

Winter Beach 73rd Street Property
Indian River County Environmental Bond
2024



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water & air
RESEARCH, INC.

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1.0 WINTER BEACH 73RD ST PROPERTY

The Winter Beach 73rd St Property, Environmental Bond Nomination Number 24, 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 #32390300000003000001.0 and #32390200000500000001.0 (Figure 1) and is on the west bank of the Indian River Lagoon. U.S. Highway 1 is approximately 530m to the southwest and the site is approximately 1.7 miles south of the intersection with Highway 510 (Bridge Boulevard) in between 73rd Street and 69th Street. The address listed for the property is 3005 73rd Street.

1.2 SIZE

The property totals approximately 36 acres and is an irregular shaped polygon that is roughly 500m wide by 400m north-south.

1.3 CURRENT AND FUTURE ZONING

The current land use zoning on the western portion of the property is RS-3 - Single-Family Residential District (up to 3 units/acre) and the eastern portion is RS-1 - Single-Family Residential District (up to 1 unit/acre) (Version 10/07/2024). The future land use zoning on the western portion is L-1: Low-Density Residential-1 (3 Units/Acre) and on the eastern portion is C-2: Conservation-2 (1 Unit/40 Acres) (Version 3/28/2024).

1.4 PENDING ZONING CHANGES AND SPECIAL OVERLAY DISTRICTS

An inquiry to the Senior Planner for Long-Range Planning for Indian River County, Cindy Thurman, revealed there are no pending zoning changes, and she was unaware of any Special Overlay Districts affecting the parcel.

2.0 VEGETATIVE COMMUNITIES

The Winter Beach 73rd Street property is within two major vegetative community types within Indian River County. The 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 Winter Beach 73rd Street property is within the eastern portion of the general ecological community, and predevelopment, consisted of pine flatwoods intermixed with shallow wetlands. This property is a little east of the Atlantic Coastal Sand Ridge and the scrub communities it harbors.

2.1 LAND USE AND LAND COVER

There were two natural community types, and two altered land use types identified on the property from the 2023 Florida Cooperative Landcover Map (CLC) (Figure 2). The 41 percent of the site identified as Mixed Hardwood-Coniferous was changed to the altered community type Successional Hardwood Forest after reviewing historical aerial imagery and it was determined that half

of the polygon had been cleared of vegetation and converted to citrus grove that was fallow by the 1970s. The remaining portion of the polygon appeared to be wet and/or mesic flatwoods in the 1940s aerial that has now succeeded into SHF because of eliminating fire on the landscape. Approximately 55 percent of the site, the eastern portion, was identified as Mangrove Swamp. There was a small area, 5 percent of the property, typed as Mesic Flatwoods that may have an infestation of invasive exotic trees. The CLC map Figure 3 and Table 1 present the acres 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 Winter Beach 73rd St property from the Florida Cooperative Landcover Map (2023).

Land Use/Natural Community	Acres	% Cover	Type	Up/Wet	State Rank
Mangrove Swamp	19.45	54.5%	Natural	Wetland	Secure S4
Mixed Hardwood-Coniferous (SHF)	14.56	40.8%	Altered	Upland	not ranked
Mesic Flatwoods	1.65	4.6%	Natural	Upland	Secure S4
Residential, Med. Density	0.02	0.1%	Altered	Upland	not ranked
Total Altered	14.6	40.9%			
Total Natural	21.1	59.1%			
Total Upland	16.2	45.5%			
Total Wetland	19.5	54.5%			

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

**The community in parentheses (successional hardwood forest) is a correction to the map based on aerial interpretation.

Mangrove and estuarine habitats are 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 onsite and typical saltmarsh 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.

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 indiagrass, and pineland threeawn.

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. Mesic flatwoods is becoming increasingly rarer in the eastern portion of the county and the area mapped as mesic flatwoods on this property appears to be dominated by possibly an invasive exotic tree, Australian pine (*Casuarina* spp.).

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. The portion of the property that is covered in mangrove (approximately 55 percent) is ranked a

Priority 3 and the small area identified as mesic flatwoods was ranked Priority 2 (scale is Priority 1 through 4 with 1 being the highest priority; 0=no rank). The remaining upland portion of the property received no priority ranking.

2.2 SOILS

The soil types found on the Winter Beach 73rd St Property are represented in Figure 5. The two most prevalent soil types are Jupiter (17 acres) and Riomar (15 acres). The Jupiter series consists of shallow and very shallow, poorly and very poorly drained soils that formed in a thin bed of sandy marine sediments overlying limestone bedrock. Native vegetation on Jupiter soils often consists of cabbage palm, laurel oak, water oak, scattered south Florida slash pine, red mulberry, and redbay with an understory of marlberry, waxmyrtle, wild coffee, greenbriars, ferns, longleaf uniola, Eastern gamagrass, chalky bluestem, maidencane, and switchgrass. The wetter area vegetation is dominated by cabbage palm, pond cypress, red maple, dahoon holly, water oak, and strangler fig with an understory of pickerelweed, arrowhead, ferns, swamp dogwood, lizards tail, maidencane, and switchgrass.

The Riomar soil series are very poorly drained, moderately deep, very slowly permeable soils that formed in loamy or clayey tidal deposits. They occur on nearly level mangrove islands and swamps and are continuously saturated with saline water. Dominant natural vegetation typically consists of red, black and white mangrove, with some areas of sea rocket, saltwort, perennial glasswort, seashore saltgrass, and seashore paspalum.

2.3 HISTORICAL IMAGERY REVIEW

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

1943 May 1 (UF Map Library)

- Approximately 5.3 of the total 35.7 acres is citrus grove, the west side of the property, the sites remaining acreage (30.4) contains natural communities that appear relatively intact
- A ditch bisects the onsite citrus grove diagonally and appears to terminate in the open marsh east of the mixed forest
- The citrus is contiguous with offsite groves to the west and south
- Adjacent to and east of the citrus is what appears to be a tree canopied mixed forest and open pine flatwoods adjacent to and west of the saltmarsh
- The eastern half of the site is open saltmarsh, with some trees or shrubs along the Indian River, likely including mangrove
- The relatively intact saltmarsh and pine flatwoods communities extend north and south offsite
- South of the site there is a bridge that crosses the Indian River at what is currently 69th Street and extends east over to the Hole in the Wall Island and eventually meets up with Jungle Trail on the east side of the Indian River

1951 April 4 (UF Map Library)

- The natural communities are relatively unchanged from 1943
- The canopy of the central band of mixed forest and pine flatwoods appear denser
- The eastern marsh is still open with a few woody trees or shrubs along the river

- Suppression of the natural fire regime in conjunction with increased citrus groves and agricultural development of the surrounding pinelands could have impacted the historical open nature of the pine flatwoods
- The diagonal ditch is barely visible due to an increase in woody vegetation
- The former bridge that extended east from what is now 69th St no longer crosses over to the Hole in the Wall Island

1970 December 29 (UF Map Library)

- The citrus grove is gone and the new vegetative aerial signature of the 5.3 acres appears very similar to the mixed forest to the east
- Land disturbances in the mixed hardwoods and pine flatwoods appears to have occurred since 1951, possible timbering
- The dark circular signature near the center of the southern boundary is the start of an infestation of the invasive exotic tree, Australian pine
- The formerly open pine flatwoods on the western half of the site is now forested with hardwoods
- Mangroves have recruited into the formerly open saltmarsh
- The formerly open saltmarsh has a dike and ditch encompassing a mosquito control impoundment
- The construction of mosquito impoundments (during the 1950s and 60s) along the Indian River has occurred throughout the region and adjacent to this site

1994 March 17 (Google Earth Pro)

- The entire site has a woody canopy (forested) of various heights, densities, and species
- There is some open water in ditches crossing the mosquito impoundment
- The Australian pine infestation has increased in size and density
- The formerly open saltmarsh appears to be mostly mangrove trees
- A ditch has been excavated along the north and southeast property lines, the ditch along the north boundary is fairly wide and likely doubles as a linear storm retention pond
- 73rd St is a dirt path that runs along the western half of the north boundary
- Some oyster bars are visible in the Indian River along the southeastern boundary for the first time (likely visible due to aerial photograph quality and low tide conditions)

2003 June 3 (Google Earth Pro)

- The entire site is forested
- The Australian pine infestation (dark green circular signature that crosses over the southern boundary line) does not appear to be spreading
- Mangrove canopy cover has increased and the only open water visible is in the perimeter ditch
- Mangrove and/or Brazilian pepper have recruited west into some areas of mixed hardwoods and pine flatwoods ecotone
- There is a housing development offsite along the northwestern corner and homes have been constructed offsite near the southern boundary

2005 July 7 (Google Earth Pro)

- The Australian pine tree infestation has been cut down, and possibly some vegetation in the mixed hardwoods area (likely invasive exotic species)

- Color aerals and higher quality resolution indicate the occurrence of cabbage palms, oak trees (e.g., live oak), mangroves and Australian pine onsite
- The mangrove canopy is a little less dense as ditches and spoil mounds are visible
- Three oyster bars are visible in the river
- The adjacent offsite former citrus groves are fallow

2010 December 3 (Google Earth Pro)

- The Australian pine infestation has grown back in the same area (dark green circular signature), Lidar and other sources don't show any major topography changes in the area and soils are mapped the same as the adjacent areas
- The mixed hardwoods signature includes areas of oak and cabbage palm, deciduous species, and likely some invasive exotic species
- The tree canopy is dense in the mosquito impoundment, and very little open water is visible with most ditches and dikes hidden under canopy
- Oyster bars are visible
- The adjacent offsite former citrus groves are succeeding into forest

2017 January 5 (Google Earth Pro)

- The Australian pine infestation has been disturbed, many trees have been blown over, as well as scattered Australian pine to the northwest in the mixed hardwood area and possibly other species as well
- The mangrove signature is distinct, and it extends west beyond the mosquito impoundment dike
- The mosquito impoundment dike appears maintained
- Three exposed oyster bars are visible, the same ones first observed in 1994, possibly some other oyster bars (dark areas) are visible in the same area, but beneath the water
- There is no sign there was offsite citrus groves which are now completely forested

2024 May 29 (Google Earth Pro)

- The Australian pine patch looks intact, slightly larger with no sign of fallen trees
- The current CLC map designation for the invasive exotic Australian pine polygon is Mesic Flatwoods
- What was open pine flatwoods or citrus groves in 1943 is indistinguishable from what was called mixed hardwoods in 1943
- The former offsite citrus groves now have a similar aerial signature
- The saltmarsh, open in 1943, is a mosquito impoundment that is now a closed canopy mangrove swamp forest
- Three exposed oyster bars are visible, they might be slightly reduced in extent than when first observed in 1994

2.4 OFFSITE CONTINUITY OF NATURAL COMMUNITIES

The mosquito impoundment has remained naturally forested and is contiguous with offsite mangrove forest dominated mosquito impoundments to the north and south. This narrow band of mangrove forest extends largely unbroken 1,200m north to Marsha Ln and extends approximately another 3,400m south to North Harbor Village Drive. Residential properties and altered uplands border the remaining portions of the property to the northwest, west, and southwest. Indian River is to the east.

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 County 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, estuarine ditches/canals, or disturbed forested communities.

Table 2. The animal species listed endangered, threatened, or tracked by FNAI that have the potential to occur on the Winter Beach 73rd St property.

Species Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
<u>Bird</u>					
<i>Mycteria americana</i>	wood stork	G4	S2	T, PDL	FT
<i>Nyctanassa violacea</i>	yellow-crowned night-heron (nests)	G5	S3	N	N
<i>Nycticorax nycticorax</i>	black-crowned night-heron (nests)	G5	S3	N	N
<i>Setophaga discolor paludicola</i>	Florida prairie warbler	G5T3	S3	N	N
<i>Setophaga kirtlandii</i>	Kirtland's Warbler	G3	S1	N	N
<u>Fish</u>					
<i>Ctenogobius stigmaturus</i>	spottail goby	G2	S2	N	N
<i>Gobiomorus dormitor</i>	bigmouth sleeper	G4	S2	N	N
<i>Microphis brachyurus</i>	opossum pipefish	G4G5	S2	SC	N
<i>Rivulus marmoratus</i>	mangrove rivulus	G4G5	S3	SC	N
<u>Reptile</u>					
<i>Drymarchon couperi</i>	eastern indigo snake	G3	S2?	T	FT
<i>Gopherus polyphemus</i>	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 Winter Beach 73rd St property.

Species Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
<i>Harrisia simpsonii (fragrans)</i>	Simpson's prickly apple	G2	S2	E	E
<i>Opuntia stricta</i>	erect prickly pear	G4?	S3S4	N	T
<i>Tillandsia balbisiana</i>	Balbis' airplant	G4G5	S3	N	T
<i>Tillandsia fasciculata</i>	common wild-pine	G5	S4?	N	E
<i>Tillandsia utriculata</i>	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 Winter Beach 73rd St property (Figure 6). The closest documented sightings are of Florida scrub jay and Florida scrub lizard along the Atlantic Coastal Sand Ridge to the west of the property.

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 entire property has a priority rank, with the eastern half of the property mapped as Priority 3 (Priority 1 has the highest conservation priority on a scale from 1 to 5), a large proportion of the western half is listed as Priority 4, and the small area called mesic flatwoods in the CLC map was ranked Priority 2 (Figure 7).

4.0 WETLANDS

Approximately 55 percent of the site is covered in wetlands according to the CLC map. The parcel is within the Indian River Lagoon watershed.

4.1 AERIAL EXTENT AND CONNECTIVITY

From the CLC map the eastern half of the property (19 acres) was mapped as mangrove (Table 1). These wetlands form a linear feature that extends north and south of the site and parallels the Indian River Lagoon. It is very likely that some of what has been called Mixed Hardwood-Coniferous contains some remnant wetland communities given that it was historically wet and mesic flatwoods.

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 19.4-acres of Estuarine wetlands, 55 percent of the site. The NWI map has an additional 0.3 acres of ditches delineated.

4.2 ALTERATIONS

This parcel was historically a portion of a large expanse of salt marsh that was subsequently impounded with a series of berms and ditches and became part of the North Winter Beach Impoundment (Indian River County Impoundment #28). In the 1950s and 60s the Indian River Mosquito Control District impounded approximately 2,600 acres of the 4,500 acres of estuarine marshes in Indian River County. This site has one of those impoundments with an earthen dike around former saltmarsh. Impoundment impacts include widespread changes in plant and animal communities, invasion of nonnative plants on the dike, primarily Brazilian pepper trees; loss of access to wetlands used for breeding, feeding and refuge by fishes and invertebrates. Additionally,

ditches/canals have also been excavated along the north and south boundaries of this property. Undoubtedly these features have influenced the local hydrology. Since the 1940s the saltmarsh onsite has converted to mangrove forest.

Invasive exotic plant infestations, particularly Brazilian pepper, could be high especially in the disturbed areas, along the berms and spoil mounds.

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 site has a priority rank of Priority 4 or Priority 6 for aquifer recharge (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. Onsite water quality could potentially be improved by assuring that the impounded wetland is allowed to regularly flush with the tides allowing for the biological and chemical processes within waters influenced by natural tidal exchange.

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 Winter Beach 73rd Street Property is adjacent to the Indian River Lagoon and is one of the unacquired parcels of the Indian River Lagoon Blueway Florida Forever BOT project. This property is contiguous with the 19-acre SJRWMD Windmill Parcel to the south (Figure 10) along with a series of privately owned, undeveloped, mosquito impoundments to the north and south.

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, hydrologic enhancement of the wetland communities, salt marsh restoration, and invasive exotic plant species control. 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.

7.2 LAND MANAGEMENT POTENTIAL

There are several estuarine impoundment management strategies. Allowing or continuing to allow the tides to flush through the property helps to maintain black mangroves, supply habitat for the fish community including some of the rare listed species, provide a nursery for juvenile fish, and allow for natural biological and chemical processes inherent to estuarine systems. Any management of the waters within the impoundment would likely have to be in coordination with the Indian River Mosquito Control District. It appears that the North Winter Beach Impoundment is currently under a Rotational Impoundment Management (RIM) schedule.

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 canoeing, bank fishing, pier fishing, wildlife viewing, and hiking. There is an existing City of Vero Beach owned canoe launch (69th Street kayak launch) south of the property that allows for easy access to explore the shoreline of the Winter Beach 73rd Street property. There is the potential for a walking trail that circumnavigates the property along the impoundment berm similar to the Toni Robinson Waterfront Trail to the north of this property. Educational kiosks describing the estuarine wetlands and how they relate to water quality within the Indian River Lagoon could be installed among many other educational opportunities.

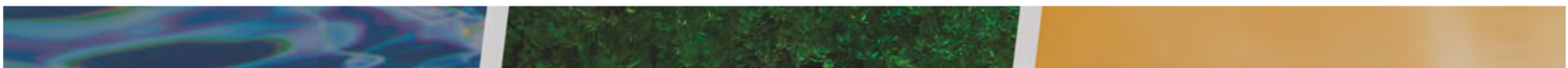
8.0 OTHER CONSIDERATIONS

The nominator of this parcel stated they have seen from this property “otters, osprey, owls, bobcat, and most likely numerous other species of wildlife.” There is a conceptional subdivision for the far western portion with a proposed north to south cul-de-sac road lined with 21 lots. This

nominated property is part of a group of parcels that have been nominated for acquisition and the total area equals approximately 98.7 acres.

9.0 SUMMARY

The Winter Beach 73rd Street Property is a 36-acre parcel nominated by a local resident, is contiguous with an existing conservation property, is within the Indian River Lagoon and Associated Wetlands portion of the county and has disturbed uplands and relatively intact forested wetland on the west bank of the Indian River Lagoon. The mangrove wetland has been impounded and there are additional ditches onsite. Invasive exotic species infestations are likely. A stormwater attenuation park and/or recreation facilities for the disturbed upland area are potential options for this site.



FIGURES

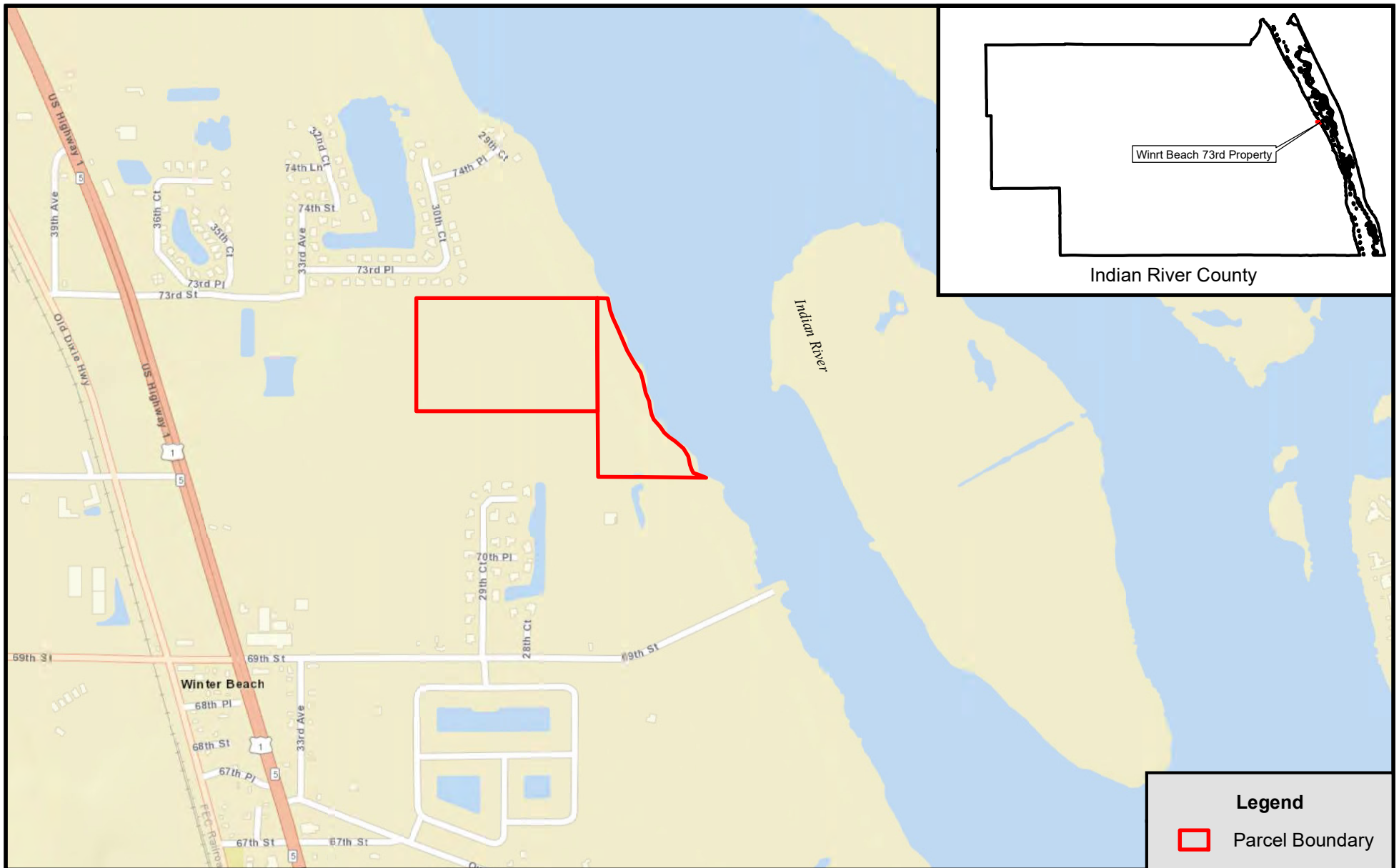
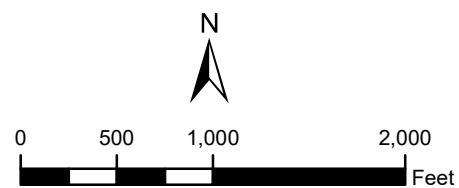


Figure 1.
The Location of the Winter Beach 73rd St. Property
within Indian River County, Florida

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



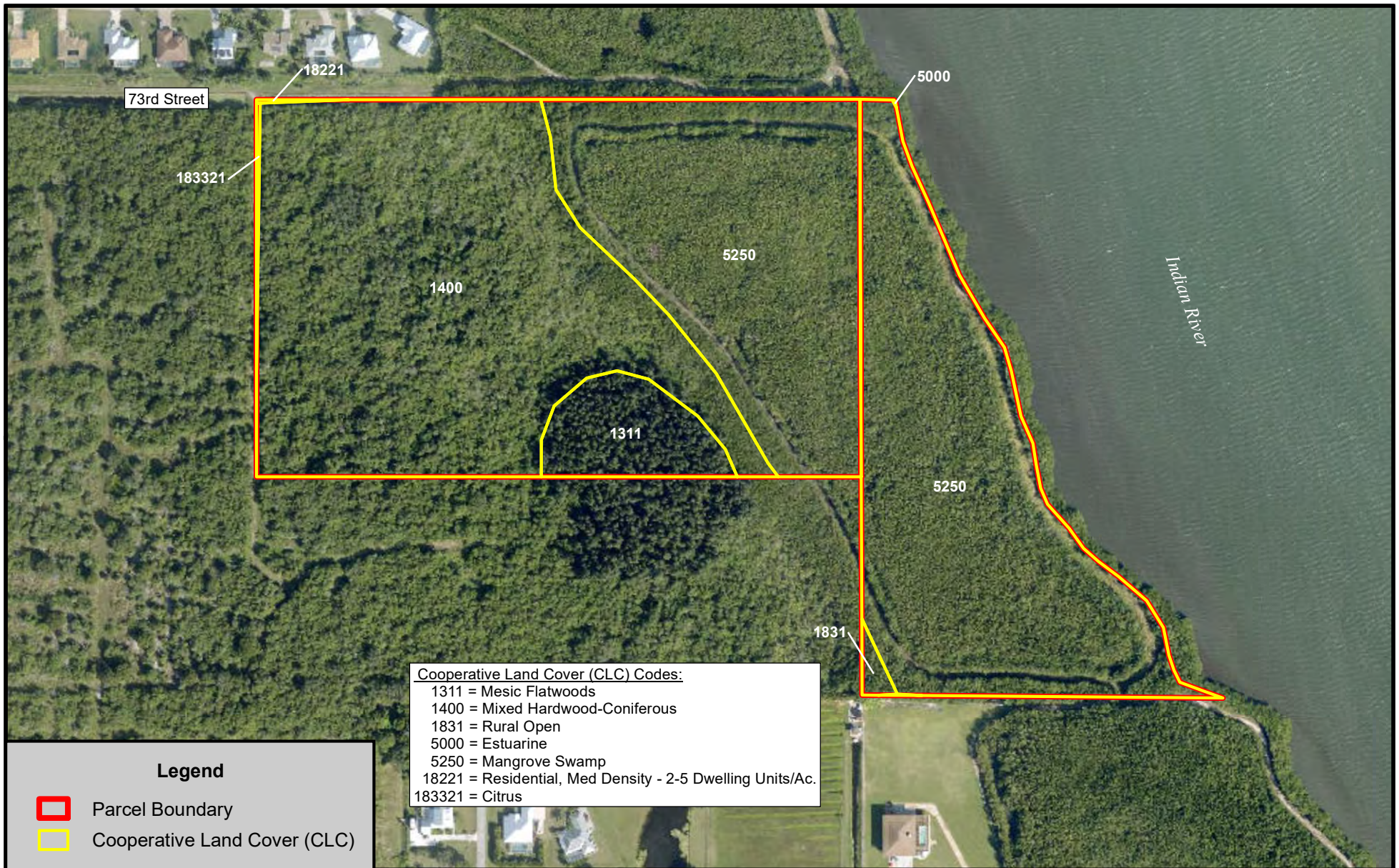
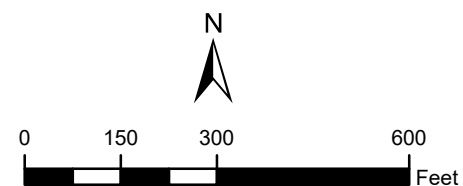


Figure 2.
The Florida Cooperative Land Cover Map
on the Winter Beach 73rd St. Property
Indian River County, Florida

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



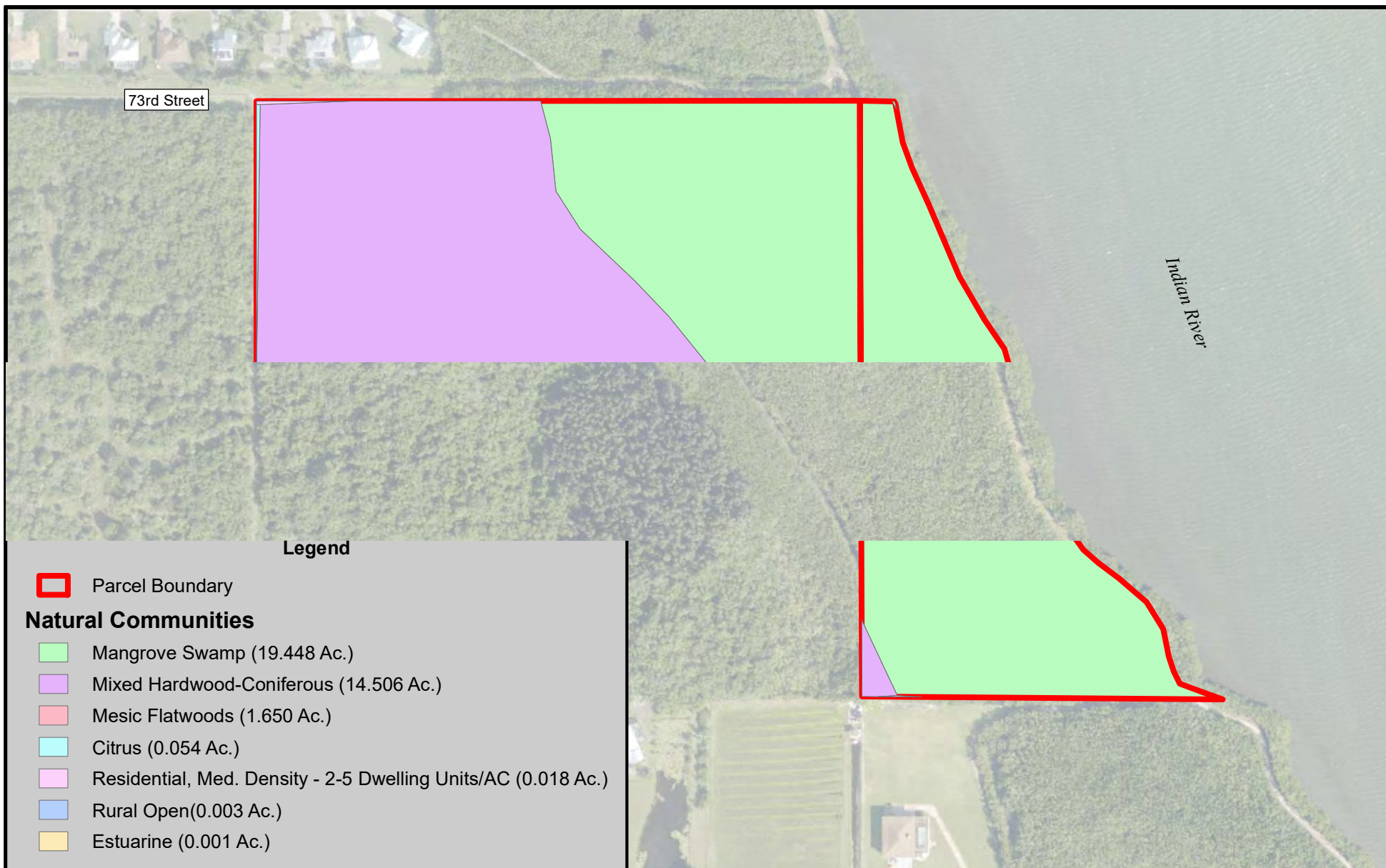
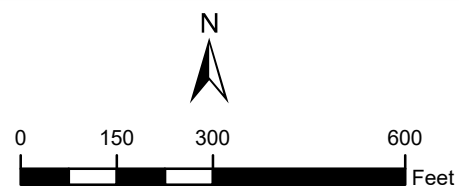


Figure 3.
The Land Use and Natural Communities
on the Winter Beach 73rd St. Property
Indian River County, Florida

Source: Water & Air Research, Inc., 2024.



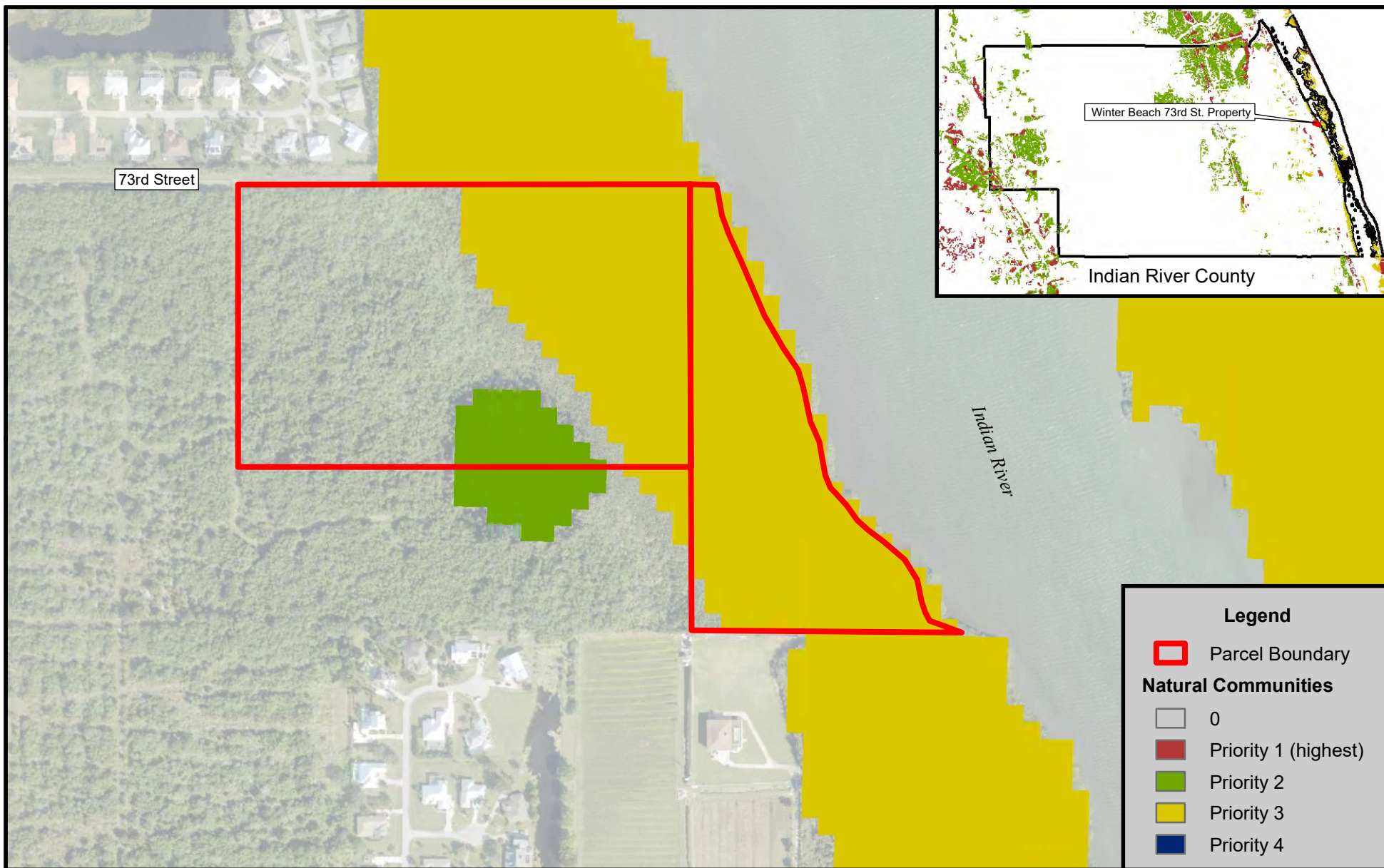
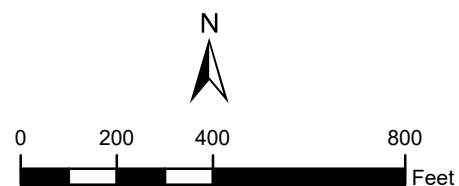


Figure 4.
The Under-represented Natural Communities Mapped by FNAI for the
Florida Forever Statewide Environmental Lands Acquisition Program
That occur on the Winter Beach 73rd St. Property
Indian River County, Florida
Source: Water & Air Research, Inc., 2024.



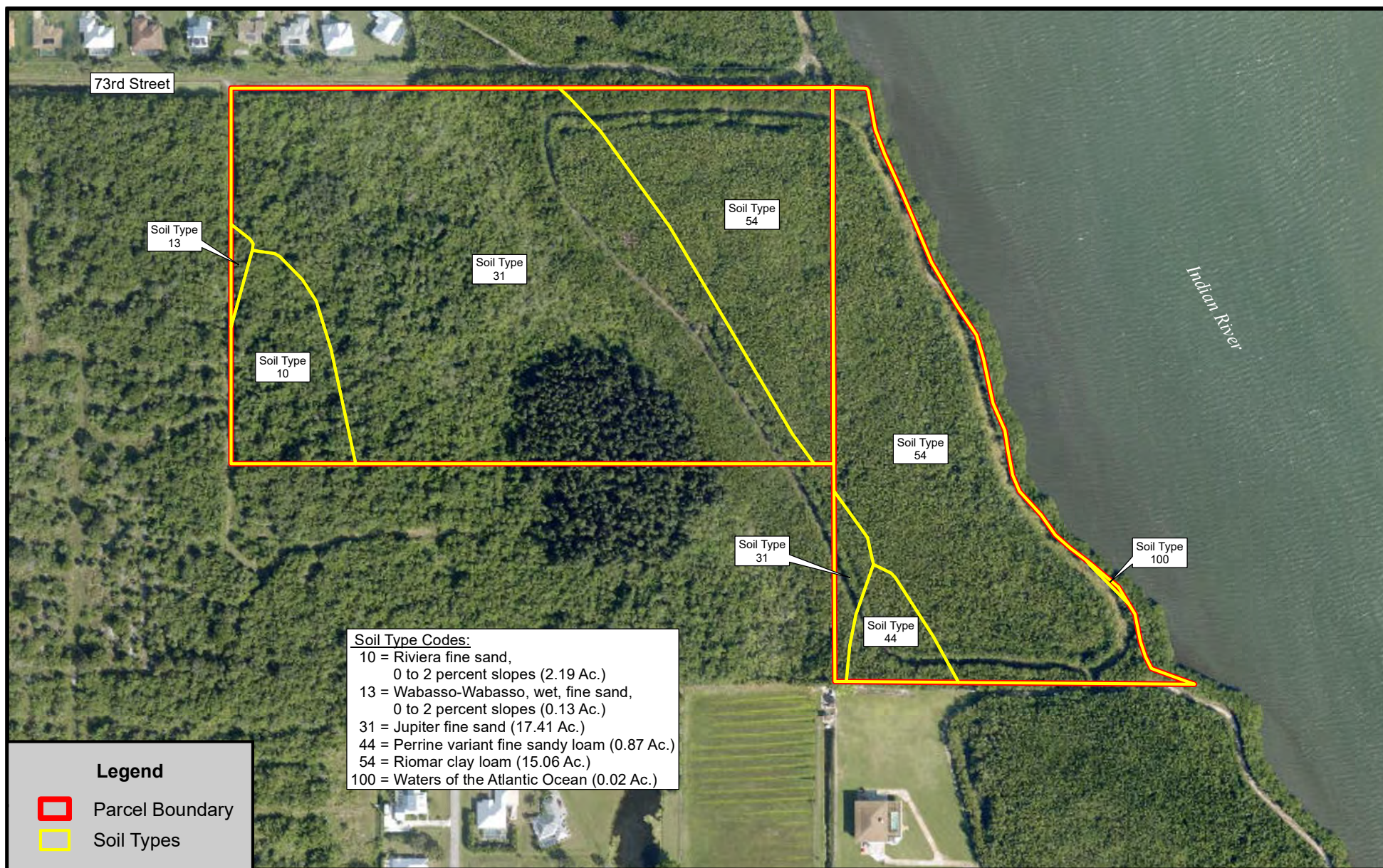
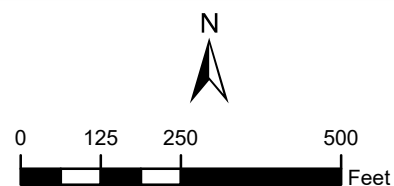


Figure 5.
The Soil Types Found on the
Winter Beach 73rd St. Property
Indian River County, Florida

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



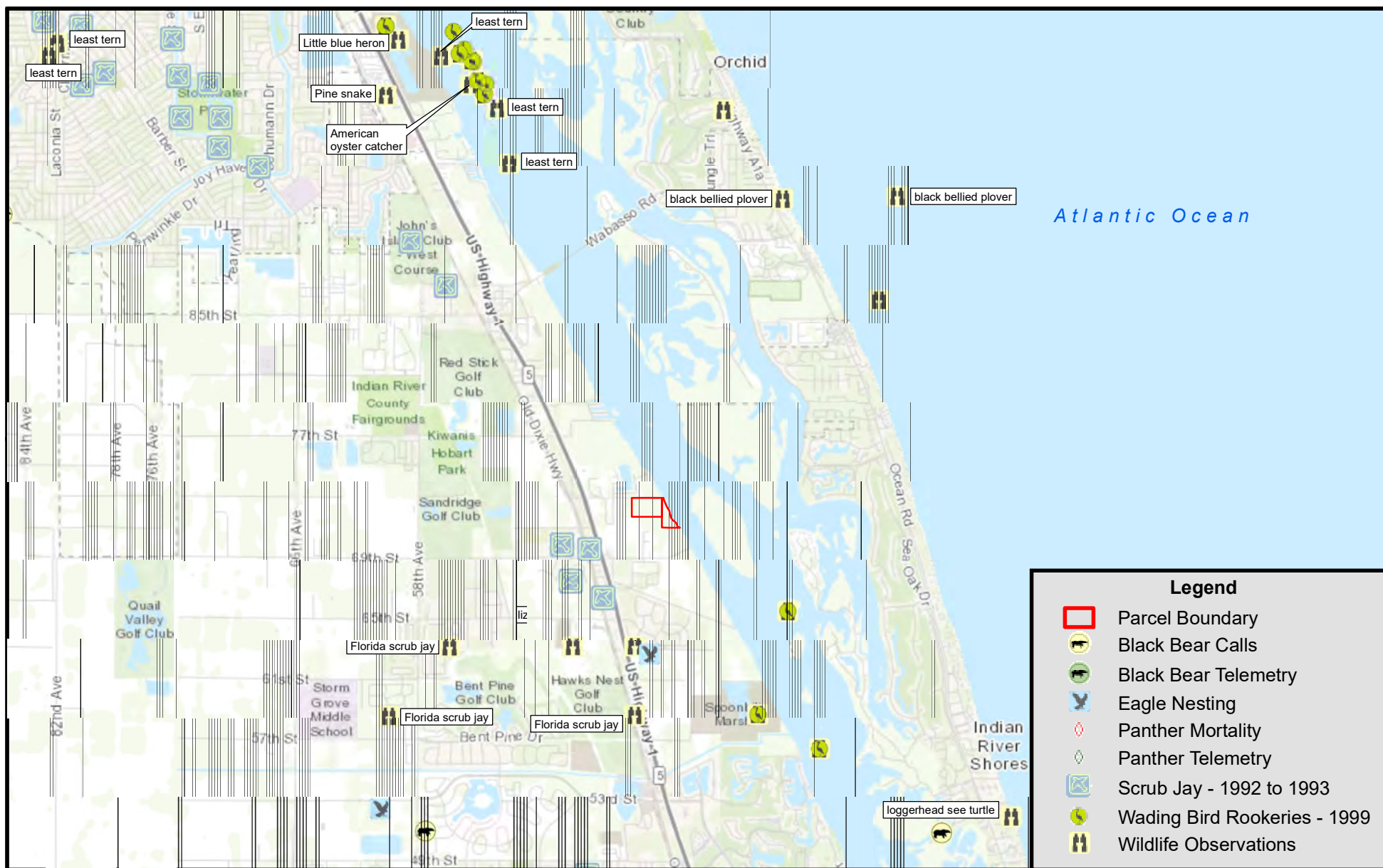
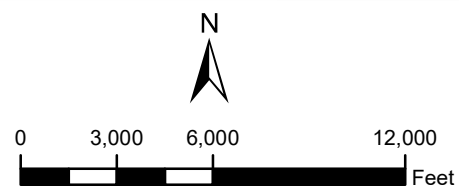


Figure 6.
The Florida Fish and Wildlife Conservation Commission's Fish and Wildlife Research Institute Terrestrial Resources Geographic Information System Web Mapping Results for Species Observations near the Assessment Property
Source: FNAI, 2023; Water & Air Research, Inc., 2024.



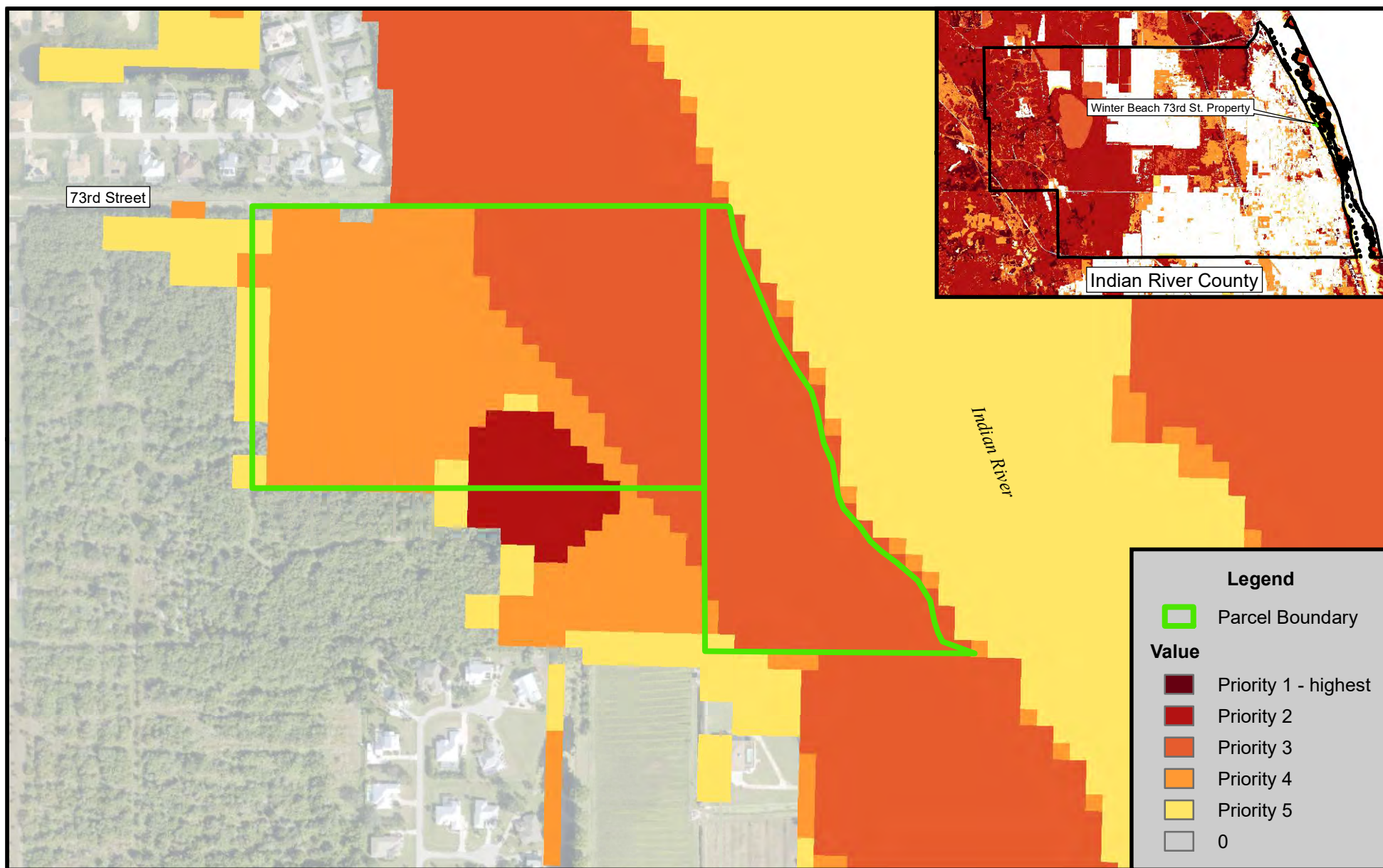
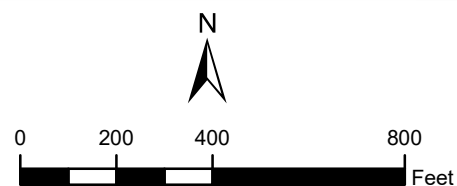


Figure 7.
The Biodiversity Resource Priorities Model (CLIP 4.0)
on the Winter Beach 73rd St. Property
Indian River County, Florida

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



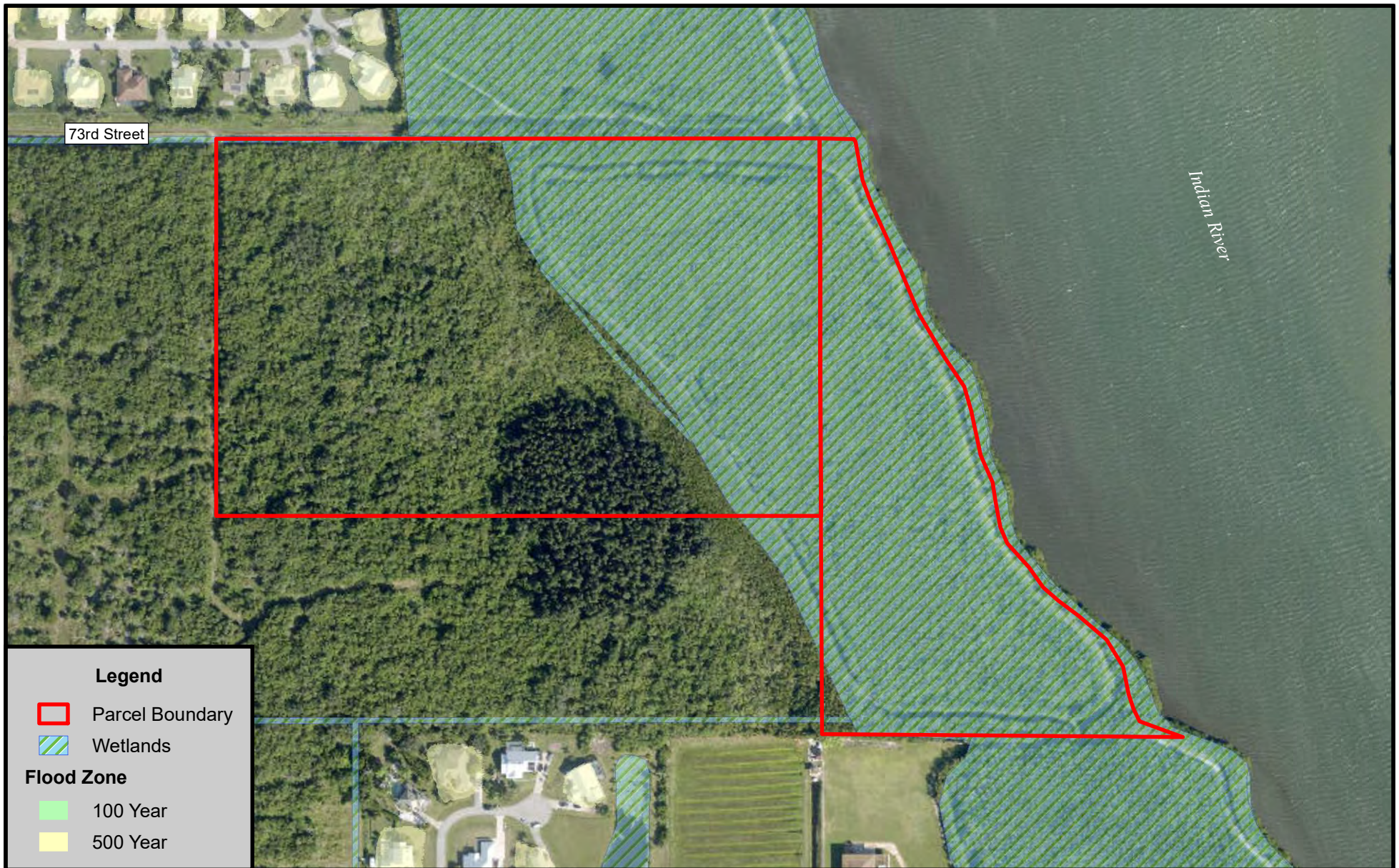
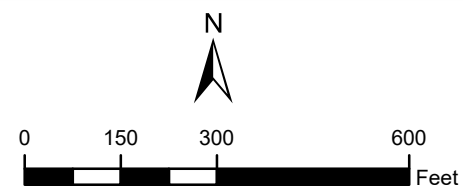


Figure 8.
The NWI Wetlands and FEMA Flood Zones
on the Winter Beach 73rd St. Property
Indian River County, Florida

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



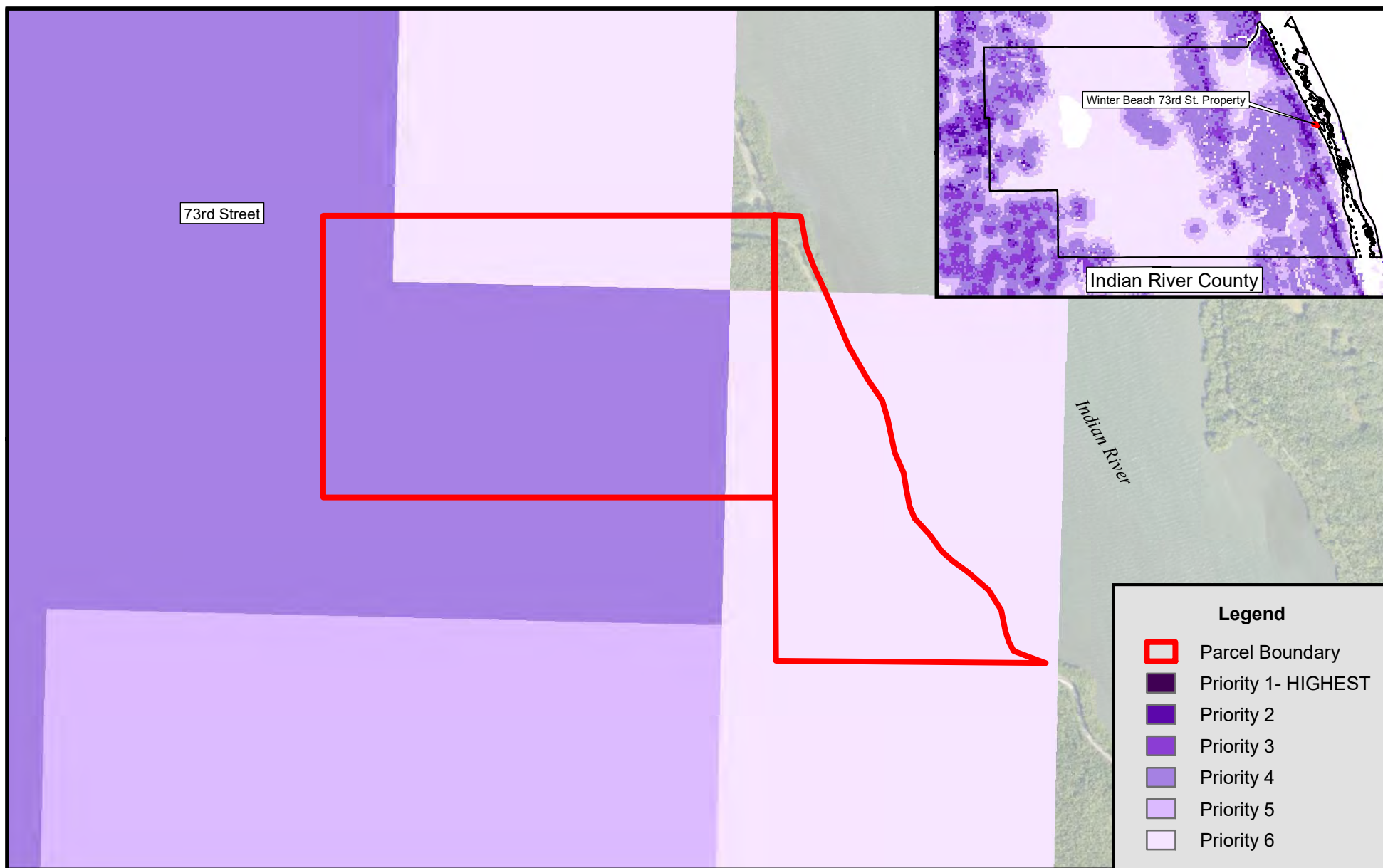


Figure 9.
Groundwater Recharge Areas Critical to Springs, Sinks, Aquifers,
Natural Systems, or Water Supply on the Winter Beach 73rd St. Property
Indian River County, Florida

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

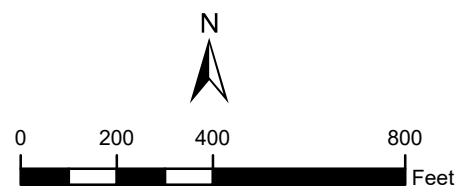




Figure 10.
The Winter Beach 73rd St. Property
and the Conserved Lands in the Vicinity
Indian River County, Florida

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

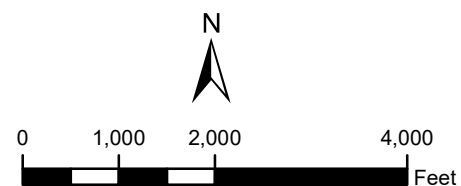
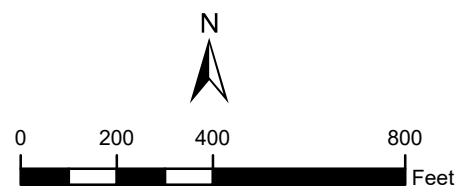
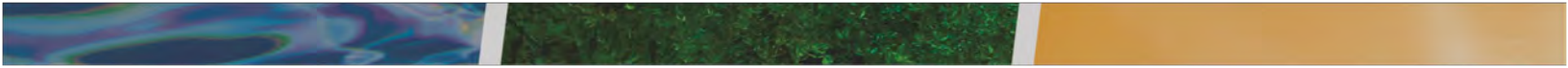




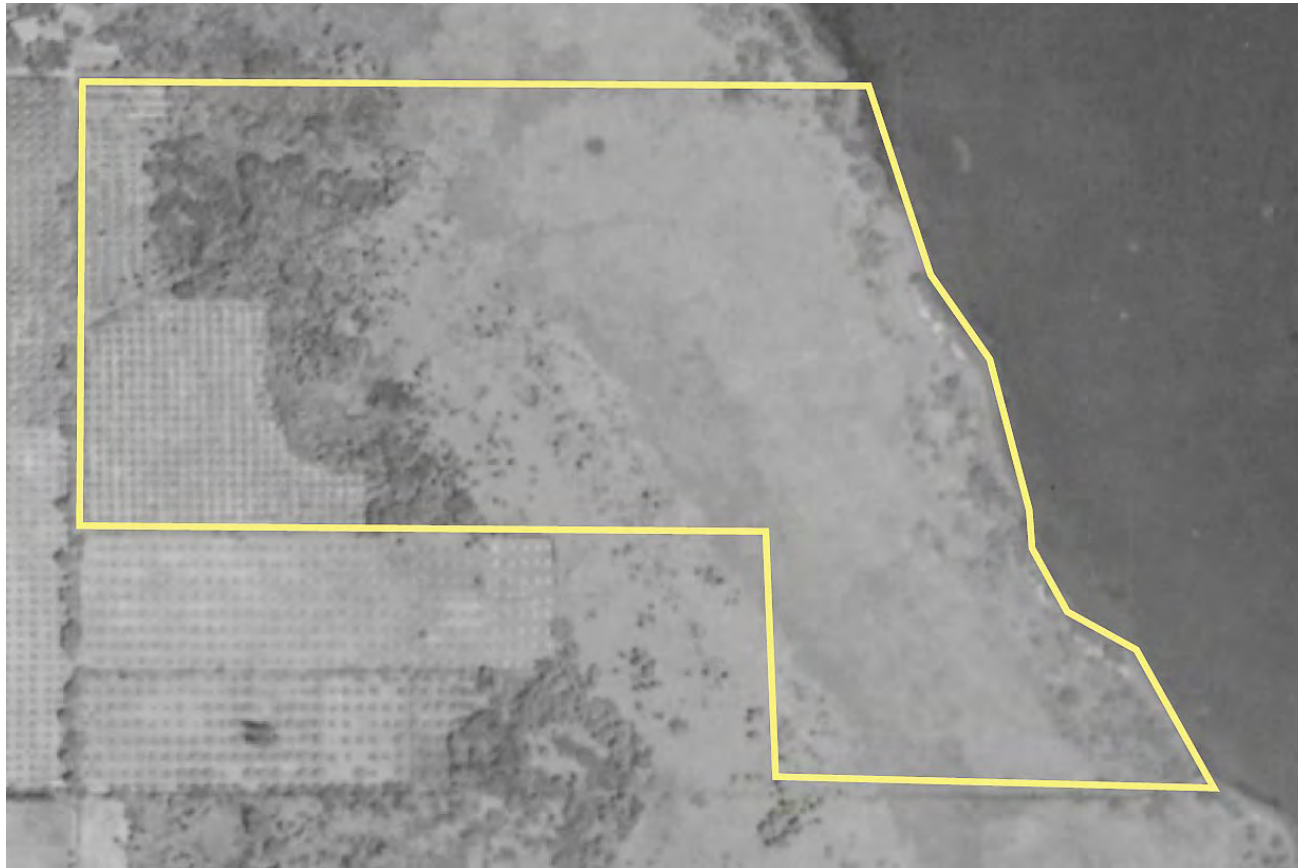
Figure 11.
The Landscape Resource Priorities Model (CLIP 4.0)
on the Winter Beach 73rd St. Property
Indian River County, Florida

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





APPENDIX
WINTER BEACH 73RD STREET
HISTORICAL AERIALS REVIEWED



1943 Aerial Photograph



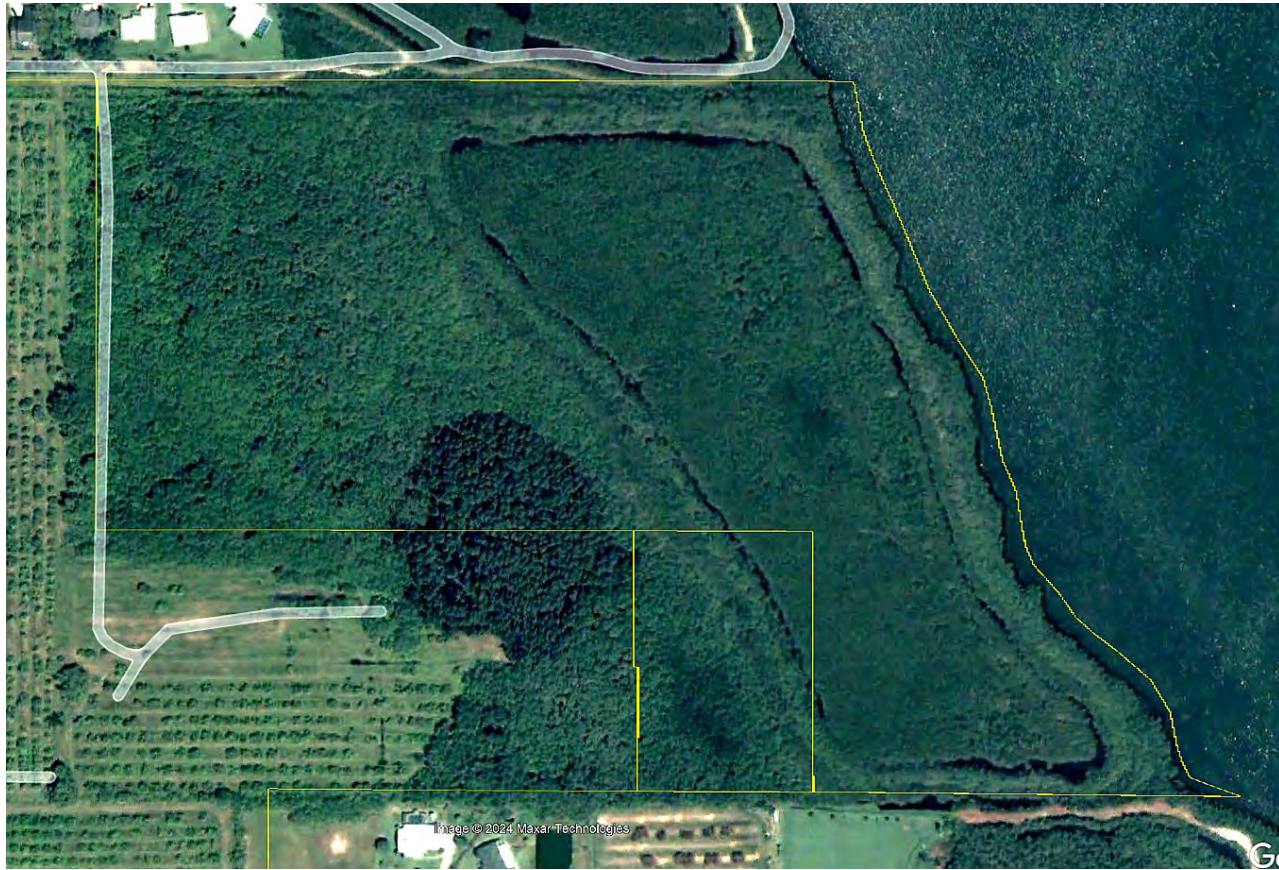
1951 Aerial Photograph



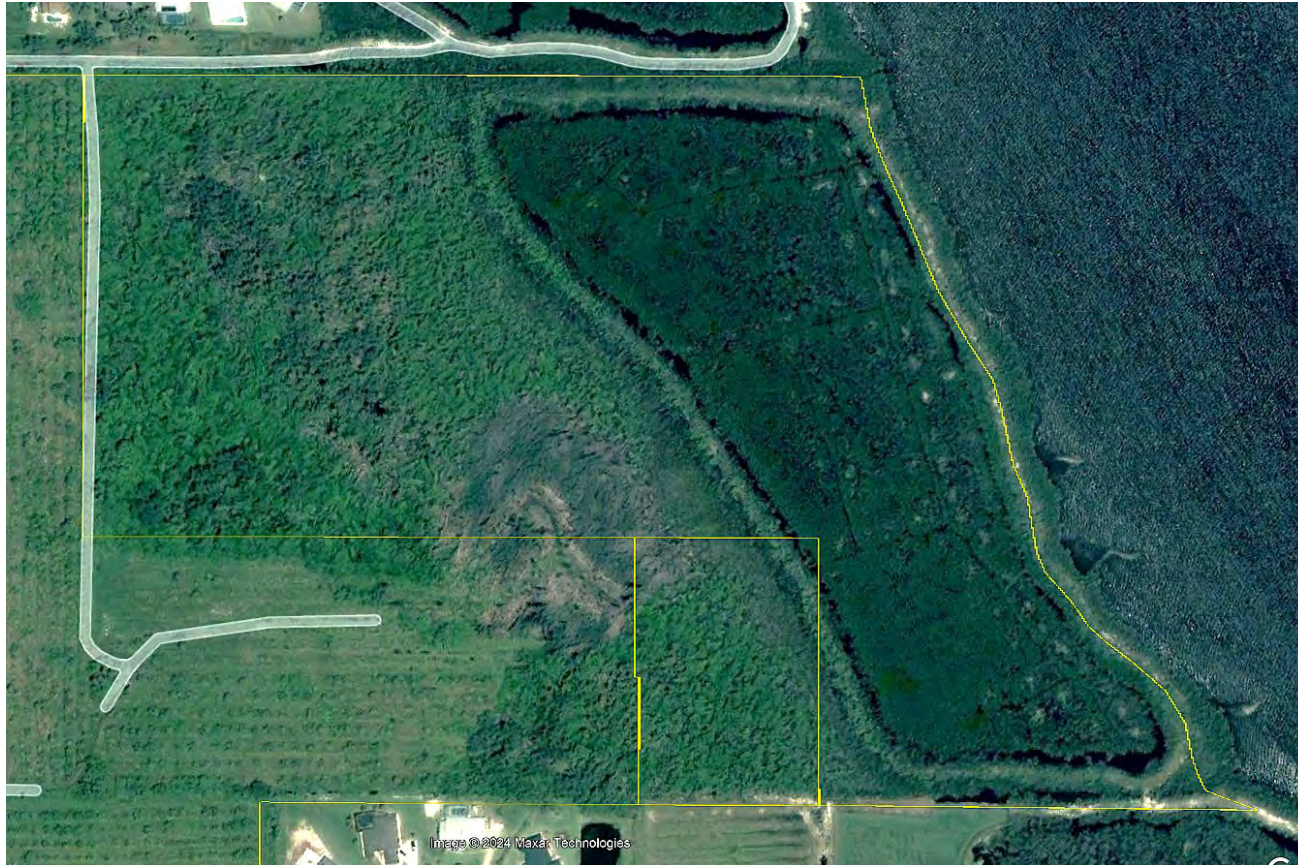
1970 Aerial Photograph



1994 Aerial Photograph



2003 Aerial Photograph



2005 Aerial Photograph



2010 Aerial Photograph



2017 Aerial Photograph



2024 Aerial Photograph



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