Durrance Place Property
Indian River County Environmental Bond
2024

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Project No. 24-6442

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1.0 DURRANCE PLACE PROPERTY

The Durrance Place Property, Environmental Bond Nomination Number 18, was nominated by a local resident with the anticipated acquisition type of Fee Simple.

1.1 LOCATION

The assessment property is in eastern Indian River County on two Tax Parcels #3139210000006000015.0 and #3139210000005000015.0 (Figure 1). Highway U.S. 1 runs along the southwest boundary of the property approximately one mile north of the intersection with Highway 510 (Bridge Boulevard). There is a private vacant parcel to south (Hale Grove nominated property) and a small vacant parcel to the north (Durrance Corner nominated property). To the west is low density residential and a strip mall and to the east is residences with a series of canals for boat access to the Indian River.

1.2 SIZE

The property totals approximately 13.1 acres on two tax parcels that form an irregular shaped polygon that is roughly 250m wide by 230m north-south.

1.3 CURRENT AND FUTURE ZONING

The current land use zoning is CG - General Commercial District on the southwest portion (tax parcel #3139210000006000015.0) of the assessment property, and the remainder of the assessment property (tax parcel #3139210000005000015.0) is labeled RM-6: Multiple-Family Residential District (up to 6 units/acre) (Version 9/04/2024). The future land use zoning on the southwest portion is C/I: Commercial/Industrial and the remaining portion is L-2: Low-Density Residential-2 (6 Units/Acre) (Version 3/28/2024).

1.4 PENDING ZONING CHANGES AND SPECIAL OVERLAY DISTRICTS

An inquiry to the Director of Planning & Development Services for Indian River County, Chris Balter, revealed there are no pending zoning changes and was unaware of any Special Overlay Districts affecting the parcel.

2.0 VEGETATIVE COMMUNITIES

The Durrance Place property straddles two major vegetative community types within Indian River County. The far eastern side of the property resides in the Indian River Lagoon and associated estuarine wetlands portion of the county, and the western portion is within the south Florida flatwoods ecological community that occurs in two distinct regions of Indian River County, east and west. The Durrance Place property is within the eastern portion of the general ecological community, and predevelopment, consisted of pine flatwoods intermixed with shallow wetlands. This property is adjacent and just east of the Atlantic Coastal Sand Ridge and the scrub communities it harbors.

2.1 LAND USE AND LAND COVER

There was one natural community type, and four altered land use types identified on the property from the 2023 Florida Cooperative Landcover Map (CLC) (Figure 2). Approximately 50 percent of the site was identified as Mixed Hardwood-Coniferous. This area consists of former citrus groves and is better described as Successional Hardwood Forest. Similarly, what was called Upland Hardwood Forest (11 percent), would also be better classified as Successional Hardwood Forest (FNAI 2010). Approximately 38 percent of the site was labeled Mixed Wetland Hardwood. The eastern half of this polygon has remained naturally vegetated; however, the western half of the polygon was planted with citrus in the 1940s through the 1950s. The CLC map Figure 3 and Table 1 present the acreage of each land use and natural community type on the property.

Table 1. The amount of each altered land use type or natural community type on the Durrance Place property from the Florida Cooperative Landcover Map (2023).

Land Use/Natural Community	Acres	% Cover	Type	Up/Wet	State Rank
Mixed (Succesional) Hardwood-Coniferous	6.53	49.9%	Altered	Upland	not ranked
Mixed Wetland Hardwoods	5.01	38.3%	A and N	Wetland	not ranked
Upland (Succesional) Hardwood Forest	1.41	10.8%	Altered	Upland	not ranked
Transportation	0.12	0.9%	Altered	Upland	not ranked
Citrus (Abandoned Field)	0.01	0.1%	Altered	Upland	not ranked
Total Altered	8.1	80.9%			
Total Natural	5.0	19.1%			
Total Upland	8.1	61.7%			
Total Wetland	5.0	38.3%			

*The level of disturbance within each onsite natural community has not been assessed.

**The communities in (parentheses) are corrections to the map based on aerial interpretation.

Mesic and wet flatwoods were likely dominant natural communities on the western portion of the property. Typical trees and shrubs in flatwoods community include slash pine, longleaf pine, gallberry, and saw palmetto with often grasses such as creeping bluestem, lopsided indiangrass, and pineland threeawn. However, a review of the historical imagery reveals most of the habitat on the western side of the site has been altered.

Mangrove and estuarine habitats were likely historically dominant on the eastern portion of the property. Characteristic species of mangrove swamps include red mangrove, black mangrove, white mangrove, and buttonwood. Brazilian pepper can be a common component particularly within disturbed estuarine communities. In the 1940s aerial there appears to be some saltmarsh along the eastern boundary and typical salt marsh within the county is an herbaceous community that occurs in the portion of the coastal zone affected by tides and seawater but protected from large waves. Dominant species often include saltmarsh cordgrass, saltwort, glasswort, salt grass, seaside oxeye daisy, Carolina sea lavender, marsh fimbry, shoreline seapurslane, marsh elder, and saltgrass.

There were no regionally rare natural community types (e.g., scrub, scrubby flatwoods, maritime hammock) identified on the property from the CLC map or from a review of current and historical aerial imagery.

Figure 4 shows the under-represented natural communities mapped by FNAI for the Florida Forever statewide environmental lands acquisition program that occur on and near the property. No portion of the property was ranked a priority for under-represented natural communities (scale is Priority 1 through 4 with 1 being the highest priority; 0=no rank).

2.2 SOILS

The soil types found on the Durrance Place Property are represented in Figure 5. The site consists of primarily two soil types, Cypress Lake (8.5-acres) and EauGallie (4.6-acres). The typical vegetation for the Cypress Lake soil series is moderately deep, poorly and very poorly drained soils formed in sandy and loamy marine sediments over a limestone bedrock. They occur on low broad flats, flatwoods, low rises and/or knolls, drainageways, and depressions on marine terraces. Dominant natural vegetation typically consists of gallberry, saw palmetto, cabbage palmetto, slash pine, and an understory of pineland threeawn. The EauGallie series consists of very deep, very poorly or poorly drained, slowly permeable soils in flats, sloughs and depressional areas in flatwoods, floodplains, sloughs and depressions in Peninsula Florida. The natural vegetation consists of longleaf pine, South Florida slash pine, slash pine, fetterbush. The understory vegetation includes running oak, saw palmetto, inkberry, gallberry, wax myrtle, and pineland threeawn.

2.3 HISTORICAL IMAGERY REVIEW

Some of the aerial photographs reviewed for this assessment can be found in the Appendix.

1943 February 24 (UF Map Library)
- A citrus grove (mix of young and old trees) covers approximately 8 acres of the total 13.1 acres
- The eastern boundary is mostly open, likely saltmarsh with possibly some mangroves
- The southwest corner of the parcel is adjacent to U.S. 1 and is open nearly treeless with several dirt roads and a small building, the habitat is open with few trees and is likely grazed wet flatwoods
- A linear feature, maybe a ditch, runs northwest to southeast through the easternmost grove
- Citrus groves are offsite to the south (Hale Grove nominated properties), some groves and very little development offsite to the west, to the north offsite is mostly open flatwoods and more forested progressing east, and the offsite area adjacent to the eastern boundary appears natural and could be a mix of saltmarsh and mangrove

1951 April 4 (UF Map Library)
- The citrus grove appears maintained
- The southwest corner of the parcel is more vegetated and does not appear to be maintained
- The linear feature that runs northwest to southeast through the easternmost grove is still evident and now there is a ditch that appears to radiate from it to the east northeast and continues through the adjacent offsite saltmarsh
- The natural areas to the northeast and east are largely intact but now have what is today Durrance Road and 52nd Court established as dirt roads with accompanying ditches
- Most of the adjacent land to the west and northwest is being developed

1957 December 21 (UF Map Library)
- The westernmost citrus grove appears maintained, the eastern grove is going fallow and filling in with weedy woody vegetation

- The southwest corner of the parcel has been cleared with some trees remaining and possibly a small structure
- The linear feature that runs northwest to southeast through the easternmost grove is evident at the southern boundary

No aerial photography was found between 1957 and 1994

1994 March 17 (Google Earth Pro)
- The remaining citrus grove contains old trees, possibly fallow, about 4.7 acres of the original 8.3 acres of citrus remain
- The eastern fallow citrus grove does not look like a citrus grove anymore (rows of trees are not evident)
- Several structures are on the southwestern corner of the parcel
- The natural forested areas near the east boundary more densely canopied
- 53rd Avenue and accompanying ditches have been constructed along with a series of three canals and several residences east of the site

1999 February 21 (Google Earth Pro)
- The remaining 4.7-acres of citrus are fallow and becoming overgrown
- Another building has been constructed in the southwest corner of the property
- The forested area on the eastern boundary is intact and the former grove is nearly indistinguishable from the natural forested eastern portion

2008 October 31 (Google Earth Pro)
- No structures are visible on the southwestern corner
- No citrus groves are visible anymore
- The entire site forested, the former citrus grove likely has invasive exotic species, and the aerial signature is distinct from the forested far eastern area that has mangroves on the eastern boundary

2017 January 5 (Google Earth Pro)
- The southwestern corner is becoming more densely forested
- The entire site is still forested

2020 January 7 (Google Earth Pro)
- The entire site is still forested, and some mortality (light signature) is observed in large trees, possibly oaks, along the middle of the southern boundary

2023 May 26 (Google Earth Pro)
- The dark tree signature on the southeastern boundary appears to be red mangrove
- The Google Earth street view of the southeast corner of the parcel depicts red mangrove and possibly black mangrove within the forest area
- The former citrus grove has dense woody vegetation, and the Google Earth street view shows cabbage palm, exotic palms, Brazilian pepper, live oak, exotic legume trees and many other weedy groundcover, shrub, and tree species
- The southwestern corner where the structure was, has been mowed and possibly cleared of shrubs and saplings

2.4 OFFSITE CONTINUITY OF NATURAL COMMUNITIES

Less than 3 acres on the eastern portion of the parcel has remained naturally forested and is contiguous with offsite mangrove forest to the north and south. The fallow citrus grove that is infilling with woody species is contiguous with offsite fallow citrus grove to the south of the property (Hale Grove property). The remaining habitat on the property and offsite to the west, south, and east has been developed or altered and there is no continuity with offsite natural communities.

3.0 RARE SPECIES

Table 2 includes a list of the animal species and Table 3 includes the plant species that have the potential to occur onsite that are considered endangered, threatened, or rare as listed by the U.S. Fish and Wildlife Service (FWS), Florida Fish and Wildlife Conservation Commission (FWC), Florida Natural Areas Inventory (FNAI) and the Florida Department of Agriculture. A search using the FNAI Biodiversity Matrix Map Server, and the FWS Information for Planning and Consultation (IPaC) Tool Resource List was performed for listed species that may potentially occur within the Project Site. These lists were reviewed and only the species that have a potential to occur within the habitats available onsite were included. Additionally, species that are tracked by FNAI or state listed that occur within Indian River that were not included in the Biodiversity Matrix search, but potential habitat occurs onsite, were included in Tables 2 and 3. The majority of the potential rare animals and plants listed for this property are species that can occur in mangrove wetlands or disturbed forested communities.

Table 2. The animal species listed endangered, threatened, or tracked by FNAI that have the potential to occur on the Durrance Place property.

Species Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Bird					
Mycteria americana	wood stork	G4	S2	T, PDL	FT
Nyctanassa violacea	yellow-crowned night-heron (nests)	G5	S3	N	N
Setophaga discolor paludicola	Florida prairie warbler	G5T3	S3	N	N
Setophaga kirtlandii	Kirtland's Warbler	G3	S1	N	N
Reptile					
Drymarchon couperi	eastern indigo snake	G3	S2?	T	FT
Gopherus polyphemus	gopher tortoise	G3	S3	N	ST

Table 3. The plant species listed endangered, threatened, or tracked by FNAI that have the potential to occur on the Durrance Place property.

Species Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Harrisia simpsonii (fragrans)	Simpson's prickly apple	G2	S2	N	N
Opuntia stricta	erect prickly pear	G4?	S3S4	N	T
Tillandsia balbisiana	Balbis' airplant	G4G5	S3	N	T
Tillandsia fasciculata	common wild-pine	G5	S4?	N	E
Tillandsia utriculata	spreading airplant	G5	S3	N	E

Figure 6 shows The Florida Fish and Wildlife Conservation Commission's Fish and Wildlife Research Institute Terrestrial Resources Geographic Information System web mapping results for species observations near the assessment property. Note these observations are a collection of species documented in the vicinity by various means and are a very incomplete representation of what may occur in the area or that may utilize this property. The resources selected for documented occurrences in the area included Black Bear Calls, Black Bear Telemetry, Eagle Nesting, Panther Mortality, Panther Telemetry, Scrub Jay, Wading Bird Rookeries, and opportunistic Wildlife Observations. There are no documented wildlife sightings on the Durrance Place property (Figure 6).

Figure 7 shows the Critical Lands and Waters Identification Project (CLIP version 4.0) Biodiversity Resource Priorities model, which combines several conservation priorities models including the Strategic Habitat Conservation Areas for Florida Forever, Vertebrate Richness, Potential Rare Species Habitat, and Priority Natural Communities Core Data layers. The eastern third of the property and a small portion of the southwestern corner are mapped as Priority 4 (Priority 1 has the highest conservation priority on a scale from 1 to 5), approximately half of the property was not listed as a priority (Figure 7).

4.0 WETLANDS

Approximately 38 percent of the site is covered in wetlands according to the CLC map. The parcel is within the Indian River Lagoon watershed.

4.1 AEREAL EXTENT AND CONNECTIVITY

From the CLC map the eastern portion of the property (5 acres) was mapped as primarily mixed wetland hardwoods (Table 1). These wetlands form a linear feature that extends north and south of the site and parallels the Indian River Lagoon.

Figure 8 shows the wetlands, waterbodies, and flood zones located on the property from the National Wetlands Inventory (NWI) and Federal Emergency Management Agency (FEMA) maps. The NWI map identified 4.9-acres of Estuarine wetlands, 37.8 percent of the site.

4.2 ALTERATIONS

From the available aerial photography, the onsite forested wetlands along the eastern portion have remained largely intact. A series of three canals have been excavated in close proximity offsite to the east and a large ditch/canal has been excavated to the south of this property. Undoubtedly these features have influenced the local hydrology. Since the 1940s the saltmarsh onsite has converted to mangrove forest. It does not appear, from the LiDAR derived digital elevation model, that the former citrus groves were planted on a series of manmade ridges and ditches.

Invasive exotic plant infestations could be exceedingly high on this property and in addition to Brazilian pepper, likely species, including within upland areas, are Peruvian primrose willow, creeping oxeye, Guinea grass, lantana, rose Natal grass, Caesar’s weed, cogon grass, West Indian dropseed, and rosary pea.

5.0 WATER RESOURCES

5.1 AQUIFER RECHARGE

Figure 9 shows the priority ranking for aquifer recharge on the project site. This is a broad measure focusing on the recharge of springs, sinks, aquifers, natural systems, and water supply. Areas of potential recharge to the Floridan and surficial aquifers were determined from soil hydraulic conductivity, proximity to karst features, depth to water, and overburden (Florida Forever Conservation Needs Assessment, Tech Report 2023). The entire site had a priority rank for aquifer recharge with priority values ranging between 4 and 6 and Priority 5 covering the largest proportion of the site (the ranks range 1 through 6 with Priority 1 being the highest priority; 0=no rank) (Figure 9).

5.2 WATER QUALITY

The wetlands onsite have the potential to aid in maintaining water quality and in situ water purification of stormwater entering the Indian River Lagoon system from the uplands.

5.3 WATER ATTENUATION

The wetland communities can help to store water and reduce the speed of water as it flows over the landscape.

6.0 CORRIDORS AND GREENWAYS

The Durrance Place Property is relatively isolated and is not within or immediately adjacent to any greenways or corridors. The east boundary is within 200m of the Indian River Lagoon Blueway Corridor. The closest conservation area, Wabasso Scrub Conservation Area, lies approximately 1,100m to the southwest, Pelican Island National Wildlife Refuge is approximately 1,400m east across the Indian River and an unacquired parcel of the Indian River Lagoon Blueway Florida Forever BOT project is within 1,600m to the south (Figure 10). This parcel is part of a group of parcels that have been nominated for acquisition and the total area equals approximately 43 acres.

Figure 11 shows the CLIP landscape priority ranking for the property. This model combines priorities from the Ecological Greenways and Landscape Integrity Core Data layers. No portion of this property was ranked a priority.

7.0 RESTORATION, LAND MANAGEMENT, HAZARDOUS MATERIALS, AND RECREATION/EDUCATION OPPORTUNITIES

7.1 RESTORATION POTENTIAL

Possible restoration of the onsite natural communities could include planting of native vegetation in the uplands, stormwater wetland creation/enhancement, and invasive exotic plant species control. Because of the degree to which the uplands have been altered any efforts to recreate natural communities onsite would be challenging. The alterations to the onsite hydrology would need to be more thoroughly assessed to determine the type and amount of restoration that may be beneficial and feasible within the wetlands onsite.

7.2 LAND MANAGEMENT POTENTIAL

This site might be suitable for active recreation green space in the upland areas while the wetlands could help maintain a habitat buffer to Indian River Lagoon.

7.3 HAZARDOUS MATERIALS

There are no hazardous waste sites reported on the property from two online sources provided by the Florida Department Environmental Protection Division of Waste Management.
Map Direct: https://ca.dep.state.fl.us/mapdirect/
Contamination Locator Map https://ca.dep.state.fl.us/mapdirect/?web-map=bdfa237157c7426a8f552e40a741685e
DEP cleanup sites https://www.arcgis.com/apps/mapviewer/index.html?web-map=316f774db3f7420faf54008608faff64

7.4 RECREATION AND EDUCATION OPPORTUNITIES

The process of establishing recreational opportunities will require inventorying the area to determine appropriate locations for activities, collaborating with stakeholders, determining the desired objectives that recreation could provide, and identifying the financial costs and benefits of providing the different types of opportunities. Some examples of potential recreation at this site include natural grass athletic fields, exercise courses, an event gathering location, school or community gardens, to name a few. There is the potential for replanting native vegetation and possibly even creating a native arboretum on the parcel.

8.0 OTHER CONSIDERATIONS

This parcel is part of a group of parcels that have been nominated for acquisition and the total area equals approximately 43 acres.

9.0 SUMMARY

The Durrance Place Property is a 13.1-acre parcel with disturbed uplands and relatively intact forested wetlands that contains a mix of abandoned citrus grove and estuarine wetlands within the vicinity of the west bank of the Indian River Lagoon. Invasive exotic species infestations are likely in the disturbed uplands. Restoration potential of the uplands is mixed due to more than 80 years of intensive use; however, a stormwater attenuation park and/or recreation facilities for the disturbed areas are potential alternatives.

FIGURES

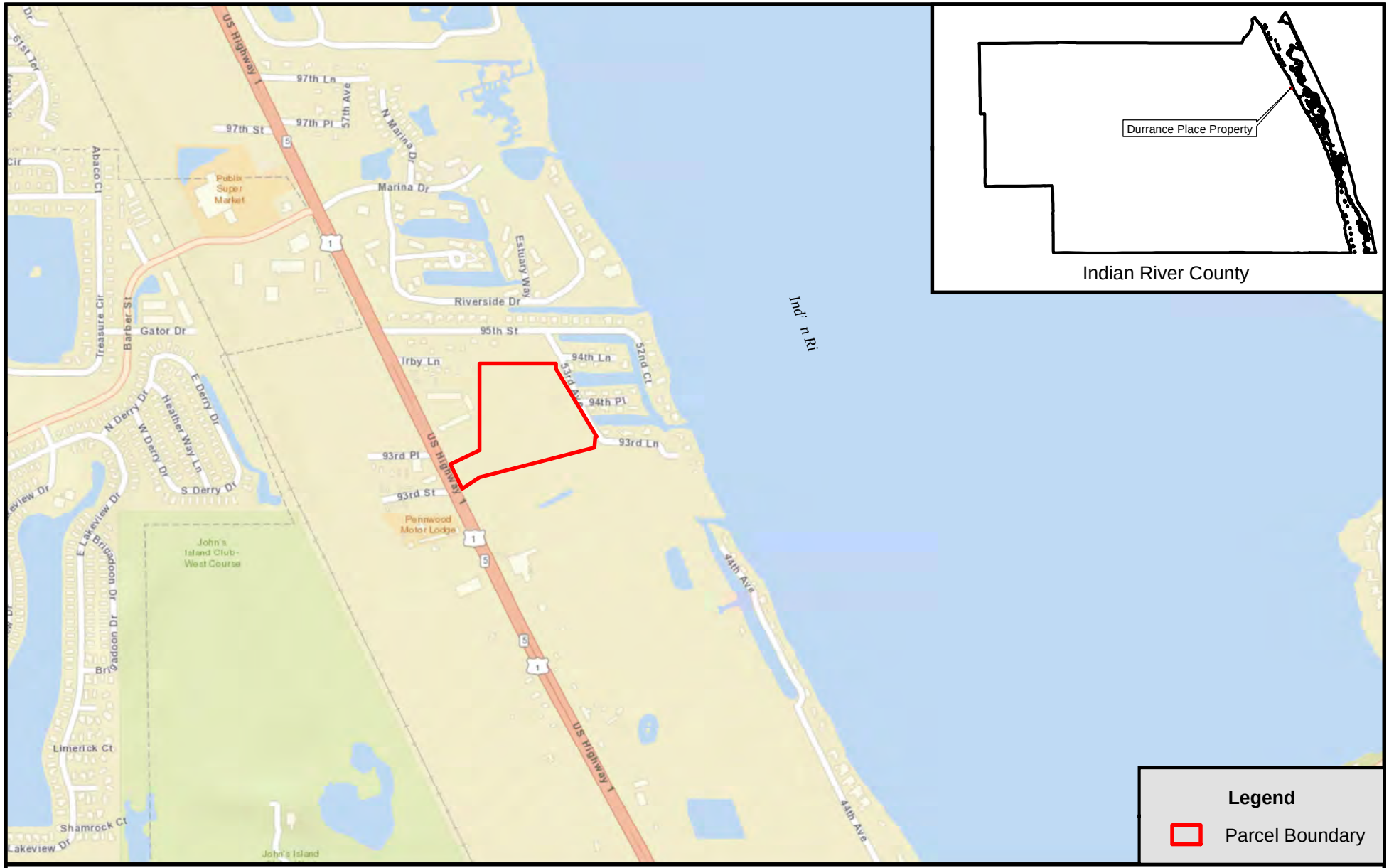

Figure 1.
The Location of the Durrance Place Property
within Indian River County, Florida

Source: ESRI, DigitalGlobe Imagery; Water & Air Research, Inc., 2024.

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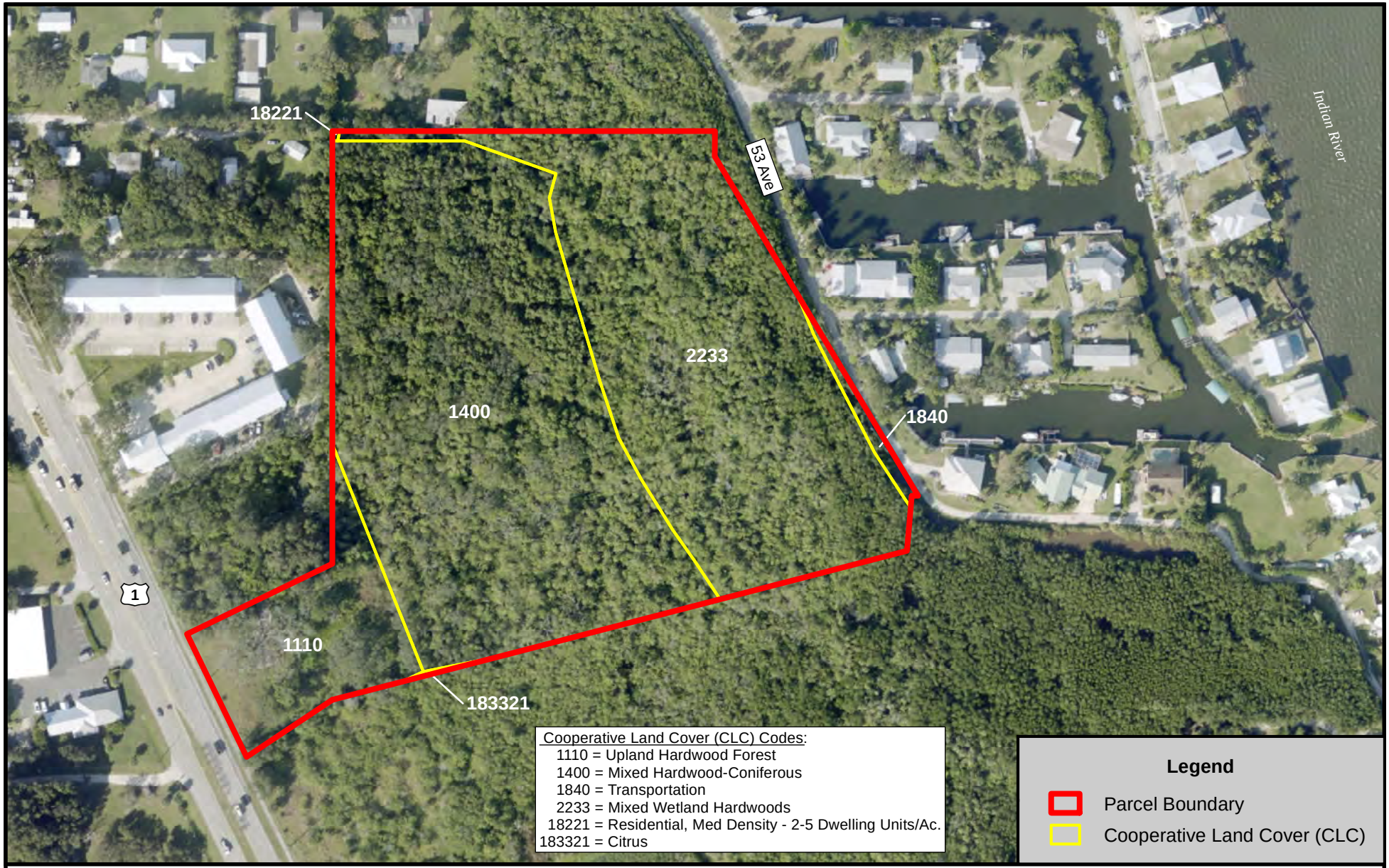

Figure 2.
The Florida Cooperative Land Cover Map
on the Durrance Place Property
Indian River County, Florida

Source: ESRI, DigitalGlobe Imagery, 2023; Water & Air Research, Inc., 2024.

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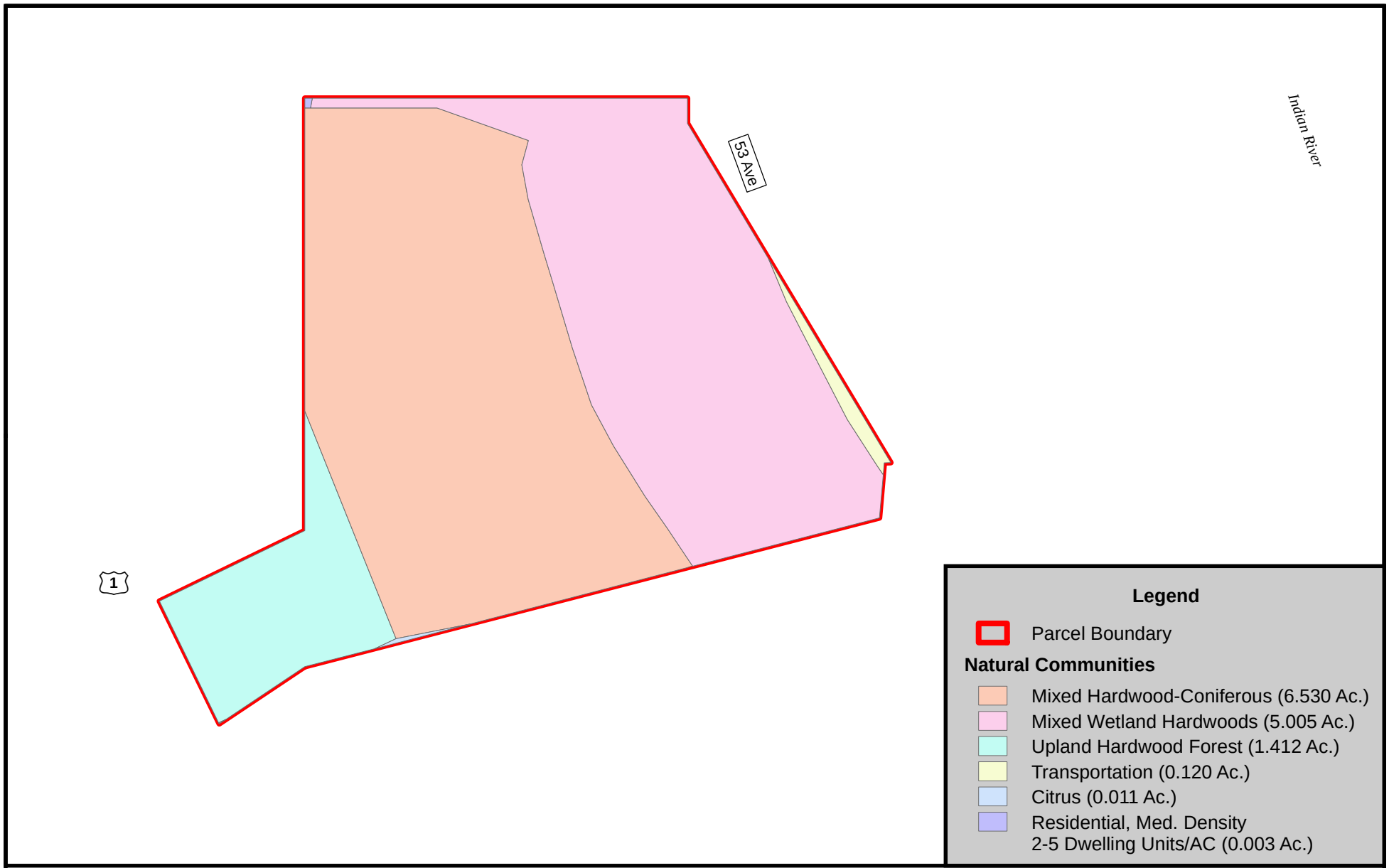

Figure 3.
The Land Use and Natural Communities
on the Durrance Place Property
Indian River County, Florida

Source: ESRI, DigitalGlobe Imagery, 2023; Water & Air Research, Inc., 2024.

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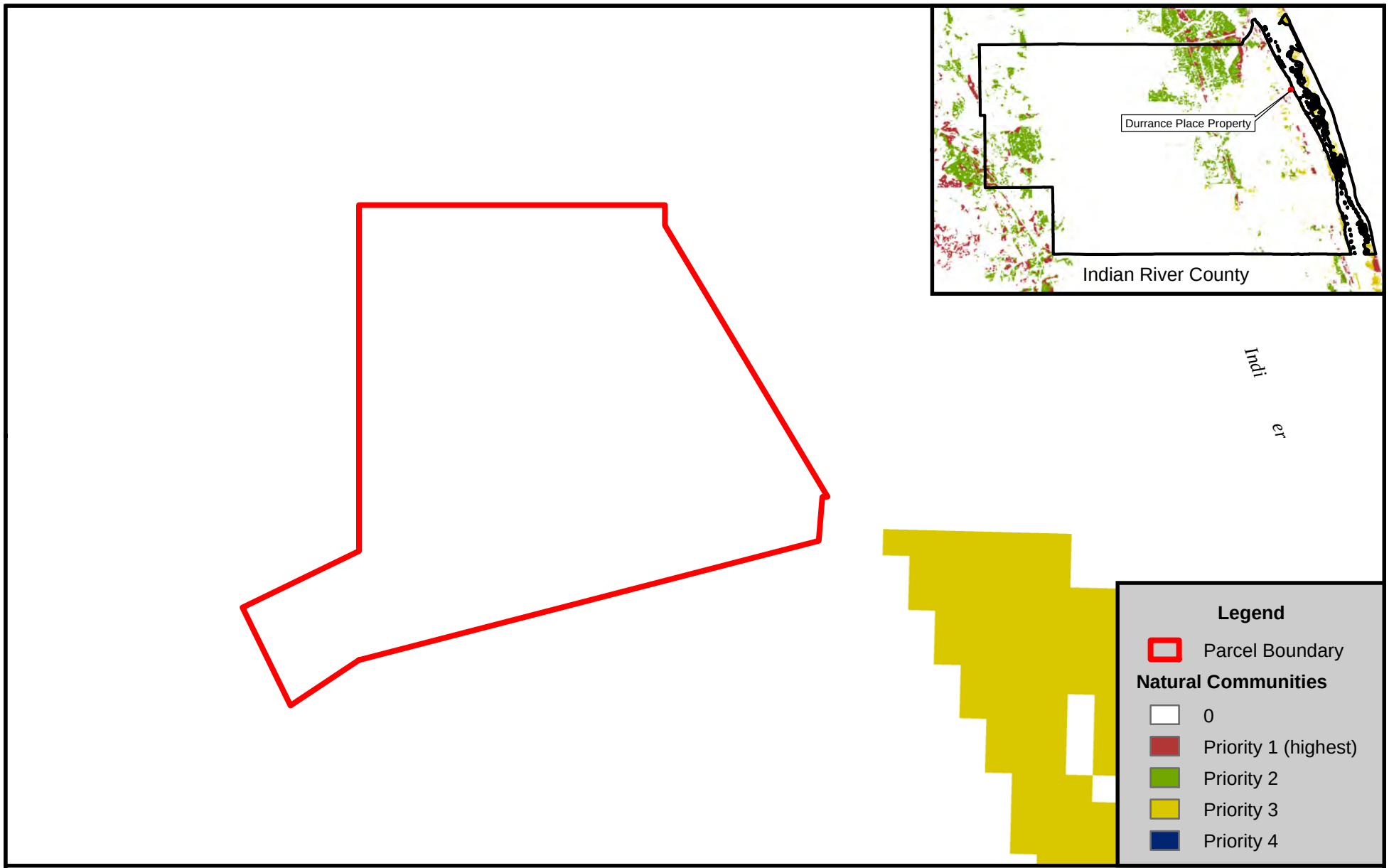

Figure 4.
The Under-represented Natural Communities Mapped by FNAI for the
Florida Forever Statewide Environmental Lands Acquisition Program
That occur on the Durrance Place Property
Indian River County, Florida
Source: Water & Air Research, Inc., 2024.

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Figure 5.
The Soil Types Found on the
Durrance Place Property
Indian River County, Florida

Source: ESRI, DigitalGlobe Imagery, 2023; Water & Air Research, Inc., 2024.

N

0 100 200 400 Feet

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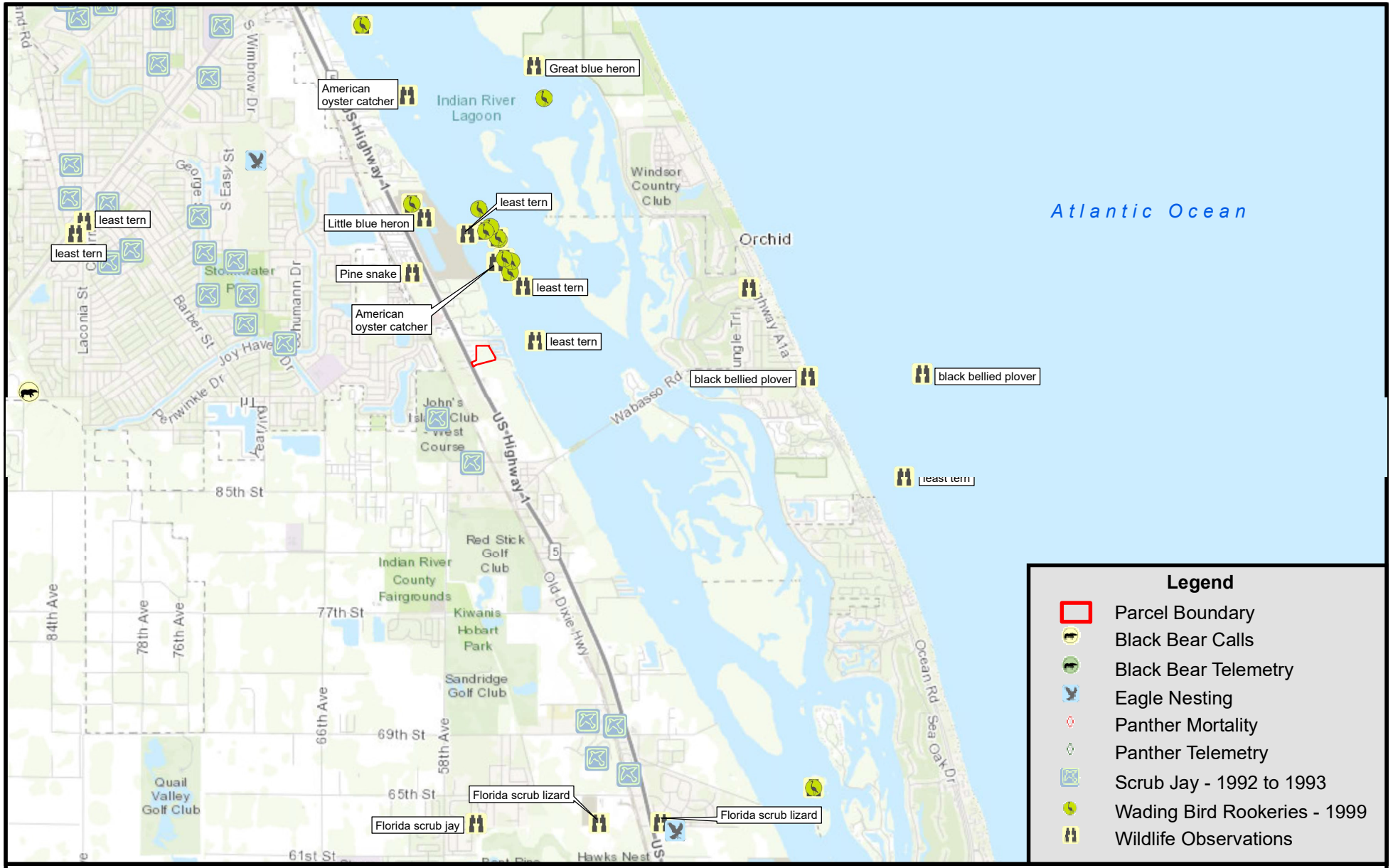

Figure 6.
The Florida Fish and Wildlife Conservation Commission's Fish and Wildlife Research Institute Terrestrial Resources Geographic Information System Web Mapping Results for Species Observations near the Assessment Property

Source: FNAI, 2023; Water & Air Research, Inc., 2024.

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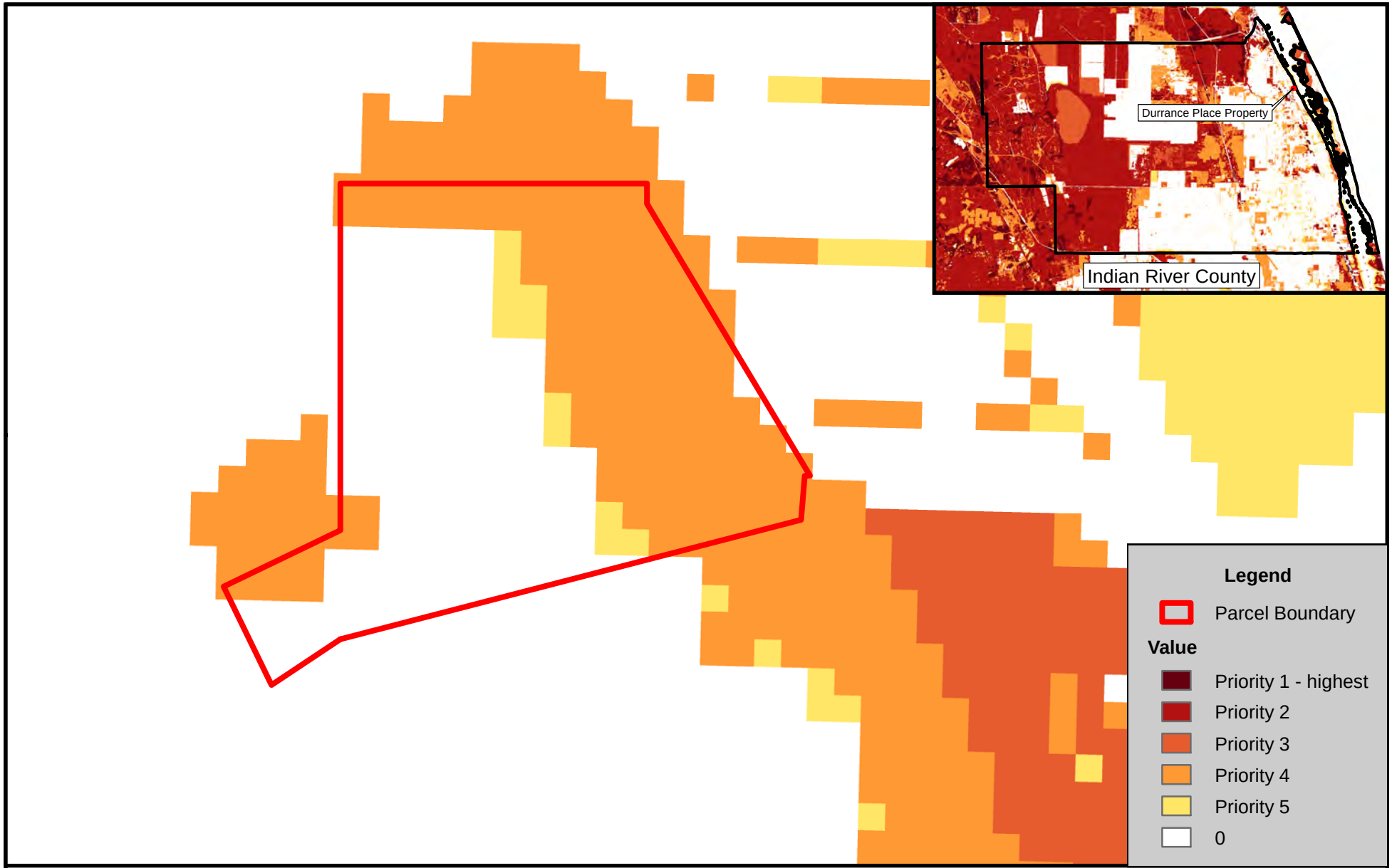

Figure 7.
The Biodiversity Resource Priorities Model (CLIP 4.0)
on the Durrance Place Property
Indian River County, Florida

Source: FNAI, 2023; Water & Air Research, Inc., 2024.

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Figure 8.
The NWI Wetlands and FEMA Flood Zones
on the Durrance Place Property
Indian River County, Florida

N

0 150 300 600
Feet

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Source: ESRI, DigitalGlobe Imagery, 2023; Water & Air Research, Inc., 2024.

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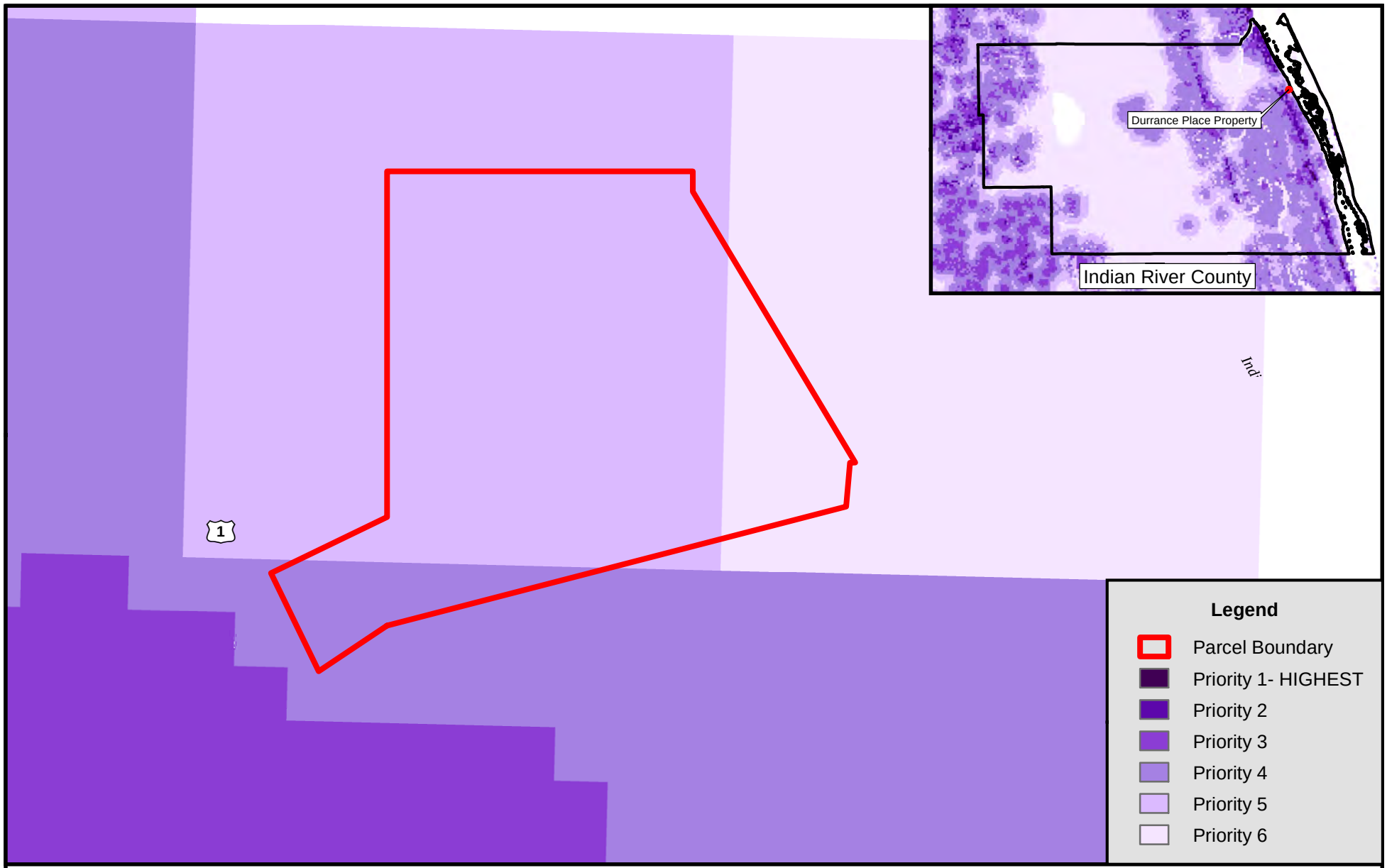

Figure 9.
Groundwater Recharge Areas Critical to Springs, Sinks, Aquifers, Natural Systems, or Water Supply on the Durrance Place Property
Indian River County, Florida

Source: FNAI, 2023; Water & Air Research, Inc., 2024.

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Figure 10.
The Durrance Place Property
and the Conserved Lands in the Vicinity
Indian River County, Florida

Source: ESRI, DigitalGlobe Imagery, 2023; Water & Air Research, Inc., 2024.

water & air RESEARCH, INC.

J:\6442 Indian River County\JAS\24-6442 IR Co Eco Assessments\Durrance Place - Oct 2024\Figures\24-6442 Durrance Place Figure 10.mxd, 10/7/2024 1:49:36 PM

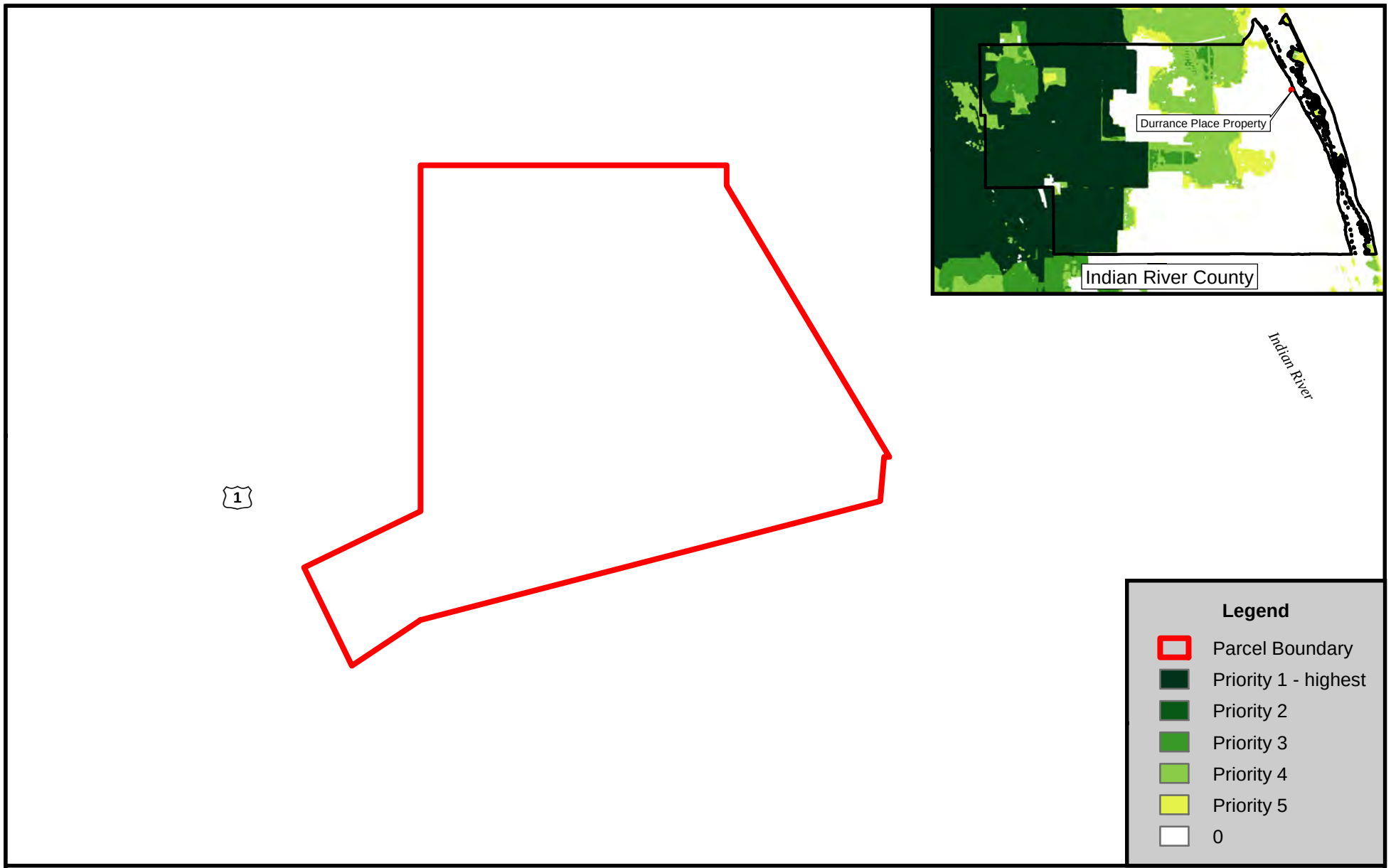

Figure 11.
The Landscape Resource Priorities Model (CLIP 4.0)
on the Durrance Place Property
Indian River County, Florida

Source: FNAI, 2023; Water & Air Research, Inc., 2024.

water & air RESEARCH, INC.

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APPENDIX

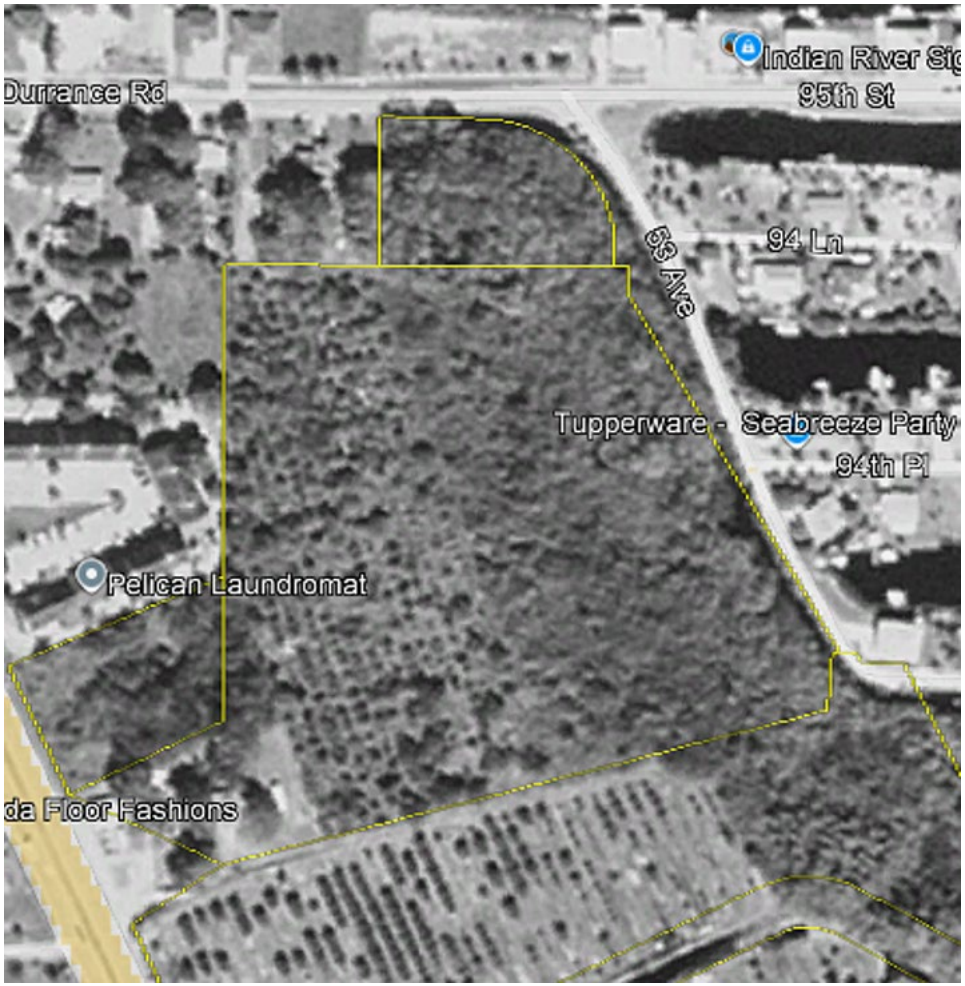
DURRANCE PLACE
HISTORICAL AERIALS REVIEWED

1943 Aerial Photograph

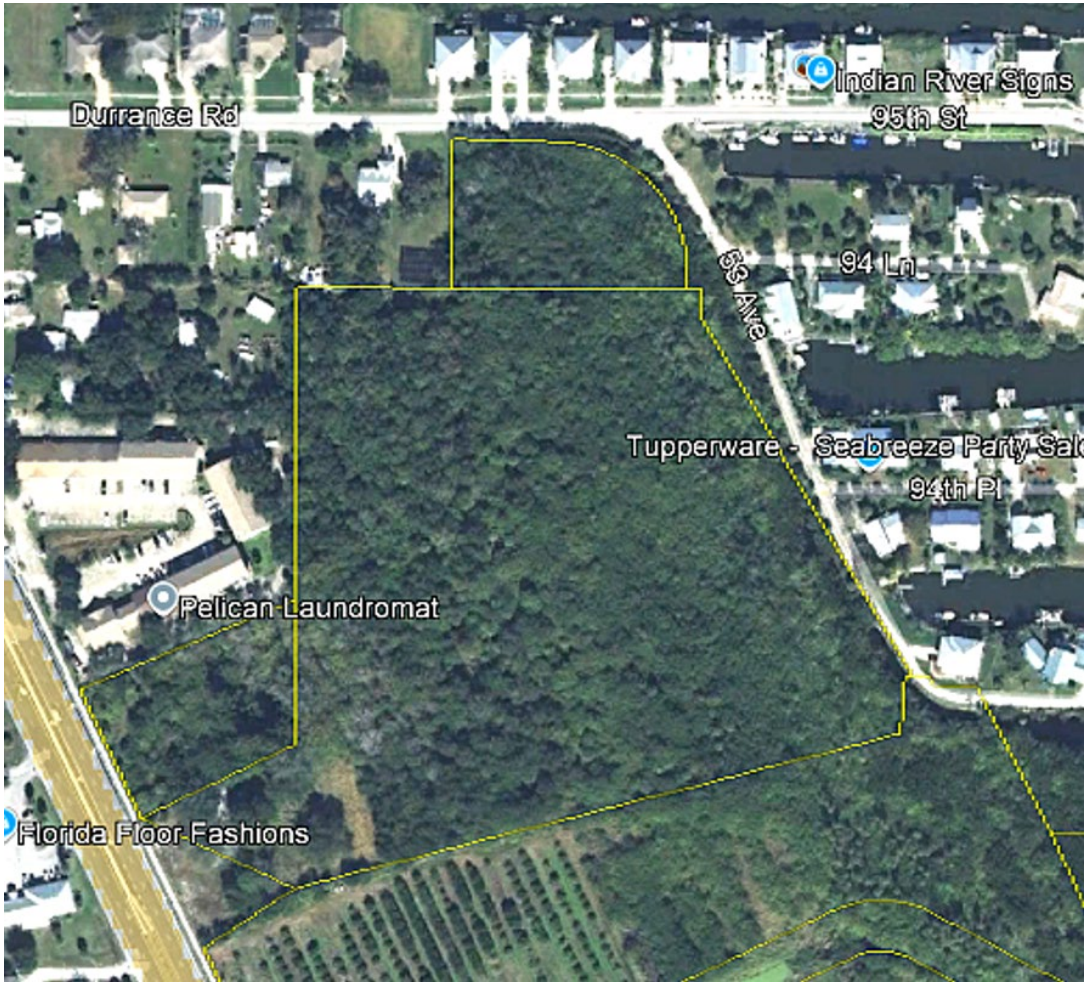
1943 Aerial Photograph

1957 Aerial Photograph

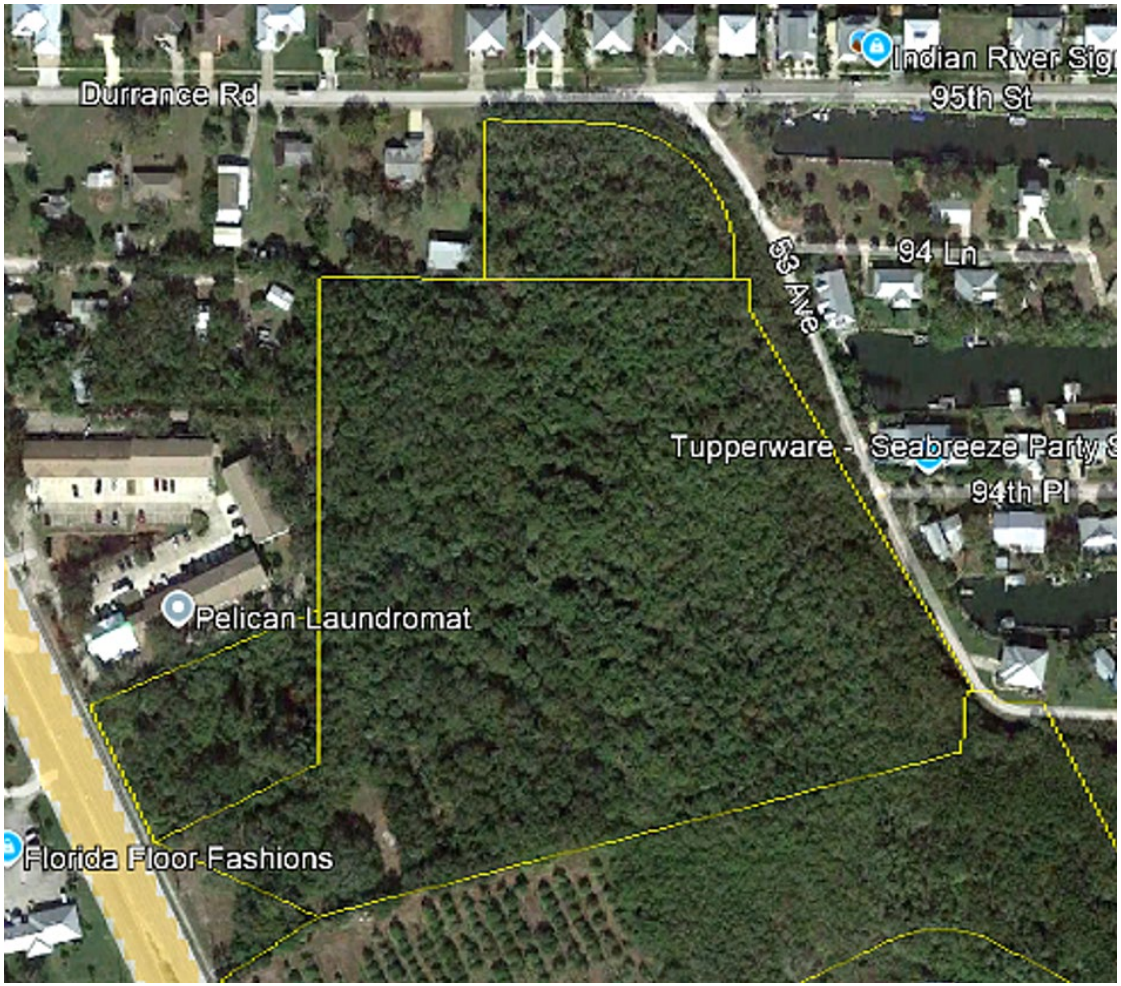
1957 Aerial Photograph



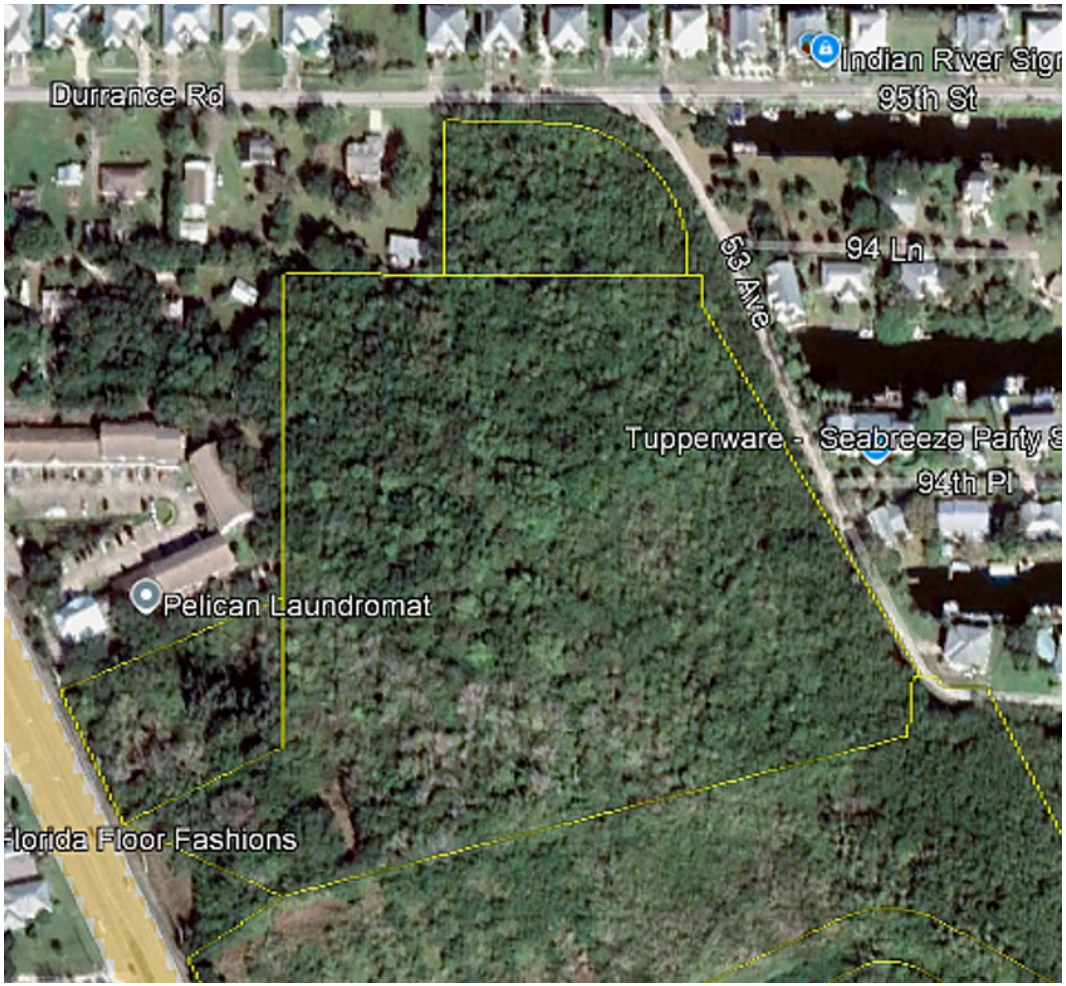
1999 Aerial Photograph



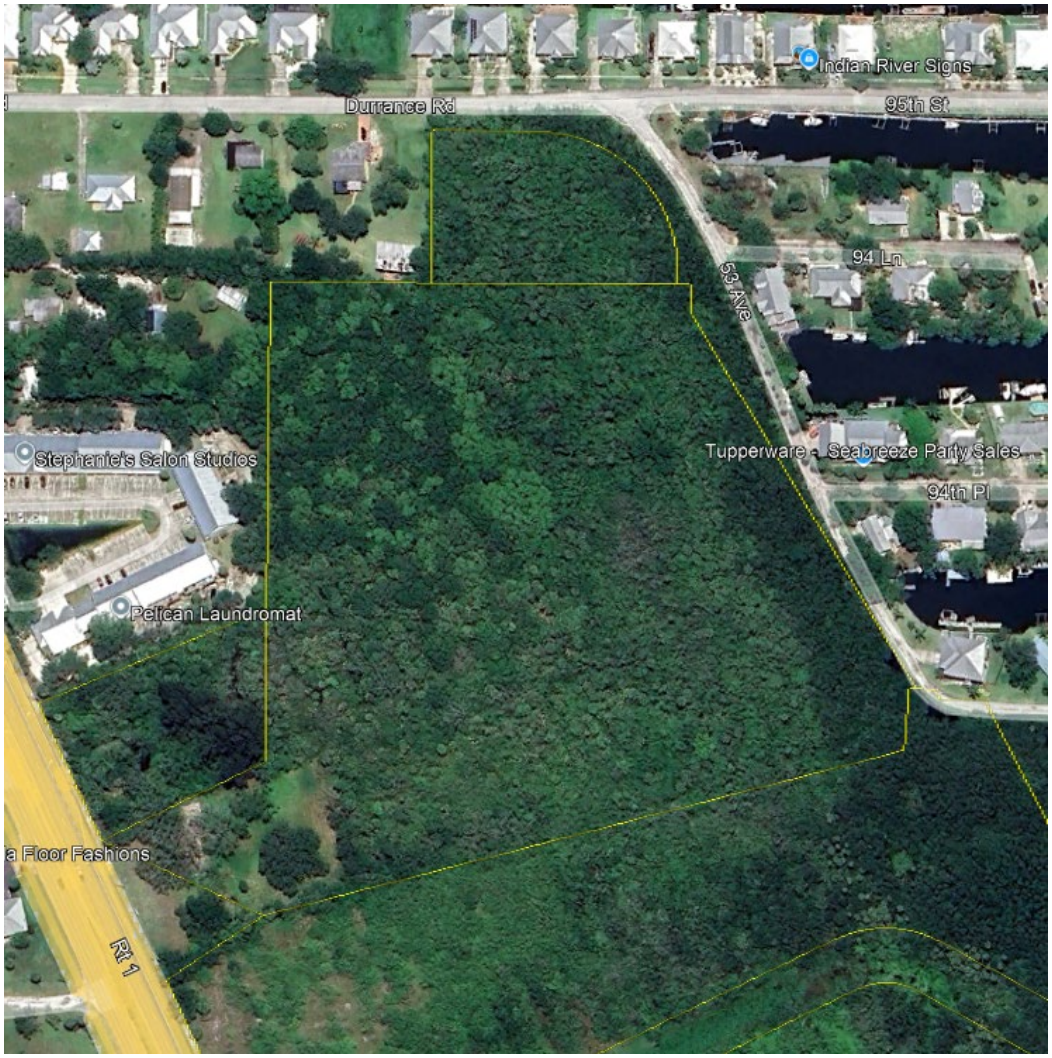
2008 Aerial Photograph



2017 Aerial Photograph



2020 Aerial Photograph



2023 Aerial Photograph

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