee simple " as is " for the purchase of the site(s). A value of the parcel was estimated using only one of the three traditional approaches to value, the sales comparison approach. Each is based on the principal of substitution that an informed purchaser would pay no more for the rights in acquiring a particular real property than the cost of acquiring, without undue delay, an equally desirable one. Three properties were selected for comparison, each with similar site characteristics, utility availability, zoning classification and road access. No inspection was made of the property or comparables used in this report and the Real Estate Services Department staff relied upon information solely provided by program staff. The valuation conclusions are limited only by the reported assumptions and conditions that no other known or unknown adverse conditions exist. Pursuant to the Conservation Collier Purchase Policy, two appraisals are required.

Estimated Assessed Value: $811,950 for both parcels
The Assessed Value is based off the current use of the property.

Estimated Market Value: **$1,419,000 for both parcels
ESTIMATED MARKET VALUE" IS SOLELY AN ESTIMATE OF VALUE AND SHOULD NOT BE RELIED UPON BY ANY ENTITY.
The Estimated Market Value was based on the land being valued as vacant land of 71.16 acres at $20,000 per acre.

* Property Appraiser's Website
*** Collier County Real Estate Services Department*

Zoning, Growth Management and Conservation Overlays

Zoning, growth management and conservation overlays will affect the value of a parcel. The northern parcel is zoned **Residential Single Family**; the southern parcel is zoning **Agricultura**l. The majority of both parcels are also within an established growth management overlay of the **Urban Coastal Fringe Subdistrict**; with western portions of both properties being **Conservation Designation**.

The Urban Coastal Fringe Subdistrict have specific regulations regarding building and zoning due tho the hazards associated with high velocity waters from tidal surge and hurricane.

The Conservation Designation on the future land use map is defined as follows in accordance with Land Development Code section 2.03.09.B:

> The purpose and intent of the conservation district "CON" is to conserve, protect and maintain vital natural resource lands within unincorporated Collier County that are owned primarily by the public. All native habitats possess ecological and physical characteristics that justify attempts to maintain these important natural resources. Barrier islands, coastal bays, **wetlands**, and habitat for listed species deserve particular attention because of their ecological value and their sensitivity to perturbation. All proposals for **development** in the **CON district** must be subject to rigorous review to ensure that the impacts of the

development do not destroy or unacceptably degrade the inherent functional values. The CON District includes such public lands as Everglades National Park, Big Cypress National Preserve, Florida Panther National Wildlife Refuge, portions of the Big Cypress Area of Critical State Concern, Fakahatchee Strand State Preserve, Collier-Seminole State Park, Rookery Bay National Estuarine Sanctuary Research Reserve, Delnor-Wiggins State Park, and the National Audubon's Corkscrew Swamp Sanctuary (privately owned), and C.R.E.W. It is the intent of the CON District to require review of all **development** proposed within the CON District to ensure that the inherent value of the County's natural resources is not destroyed or unacceptably **altered**. The CON District corresponds to and implements the conservation land use designation on the future land use map of the Collier County GMP.

Therefore, acquisition of this property is supported by the Collier County Growth Management Plan as acquisition by Conservation Collier would keep the land in conservation.

III. Statements for Satisfying Initial Screening Criteria

The purpose of this section is to provide a closer look at how the property meets initial criteria. Conservation Collier Program staff conducted a site visit on [date]

Criteria 1: Native Habitats

Are any of the following unique and endangered plant communities found on the property? Order of preference as follows: Ord. 2002-63, Sec. 10 (1)(a)

i.	Hardwood hammocks	No
ii.	Xeric oak scrub	No
iii.	Coastal strand	No
iv.	Native beach	No
v.	Xeric pine	No
vi.	Riverine Oak	No
vii.	High marsh (saline)	Yes
viii.	Tidal freshwater marsh	No
ix.	Other native habitats	Yes

Vegetative Communities

Staff used two methods to determine native plant communities present: review of South Florida Water Management District (SFWMD) electronic databases for Department of Transportation's Florida Land Use, Cover and Forms (FLUCCS) (1994/1995) and field verification of same.

FLUCCS

The electronic database identified: In order of prevalence, hydric pine flatwoods, saltwater marshes, pine flatwoods, and mangrove swamp

The following native plant communities were observed: Pine flatwoods, Hydric pine flatwoods, saltwater marshes, mangrove swamp, scrub, melaleuca forest, disturbed areas.

Characterization of Plant Communities Present

Pine flatwoods/scrub: This community is found along the eastern edge of the site. Despite high water levels, this area was not inundated. It is characterized by a mature slash pines with an understory of saw palmetto, gall berry, myrtle oak, wildflowers, and a heavy infestation of downy rose myrtle.

Hydric pine flatwoods: This community is found throughout the site. Due to high water levels, it was inundated with several inches of water. The canopy is dominated by a mixture of pine and melaleuca but contains some cypress and Australian pine. The understory consists of myrsine, wax myrtle, swamp bay, cabbage palm, saw palmetto, and ferns. Some areas of this community, especially those along Holly Ave, are heavily infested with Java plum and other invasive species.

Saltwater marsh/mangrove swamp: This community is found on the southwestern quarter of the site. It appears to be inundated for most of the year. The transitional area between the hydric pine flatwoods and marsh is characterized by buttonwood, cabbage palm, rushes, and Australian pines. The marsh is characterized by open water, periphyton, salt grass, and black and white mangrove seedlings. Further south the mangrove swamp is characterized by small red mangroves.

Statement for Satisfaction of Criteria

This site contains several unique vegetative communities which provide habitat for both upland and wetland as well as fresh and saltwater species.

Criteria 2: Human Social Values

Does land offer significant human social values, such as equitable geographic distribution, appropriate access for nature-based recreation, and enhancement of the aesthetic setting of Collier County? Ord. 2002-63, Sec. 10 (1)(b)

Statement for Satisfaction of Criteria

This site provides significant human social values as it is a large urban preserve suitable for all non-consumptive, terrestrial, nature-based recreational activities. This site is in a rapidly urbanizing area that is easily accessible to pedestrians as well as motorists. This site is large enough that it will draw visitors from outside of its immediate vicinity. The diversity of habitats makes this preserve aesthetically appealing. There are wide open views of the marsh on the south end of the parcel. There is already a well-developed network of trails that visitor can use to access much of the site.

Criteria 3: Water Resources

Does the property offer opportunities for protection of water resource values, including aquifer recharge, water quality enhancement, protection of wetland dependent species habitat, and flood control? Ord. 2002-63, Sec. 10 (1)(c)

General Hydrologic Characteristics

The site was visited during a period of high water. Approximately two thirds of the site were inundated with shallow water. The terrain generally slopes downwards from northeast to southwest and transitions from hydric pine flatwoods to marsh to mangrove swamp. Water flows through the marshes and swamps into Dollar Bay which

is in portion an Outstanding Florida Waterbody. The pine flatwoods along the eastern boundary appear to remain dry year-round. There is a tram and an accompanying ditch that runs along the eastern boundary.

Table 3: Wetland Dependent Plant Species Observed

Common Name	Scientific Name	Wetland Status
pond apple	*Annona glabra*	OBL
button bush	*Cephalanthus occidentalis*	OBL
saw grass	*Cladium jamaicense*	OBL
southern swamp lily	*Crinum americanum*	OBL
saltgrass	*Distichlis spicata*	OBL
spikerush	*Eleocharis sp.*	OBL
dahoon holly	*Ilex cassine*	OBL
needle rush	*Juncus roemarianus*	OBL
swamp bay	*Persea palustris*	OBL
lance-leaf arrowhead	*Sagittaria lancifolia*	OBL
bald cypress	*Taxodium distichum*	OBL
snow berry	*Chiococca alba*	FAC
pine lily	*Lilium catesbaei*	FAC
wax myrtle	*Myrica cerifera*	FAC
myrsine	*Myrsine guianensis*	FAC
white indigo berry	*Randia aculeata*	FAC
cabbage palm	*Sabal palmetto*	FAC
swamp fern	*Blechnum serrulatum*	FACW
buttonwood	*Conocarpus erectus*	FACW
OBL = Obligate Species, FACW = Facultative Wet Species, FAC = Facultative Species		

Table 4: Wetland Dependent Wildlife Species Observed

Common Name	**Scientific Name**	**State Status**	**Federal Status**
tricolored heron	*Egretta tricolor*	Threatened	
great blue heron	*Ardea herodias*		
great egret	*Ardea alba*		
anhinga	*Anhinga anhinga*		

Other Hydrologic Indicators Observed

Dying melaleuca and carpets of mangrove seedlings suggest that the site is experiencing increasing levels of saltwater intrusion.

Soils

This site is defined by nearly level, poorly drained fine sands in the pine flatwoods and frequently flooded soils with muck surface layers in the salt marsh and mangrove swamps. During periods of high rainfall, areas composed

of Basinger fine sand may be covered by shallow, slow moving water. Soils on the site ranked from wettest to driest are as follows: Durbin and Wulfert mucks, frequently flooded, Estero and Peckish soils, frequently flooded, Basinger fine sand, Immokalee fine sand, and Pomella fine sand.

Aquifer Recharge Potential

Aquifer recharge map data was developed by Fairbank, P. and S. Hohner in 1995 and published as Mapping recharge (infiltration and leakage) throughout the South Florida Water Management District, Technical publication 95-20 (DRE # 327), South Florida Water Management District, West Palm Beach, Florida.

Table 5: Aquifer Recharge, Wellfield Protection, and FEMA Flood Zone Characteristics

Characteristic	**Value**	**Comment**
Lower Tamiami Recharge/Discharge Capacity	-16” - -1”	Discharging
Surficial Aquifer Recharge Capacity	31”- <43”	Recharging
Wellfield Protection Zone	No	
FEMA Flood Zone	AE	Subject to inundation by the 1-percent-annual-chance flood

Statement for Satisfaction of Criteria

The site improves the water quality of Dollar Bay by filtering runoff as it flows from the urban area into the ocean. The site also serves as a buffer that protects the urban area from storm surge and provides flood attenuation. The brackish waters of the marsh provide a nursery for fish which in turn provide prey wading birds. The transition between fresh and saltwater provides habitat for a wide variety of wetland plant species.

Criteria 4: Biological and Ecological Value

Does the property offer significant biological values, including biodiversity, listed species habitat, connectivity, restoration potential and ecological quality?
Ord. 2002-63, Sec. 10 (1)(d)

Listed Plant Species

The federal authority to protect land-based plant species is administered by the U.S. Fish and Wildlife Service (FWS) and published in 50 Code of Federal Regulations (CFR) 23. Lists of protected plants can be viewed on-line at https://www.fws.gov/endangered/. The Florida state lists of protected plants are administered and maintained by the Florida Department of Agriculture and Consumer Services (FDACS) via chapter 5B-40, Florida Administrative Code (F.A.C.) and can be found on their website.

Table 6: Observed Listed Plant Species

Common Name	Scientific Name	State Status	Federal Status
Cardinal airplant	*Tillandsia fasciculata*	Endangered	
Northern needleleaf airplant	*Tillandsia balbisiana*	Endangered	

Listed Wildlife Species

Federal wildlife species protection is administered by the FWS with specific authority published in 50 CFR 17. Lists of protected wildlife can be viewed on-line at: https://www.fws.gov/endangered/
FWC maintains the Florida state list of protected wildlife in accordance with Rules 68A-27.003, 68A-27.004, and 68A-27.005, respectively, of the Florida Administrative Code (F.A.C.). A list of protected Florida wildlife species can be viewed at: http://myfwc.com/wildlifehabitats/imperiled/profiles/.

Table 7: Observed Listed Wildlife Species

Common Name	**Scientific Name**	**State Status**	**Federal Status**
Florida panther	*Puma concolor coryi*	Endangered	Endangered
Gopher tortoise	*Gopherus polyphemus*	Threatened	Federal candidate
Tricolored heron	*Egretta tricolor*	Threatened	

Table 8: Potential Listed Wildlife Species

Common Name	**Scientific Name**	**State Status**	**Federal Status**
Florida bonneted bat	*Eumops floridanus*	Endangered	Endangered
Eastern indigo snake	*Drymarchon couperi*	Threatened	Threatened
American crocodile	*Crocodylus acutus*	Threatened	Threatened
Mangrove fox squirrel	*Sciurus niger avicennia*	Threatened	
Little blue heron	*Egretta caerulea*	Threatened	

Table 9: Non-Listed Wildlife Species Observed

Common Name	**Scientific Name**
northern cardinal	*Cardinalis cardinalis*
red-bellied woodpecker	*Melanerpes carolinus*
red-shouldered hawk	*Buteo lineatus*
great blue heron	*Ardea herodias*
great egret	*Ardea alba*
anhinga	*Anhinga anhinga*
feral hog	*Sus scrofa*
white-tailed deer	*Odocoileus virginianus*
West Indian mangrove buckeye	*Junonia genoveva*

Bird Rookery

There is no bird rookery on site, but numerous wading birds were seen utilizing the marsh.

Statement for Satisfaction of Criteria

This site protects a variety of habitats which sustain both upland and wetland dependent species of plants and animals. The uplands on this site provide year-round habitat for gopher tortoises and refugia for other terrestrial species during periods of high water. The wetlands provide a nursery for fish which make up the prey base for wading birds and bald eagles. Due to its connectivity to the greater Rookery Bay ecosystem, the site is utilized by wide ranging species such as Florida panthers and their prey.

Criteria 5: Enhancement of Current Conservation Lands

Does the property enhance and/or protect the environmental value of current conservation lands through function as a buffer, ecological link or habitat corridor? Ord. 2002-63, Sec. 10 (1)(e)

Is this property within the boundary of another agency's acquisition project? No

If yes, will use of Conservation Collier funds leverage a significantly higher rank or funding priority for the parcel? No

Statement for Satisfaction of Criteria

This site, and the adjoining Isles of Collier Preserve conservation area, provide a buffer between the urban area and the Rookery Bay National Estuarine Research Reserve. The uplands protected by this site greatly enhance the greater Rookery Bay ecosystem by providing critical habitat for terrestrial species. This upland habitat is underrepresented in local conservation areas. The wetlands on this site enhance the ecosystem by filtering urban runoff before it reaches more pristine habitats.

IV. Potential Uses and Recommended Site Improvements

Potential Uses

Potential Uses as Defined in Ordinance No. 2002-67, as amended by Ordinance No. 2007-65, section 5.9:

Table 10: Appropriate Uses

Activity	Appropriate	Comments
Hiking	Yes	There is network of old ATV trails that can easily be converted to a loop hiking trail.
Photography	Yes	
Birdwatching	Yes	The mixture of habitats should provide excellent birdwatching
Kayaking/Canoeing	No	The marsh is not easily accessible or deep enough to accommodate paddling
Swimming	No	The water is not easily accessible or deep enough to accommodate swimming
Hunting	No	This site is not large enough to accommodate hunting
Fishing	No	The marsh is not easily accessible enough to accommodate fishing

Recommended Site Improvements

There is a well-developed network of abandoned ATV trails that can be connected to form a looping hiking trail. The pine flatwoods on this site are a fire dependent ecosystem. Fire breaks will need to be installed around the boundaries of these habitats where barriers, such as marsh, do not exist. Portions of the hiking trail may be utilized as fire breaks. To accommodate visitors a parking lot, bike rack, and informational kiosk will have to be installed in the northeast corner. Interpretive signs will be interspersed along the trail. There is significant debris on site, including vehicles, boats, dumping, and transient encampments.

Access

The site can be accessed at the southern terminus of Bayshore Drive.

V. Assessment of Management Needs and Costs

Management of this property will address the costs of exotic vegetation removal and control. The following assessment addresses both the initial and recurring costs of management. These are very preliminary estimates; Ordinance No. 2002-67, as amended by Ordinance No. 2007-65, requires a formal land management plan be developed for each property acquired by Conservation Collier.

Non-native Vegetation

Non-native, invasive species noted here are taken from the Florida Exotic Pest Plant Council's (FLEPPC) 2016 List of Invasive Plant Species (Category I and Category II). FLEPPC is an independent incorporated advisory council created to support the management of invasive exotic plants in Florida's natural areas by providing a forum for exchanging scientific, educational, and technical information. Its members come primarily from public educational institutions and governmental agencies. Annual lists of invasive plant species published by this organization are used widely in the state of Florida for regulatory purposes.

The current FLEPPC list (2019) can be viewed on-line at http://bugwoodcloud.org/CDN/fleppc/plantlists/2019/2019_Plant_List_ABSOLUTE_FINAL.pdf

Category I plants are those which are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused. Category II invasive exotics have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. These species may become Category I if ecological damage is demonstrated.

Table 11: Non-native Plant Species Observed

Common Name	**Scientific Name**	**FLEPPC Status**
earleaf acacia	*Acacia auriculiformis*	I
woman's tongue tree	*Albizia lebbeck*	I
shoebutton ardisia	*Ardisia elliptica*	I
Australian pine	*Casuarina equisetifolia*	I
air potato	*Dioscorea bulbifera*	I
old world climbing fern	*Lygodium microphyllum*	I
melaleuca	*Melaleuca quinquenervia*	I
guava	*Psidium guajava*	I
downy rose myrtle	*Rhodomyrtus tomentosa*	I
umbrella tree	*Schefflera actinophylla*	I
Brazilian pepper	*Schinus terebinthifolius*	I
Java plum	*Syzygium cumini*	I
portia tree	*Thespesia populnea*	I
Caesarweed	*Urena lobata*	I
golden rain tree	*Koelreuteria elegans*	II
ladder brake	*Pteris vittata*	II

wedelia	*Sphagneticola trilobata*	II

Invasive Vegetation Removal and Control

The primary invasive species of concern on this site are downy rose myrtle, melaleuca, and Australian pine. These species are expensive to treat initially but, like other woody species, are easier to manage in the long term. The marsh and mangrove swamp which make up approximately one quarter of the site have a negligible invasive plant infestation. The drier pine flatwoods, which make up one fifth of the site, are heavily infested with dense thickets of downy rose myrtle. Restoration will require mechanical removal followed by herbicide treatments and prescribed fire. The northern boundary of the site is heavily infested with Java plum, Brazilian pepper, and various other non-native species. This area is of little ecological value and may be cleared to accommodate a parking facility/firebreak. The remaining hydric pine flatwoods have a scattered old-world climbing fern, patches of Australian pine near the saltwater marsh, and melaleuca forests in freshwater areas. Restoration of these areas will include a mixture of herbicide treatments and mechanical removal.

Public Parking

The urban location of this preserve will draw enough visitors to justify installing an improved parking facility. Ground conditions will determine the capacity of the lot.

Public Access Trails

The abandoned ATV trails on site can be improved and expanded to create two hiking trail sections. One section will cut through the drier pine flatwoods, the second will extend into the marsh and be accessible during the dry season.

Security and General Maintenance

To prevent additional illegal dumping, gates or bollards will need to be installed at all trail heads or access points. The site, and the area in general, have a history of transient encampment issues. Hopefully, increased public use and disturbance from management activities will deter future encampments.

Table 12: Summary of Estimated Needs and Costs

Management Element	Initial Cost	Annual Recurring Cost	Comments
Invasive Vegetation	$35,000-56,000	$21,000	$500-800 per acre initial treatment, $300/acre maintenance
Parking Facility	$50,000		
Trails/Fire Lines	$3000 - 6000		Improve and extend current trail system, create fire lines around pine flatwoods
Gates/Bollards	$2,000		Install at access points to prevent trespass
Debris Removal	$20,000 - 30,000		There are several dilapidated trucks and boats, piles of tires and other refuse, as well as abandoned transient encampments on site. This may be negotiated during purchasing.
Signs	$1000		Interpretive and navigational signs along trail
Other	NA		Kiosk, eagle scout project
Total	$111000-145,000		

VI. Potential for Matching Funds

The primary partnering agencies for conservation acquisitions, and those identified in the ordinance are the Florida Communities Trust (FCT), and The Florida Forever Program. The following highlights potential for partnering funds, as communicated by agency staff:

Florida Communities Trust - Parks and Open Space Florida Forever grant program

The FCT Parks and Open Space Florida Forever grant program provides grant funds to local governments and nonprofit organizations to acquire conservation lands, urban open spaces, parks and greenways. Application for this program is typically made for pre-acquired sites up to two years from the time of acquisition. The Parks and Open Space Florida Forever grant program assists the Department of Environmental Protection in helping communities meet the challenges of growth, supporting viable community development and protecting natural resources and open space. The program receives 21 percent Florida Forever appropriation.

Florida Forever Program

Staff has been advised that the Florida Forever Program has limited funds and is concentrating on parcels already included on its ranked priority list. This parcel is not inside a Florida Forever priority project boundary. Additionally, the Conservation Collier Program has not been successful in partnering with the Florida Forever Program due to conflicting acquisition policies and issues regarding joint title between the programs.

VII. Summary of Secondary Screening Criteria

Table 13: Secondary Criteria Scoring

Category	Subcategory	Scored Points	Possible Points
Ecological	**Total Score (Sum of 1a, 1b, 1c, 1d then divided by 4)**	**73**	**100**
	1a. Unique and Endangered Plant Communities	45	100
	1b. Significance for Water Resources	57	100
	1c. Resource Ecological/Biological Value	92	100
	1d. Protection and Enhancement of Current Conservation Lands	100	100
Human Values/Aesthetics	**Total Score (Obtained by dividing the subtotal by 3)**	**72**	**100**
	2a. Human Social Values/Aesthetics	215	300
Vulnerability to Development/Degradation	**Total Score (Sum of 3a)**	**50**	**100**
	3a. Zoning/Land Use Designation	50	100
Feasibility and Costs of Management	**Total Score (Sum of 4a, 4b, and 4c, then divided by 3)**	**50**	**100**
	4a. Hydrologic Management Needs	100	100
	4b. Exotics Management Needs	20	100
	4c. Land manageability	30	100
Total		**245**	**400**

Ecological

76/100: This score is driven by the sites' potential to enhance the greater Rookery Bay ecosystem. Although the site borders the urban area, its diversity of habitats and its contiguousness with larger preserved areas provides habitat for numerous species of listed and unlisted plants and wildlife.

Human Values/Aesthetics

72/100: This site is unique in that it is large enough to accommodate a variety of recreational activities and is easily accessible because it is in the urban area.

Vulnerability

50/100: This site is zoned for single family homes. The surrounding parcels are already being developed for this purpose.

Management

50/100: This site is heavily infested with invasive woody vegetation which will require mechanical removal. There are chronic dumping and trespass issues. The site does not require any hydrologic restoration.

Parcel Size

While parcel size was not scored, the ordinance advises that based on comparative size, the larger of similar parcels is preferred.

VIII. Figures, Tables, and Photos

Scoring

Table 14: Secondary Scoring Criteria Form

1. Confirmation of Initial Screening Criteria (Ecological)			
1.A Unique and Endangered Plant Communities	**Possible points**	**Scored points**	**Comments**
Select the highest Score: 1. Tropical Hardwood Hammock 2. Xeric Oak Scrub 3. Coastal Strand 4. Native Beach 5. Xeric Pine 6. Riverine Oak 7. High Marsh (Saline) 8. Tidal Freshwater Marsh 9. Other Native Habitats	 90 80 70 60 50 40 30 20 10	 30 10	
10. Add additional 5 points for each additional Florida Natural Areas Inventory (FNAI) listed plant community found on the parcel	5 each	5	scrub
11. Add 5 additional points if plant community represents a unique feature, such as maturity of vegetation, outstanding example of plant community, etc.	5		
1.A. Total	***100***	***45***	
1.B Significance for Water Resources	**Possible points**	**Scored points**	**Comments**
1. Aquifer Recharge *(Select the Highest Score)* a. Parcel is within a wellfield protection zone b. Parcel is not in a wellfield protection zone but will contribute to aquifer recharge c. Parcel would contribute minimally to aquifer recharge d. Parcel will not contribute to aquifer recharge, eg., coastal location	 100 50 25 0	 25 	 Recharges the surficial aquifer, discharges Lower Tamiami aquifer
2. Surface Water Quality *(Select the Highest Score)* a. Parcel is contiguous with and provides buffering for an Outstanding Florida Waterbody	 100	 100	 Marsh flows into Dollar Bay with is part of the Rookery

b. Parcel is contiguous with and provides buffering for a creek, river, lake or other surface water body	75		Bay NERR Outstanding Florida Waterbody
c. Parcel is contiguous with and provides buffering for an identified flowway	50		
d. Wetlands exist on site	25	25	
e. Acquisition of parcel will not provide opportunities for surface water quality enhancement	0		
3. Strategic to Floodplain Management *(Calculate for a and b; score c if applicable)*			
a. Depressional soils	80		
b. Slough Soils	40		
c. Parcel has known history of flooding and is likely to provide onsite water attenuation	20	20	
Subtotal	300	170	
1.B Total	***100***	**57**	*Obtained by dividing the subtotal by 3.*
1.C Resource Ecological/Biological Value	**Possible points**	**Scored points**	**Comments**
1. Biodiversity *(Select the Highest Score for a, b and c)*			
a. The parcel has 5 or more FLUCCS native plant communities	100		
b. The parcel has 3 or 4 FLUCCS native plant communities	75	75	
c. The parcel has 2 or or less FLUCCS native plant communities	50		
d. The parcel has 1 FLUCCS code native plant communities	25		
2. Listed species			
a. Listed wildlife species are observed on the parcel	80	80	
b. Listed wildlife species have been documented on the parcel by wildlife professionals	70		
c. Habitat Richness score 5 categories	70		
d. Rookery found on the parcel	10		
e. Listed plant species observed on parcel - add additional 20 points	20	20	
3. Restoration Potential			
a. Parcel can be restored to high ecological function with minimal alteration	100	100	
b. Parcel can be restored to high ecological function but will require moderate work, including but not limited to removal of exotics and alterations in topography.	50		
c. Parcel will require major alterations to be restored to high ecological function.	15		
d. Conditions are such that parcel cannot be restored to high ecological function	0		*explain limiting conditions*

Subtotal	300	275	
1.C Total	***100***	**92**	*Divide the subtotal by 3*
1.D Protection and Enhancement of Current Conservation Lands	**Possible points**	**Scored points**	**Comments**
1. Proximity and Connectivity			
a. Property immediately contiguous with conservation land or conservation easement.	100	100	
b. Property not immediately contiguous, parcels in between it and the conservation land are undeveloped.	50		
c. Property not immediately contiguous, parcels in-between it and conservation land are developed	0		
d. If not contiguous and developed, add 20 points if an intact ecological link exists between the parcel and nearest conservation land	20		
1.D Total	***100***	100	
1. Ecological Total Score	**100**	**73**	*Sum of 1A, 1B, 1C, 1D then divided by 4*
2. Human Values/Aesthetics			
2.A Human Social Values/Aesthetics	**Possible points**	**Scored points**	**Comments**
1. Access *(Select the Highest Score)*			
a. Parcel has access from a paved road	100	100	
b. Parcel has access from an unpaved road	75		
c. Parcel has seasonal access only or unimproved access easement	50		
d. Parcel does not have physical or known legal access	0		
2. Recreational Potential *(Select the Highest Score)*			
a. Parcel offers multiple opportunities for natural resource-based recreation consistent with the goals of this program, including but not limited to, environmental education, hiking, nature photography, bird watching, kayaking, canoeing, swimming, hunting (based on size?) and fishing.	100		
b. Parcel offers only land-based opportunities for natural resource-based recreation consistent with the goals of this program, including but not limited to, environmental education, hiking, and nature photography.	75	75	
c. Parcel offers limited opportunities for natural-resource based recreation beyond simply accessing and walking on it	50		

d. Parcel does not offer opportunities for natural-resource based recreation	0		
3. Enhancement of Aesthetic Setting a. Percent of perimeter that can me seen by public. Score based on percentage of frontage of parcel on public thoroughfare	80	20	*May change to 50% when PUD to east is developed as planned. Expansive views of marsh on the south end. Many beautiful flowering plant species in pine flatwoods.*
b. Add up to 20 points if the site contains outstanding aesthetic characteristic(s), such as but not limited to water view, mature trees, native flowering plants, or archeological site	20	20	
Subtotal	300	215	
2. Human Social Values/Aesthetics Total Score	**100**	**72**	*Obtained by dividing the subtotal by 3.*
3. Vulnerability to Development/Degradation			
3.A Zoning/Land Use Designation	**Possible points**	**Scored points**	**Comments**
1. Zoning allows for Single Family, Multifamily, industrial or commercial	50	50	Zoned RSF on northern parcel
2. Zoning allows for density of no greater than 1 unit per 5 acres	45		
3. Zoning allows for agricultural use /density of no greater than 1 unit per 40 acres	40		
4. Zoning favors stewardship or conservation	0		
5. If parcel has ST overlay, remove 20 points	-20		
6. Property has been rezoned and/or there is SDP approval	25		
7. SFWMD and/or USACOE permit has been issued	25		
8. A rezone or SDP application has been submitted	15		
9. SFWMD and/or USACOE permit has been applied for	15		
3. Vulnerability Total Score	**100**	**50**	

4. Feasibility and Costs of Management			
4.A Hydrologic Management Needs	**Possible points**	**Scored points**	**Comments**
1. No hydrologic changes are necessary to sustain qualities of site in perpetuity	100	100	
2. Minimal hydrologic changes are required to restore function, such a cut in an existing berm	75		
3. Moderate hydrologic changes are required to restore function, such as removal of existing berms or minor re-grading that require use of machinery	50		
4. Significant hydologic changes are required to restore function, such as re-grading of substantial portions of the site, placement of a berm, removal of a road bed, culvert or the elevation of the water table by installing a physical structure and/or changes unlikley	0		
5.A Total	***100***	***100***	
4.B Exotics Management Needs	**Possible points**	**Scored points**	**Comments**
1. Exotic Plant Coverage			
a. No exotic plants present	100		
b. Exotic plants constitute less than 25% of plant cover	80		
c. Exotic plants constitute between 25% and 50% of plant cover	60		
d. Exotic plants constitute between 50% and 75% of plant cover	40	40	
e. Exotic plants constitute more than 75% of plant cover	20		
f. Exotic characteristics are such that extensive removal and maintenance effort and management will be needed (e.g., heavy infestation by air potato or downy rosemytle)	-20	-20	
g. Adjacent lands contain substantial seed source and exotic removal is not presently required	-20		
5.B Total	***100***	***20***	
4.C Land Manageability	**Possible points**	**Scored points**	**Comments**
1. Parcel requires minimal maintenance and management, examples: cypress slough, parcel requiring prescribed fire where fuel loads are low and neighbor conflicts unlikely	80		
2. Parcel requires moderate maintenance and management, examples: parcel contains trails, parcel requires prescribed fire and circumstances do not favor burning	60		

3. Parcel requires substantial maintenance and management, examples: parcel contains structures that must be maintained, parcel requires management using machinery or chemical means which will be difficult or expensive to accomplish	40	40	
4. Add 20 points if the mainenance by another entity is likely 5. Subtract 10 points if chronic dumping or trespass issues exist	20 -10	 -10	
5.C Total	***100***	***30***	
4. Feasibility and Management Total Score	**100**	**50**	*Sum of 5A, 5B, 5C, then divided by 3*
Total Score	**400**	**245**	

Critical Lands and Waters Identification Maps (CLIP)

This report makes use of data layers from the Florida Natural Areas Inventory and University of Florida Critical Lands and Waters Identification Project (CLIP4). CLIP4 is a collection of spatial data that identify statewide priorities for a broad range of natural resources in Florida. It was developed through a collaborative effort between the Florida Areas Natural Inventory (FNAI), the University of Florida GeoPlan Center and Center for Landscape Conservation Planning, and the Florida Fish and Wildlife Conservation Commission (FWC). It is used in the Florida Forever Program to evaluate properties for acquisition. CLIP4 is organized into a set of core natural resource data layers which are representative of 5 resource categories: biodiversity, landscapes, surface water, groundwater and marine. The first 3 categories have also been combined into the Aggregated layer, which identifies 5 priority levels for natural resource conservation.

Figure 4. Aggregated Conservation Priorities CLIP4 Map

This is the CLIP version 4.0 Aggregated Priorities model, which combines conservation priorities from the Biodiversity, Landscapes, and Surface Waters Resource Priority models, and the underlying CLIP Core Data layers. Grid Value 5 = Priority 1 (highest conservation priority), 4 = Priority 2, 3 = Priority 3, 2 = Priority 4, 1 = Priority 5 (lowest), and 0 = no resource value identified.

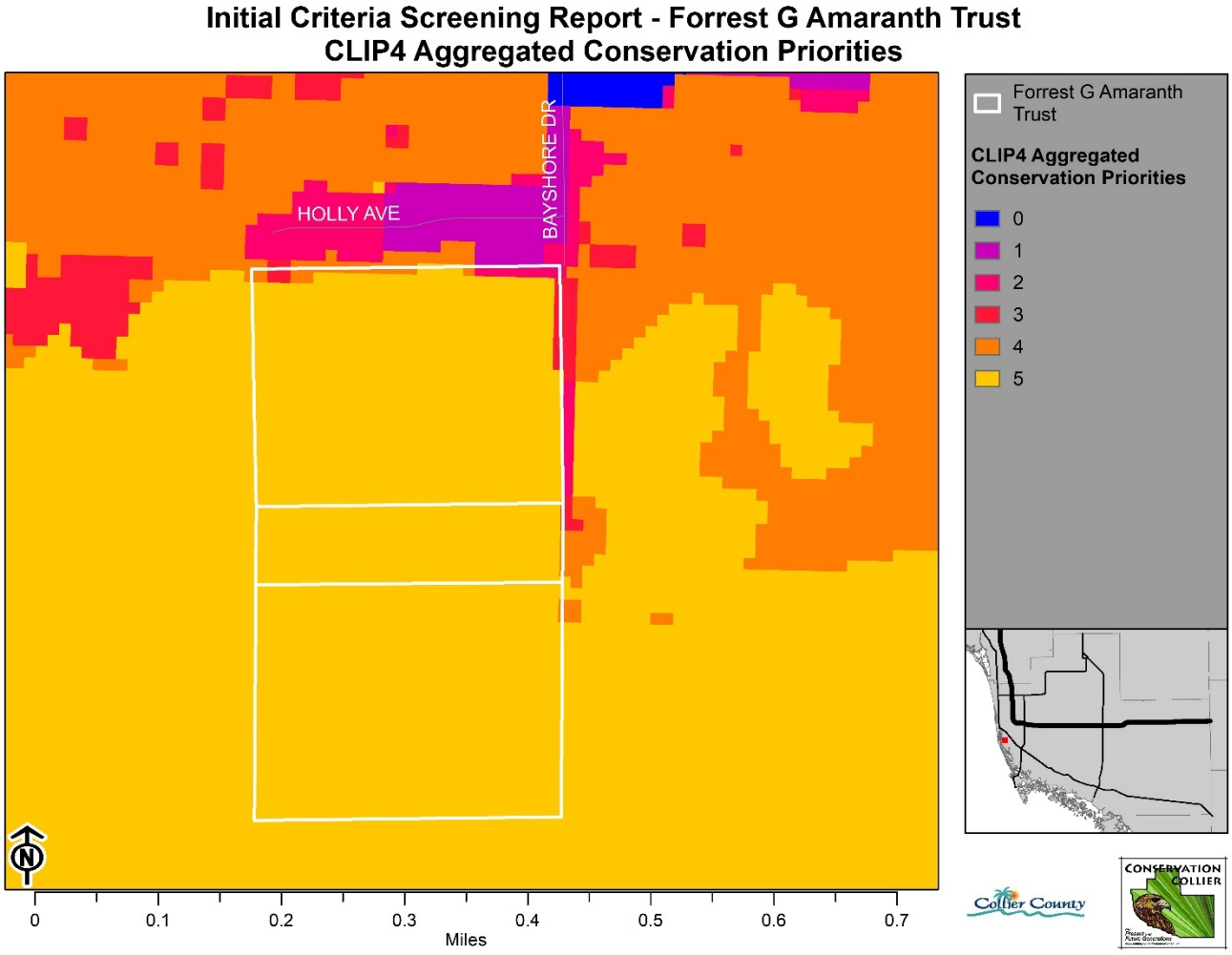


Figure 5. Biodiversity CLIP4 Map

This is the CLIP version 4.0 Biodiversity Resource Priorities model, which combines conservation priorities from the SHCA, Vertebrate Richness, FNAIHAB, and Priority Natural Communities Core Data layers. Grid Value 5 = Priority 1 (highest conservation priority), 4 = Priority 2, 3 = Priority 3, 2 = Priority 4, 1 = Priority 5 (lowest), and 0 = no resource value identified.

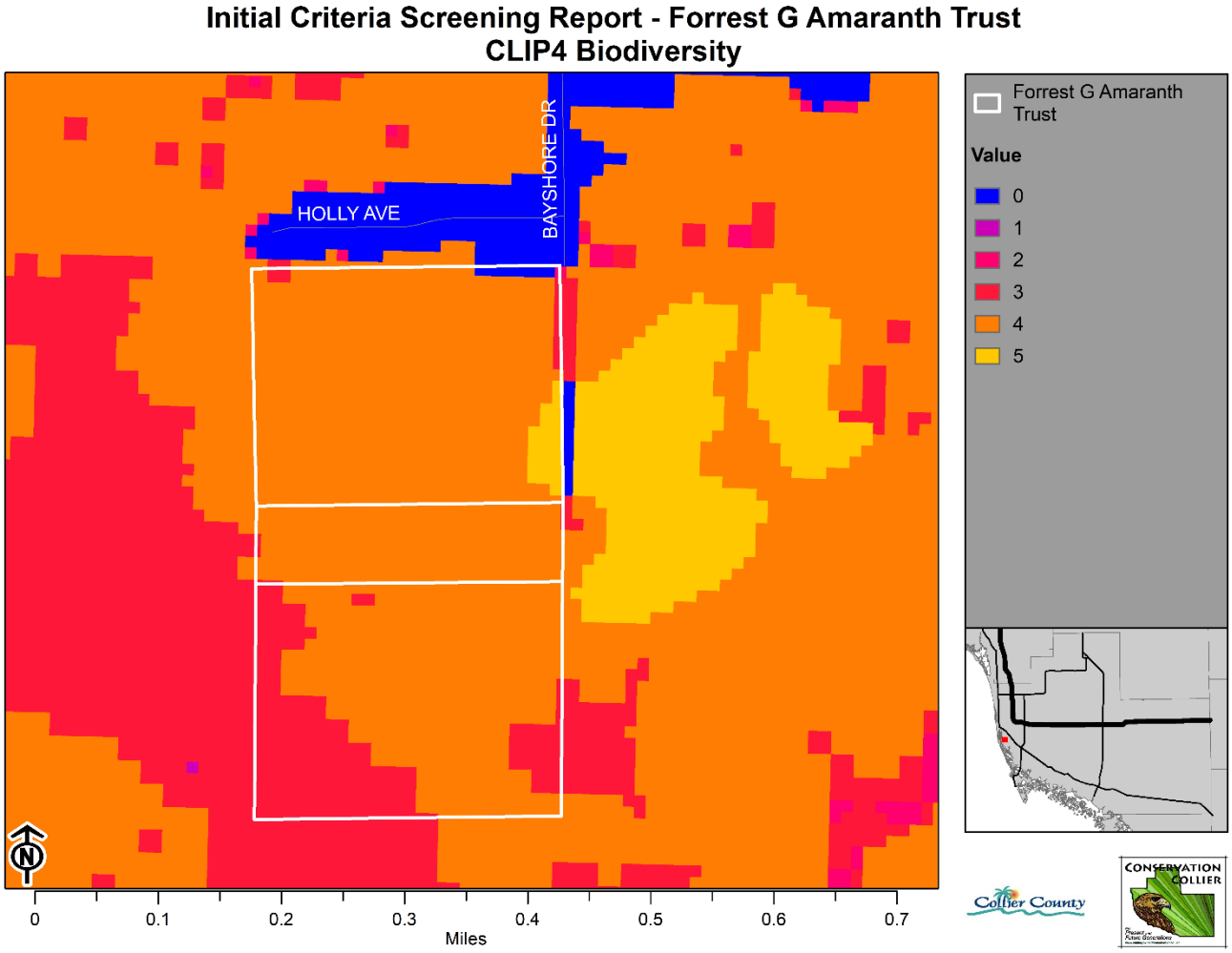


Figure 6. Potential Habitat Richness CLIP4 Map

This CLIP version 4.0 data layer is unchanged from CLIP v3.0. FWC Potential Habitat Richness. Because SHCAs do not address species richness, FWC also developed the potential habitat richness layer to identify areas of overlapping vertebrate species habitat. FWC created a statewide potential habitat model for each species included in their analysis. In some cases, only a portion of the potential habitat was ultimately designated as SHCA for each species. The Potential Habitat Richness layer includes the entire potential habitat model for each species and provides a count of the number of species habitat models occurring at each location. The highest number of focal species co-occurring at any location in the model is 13.

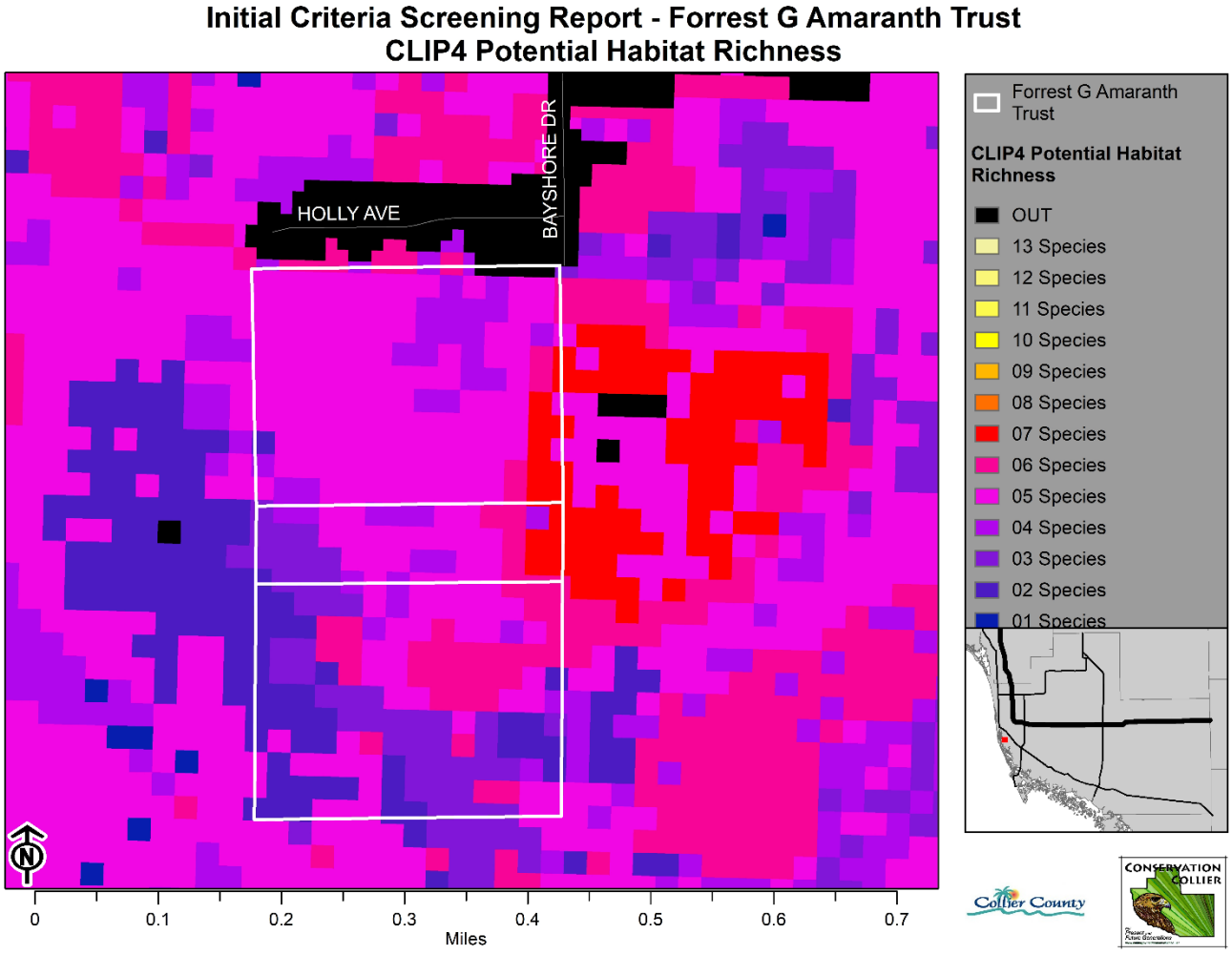


Figure 7. Landscape Integrity CLIP4 Map

The landscape integrity layer is comprised of two related landscape indices assessing ecological integrity based on land use intensity and patch size of natural communities and semi-natural land uses. The land use intensity index characterizes the intensity of land use across the state based on five general categories of natural, semi-natural (such as rangelands and plantation silviculture), improved pasture, agricultural/low-intensity development, and high intensity development. The patch size index combines the land use data with major roads data (such as 4 land or wider roads and high traffic roads) to identify contiguous patches of natural and semi-natural land cover and ranks them based on area. The combination of the land use intensity and patch size indices was created by adding the two together and dividing by two to create a non-weighted average of the two indices. Values of 10 represent areas with the highest potential ecological integrity based on these landscape indices and 1 represents the lowest ecological integrity. Please note that this index is intended to primarily characterize terrestrial ecosystems and therefore values for large water bodies are not considered significant. CLIP version 4.0 of this data layer is updated based on latest land cover data - the Cooperative Land Cover version 3.1.

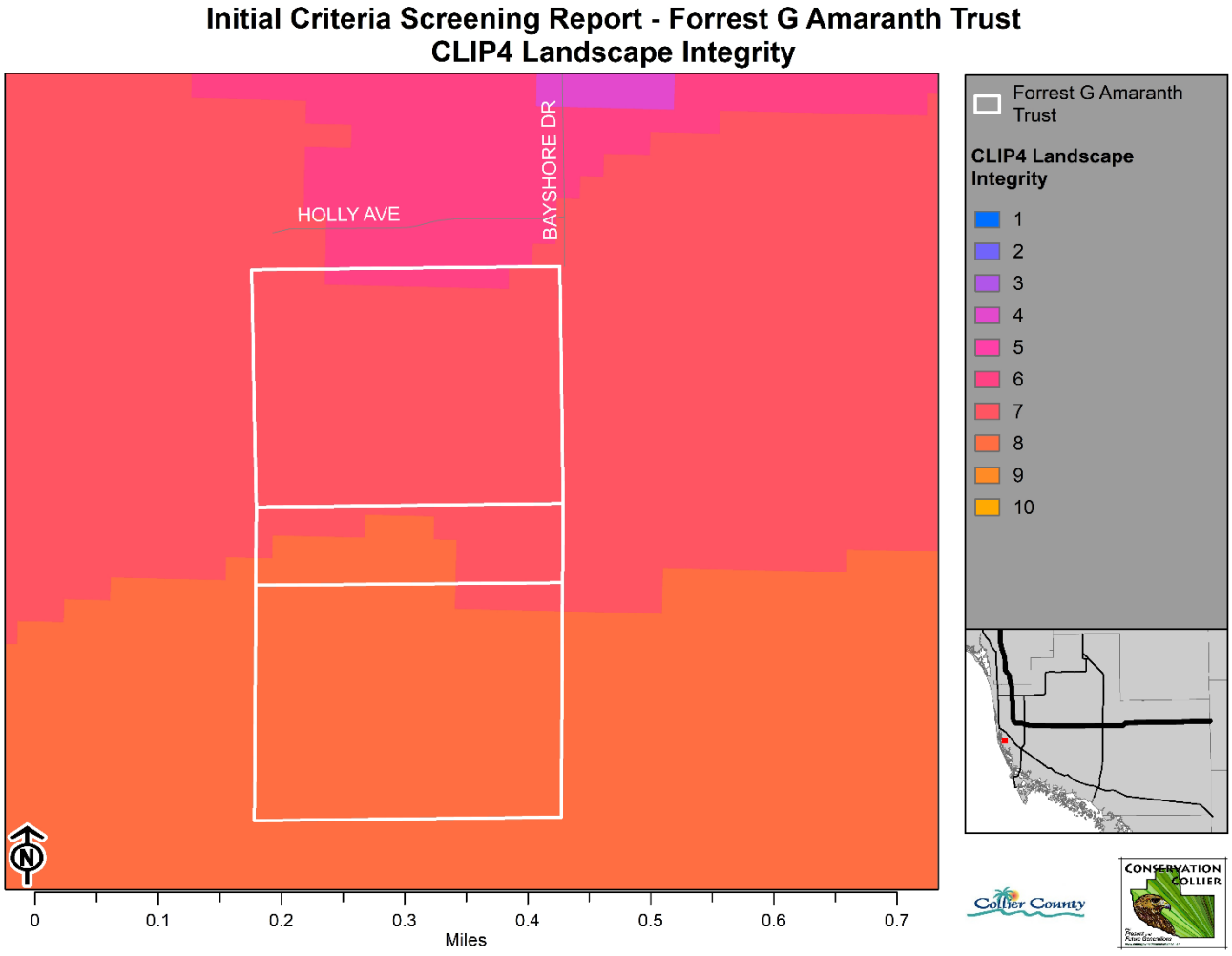


Figure 8: Strategic Habitat Conservation Areas CLIP4 Map

For CLIP 4.0, the species priorities were updated based on current Global and State Ranks. The Florida Fish and Wildlife Conservation Commission originally identified strategic habitat conservation areas (SHCA) in the Commission report, "Closing the Gaps in Florida's Wildlife Habitat Conservation System" (Cox et al. 1994). The goal of the SHCA is to identify the minimum amount of land needed in Florida to ensure long-term survival of key components to Florida's biological diversity. In 2009, the SHCA underwent a significant revision based on a new suite of species, updated datasets, new datasets that did not exist when the original analysis was conducted, and improved analytical techniques including spatially explicit population viability analyses. A population risk assessment was conducted for 62 focal vertebrate species, of which 34 were shown to have additional protection needs in Florida. The SHCA identify important remaining habitat conservation needs on private lands for these 34 terrestrial vertebrates. The SHCA are prioritized based on global and state natural heritage ranks. Value 1 = Priority 1 (Highest): State Rank 1 and Global Rank 1-3 Value 2 = Priority 2: State Rank 1 and Global Rank 4-5 or State Rank 2 and Global Rank 2-3 Value 3 = Priority 3: State Rank 2 and Global Rank 4-5 or State Rank 3 and Global Rank 3 Value 4 = Priority 4: State Rank 3 and Global Rank 4 Value 5 = Priority 5: State Rank 3 and Global Rank 5 or State Rank 4 and Global Rank 4

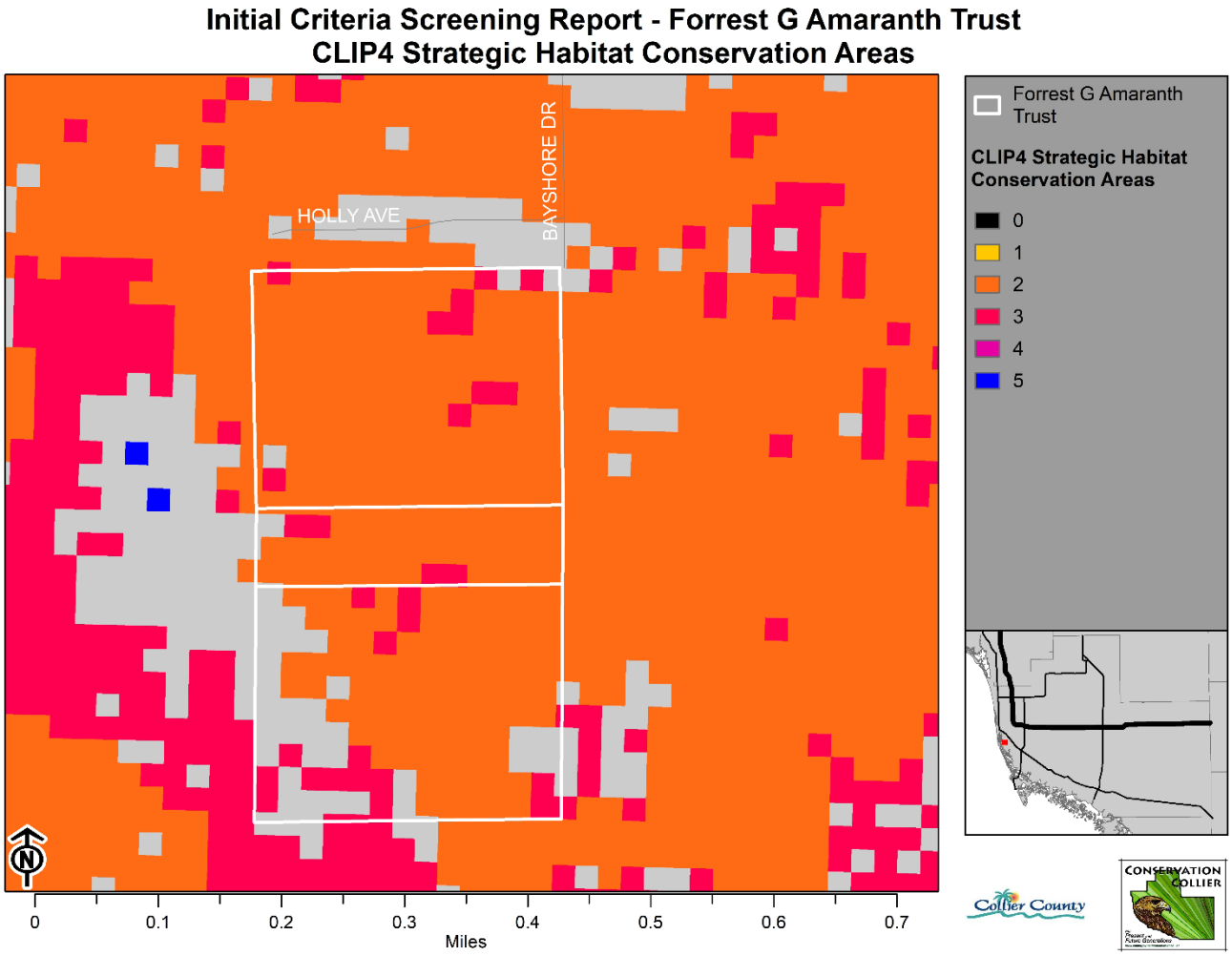


Figure 9. Priority Natural Communities CLIP4 Map

This data layer was created by FNAI specifically for the Florida Forever statewide environmental land acquisition program. It is intended to map natural communities that are under-represented on existing conservation lands. FNAI mapped the statewide range of 13 natural community types: upland glades, pine rocklands, seepage slopes, scrub, sandhill, sandhill upland lake, upland pine, tropical hardwood hammock, upland hardwood forest, pine flatwoods, dry prairie, coastal uplands, and coastal wetlands. The CLIP 4.0 version of this data layer further prioritizes areas within each community type based on land use intensity and FNAI Potential Natural Areas priorities.

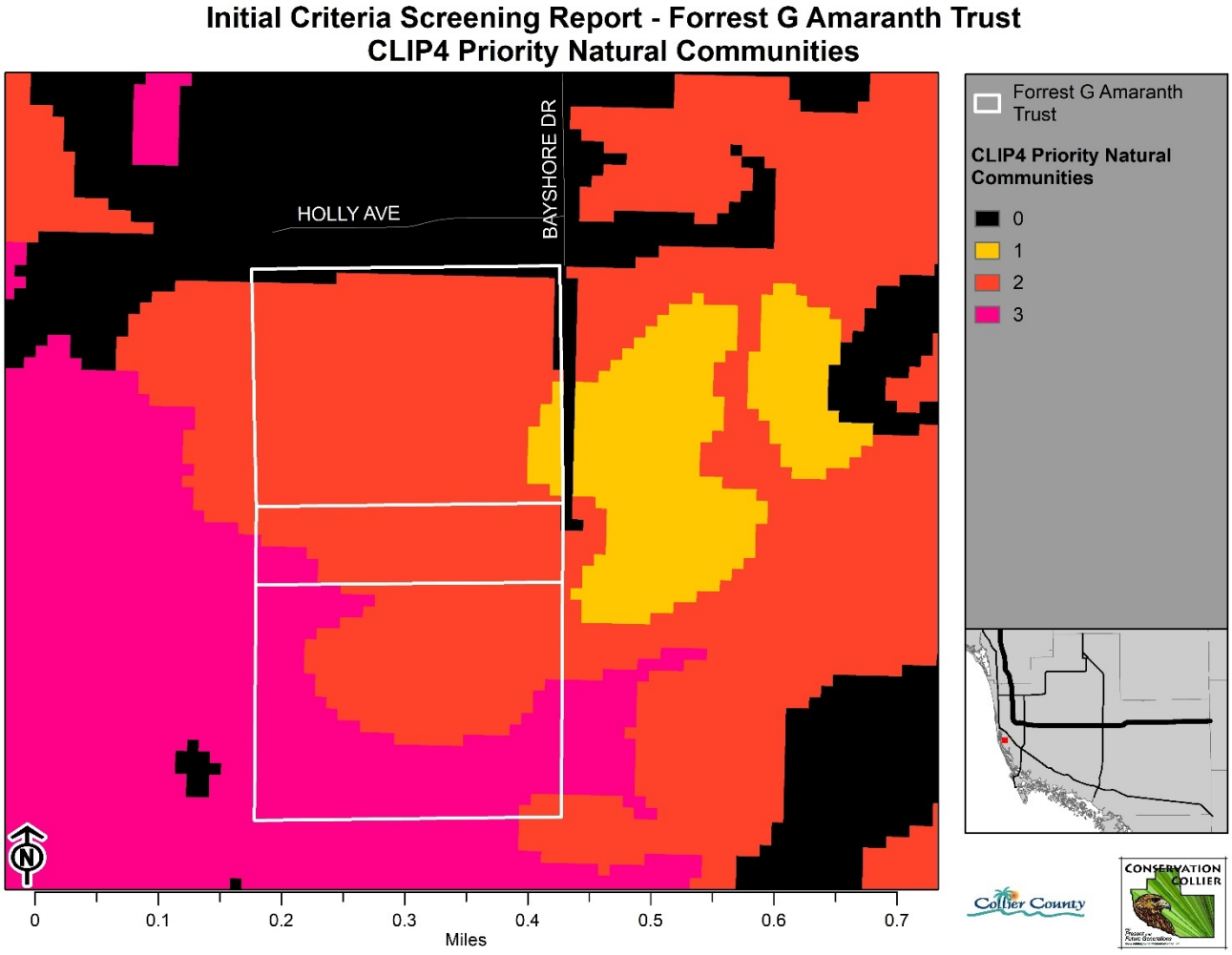


Figure 10. Surface Water Priorities CLIP4 Map

Developed by FNAI in consultation with water resource experts from the water management districts, the Florida Department of Environmental Protection (DEP) Division of Water Resource Management, DEP Office of Coastal and Aquatic Managed Areas (CAMA), and Fish and Wildlife Conservation Commission we determined that this measure concerns the protection of surface waters that currently remain in good condition, as opposed to those in need of restoration. Restoration efforts are covered under other Florida Forever goals and measures. The types of surface water resources that are included as significant surface waters are shellfish harvesting areas, seagrass beds, Outstanding Florida Waters (OFWs), National Wild and Scenic Rivers, springs, estuaries included in the National Estuary Program, and water bodies important for imperiled fish (Hoehn 1998). For a complete description please refer to: Florida Forever Conservation Needs Assessment Technical Report, Version 4.1. Florida Natural Areas Inventory. Tallahassee, Florida (available online at www.fnai.org).

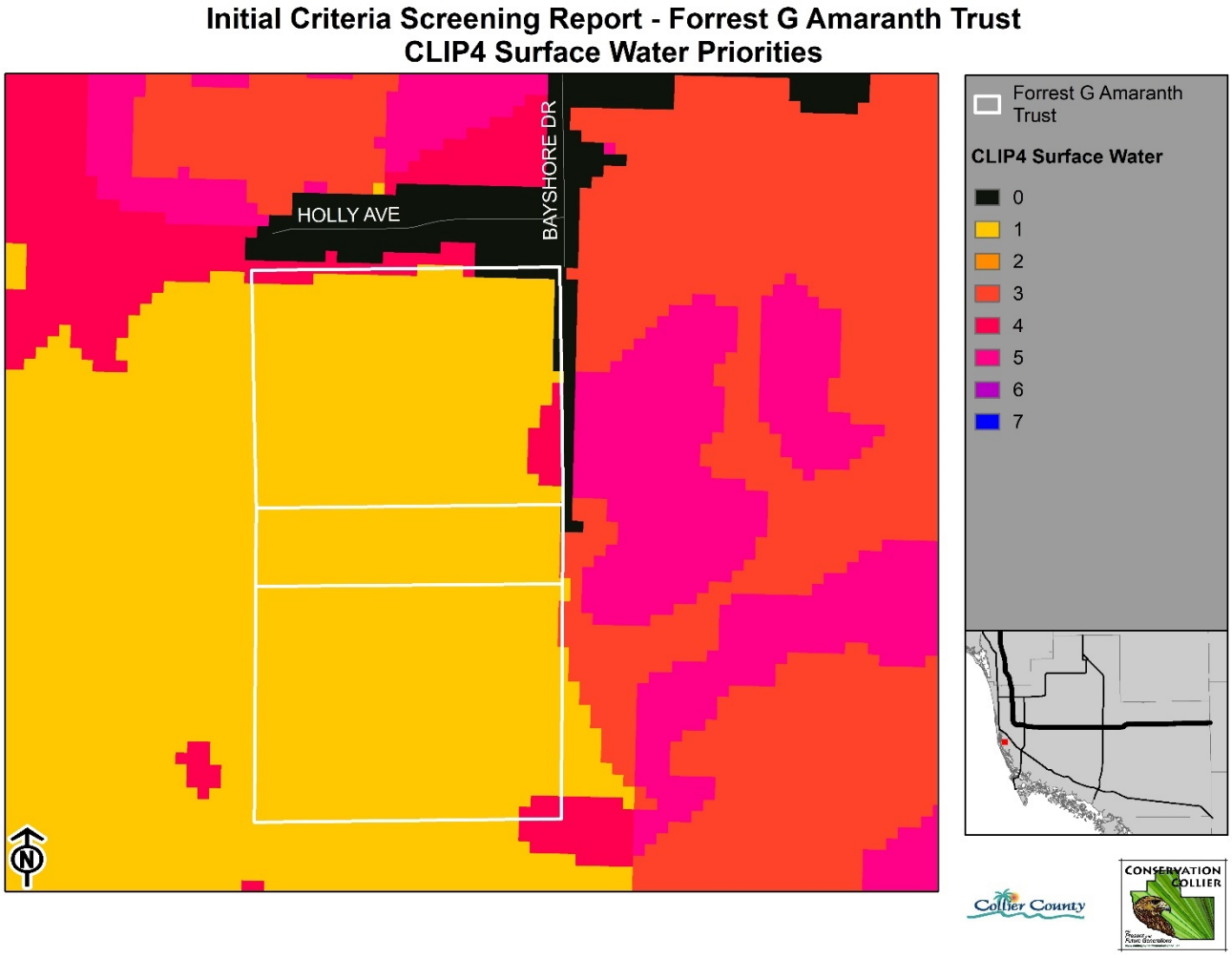
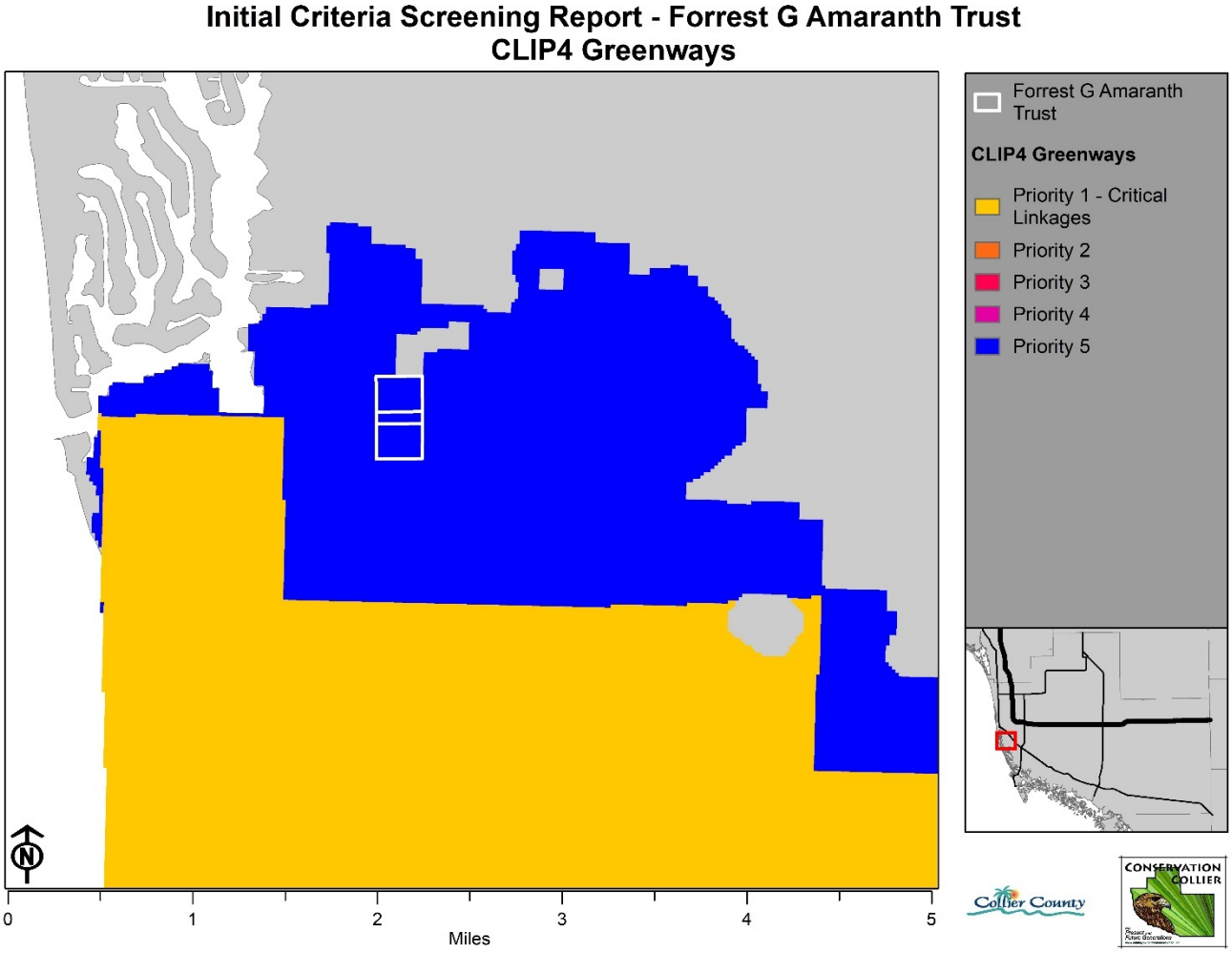


Figure 11: Greenways CLIP4 Map

Prioritization of the new Florida Ecological Greenways Network base boundary is required to refine priority focal areas and facilitate implementation efforts by the Office of Greenways and Trails and partners and related conservation evaluation processes including the Florida Forever Conservation Needs Assessment.



Vegetation and Habitat

Figure 12: Department of Environmental Protection and Water Management District Florida Land Use and Cover Classification System (FLUCCS)

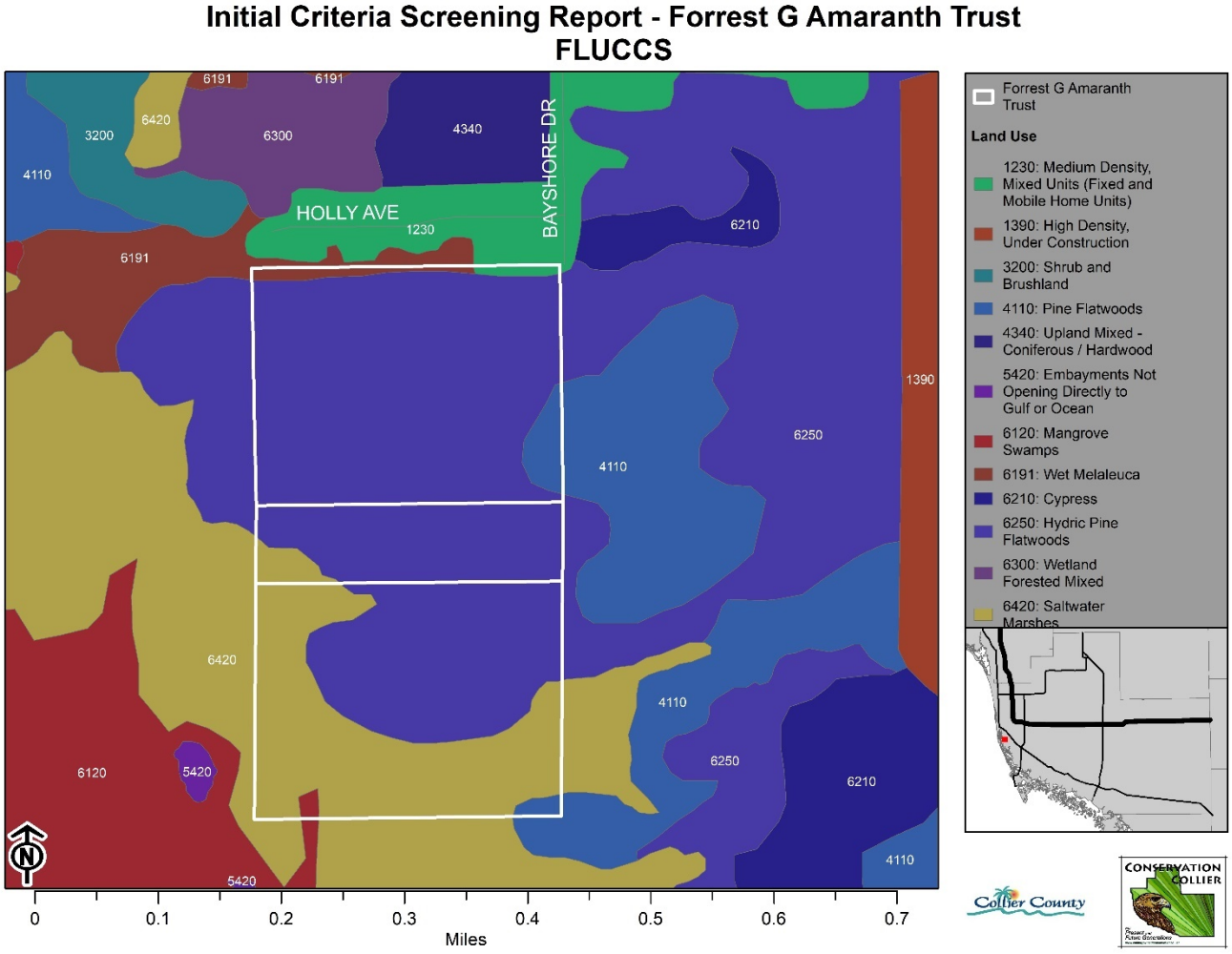
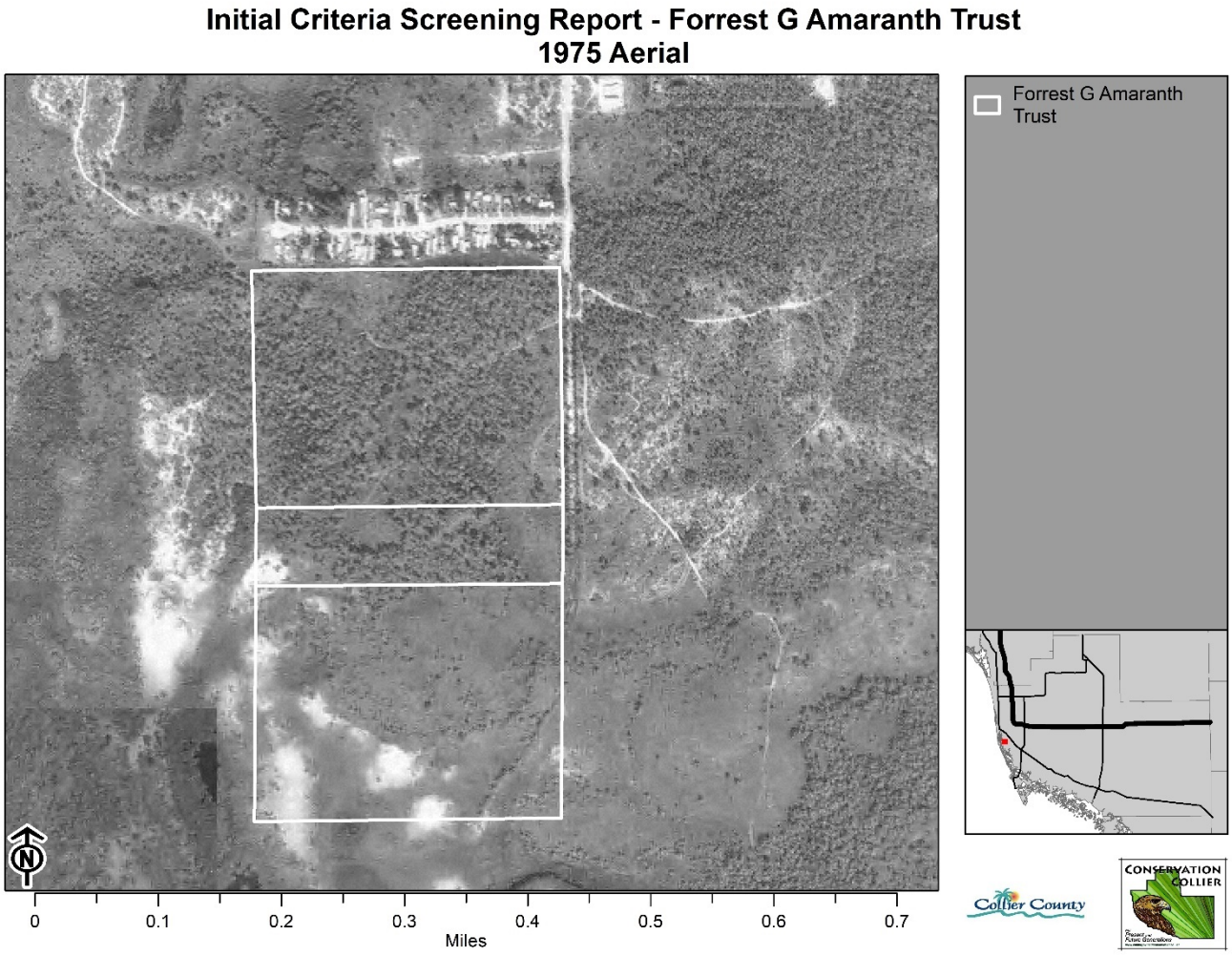


Figure 13: Historic Aerial Imagery



Photoset 1: Listed Plant Species

Left: Cardinal airplant (*Tillandsia fasciculata*)

Right: Northern needleleaf airplant (*Tillandsia balbisiana*)

Photoset 2: Invasive and Non-native Plant Species

Melaleuca infestation

Australian pine (*Casuarina equisetifolia*) infestation along western boundary

Left: Seaside Mahoe (*Thespesia populnea*), Australian pine (*Casuarina equisetifolia*), and old-world climbing fern (*Lygodium microphyllum*) infestation

Right: Downy rose myrtle (*Rhodomyrtus tomentosa*) infestation along trail

Photoset 3: Representative Habitat

Pine flatwoods with mature slash pine (*Pinus elliotti*), dense downy rose myrtle (*Rhodomyrtus tomentosa*) and saw palmetto (*Serenoa repens*) and scattered myrtle oak (*Quercus myrtifolia*)

Hydric pine flatwoods with slash pine (Pinus elliottii), melaleuca (Melaleuca quinquinervia), and myrsine (*Myrsine guianensis)*

Saltwater marsh with saltgrass (*Distichlis spicata*), black mangrove seedlings (*Avicennia germinans*), and Australian pine (*Casuarina equisetifolia*)

Table 15: Plant Species Observed During Site Visit

Common Name	**Scientific Name**	**Wetland Status**	**FLEPPC Category**	**Conservation Status**
snow berry	*Chiococca alba*	FAC		
pine lily	*Lilium catesbaei*	FAC		
wax myrtle	*Myrica cerifera*	FAC		
myrsine	*Myrsine guianensis*	FAC		
white indigo berry	*Randia aculeata*	FAC		
cabbage palm	*Sabal palmetto*	FAC		
swamp fern	*Blechnum serrulatum*	FACW		
buttonwood	*Conocarpus erectus*	FACW		
pond apple	*Annona glabra*	OBL		
button bush	*Cephalanthus occidentalis*	OBL		
saw grass	*Cladium jamaicense*	OBL		
southern swamp lily	*Crinum americanum*	OBL		
saltgrass	*Distichlis spicata*	OBL		
spikerush	*Eleocharis sp.*	OBL		

dahoon holly	*Ilex cassine*	OBL		
needle rush	*juncus roemarianus*	OBL		
swamp bay	*Persea palustris*	OBL		
lance-leaf arrowhead	*Sagittaria lancifolia*	OBL		
bald cypress	*Taxodium distichum*	OBL		
paw paw	*Asimina sp.*	UPLAND		
slash pine	*Pinus elliottii*	UPLAND		
winged sumac	*Rhus copallina*	UPLAND		
saw palmetto	*Serenoa repens*	UPLAND		
poison ivy	*Toxicodendron radicans*	UPLAND		
shiny blueberry	*Vaccinium myrsinites*	UPLAND		
American beautyberry	*Callicarpa americana*			
florida paintbrush	*Carphephorus corymbosus*			
rusty staggerbush	*Lyonia ferruginea*			
shoestring fern	*Vittaria lineata*			
black mangrove	*Avicennia germinans*			
jack-in-the-bush	*Chromolaena odorata*			
powder puff deer lichen	*Cladonia sp.*			
st. john's wort	*Hypericum sp.*			
ink berry	*Ilex glabra*			
red cedar	*Juniperus virginiana*			
bracken fern	*Pteridium aquilinum*			
blackroot	*Pterocaulon pycnostachyum*			
myrtle oak	*Quercus myrtifolia*			
live oak	*Quercus virginiana*			
red mangrove	*Rhizophora mangle*			
tough bully	*Sideroxylon tenax*			
greenbrier	*Smilax sp.*			
northern needleleaf	*Tillandsia balbisiana*			State Endangered
cardinal airplant	*Tillandsia fasciculata*			State Endangered
fakahatchee grass	*Tripsacum dactyloides*			
muscadine grape	*Vitis rotundifolia*			
white mangrove	*Laguncularia racemosa*			
earleaf acacia	*Acacia auriculiformis*		I	
woman's tongue tree	*Albizia lebbeck*		I	
shoebutton ardisia	*Ardisia elliptica*		I	
Australian pine	*Casuarina equisetifolia*		I	
air potato	*Dioscorea bulbifera*		I	
old world climbing fern	*Lygodium microphyllum*		I	
melaleuca	*Melaleuca quinquenervia*		I	

guava	*Psidium guajava*		I	
downy rose myrtle	*Rhodomyrtus tomentosa*		I	
umbrella tree	*Schefflera actinophylla*		I	
Brazilian pepper	*Schinus terebinthifolius*		I	
Java plum	*Syzygium cumini*		I	
portia tree	*Thespesia populnea*		I	
Caesarweed	*Urena lobata*		I	
golden rain tree	*Koelreuteria elegans*		II	
ladder brake	*Pteris vittata*		II	
wedelia	*Sphagneticola trilobata*		II	

Wildlife

Figure 14: USFWS Consultation Areas

2019 Florida bonneted bat consultation area

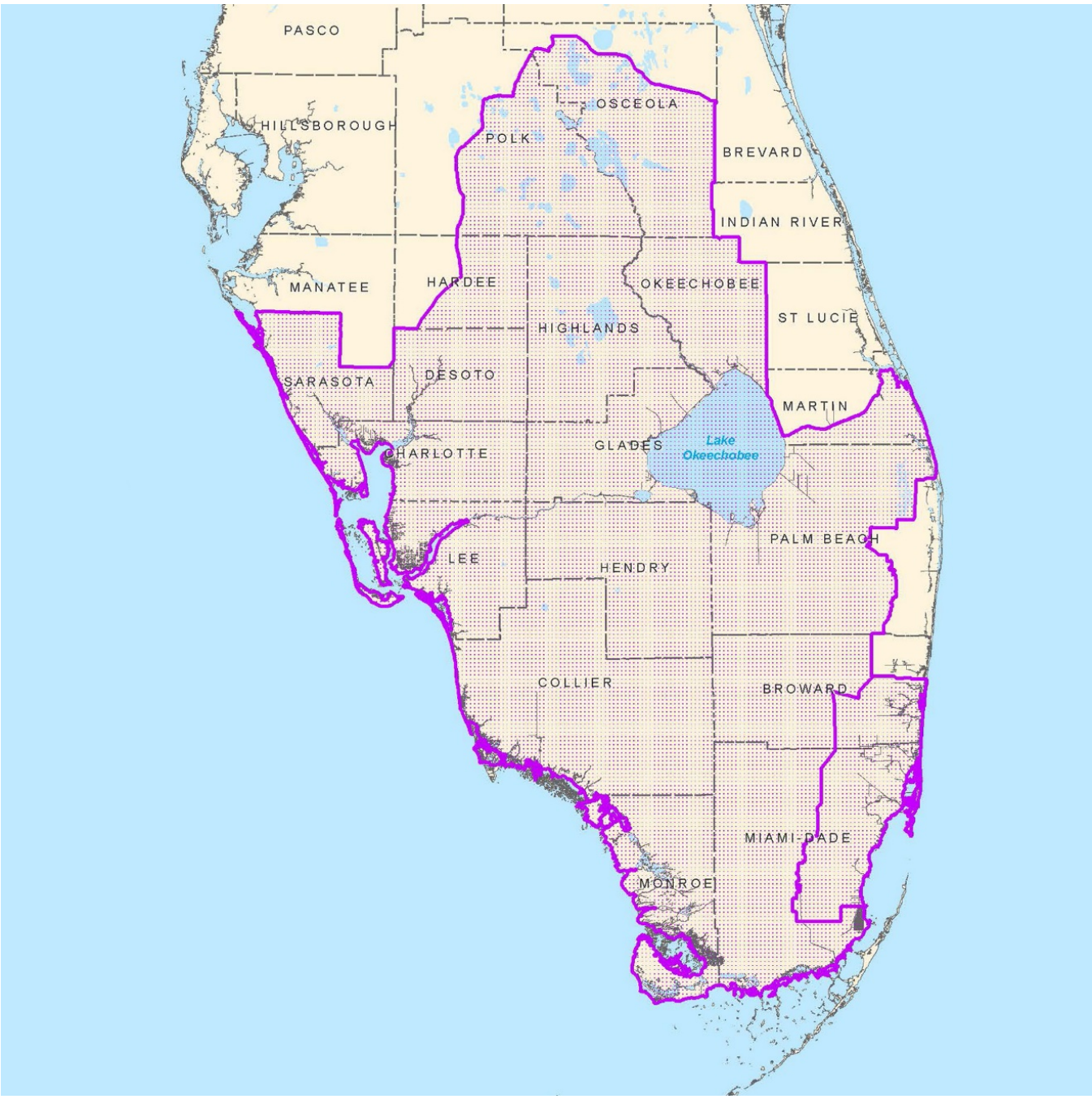
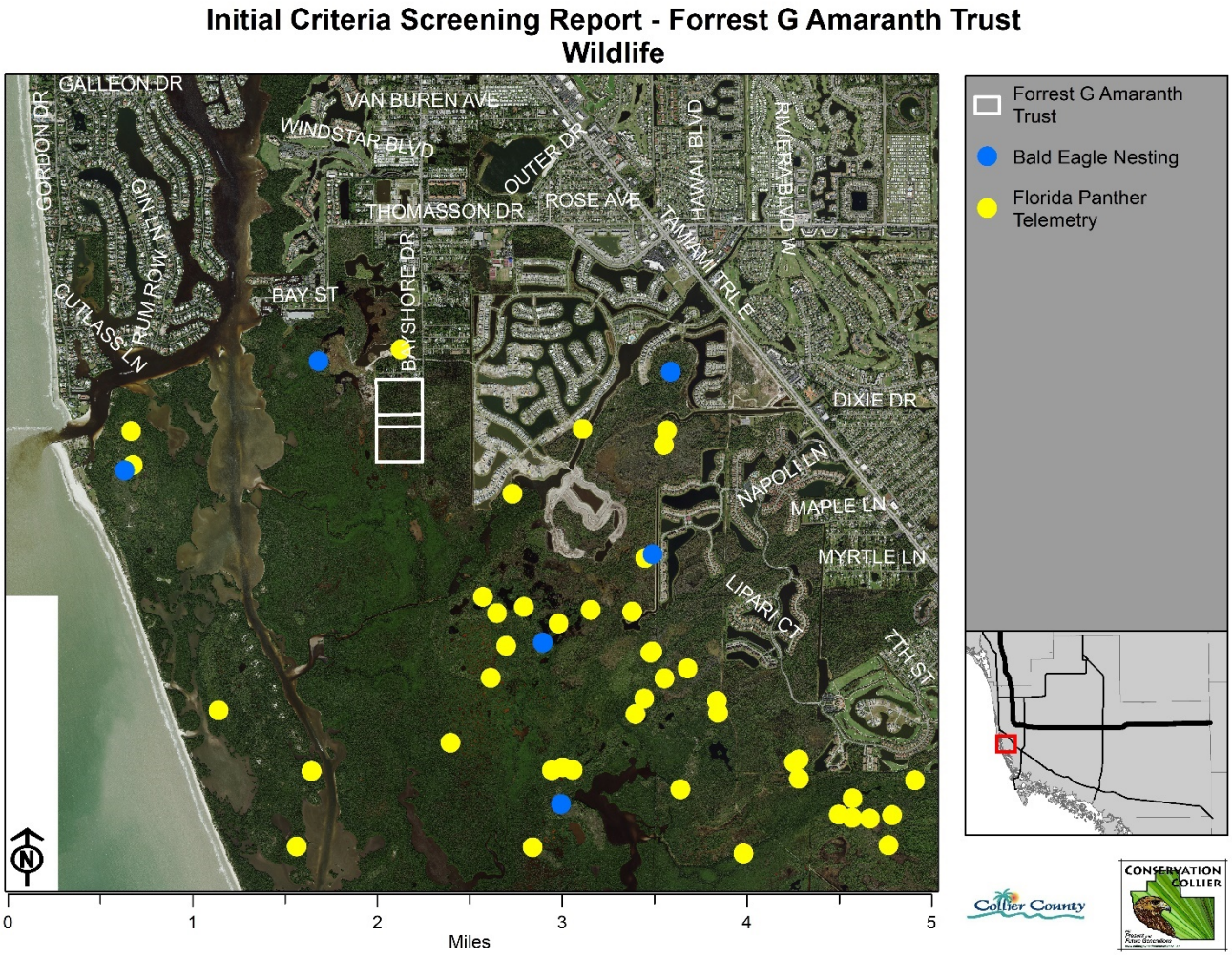


Figure 15: Wildlife Observations



Photoset 4: Wildlife and Wildlife Indicators

Left: Juvenile gopher tortoise burrow

Right: Florida panther (*Puma concolor coryi*) track found immediately west of parcel.

Left: White-tailed deer (*Odocoileus virginianus*) buck rub

Right: Feral hog (*Sus scrofa*) foraging signs

Right: West Indian mangrove buckeye (*Junonia genoveva*)

Soils, Elevation, and Hydrology

Figure 16: Soil Survey of Collier County

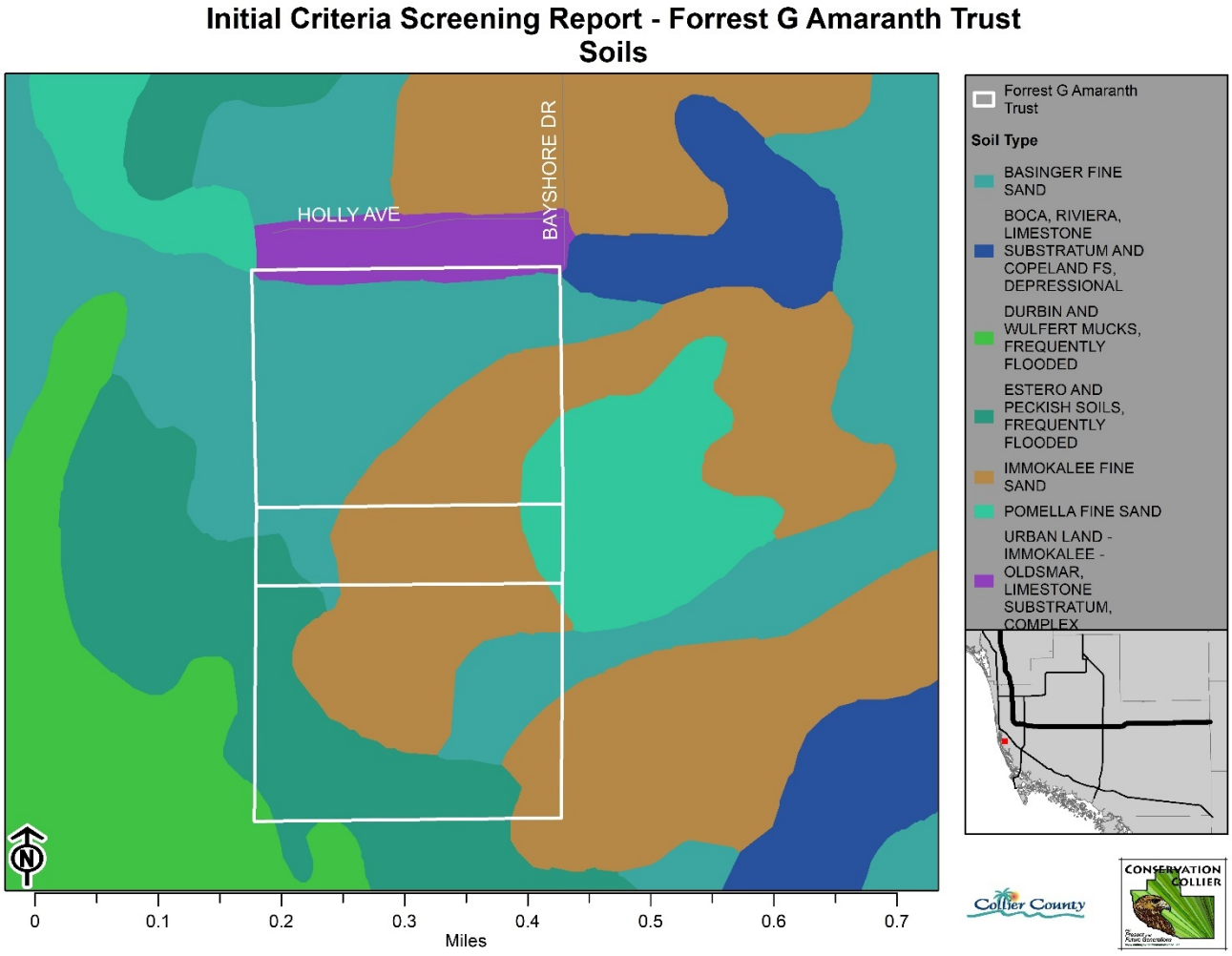


Figure 17: Light Detection and Ranging Surface Elevation Map (LIDAR)

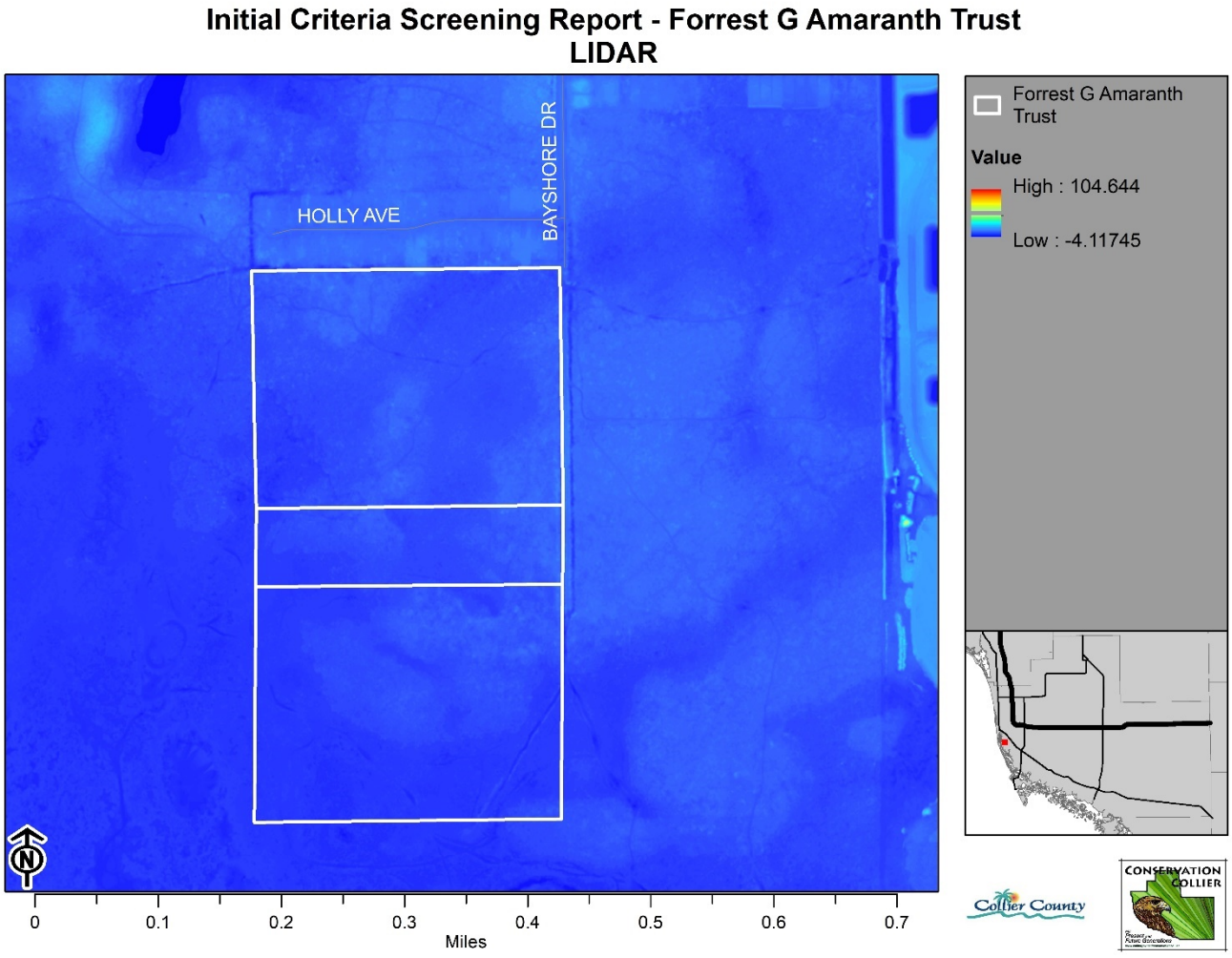


Figure 18: Wellfield Protection Zones

Collier County Wellfield Protection Zones as referenced in the Land Development Code updated in 2010 by Pollution Control and Prevention Department Staff. The public water supply wellfields, identified in section 3.06.06 and permitted by the SFWMD for potable water to withdraw a minimum of 100,000 average gallons per day (GPD), are identified as protected wellfields, around which specific land use and activity (regulated development) shall be regulated under this section.

This property is not within a wellfield protection zone.

Figure 19: Precipitation Recharge/Discharge Areas - Floridan, Sandstone and Tamiami Aquifers

The maps delineate average yearly rates of precipitation recharge or leakage, depending on the type of aquifer system(s) portrayed, as well as excess precipitation estimates (i.e. rainfall minus actual evapotranspiration losses) for each planning region.

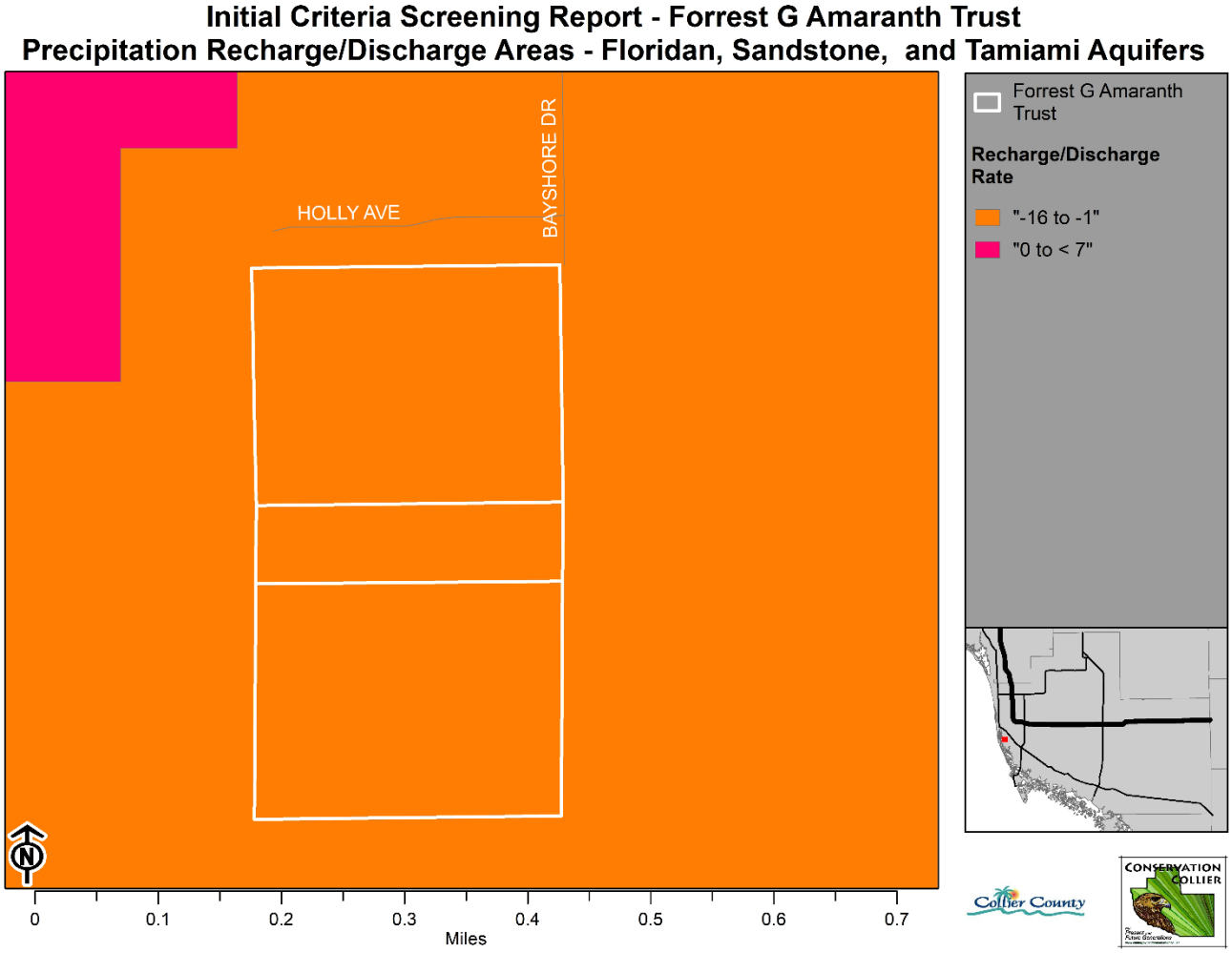


Figure 20: Precipitation Recharge Areas - Surficial and Biscayne Aquifers

The maps delineate average yearly rates of precipitation recharge or leakage, depending on the type of aquifer system(s) portrayed, as well as excess precipitation estimates (i.e. rainfall minus actual evapotranspiration losses) for each planning region.

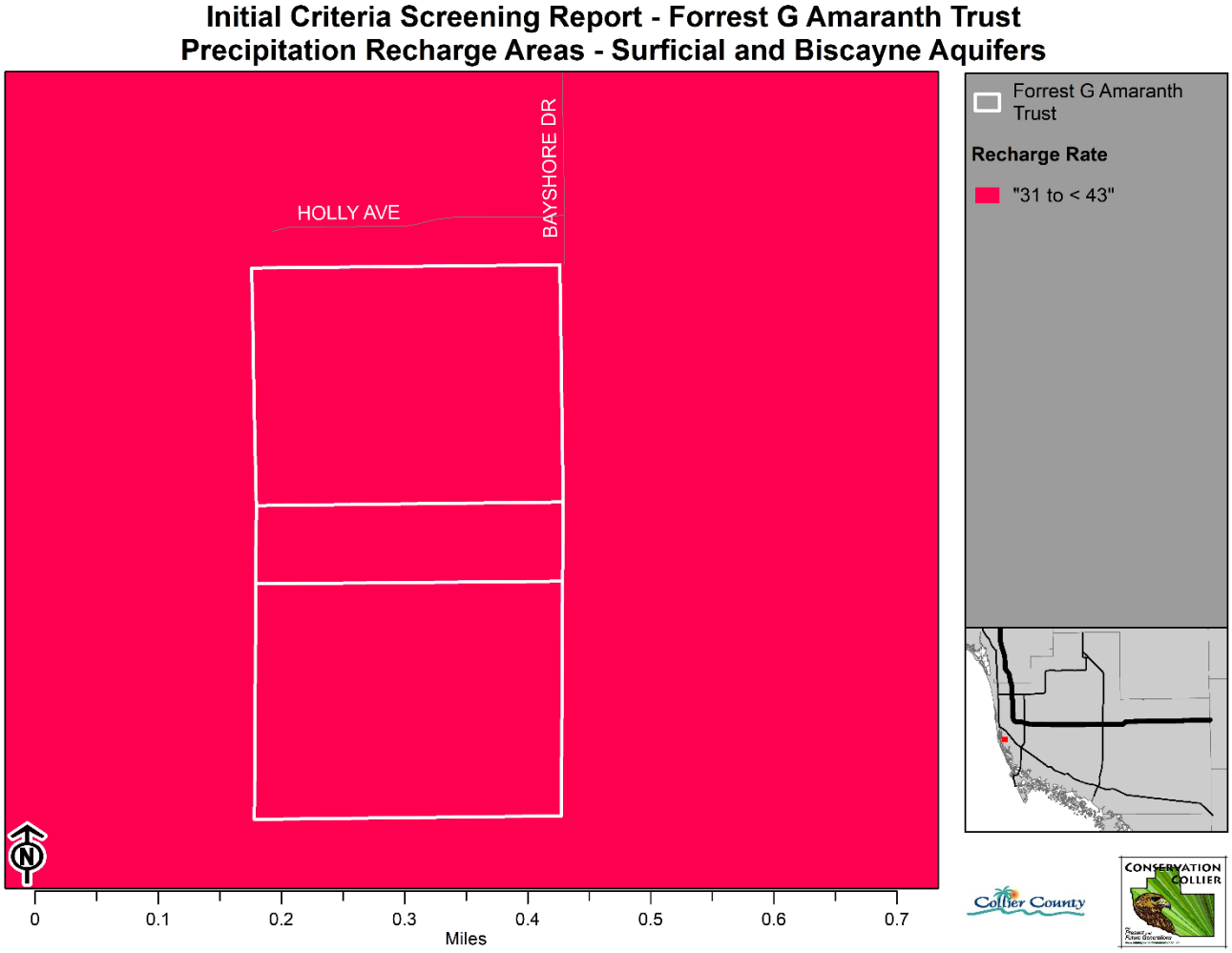
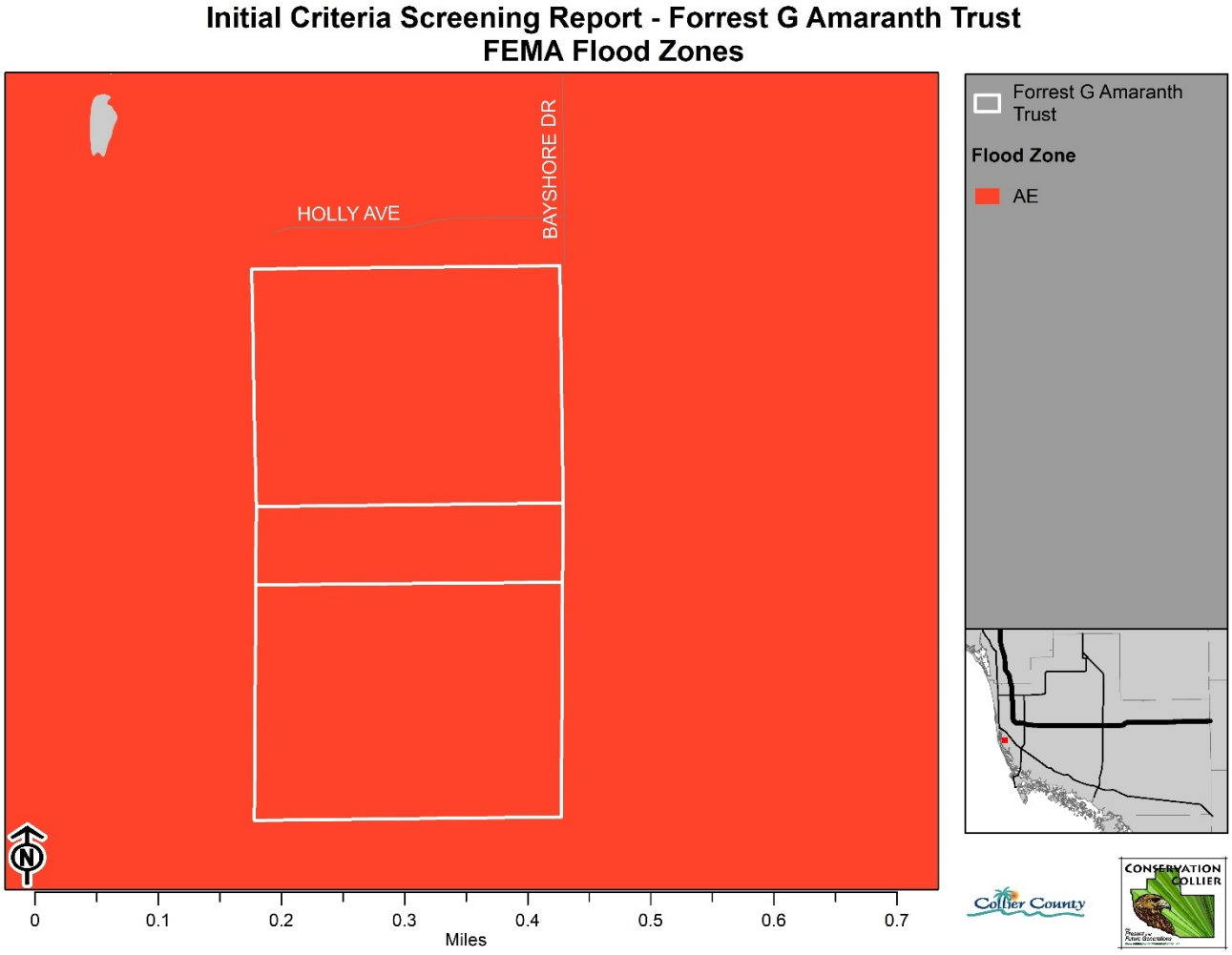


Figure 21: FEMA Flood Zones

Data was extracted from the 2011 FEMA DFIRM to provide only the remaining regulated areas; the adjusted Special Flood Hazard Area. Excluded areas were removed from the original DFIRM map including Federal Lands and FEMA Approved Mass LOMAs, MREMs and PREMs. Incorporated areas, Lake Trafford and coastal waters excluded from the Physical County Boundary were also excluded.



Photoset 5: Hydrologic indicators

Saw grass (*Cladium jamaicense*), myrsine (*Myrsine guianensis)*, and rushes (*Juncus sp.)* growing in pine flatwoods

Black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), red mangrove (*Rhizophora mangle*), and saltgrass (*Distichlis spicata*) growing in saltwater marsh/mangrove swamp

Zoning

Figure 22: Collier County Growth Management Department Zoning Overlay

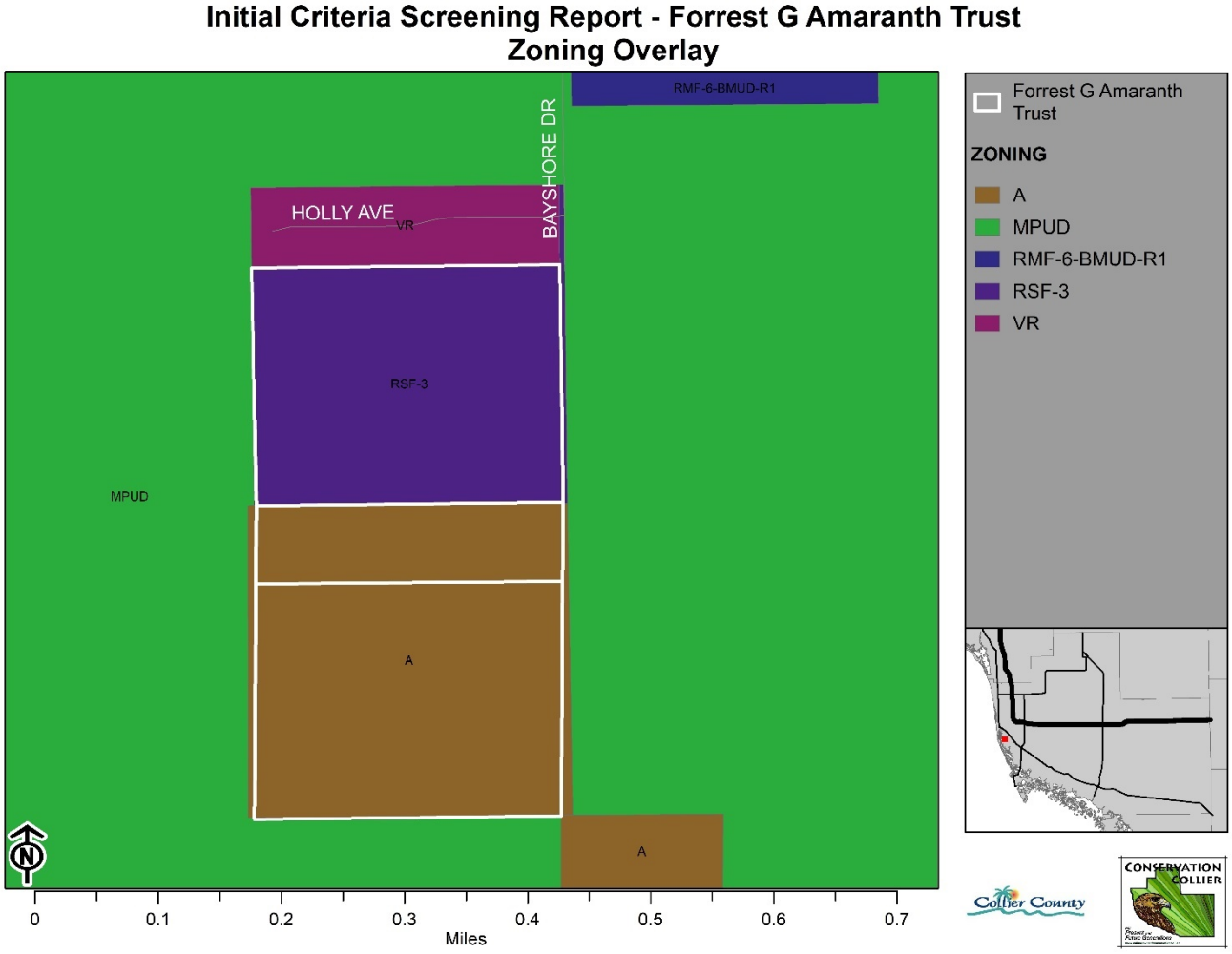
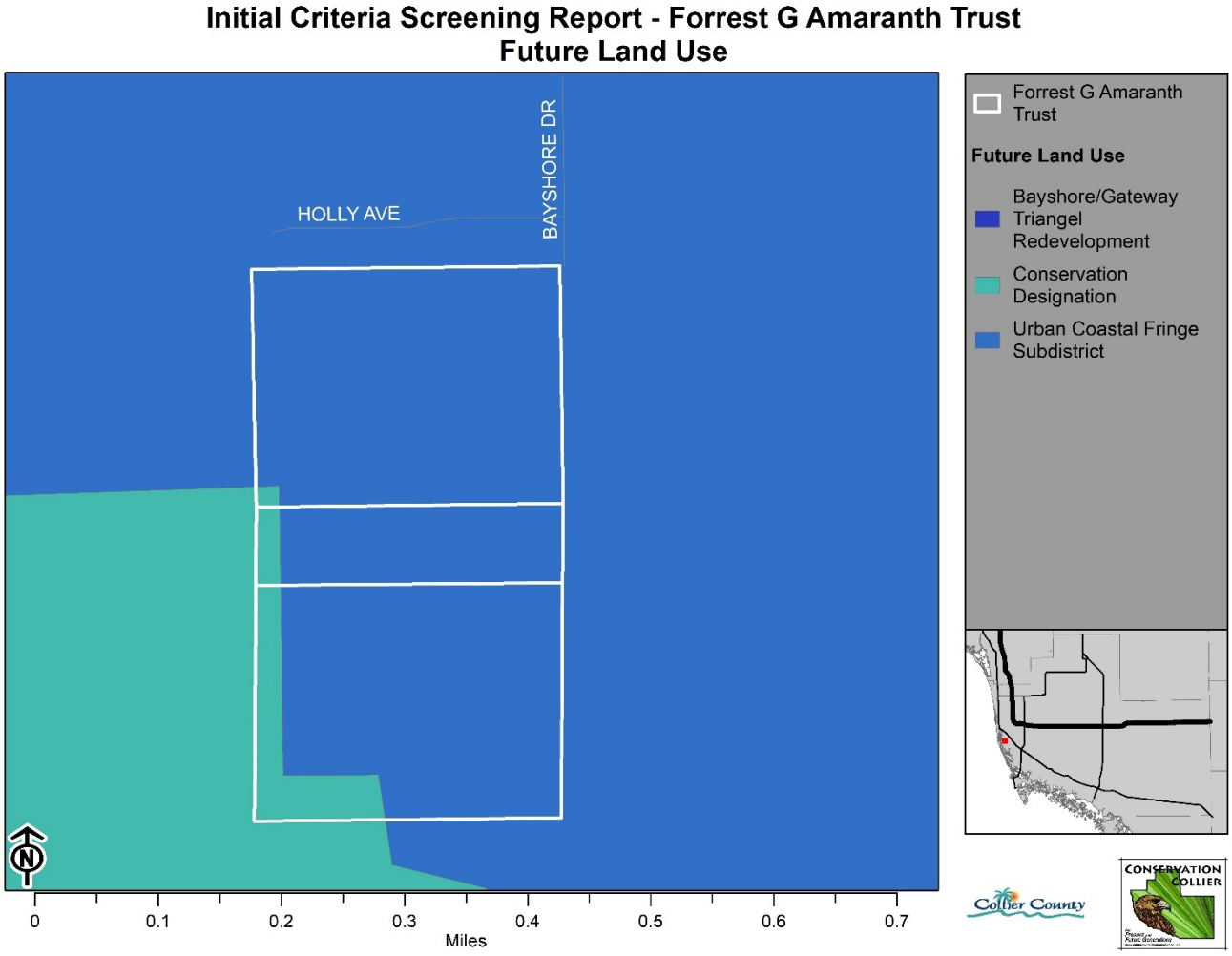


Figure 23: Collier County Growth Management Department Comprehensive Planning Division Future Land Use Overlay



Management

Photoset 6: Management Considerations

Boat hull found on eastern boundary

Truck on eastern boundary

Transient encampment debris

Dumping

Additional Figures, Tables, and Photos

Figure 24: Isles of Collier Preserve Community Site Plan with Forrest G Amaranth Trust parcels overlayed in red

Photoset 7: Additional Photos

Left: Pine lily (*Lilium catesbaei*)

Right: Flooded trail