

APPENDIX B. TABLES**LIST OF TABLES**

Table 1-1	The Length and Area of the Parcels of Federal, State, County, and Municipal Properties Encompassed by the HCP Plan Area.
Table 1-2	Lengths of Coastline Where Beach Driving and Horseback Riding Occurs in St. Johns County.
Table 2-1	Beach Access Points with Pedestrian Walkovers and/or Public Parking in St. Johns County.
Table 3-1	Location of Critical and Non-critical Erosion Areas in St. Johns County.
Table 3-2	Tidal Characteristics in St. Augustine Beach.
Table 3-3	Existing, Ongoing, and Proposed Shoreline Protection Measures in St. Johns County.
Table 3-4	Federally and State-designated Wildlife Species Reported to Occur Within or Adjacent to the HCP Plan Area.
Table 3-5a	Sea Turtle Nest Densities along St. Johns County Beaches, 1996-2000.
Table 3-5b	Sea Turtle Nest Densities along St. Johns County Beaches, 2001.
Table 3-5c	Sea Turtle Nest Densities along St. Johns County Beaches, 1998-2001.
Table 3-6a	Spatial Boundaries of the Beach Zones Used to Survey for Sea Turtle Nesting in St. Johns County, 1996-2000.
Table 3-6b	Spatial Boundaries of the Beach Zones Used to Survey for Sea Turtle Nesting in St. Johns County, 2001.
Table 3-7	Temporal Nesting Patterns of Sea Turtles in St. Johns County, 1979-2001.
Table 3-8	The Common Name, Scientific Name, Type Localities, Federal and State Status, and Designated Critical Habitat of each Subspecies of the Oldfield Mouse <i>Peromyscus polionotus</i> .
Table 3-9	State-listed Fauna and Flora Species in or Adjacent to the Plan Area that Are Not Protected under the Federal ESA.
Table 4-1	Depredation of Sea Turtle Nests in St. Johns County, 1996-2001.

- Table 4-2** Tidal Inundation of Sea Turtle Nests in St. Johns County, 1996-2001.
- Table 4-3** False Crawls and Nesting Success of Sea Turtles in St. Johns County, 1996-2001.
- Table 4-4** Sea Turtle Nest Relocations in St. Johns County, Florida, 1996-2001.
- Table 4-5** Potential Vehicular Impacts to Sea Turtles on Beaches Managed by St. Johns County.
- Table 4-6** Potential Vehicular Impacts to Anastasia Island Beach Mice on Beaches Managed by St. Johns County.
- Table 5-1** Best Available Historical Record of Take of Sea Turtles or Sea Turtle Nests due to Vehicles or Vehicular Activities Occurring along the Beaches of St. Johns County in the HCP Plan Area.
- Table 6-1** Annual Take Assessment under the HCP in Volusia County, Florida.
- Table 7-1** Temporal Distribution of Loggerhead Hatchling Emergence Events from Natural Nests on Melbourne Beach, Florida (Source: Witherington, Bjourndal, and McCabe 1990).
- Table 7-2** Earliest and Latest Nest Dates and Expected Hatchling Emergence Dates in St. John's County, 1998-2001.
- Table 7-3** The 2001 Procedures Used by the FWC Marine Turtle Principal Permit Holders to Mark Nests in St. Johns County.
- Table 8-1** General Funding Sources of HCP Programs and Policies.
- Table 8-2** Proposed HCP Budget.
- Table 9-1** Schedule of HCP Implementation Activities.

Table 1-1

**The Length and Area of the Parcels of Federal, State, County, and Municipal Properties
Encompassed by the HCP Plan Area.**

	Length (feet)	Length (miles)	Area (sq. feet) ¹	Area (acres) ¹
FEDERAL PROPERTY <i>(Includes Ft. Matanzas National Monument from the CCCL to MHWL)</i>	4,731.6	0.9	1,554,442.1	35.8
STATE PROPERTY				
Guana River State Park	24,684.6	4.7	7,736,208.5	177.9
Anastasia State Park	13,254.4	2.5	16,605,473.5	381.9
Anastasia State Park in the City of St. Augustine <i>(MHWL to MLWL)</i>	8,241.3 ³	1.5 ³	1,235,655.6	28.4
COUNTY PROPERTY <i>(Includes all County properties)</i>	151,070.7	28.6	62,691,452.0	1,441.9
MUNICIPAL PROPERTY				
City of St. Augustine <i>(Includes from CCCL to MHWL)</i>	(8,295.8) ^{2,4}	(1.6) ^{2,4}	3,807,196.1	87.6
City of St. Augustine Beach	14,466.4	2.7	8,695,858.0	200.0
Town of Marineland	1,088.0	0.2	359,711.6	8.3
TOTAL PLAN AREA	217,537.0	41.1	102,685,997.4	2,361.8

¹ The area measurements include only the portion of the property within the HCP Plan Area, i.e. between the Coastal Construction Control Line (CCCL) and the Mean Low Water Line (MLWL), unless otherwise specified.

² Lengths and areas in parentheses are not included in the calculation of the Total Plan Area lengths and areas.

³ The beachfront property within the City of St. Augustine is contained within the boundaries of the Anastasia State Park. The length of this property used for Total Plan Area calculations corresponds to the length indicated under the State Property heading. This number represents the length of the property along the seaward edge of the HCP Plan Area, i.e. the Mean Low Water Line (MLWL).

⁴ This number represents the length of the property along the seaward edge of the boundary of the City of St. Augustine, i.e. the Mean High Water Line (MHWL).

Table 1-2

**Lengths of Coastline Where Beach Driving and Horseback Riding
Occurs in St. Johns County.**

ACTIVITY	NORTH BOUNDARY	SOUTH BOUNDARY	LENGTH (feet)	LENGTH (miles)
Beach Horseback Riding (year-round)	Duval County Line	Surfside Beach Ramp	94,711.7	17.9
Beach Horseback Riding (Nov. 1-Apr. 30)	Duval County Line	Flagler County Line	221,760.0	42.0
4x4 Permit Beach Driving (two-way)	Southern Boundary of Guana River Marsh Aquatic Preserve	Vilano Ramp	21,752.5	4.1
General Public Beach Driving (two-way)	Vilano Ramp	Southwestern tip of Porpoise Point	3,801.6	0.7
General Public Beach Driving (one-way)	"A" Street Ramp	Ocean Trace Road Ramp	9,257.6	1.8
General Public Beach Driving (one-way)	Ocean Trace Road Ramp	Crescent Beach Ramp	17,966.6	3.4
General Public Beach Driving (two-way)	Crescent Beach Ramp	Fort Matanzas Ramp	20,242.8	3.8
General Public Beach Driving (two-way)	Fort Matanzas Ramp	Southwestern tip of Anastasia Island	4,731.6	0.9
Local Resident or Old A1A right-of-way Beach Driving (two-way)	Southern end of northern portion of Old A1A at Summer Haven (at R monument 200)	Northern end of southern portion of Old A1A at Summer Haven (500 ft south of R monument 208)	8,560.0	1.6
General Public Beach Driving TOTAL			56,000.2	10.6
ALL BEACH DRIVING TOTAL			86,312.7	16.3

Table 2-1

Beach Access Points with Pedestrian Walkovers and/or Public Parking in St. Johns County.

Access Number	Access Name	Ownership	Beach Frontage	Existing Parking Spaces	Potential Parking Spaces	Access Type	Amenities	Comments
1	Ponte Vedra Beach Access #8	St. Johns County	10 ft	0	0	Pedestrian Walkover	None	60 feet south of Solana Rd.
2	Ponte Vedra Beach Access #14	St. Johns County	10 ft	0	0	Pedestrian Walkover	None	Between 557 & 559 Ponte Vedra Blvd.
3	Mickler's Landing Beach Access	St. Johns County	12 ft	248	248	Public Park with Pedestrian Walkover	Facilities	Horse path to beach.
4	Guana River State Park – North Beach Use Area	State of Florida	-	80	80	Pedestrian Walkover	Port-o-Lets	\$2.00 per day.
5	Guana River State Park – Midway Beach Use Area	State of Florida	-	75	75	Pedestrian Walkover	Port-o-Lets	\$2.00 per day.
6	Guana River State Park – South Beach Use Area	State of Florida	-	60	60	Pedestrian Walkover	Port-o-Lets	\$2.00 per day.
7	Gate Trading Post Beach Access	State of Florida	1650 ft	15	40	Pedestrian Footpath	None	Several footpaths.
8	South Ponte Vedra Park	State of Florida	1093 ft	22	22	Public Park with Pedestrian Walkover	Port-o-Lets	North of 3001 A1A.
9	Usina Beach Ramp & Parking	St. Johns County	100 ft	10	10	Vehicle Access Ramp with Pedestrian Walkover	None	North of Reef Restaurant.
10	Villages of Vilano Crossover & Parking	St. Johns County	420 ft	74	74	Public Park with Pedestrian Walkover	None	1000 ft north of Carcaba.
11	Surfside Beach Ramp & Parking	St. Johns County	160 ft	55	55	Vehicle Access Ramp and Public Park with Pedestrian Walkover	None	3080 Coastal Highway.
12	Vilano Ramp & Parking	St. Johns County	155 ft	61	61	Vehicle Access Ramp with Pedestrian Walkover	None	Ferrol Road.
13	Anastasia State Park Ramp & Parking	State of Florida	18,565 ft	350	350	Vehicle Access Ramp with Pedestrian Walkover	Facilities	\$3.25 per day.
14	Pope Road Beach Access	St. Johns County	100 ft	65	65	Pedestrian Walkover	None	Pope Road and A1A.
15	St. Johns County Pier Park	St. Johns County	562 ft	112	112	Public Park with Pedestrian Walkover	Facilities	Access to seawall/revetment.
16	St. Augustine Beach Access #10 – 11 th Street	St. Johns County	40 ft	0	0	Street End Pedestrian Walkover	None	Between Block 1 and Lot A.
17	St. Augustine Beach Access #20 - 4 th Street	St. Johns County	40 ft	0	0	Street End Pedestrian Walkover	None	South of revetment. Between Block 7 and 8.
18	St. Augustine Beach Access #32 - F Street	St. Johns County	40 ft	0	0	Street End Pedestrian Walkover	None	North of Coquina Gables Between Block 38 and 39.
19	Minnie Street	St. Johns	<10 ft	0	0	Pedestrian Walkover	None	Street end access.

		County						
20	Frank B. Butler Park East	St. Johns County	1080 ft	55-60 unmarked	75	Public Park with Pedestrian Walkover	Facilities	-
21	Crescent Beach Park	St. Johns County	230 ft	112	112	Public Park with Pedestrian Walkover	Facilities	Southside of 3 rd Street. Lot 14.
22	Green Road Beach Access	St. Johns County	50 ft	0	3	Street End Pedestrian Walkover	None	Between Lot 15 and 16.
23	Spyglass Beach Access	St. Johns County	105 ft	23	23	Public Park with Pedestrian Walkover	None	South of 8200 A1A South. South of Spyglass Condos.
24	Fort Matanzas Ramp & Parking	National Park Service	3562 ft	15	15	Public Park with Pedestrian Access via Vehicular Ramp	None	Footpath down vehicle ramp.

¹The access number corresponds to numbers listed beside the pedestrian access icons in Figures 2-9a and 2-9b.

Sources: Dave Williams, St. Johns County Division of Beach Management (unpublished data) 2001 and ATM 2001.

Table 3-1**Location of Critical and Non-critical Erosion Areas in St. Johns County.**

Monument Range	Erosion Status	Location	Distance (km)	Distance (miles)
R110 - R117	Critical	North & Vilano Beaches	2.3 km	1.4 mi
R132 - R152	Critical	St. Augustine Beaches	6.1 km	3.8 mi
R193.5 - R196	Non-critical	Fort Matanzas National Monument	0.8 km	0.5 mi
R197 - R209	Critical	Summer Haven & Marineland	3.9 km	2.4 mi

Table 3-2

Tidal Characteristics in St. Augustine Beach.

Tidal Datum	Elevation (MLLW)
Highest Observed Water Level (4/3/1973)	2.42 m (7.94 ft)
Mean Higher High Water (MHHW)	1.59 m (5.21 ft)
Mean High Water (MHW)	1.48 m (4.84ft)
Mean Tide Level (MTL)	0.76 m (2.49 ft)
National American Vertical Datum 1988 (NAVD)	1.03 m (3.37 ft)
Mean Sea Level (MSL)	0.76 m (2.49 ft)
Mean Low Water (MLW)	0.05 m (0.17 ft)
Mean Lower Low Water (MLLW)	0.00 m
Lowest Observed Water Level (1/27/1975)	-0.92 m (-3.01 ft)

Source: National Oceanic & Atmospheric Administration's National Ocean Service,
<http://www.co-ops.nos.noaa.gov/benchmarks/8720587.html>.

Table 3-3

Existing, Ongoing, and Proposed Shoreline Protection Measures in St. Johns County.

Shoreline Protection	Length (km)	Length (feet)	Length (miles)
<i>Coastal Armoring</i>			
St. Augustine Inlet South Jetty	1.1	3,670.8	0.7
Groin	0.2	302.9	0.1
Seawall	1.0	3,374.8	0.6
Retaining Wall	0.6	2,008.7	0.4
Revetment	1.6	5,050.0	1.0
Rock	0.8	3,761.4	0.7
<i>Beach Nourishment</i>			
2002 Beach Nourishment from R-132 to R-137	1.4	4,650.0	0.9
2002 Beach Nourishment from R-137 to R-151	4.7	15,314.0	2.9
<i>Beach Placement from Dredging Activities</i>			
Dredge Material Beach Disposal	2.6	8,159.2	1.6
<i>Dune Enhancement and Restoration</i>			
PVC Mesh	0.1	223.3	0.04
Shore-diagonal Sand Fences	3.7	12,167.0	2.3
Shore-parallel Sand Fences	1.4	4,984.8	0.9
Silt Fences	0.03	82.2	0.02
1999 Dune Restoration	1.0	3,228.5	0.6
2002 Dune Restoration	2.7	9,012.4	1.7

Table 3-4

Federally and State-designated Wildlife Species Reported to Occur Within or Adjacent to the HCP Plan Area.

Species		Federal Status ¹	State Status ¹
Common Name	Scientific Name		
<i>Reptiles</i>			
American alligator	<i>Alligator mississippiensis</i>	T(S/A)	SSC
Loggerhead turtle	<i>Caretta caretta</i>	T	T
Green turtle	<i>Chelonia mydas</i>	E	E
Leatherback turtle	<i>Dermochelys coriacea</i>	E	E
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T
<i>Birds</i>			
Piping plover	<i>Charadrius melodus</i>	T	T
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	T
Wood stork	<i>Mycteria americana</i>	E	E
<i>Mammals</i>			
Anastasia Island beach mouse	<i>Peromyscus polionotus phasma</i>	E	E
Florida manatee	<i>Trichechus manatus latirostris</i>	E	E
Northern right whale	<i>Eubalaena glacialis</i>	E	E
Sei whale	<i>Balaenoptera borealis</i>	E	E
Fin whale	<i>Balaenoptera physalus</i>	E	E
Humpback whale	<i>Megaptera novaeangliae</i>	E	E
Sperm whale	<i>Physeter catadon macrocephalus</i>	E	E

¹ E = Endangered; T = Threatened; T(S/A) = Threatened due to Similarity of Appearance; SSC = Species of Special Concern; and CE = Commercially Exploited.

Table 3-5a

Sea Turtle Nest Densities along St. Johns County Beaches, 1996-2000.

Beach Survey Zone ¹	Length km (miles) ²	Average Number of Nests per km (mile) ³		
		Loggerhead	Green	Leatherback
Ponte Vedra North	3.9 km (2.4 mi)	1.9 (3.1)	0.1 (0.1)	0.0 (0.0)
Guana River State Park	6.8 km (4.2 mi)	5.7 (9.1)	0.4 (0.6)	0.0 (0.0)
Ponte Vedra South	23.5 km (14.6 mi)	4.8 (7.8)	0.1 (0.1)	0.0 (0.0)
North St. Augustine Beaches	4.5 km (2.8 mi)	5.6 (8.9)	0.1 (0.2)	0.0 (0.0)
Anastasia State Park	7.2 km (4.5 mi)	1.7 (2.7)	0.2 (0.3)	0.0 (0.0)
South St. Augustine Beaches	10.1 km (6.3 mi)	1.9 (3.0)	0.1 (0.2)	0.0 (0.0)
Fort Matanzas National Monument	11.6 km (7.2 mi)	4.5 (7.3)	0.2 (0.3)	0.0 (0.1)
ALL COUNTY BEACHES	67.5 km (42.0 mi)	4.0 (6.5)	0.1 (0.2)	0.0 (0.0)

¹ See Table 3-6a for beach survey zone boundaries.

² As reported by FWC principal permit holders and contained within St. Johns County GIS database. These lengths are not consistent with FWC (*unpublished data* 2002), but are believed to be the most accurate.

³ Based on nest counts reported by FWC (*unpublished data* 2002) and survey zones lengths contained within this table.

Table 3-5b

Sea Turtle Nest Densities along St. Johns County Beaches, 2001.

Beach Survey Zone ¹	Length km (miles) ²	Average Number of Nests per km (mile) ³		
		Loggerhead	Green	Leatherback
North Ponte Vedra	3.9 km (2.4 mi)	3.6 (5.8)	0.0 (0.0)	0.0 (0.0)
Beach Club Drive North	3.0 km (1.8 mi)	2.0 (3.3)	0.0 (0.0)	0.0 (0.0)
Beach Club Drive South	5.9 km (3.7 mi)	5.6 (9.0)	0.0 (0.0)	0.2 (0.3)
Old Ponte Vedra	1.7 km (1.0 mi)	3.0 (4.9)	0.0 (0.0)	0.0 (0.0)
Guana River State Park	6.8 km (4.2 mi)	7.1 (11.4)	0.1 (0.2)	0.3 (0.5)
Guana River South	5.1 km (3.1 mi)	6.9 (11.1)	0.0 (0.0)	0.2 (0.3)
South Ponte Vedra	8.0 km (5.0 mi)	5.9 (9.5)	0.0 (0.0)	0.0 (0.0)
Vilano Beach	4.5 km (2.8 mi)	7.9 (12.7)	0.2 (0.4)	0.0 (0.0)
Anastasia State Park	7.2 km (4.5 mi)	1.0 (1.6)	0.0 (0.0)	0.0 (0.0)
St. Augustine Beach	10.1 km (6.3 mi)	1.2 (1.9)	0.0 (0.0)	0.0 (0.0)
Fort Matanzas North	7.5 km (4.6 mi)	1.6 (2.6)	0.0 (0.0)	0.0 (0.0)
Fort Matanzas South	4.1 km (2.6 mi)	4.6 (7.5)	0.5 (0.8)	0.0 (0.0)
ALL COUNTY BEACHES	67.5 km (42.0 mi)	4.0 (6.5)	0.1 (0.2)	0.1 (0.1)

¹ See Table 3-6b for beach survey zone boundaries.

² As reported by FWC principal permit holders and contained within St. Johns County GIS database. These lengths are not consistent with unpublished data by FWC, but are believed to be the most accurate.

³ Based on nest counts reported by FWC (*unpublished data 2002*) and survey zones lengths contained within this table.

Table 3-5c

Sea Turtle Nest Densities along St. Johns County Beaches, 1998-2001.

Beach Survey Zone ¹	Length km (miles) ²	Average Number of Nests per Mile ³			
		Logger-head	Green	Leather-back	TOTAL
North Ponte Vedra ⁴	3.9 km (2.4 mi)	4.0	0.1	0.0	4.1
Beach Club Drive North ⁵	3.0 km (1.8 mi)	6.4	0.1	0.0	6.6
Beach Club Drive South ⁵	5.9 km (3.7 mi)	8.3	0.1	0.1	8.5
Old Ponte Vedra ⁵	1.7 km (1.0 mi)	9.5	0.0	0.0	9.5
Guana River State Park ⁴	6.8 km (4.2 mi)	11.0	0.7	0.2	11.8
Guana River South ⁵	5.1 km (3.1 mi)	10.5	0.2	0.1	10.7
South Ponte Vedra ⁵	8.0 km (5.0 mi)	9.7	0.1	0.0	9.7
Vilano Beach ⁴	4.5 km (2.8 mi)	10.3	0.2	0.0	10.5
Anastasia State Park ⁴	7.2 km (4.5 mi)	2.6	0.2	0.0	2.8
St. Augustine Beach ⁴	10.1 km (6.3 mi)	2.6	0.2	0.0	2.7
Fort Matanzas North ⁵	7.5 km (4.6 mi)	4.3	0.1	0.0	4.4
Fort Matanzas South ⁵	4.1 km (2.6 mi)	13.3	0.8	0.2	14.3
ALL COUNTY BEACHES	67.5 km (42.0 mi)	7.2	0.2	0.0	7.5

¹ See Table 3-6b for beach survey zone boundaries.

² As reported by FWC principal permit holders and contained within the St. Johns County GIS database. These lengths are not consistent with unpublished data by FWC, but are believed to be the most accurate.

³ Nest densities were calculated using survey zones lengths contained within this table.

⁴ Based on nest counts reported by FWC for the 1998-2001 nesting seasons (FWC *unpublished data* 2002).

⁵ Based on nest counts compiled by Robert Stoll for the 1998-2000 nesting seasons (Stoll *pers. comm.* 2002) and reported by FWC for the 2001 nesting season (FWC *unpublished data* 2002).

Table 3-6a
Spatial Boundaries of the Beach Zones Used to Survey for Sea Turtle Nesting in St. Johns County, 1996-2000.

BEACH SURVEY ZONE	LENGTH km (mile)	PERMIT HOLDER	NORTHERN BOUNDARY	SOUTHERN BOUNDARY
Ponte Vedra North				
A1	3.9 km (2.4 mi)	Sandy Stam	Duval County Line	Corona Road
Guana River State Park¹				
C	6.8 km (4.2 mi)	J.B. Miller	North boundary of Guana River State Park	South boundary of Guana River State Park
Ponte Vedra South				
A2	3.0 km (1.8 mi)	Sandy Stam	Corona Road	Southernmost official walkover of the Sawgrass Beach Club
B	5.9 km (3.7 mi)	Robert Stoll	Southernmost official walkover of the Sawgrass Beach Club	Official walkover of the Old Ponte Vedra Condos
A3	1.7 km (1.0 mi)	Sandy Stam	Official walkover of the Old Ponte Vedra Condos	North boundary of Guana River State Park
D	5.1 km (3.1 mi)	Sandy Stam	South boundary of Guana River State Park	Gate Station
A4	8.0 km (5.0 mi)	Sandy Stam	Gate Station	Reef Restaurant (by Usina Beach Access Ramp)
North St. Augustine Beaches				
E	4.5 km (2.8 mi)	Peter Lardner	Reef Restaurant (by Usina Beach Access Ramp)	St. Augustine Inlet
Anastasia State Park				
F	7.2 km (4.5 mi)	J.B. Miller	North boundary of Anastasia State Park (at St. Augustine Inlet)	South boundary of Anastasia State Park (at Pope Road Beach Access)
South St. Augustine Beaches				
G	10.1 km (6.3 mi)	Evelyn Stauber	South boundary of Anastasia State Park (at Pope Road Beach Access) ²	Crescent Beach Ramp (Cubbedge Road)
Fort Matanzas National Monument¹				
H1	7.5 km (4.6 mi)	Andrew Rich	Crescent Beach Ramp (Cubbedge Road)	Matanzas Inlet (south boundary of Fort Matanzas National Monument)
H2	4.1 km (2.6 mi)	Andrew Rich	Matanzas Inlet	Flagler County Line
ALL COUNTY BEACHES	67.8 km (42.0 mi)	-	Duval County Line	Flagler County Line

¹ INBS = Index Nesting Beach Survey. INBS is a Statewide survey designed to monitor long-term nesting trends of populations of sea turtles in Florida. It is performed each year from May 15 through August 31.

² Sea turtle nesting surveys generally begin south of the seawall and revetment at St. Augustine Beach.

Table 3-6b
Spatial Boundaries of the Beach Zones Used to Survey for Sea Turtle Nesting in St. Johns County, 2001.

BEACH SURVEY ZONE	LENGTH km (mile)	PERMIT HOLDER	NORTHERN BOUNDARY	SOUTHERN BOUNDARY
North Ponte Vedra (A1)	3.9 km (2.4 mi)	Sandy Stam	Duval County Line	Corona Road
Beach Club Dr. North (A2)	3.0 km (1.8 mi)	Sandy Stam	Corona Road	Southernmost official walkover of the Sawgrass Beach Club
Beach Club Dr. South (B)	5.9 km (3.7 mi)	Robert Stoll	Southernmost official walkover of the Sawgrass Beach Club	Official walkover of the Old Ponte Vedra Condos
Old Ponte Vedra (A3)	1.7 km (1.0 mi)	Sandy Stam	Official walkover of the Old Ponte Vedra Condos	North boundary of Guana River State Park
Guana River State Park ¹ (C)	6.8 km (4.2 mi)	J.B. Miller	North boundary of Guana River State Park	South boundary of Guana River State Park
Guana River South (D)	5.1 km (3.1 mi)	Sandy Stam	South boundary of Guana River State Park	Gate Station
South Ponte Vedra (A4)	8.0 km (5.0 mi)	Sandy Stam	Gate Station	Usina Beach Access Ramp (2.6 mi north of St. Augustine Inlet)
Vilano Beach (E)	4.5 km (2.8 mi)	Peter Lardner	Usina Beach Access Ramp (2.6 mi north of St. Augustine Inlet)	North side of St. Augustine Inlet
Anastasia State Park (F)	7.2 km (4.5 mi)	J.B. Miller	South side of St. Augustine Inlet (North boundary of Anastasia State Park)	7.2 km south of St. Augustine Inlet (South boundary of Anastasia State Park)
St. Augustine Beach (G)	10.1 km (6.3 mi)	Evelyn Stauber	7.2 km south of St. Augustine Inlet (South boundary of Anastasia State Park) ²	Crescent Beach Ramp (at Cubbedge Road/State Road 206)
Fort Matanzas North ¹ (H1)	7.5 km (4.6 mi)	Andrew Rich	Crescent Beach Ramp (at Cubbedge Road/State Road 206)	North side of Matanzas Inlet
Fort Matanzas South ¹ (H2)	4.1 km (2.6 mi)	Andrew Rich	South side of Matanzas Inlet	Flagler County Line
ALL COUNTY BEACHES	67.8 km (42.0 mi)	-	Duval County Line	Flagler County Line

¹ INBS = Index Nesting Beach Survey. INBS is a Statewide survey designed to monitor long-term nesting trends of populations of sea turtles in Florida. It is performed each year from May 15 through August 31.

² Sea turtle nesting surveys generally begin south of the seawall and revetment at St. Augustine Beach.

Table 3-7

Temporal Nesting Patterns of Sea Turtles in St. Johns County, 1979-2001.

Species	Earliest Nest Date	Latest Nest Date
Loggerhead	May 1 (2000)	September 26 (1987)
Green	May 6 ¹ (1994)	September 14 (1994)
Leatherback	April 18 (1993)	July 22 (1984)

Sources: Meylan *et al.* 1995 (1988-1992).
 FWC *unpublished data* (1993-2001).

¹ This date is earlier than most green turtle nesting reported in Florida and may be erroneous.

Table 3-8

The Common Name, Scientific Name, Type Localities, Federal and State Status, and Designated Critical Habitat of Each Subspecies of the Oldfield Mouse *Peromyscus polionotus*.

Common Name	Scientific Name	Type Locality	Federal Status ¹	State Status ¹	Critical Habitat
Alabama beach mouse	<i>Peromyscus polionotus ammobates</i>	Near Alabama Point, Baldwin County, Alabama.	E	Protected by the State of Alabama.	Gulf State Park, Fort Morgan State Park, and Bon Secour National Wildlife Refuge and adjacent private lands.
Perdido Key beach mouse	<i>P. p. trissyllepsis</i>	East of Perdido Inlet, Baldwin County, Alabama.	E	E (State of Florida); Protected by the State of Alabama.	Gulf State Park in Alabama, Perdido Key State Recreation Area, and the Perdido Key Unit of Gulf Islands National Seashore in Florida.
Choctawhatchee beach mouse	<i>P. p. allophrys</i>	Walton County, Florida.	E	E (State of Florida).	12.6 mi of coast in Walton and Bay Counties, including Grayton Beach State Recreation Area, the mainland section of St. Andrew State Recreation Area, Shell Island, and Topsail Hill State Lands.
Santa Rosa beach mouse	<i>P. p. leucocephalus</i>	Santa Rosa Island, Okaloosa County, Florida.	Candidate for T or E.	Not State protected.	No Critical Habitat designated.
St. Andrew beach mouse	<i>P. p. peninsularis</i>	St. Andrew Point, Bay County, Florida.	E	E (State of Florida).	No Critical Habitat designated.
Anastasia Island beach mouse	<i>P. p. phasma</i>	Point Romo, Anastasia Island, St. Johns County, Florida.	E	E (State of Florida).	No Critical Habitat designated.
pallid beach mouse	<i>P. p. decoloratus</i>	Mosquito Inlet, Volusia County, Florida. Presumed to be extinct (Ehrhardt 1978, Humphrey and Barbour 1979, Humphrey 1992).	Presumed extinct.	Presumed extinct.	Presumed extinct.
southeastern beach mouse	<i>P. p. niveiventris</i>	Micco, Brevard County, Florida.	T	T (State of Florida).	No Critical Habitat designated.

¹ E = Endangered; T = Threatened; SSC = Species of Special Concern; and CE = Commercially Exploited.

Table 3-9

State-listed Fauna and Flora Species in or Adjacent to the Plan Area that Are Not Protected under the Federal ESA.

Species		State Status ¹
Common Name	Scientific Name	
FAUNA		
<i>Reptiles</i>		
Gopher tortoise	<i>Gopherus polyphemus</i>	SSC
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	S
<i>Birds</i>		
Roseate spoonbill	<i>Ajaia ajaja</i>	SSC
Little blue heron	<i>Egretta caerulea</i>	SSC
Reddish egret	<i>Egretta rufescens</i>	SSC
Snowy egret	<i>Egretta thula</i>	SSC
Tricolored heron	<i>Egretta tricolor</i>	SSC
White ibis	<i>Eudocimus albus</i>	SSC
Peregrine falcon	<i>Falco peregrinus tundris</i>	E
American oystercatcher	<i>Haematopus palliatus</i>	SSC
Brown pelican	<i>Pelecanus occidentalis</i>	SSC
Black skimmer	<i>Rhynchops niger</i>	SSC
Least tern	<i>Sterna antillarum</i>	T
<i>Fish</i>		
Common snook	<i>Centropomus undecimalis</i>	SSC
FLORA		
Ebony spleenwort	<i>Asplenium platyneuron</i>	T
Green-fly orchid	<i>Encyclia conopseum</i>	CE
Coastal vervain	<i>Glandularia maritime</i>	E
Crested coralroot	<i>Hexalectris spicata</i>	E
Prickly pear cactus	<i>Opuntia stricta</i>	T
Cinnamon fern	<i>Osmunda cinnamomea</i>	CE
Royal fern	<i>Osmunda regalis</i>	CE
Sand-dune spurge	<i>Chamaesyce cumilicula</i>	T
Angle-pod	<i>Matelea gonocarpa</i>	T
Pygmy-pipes	<i>Monotropis reynoldsiae</i>	E
Little butterfly orchid	<i>Pteroglossapsis ecristata</i>	T

¹ E = Endangered; T = Threatened; SSC = Species of Special Concern; and CE = Commercially Exploited.

Table 4-1

Depredation of Sea Turtle Nests in St. Johns County, 1996-2001.

YEAR	LETTER NAME OF SURVEY ZONE	FWC NAME OF SURVEY ZONE	NORTH SURVEY BOUNDARY	SOUTH SURVEY BOUNDARY	TOTAL NUMBER NESTS LAID/YEAR	COMMENTS REGARDING NEST DEPREDATION AND TAMPERING	NUMBER OF DAMAGED EGGS
1996	A1	Ponte Vedra North	Duval County Line	Corona Road	6	0	0
1997	A1	Ponte Vedra North	Duval County Line	Corona Road	6	0	0
1998	A1	Ponte Vedra North	Duval County Line	Corona Road	7	0	0
1999	A1	Ponte Vedra North	Duval County Line	Corona Road	6	0	0
2000	A1	Ponte Vedra North	Duval County Line	Corona Road	13	0	0
2001	A1	Ponte Vedra North	Duval County Line	Corona Road	14	0	0
1996	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	38	0	0
1997	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	42	0	0
1998	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	98	0	0
1999	A2+A3+D+A4	(a) Ponte Vedra South	Corona Road	USINAS RAMP	85	1 nest lost to ants.	Unknown.
2000	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	107	0	0
2001	A2	Beach Club Dr. North	Corona Road	Sawgrass Beach Club	6	0	0
1996	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	29	0	0
1997	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	14	0	0
1998	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	30	0	0
1999	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	34	0	0
2000	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	26	0	0
2001	B	Beach Club Dr. South	Sawgrass Beach Club	Old Ponte Vedra Condos	34	6 nests partially depredated by dogs and/or ants.	0
1996	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA
1997	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA
1998	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA
1999	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA
2000	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA
2001	A3	Old Ponte Vedra	Old Ponte Vedra Condos	N. Boundary of GRSP	5	1 nest lost to dogs or raccoons.	40+

**HABITAT CONSERVATION PLAN
ST. JOHNS COUNTY BEACHES**

YEAR	LETTER NAME OF SURVEY ZONE	FWC NAME OF SURVEY ZONE	NORTH SURVEY BOUNDARY	SOUTH SURVEY BOUNDARY	TOTAL NUMBER NESTS LAID/YEAR	COMMENTS REGARDING DEPREDATION	NUMBER OF DAMAGED EGGS
1996	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	28	0	0
1997	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	30	2 nests partially depredated by unknown predators.	Unknown.
1998	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	55	Ants found in 1 nest.	"Few, if any, eggs lost."
1999	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	39	1 nest lost to dogs/ants.	Unknown.
2000	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	54	Ghost crabs depredated 2 eggs in 1 CC nest.	2
2001	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	51	9 nests lost to foxes or raccoons; 3 nests impacted by fire ants.	275+
1996	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	24	0	0
1997	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	24	0	0
1998	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	32	Ghost crabs in 1 nest.	"Few, if any, eggs lost."
1999	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	NO DATA	NO DATA	NO DATA
2000	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	NO DATA	NO DATA	NO DATA
2001	D	Guana River South	S. Boundary of GRSP	Gate Station	36		
1996	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA
1997	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA
1998	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA
1999	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA
2000	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA
2001	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	47	2 nests with roots, 1 nest had ants on dead hatchlings & possible impacts from ghost crabs.	0
1996	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	14	0	0
1997	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	32	0	0
1998	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	36	0	0
1999	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	26	0	0
2000	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	18	0	0
2001	E	Vilano Beach	Usinas Beach Ramp	St. Augustine Inlet	36	1 nest impacted by ants.	5

**HABITAT CONSERVATION PLAN
ST. JOHNS COUNTY BEACHES**

YEAR	LETTER NAME OF SURVEY ZONE	FWC NAME OF SURVEY ZONE	NORTH SURVEY BOUNDARY	SOUTH SURVEY BOUNDARY	TOTAL NUMBER NESTS LAID/YEAR	COMMENTS REGARDING DEPREDATION	NUMBER OF DAMAGED EGGS
1996	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	14	1 nest depredated by gray fox; raccoons attempted to raid nest, but were unsuccessful (SELF-RELEASING CAGE).	18
1997	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	7	0 (SELF-RELEASING CAGE).	0
1998	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	18	Fox dug 2 nests, but did not damage any eggs (SELF-RELEASING CAGE).	0
1999	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	12	0 (SELF-RELEASING CAGE).	0
2000	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	7	Post-emergence depredation by ghost crabs, foxes, & raccoons (SELF-RELEASING CAGE).	0
2001	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	6	Hatchlings disoriented & depredated on by foxes, raccoons, and birds (SELF-RELEASING CAGE).	0
1996	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	19	0	0
1997	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	23	0	0
1998	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	22	0	0
1999	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	19	0	0
2000	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	16	0	0
2001	G	St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	12	0	0
1996	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	41	Unknown number of nests depredated by ants & ghost crabs.	0
1997	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	36	Unknown number of nests depredated by ants, ghost crabs, & domestic dogs.	0
1998	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	74	0	0
1999	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	56	0	0
2000	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	65	0	0
2001	H1	Ft. Matanzas North	Crescent Beach Ramp	Matanzas Inlet	12	0	0
1996	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA
1997	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA
1998	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA
1999	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA
2000	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA
2001	H2	Ft. Matanzas South	Matanzas Inlet	Flagler County Line	21	Unknown number of nests depredated by ghost crabs.	2

Table 4-2

Tidal Inundation of Sea Turtle Nests in St. Johns County, 1996-2001.

YEAR	LETTER NAME OF SURVEY ZONE	FWC NAME OF SURVEY ZONE	NORTH SURVEY BOUNDARY	SOUTH SURVEY BOUNDARY	TOTAL NUMBER NESTS LAID/YEAR	NUMBER OF NESTS OVER-WASHED	PERCENT OF NESTS OVER-WASHED	NUMBER OF NESTS WASHED OUT	PERCENT OF NESTS WASHED OUT	STORM
1996	A1	Ponte Vedra North	Duval County Line	Corona Road	6	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	A1	Ponte Vedra North	Duval County Line	Corona Road	6	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1998	A1	Ponte Vedra North	Duval County Line	Corona Road	7	2	28.6	0	0.0	NO DATA
1999	A1	Ponte Vedra North	Duval County Line	Corona Road	6	NO DATA	NO DATA	2	33.3	Hurr. Dennis, Floyd & Irene
2000	A1	Ponte Vedra North	Duval County Line	Corona Road	13	0	0.0	0	0.0	0
2001	A1	Ponte Vedra North	Duval County Line	Corona Road	14	NO DATA	NO DATA	5	35.7	Trop. Storm Gabrielle
1996	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	38	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	42	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1998	A2+A3+D+A4	Ponte Vedra North	Corona Road	USINAS RAMP	98	0	0.0	0	0.0	0
1999	A2+A3+D+A4	(b) Ponte Vedra South	Corona Road	USINAS RAMP	85	NO DATA	NO DATA	10	11.8	Hurr. Dennis, Floyd & Irene
2000	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	107	NO DATA	NO DATA	1	0.9	0
2001	A2	Beach Club Dr. North	Corona Road	Sawgrass Beach Club	6	NO DATA	NO DATA	2	33.3	Trop. Storm Gabrielle
1996	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	29	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	14	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1998	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	30	0	0.0	0	0.0	0
1999	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	34	NO DATA	NO DATA	6	17.6	Hurr. Dennis, Floyd & Irene
2000	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	26	NO DATA	NO DATA	4	15.4	NO DATA
2001	B	Beach Club Dr. South	Sawgrass Beach Club	Old Ponte Vedra Condos	34	NO DATA	NO DATA	1	2.9	Trop. Storm Gabrielle
1996	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1998	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1999	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	Hurr. Dennis, Floyd & Irene
2000	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	0
2001	A3	Old Ponte Vedra	Old Ponte Vedra Condos	N. Boundary of GRSP	5	0	0.0	0	0.0	Trop. Storm Gabrielle

HABITAT CONSERVATION PLAN
ST. JOHNS COUNTY BEACHES

YEAR	LETTER NAME OF SURVEY ZONE	FWC NAME OF SURVEY ZONE	NORTH SURVEY BOUNDARY	SOUTH SURVEY BOUNDARY	TOTAL NUMBER NESTS LAID/YEAR	NUMBER OF NESTS OVER-WASHED	PERCENT OF NESTS OVER-WASHED	NUMBER OF NESTS WASHED OUT	PERCENT OF NESTS WASHED OUT	STORM
1996	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	28	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	30	1	3.3	NO DATA	NO DATA	nor'easter
1998	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	55	NO DATA	NO DATA	2	3.6	IMPACT
1999	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	39	NO DATA	NO DATA	4	10.3	Hurr. Dennis, Floyd & Irene
2000	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	54	1	1.9	3	5.6	0
2001	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	51	1	2.0	18	35.3	Trop. Storm Gabrielle
1996	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	24	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	24	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1998	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	32	0	0.0	0	0.0	0
1999	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
2000	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
2001	D	Guana River South	S. Boundary of GRSP	Gate Station	36	NO DATA	NO DATA	15	41.7	Trop. Storm Gabrielle
1996	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1998	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1999	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
2000	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
2001	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	47	NO DATA	NO DATA	13	27.7	Trop. Storm Gabrielle
1996	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	14	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	32	NO DATA	NO DATA	4	12.5	NO DATA
1998	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	36	NO DATA	NO DATA	4	11.1	0
1999	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	26	NO DATA	NO DATA	4	15.4	Hurr. Dennis, Floyd & Irene
2000	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	18	NO DATA	NO DATA	4	22.2	High tides
2001	E	Vilano Beach	Usinas Beach Ramp	St. Augustine Inlet	36	NO DATA	NO DATA	16	44.4	Trop. Storm Gabrielle
1996	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	14	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	7	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1998	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	18	0	0.0	0	0.0	0
1999	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	12	NO DATA	NO DATA	3	25.0	Hurr. Dennis, Floyd & Irene
2000	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	7	0	0.0	0	0.0	0
2001	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	6	0	0.0	0	0.0	Trop. Storm Gabrielle

HABITAT CONSERVATION PLAN
ST. JOHNS COUNTY BEACHES

YEAR	LETTER NAME OF SURVEY ZONE	FWC NAME OF SURVEY ZONE	NORTH SURVEY BOUNDARY	SOUTH SURVEY BOUNDARY	TOTAL NUMBER NESTS LAID/YEAR	NUMBER OF NESTS OVER-WASHED	PERCENT OF NESTS OVER-WASHED	NUMBER OF NESTS WASHED OUT	PERCENT OF NESTS WASHED OUT	STORM
1996	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	19	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	23	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1998	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	22	0	0.0	0	0.0	0
1999	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	19	NO DATA	NO DATA	2	10.5	Hurr. Dennis, Floyd & Irene
2000	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	16	2	12.5	1	6.3	erosion
2001	G	St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	12	1	8.3	4	33.3	Trop. Storm Gabrielle
1996	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	41	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	36	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1998	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	74	NO DATA	NO DATA	4	5.4	0
1999	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	56	NO DATA	NO DATA	8	14.3	Hurr. Floyd
2000	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	65	NO DATA	NO DATA	1	1.5	tides
2001	H1	Ft. Matanzas North	Crescent Beach Ramp	Matanzas Inlet	12	NO DATA	NO DATA	2	33.3	Trop. Storm Gabrielle
1996	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1997	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1998	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
1999	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
2000	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
2001	H2	Ft. Matanzas South	Matanzas Inlet	Flagler County Line	21	NO DATA	NO DATA	4	19.0	Trop. Storm Gabrielle

Table 4-3

False Crawls and Nesting Success of Sea Turtles in St. Johns County, 1996-2001.

YEAR	LETTER NAME OF SURVEY ZONE	FWC NAME OF SURVEY ZONE	NORTH SURVEY BOUNDARY	SOUTH SURVEY BOUNDARY	TOTAL NUMBER OF NESTS LAID/YEAR	NUMBER OF FALSE CRAWLS	NESTING SUCCESS
1996	A1	Ponte Vedra North	Duval County Line	Corona Road	6	2	75.0
1997	A1	Ponte Vedra North	Duval County Line	Corona Road	6	2	75.0
1998	A1	Ponte Vedra North	Duval County Line	Corona Road	7	2	77.8
1999	A1	Ponte Vedra North	Duval County Line	Corona Road	6	3	66.7
2000	A1	Ponte Vedra North	Duval County Line	Corona Road	13	2	86.7
2001	A1	Ponte Vedra North	Duval County Line	Corona Road	14	3	82.4
TOTAL					52	14	78.8
1996	A2 A3 D A4	Ponte Vedra South	Corona Road	USINAS RAMP	62	41	60.2
1997	A2 A3 D A4	Ponte Vedra South	Corona Road	USINAS RAMP	66	64	50.8
1998	A2 A3 D A4	Ponte Vedra South	Corona Road	USINAS RAMP	130	85	60.5
1999	A2 A3 D A4	Ponte Vedra South	Corona Road	USINAS RAMP	85	34	71.4
2000	A2 A3 D A4	Ponte Vedra South	Corona Road	USINAS RAMP	107	32	77.0
2001	A2 A3 D A4	Ponte Vedra South	Corona Road	USINAS RAMP	47	22	68.1
TOTAL					497	278	64.1
1996	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	29	9	76.3
1997	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	14	12	53.8
1998	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	30	22	57.7
1999	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	34	17	66.7
2000	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	26	16	61.9
2001	B	Beach Club Dr. South	Sawgrass Beach Club	Old Ponte Vedra Condos	34	27	55.7
TOTAL					167	103	61.9
1996	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	28	18	60.9
1997	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	30	8	78.9
1998	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	55	27	67.1
1999	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	39	28	58.2
2000	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	54	20	73.0
2001	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	51	8	86.4
TOTAL					257	109	70.2

**HABITAT CONSERVATION PLAN
ST. JOHNS COUNTY BEACHES**

YEAR	LETTER NAME OF SURVEY ZONE	FWC NAME OF SURVEY ZONE	NORTH SURVEY BOUNDARY	SOUTH SURVEY BOUNDARY	TOTAL NUMBER OF NESTS LAID/YEAR	NUMBER OF FALSE CRAWLS	NESTING SUCCESS
1996	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	14	14	50.0
1997	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	32	16	66.7
1998	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	36	21	63.2
1999	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	26	15	63.4
2000	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	18	3	85.7
2001	E	Vilano Beach	Usinas Beach Ramp	St. Augustine Inlet	36	11	76.6
TOTAL					162	80	66.9
1996	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	14	6	70.0
1997	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	7	4	63.6
1998	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	18	11	62.1
1999	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	12	6	66.7
2000	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	7	6	53.8
2001	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	6	5	54.5
TOTAL					64	38	62.7
1996	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	19	10	65.5
1997	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	23	5	82.1
1998	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	22	14	61.1
1999	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	19	5	79.2
2000	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	16	6	72.7
2001	G	St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	12	10	54.5
TOTAL					111	50	68.9
1996	H1 H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	41	18	69.5
1997	H1 H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	36	17	67.9
1998	H1 H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	74	19	79.6
1999	H1 H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	56	28	66.7
2000	H1 H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	65	44	59.6
2001	H1 H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	33	19	63.5
TOTAL					305	145	67.8

Table 4-4

Sea Turtle Nest Relocations in St. Johns County, Florida, 1996-2001.

YEAR	LETTER NAME OF SURVEY ZONE	FWC NAME OF SURVEY ZONE	NORTH SURVEY BOUNDARY	SOUTH SURVEY BOUNDARY	TOTAL NUMBER OF NESTS LAID/YEAR	NUMBER OF RE-LOCATED NESTS	PERCENT OF RELOCATED NESTS	REASONS CITED FOR NEST RELOCATION
1996	A1	Ponte Vedra North	Duval County Line	Corona Road	6	0	0.0	NA
1997	A1	Ponte Vedra North	Duval County Line	Corona Road	6	0	0.0	NA
1998	A1	Ponte Vedra North	Duval County Line	Corona Road	7	2	28.6	washout of nests
1999	A1	Ponte Vedra North	Duval County Line	Corona Road	6	0	0.0	NA
2000	A1	Ponte Vedra North	Duval County Line	Corona Road	13	0	0.0	NA
2001	A1	Ponte Vedra North	Duval County Line	Corona Road	14	2	14.3	below high tide line
TOTAL					52	4	7.7	
1996	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	38	6	15.8	NONE GIVEN
1997	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	42	8	19.0	NONE GIVEN
1998	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	98	12	12.2	in washout areas
1999	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	85	0	0.0	NA
2000	A2+A3+D+A4	Ponte Vedra South	Corona Road	USINAS RAMP	107	4	3.7	below high tide line
2001	A2	Beach Club Dr. North	Corona Road	Sawgrass Beach Club	6	0	0.0	NA
TOTAL					376	30	8.0	
1996	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	29	3	10.3	nests seaward of high tide line
1997	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	14	1	7.1	nest at recent high tide line
1998	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	30	1	3.3	nest seaward of high tide line
1999	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	34	1	2.9	nest seaward of recent high tide mark
2000	B	Ponte Vedra South	Sawgrass Beach Club	Old Ponte Vedra Condos	26	1	3.8	nest at recent high tide mark
2001	B	Beach Club Dr. South	Sawgrass Beach Club	Old Ponte Vedra Condos	34	2	5.9	partially eroded by Gabrielle- remaining eggs relocated.
TOTAL					167	9	5.4	
1996	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA	
1997	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA	
1998	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA	
1999	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA	
2000	A3	Ponte Vedra South	Old Ponte Vedra Condos	N. Boundary of GRSP	NO DATA	NO DATA	NO DATA	
2001	A3	Old Ponte Vedra	Old Ponte Vedra Condos	N. Boundary of GRSP	5	0	0.0	NA
TOTAL					5	0	0.0	

YEAR	LETTER NAME OF SURVEY ZONE	FWC NAME OF SURVEY ZONE	NORTH SURVEY BOUNDARY	SOUTH SURVEY BOUNDARY	TOTAL NUMBER OF NESTS LAID/YEAR	NUMBER OF RE-LOCATED NESTS	PERCENT OF RELOCATED NESTS	REASONS CITED FOR NEST RELOCATION
1996	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	28	0	0.0	NA
1997	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	30	1	3.3	partial nest washout from nor'easter storm tides
1998	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	55	0	0.0	NA
1999	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	39	4	10.3	2 below mean high tide; 2 exposed by storm erosion
2000	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	54	1	1.9	nest at high tide line
2001	C	Guana River SP	N. Boundary of GRSP	S. Boundary of GRSP	51	0	0.0	NA
TOTAL					257	6	2.3	
1996	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	24	0	0.0	NA
1997	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	24	0	0.0	NA
1998	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	32	0	0.0	NA
1999	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	NO DATA	NO DATA	NO DATA	
2000	D	Ponte Vedra South	S. Boundary of GRSP	Gate Station	NO DATA	NO DATA	NO DATA	
2001	D	Guana River South	S. Boundary of GRSP	Gate Station	36	0	0.0	NA
TOTAL					116	0	0.0	
1996	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA	
1997	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA	
1998	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA	
1999	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA	
2000	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	NO DATA	NO DATA	NO DATA	
2001	A4	Ponte Vedra South	Gate Station	Usinas Beach Ramp	47	4	8.5	roots; traffic; below high tide line
TOTAL					47	4	8.5	
1996	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	14	0	0.0	NA
1997	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	32	4	12.5	nest below high tide line
1998	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	36	6	16.7	nest at high tide line
1999	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	26	0	0.0	NA
2000	E	N. St. Augustine Beach	Usinas Beach Ramp	St. Augustine Inlet	18	0	0.0	NA
2001	E	Vilano Beach	Usinas Beach Ramp	St. Augustine Inlet	36	1	2.8	nest facing row of lighted houses
TOTAL					162	11	6.8	

HABITAT CONSERVATION PLAN
ST. JOHNS COUNTY BEACHES

YEAR	LETTER NAME OF SURVEY ZONE	FWC NAME OF SURVEY ZONE	NORTH SURVEY BOUNDARY	SOUTH SURVEY BOUNDARY	TOTAL NUMBER OF NESTS LAID	NUMBER OF RE-LOCATED NESTS	PERCENT OF RELOCATED NESTS	REASONS CITED FOR NEST RELOCATION
1996	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	14	0	0.0	NA
1997	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	7	0	0.0	NA
1998	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	18	3	16.7	high tide line/heavy pedestrian area; lights at south end
1999	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	12	5	41.7	below high tide line; heavy pedestrian/lights @ S. end of park
2000	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	7	2	28.6	below high tide line
2001	F	Anastasia SP	St. Augustine Inlet	S. Boundary of ASP	6	3	50.0	below high tide line; heavy pedestrian traffic
TOTAL					64	13	20.3	
1996	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	19	2	10.5	laid too close to water
1997	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	23	2	8.7	1 laid too close to water; 1 in line of traffic
1998	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	22	1	4.5	NONE GIVEN
1999	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	19	3	15.8	Corp of Engineers dredging project on beach
2000	G	S. St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	16	2	12.5	too near to water, cars, and people
2001	G	St. Augustine Beach	S. Boundary of ASP	Crescent Beach Ramp	12	3	25.0	below high tide line
TOTAL					111	13	11.7	
1996	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	41	0	0.0	NA
1997	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	36	0	0.0	NA
1998	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	74	0	0.0	NA
1999	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	56	10	17.9	renourishment project S. of Matanzas Inlet
2000	H1+H2	Ft. Matanzas NM	Crescent Beach Ramp	FLAGLER CO. LINE	65	4	6.2	seawall restoration project at Marineland
2001	H1	Ft. Matanzas North	Crescent Beach Ramp	Matanzas Inlet	12	0	0.0	NA
TOTAL					284	14	4.9	
1996	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA	
1997	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA	
1998	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA	
1999	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA	
2000	H2	Ft. Matanzas NM	Matanzas Inlet	Flagler County Line	NO DATA	NO DATA	NO DATA	
2001	H2	Ft. Matanzas South	Matanzas Inlet	Flagler County Line	21	6	28.6	renourishment project S. of Matanzas Inlet
TOTAL					21	6	28.6	

Table 4-5

Potential Vehicular Impacts to Sea Turtles on Beaches Managed by St. Johns County.

Life History Stage	Type of Impact	Impact Description
Adult Sea Turtles	Direct	Vehicles might run into or over nesting females.
		Vehicle headlights might frighten turtles from the beach or deter others from emerging from the ocean.
	Indirect	Vehicles might degrade nesting habitat.
		Vehicles might compact sediments.
Sea Turtle Eggs	Direct	Vehicles might run over nests and crush eggs.
	Indirect	Vehicles might compact sediments over a nest and thereby affect gas exchange within the egg chamber.
		Vehicles might deposit contaminants (e.g., oil, coolants, etc.) on the sand that may affect the incubation environment.

Life History Stage	Type of Impact	Impact Description
Sea Turtle Hatchlings	Direct	Vehicles might compact sediments over a nest and impede hatchling emergence
		Vehicles might run over hatchlings as they migrate from the nest to sea.
		Vehicle headlights may disorient hatchlings as they travel from the nest to sea.
	Indirect	Vehicles may leave ruts that impede a timely migration from the nest to sea.
Stranded Sea Turtles	Direct	Vehicles may run over a live stranded turtle.
Washback Post-hatchlings	Direct	Vehicles may run over a live washback post-hatchling sea turtle.

Table 4-6

Potential Vehicular Impacts to Anastasia Island Beach Mice on Beaches Managed by St. Johns County.

Life History Stage	Type of Impact	Impact Description
Juvenile or Adult Anastasia Island Beach Mice	Direct	Vehicles might run over juveniles or adults.
		Vehicle headlights might frighten or disrupt nocturnal activities of juveniles or adults.
		Vehicles might run over and crush burrows.
	Indirect	Vehicles might degrade habitat.
		Vehicles might deposit contaminants (e.g., oil, coolants, etc.) on the sand that may affect foraging beach mice.
		Vehicles bring people to remote beaches far from portable toilets or public restroom facilities, and people relieve themselves in the dunes.

Table 5-1

**Best Available Historical Record of Take of Sea Turtles or Sea Turtle Nests
due to Vehicles or Vehicular Activities Occurring along the Beaches of St. Johns County in the HCP Plan Area.**

Date of Incident	Time of Incident	Location of Incident 1. Point on map [#1 choice]. 2. Vicinity on map [#2 choice]. 3. Combination of the following data points [#3 choice]: a. FWC Turtle Survey Zone b. Driving Zone 4X4: [G R Marsh Aq Pr – Vilano Ramp VILANO: Vilano Ramp – Porpoise Pt. ST.AUG.BCH: A St. – Crescent Bch Ramp CRESCENT: Crescent Bch Ramp – Matanzas Inlet	Observer of Take 1. Name 2. Affiliation	Documentation of Take 1. Type of Documentation 2. Name 3. Date	Description of Take 1. Direct quote from incident record. 2. Summary of incident.	Number	Number	What the take lethal or sublethal? 1. LETHAL: Resulted in death. 2. SUBLETHAL: Resulted in harm or potential harm.	Specific Act(s) that Constitute a Take as defined in the Endangered Species Act ¹ ¹ ESA 3(18) defines “take” as “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”	Source and Date of this Information for this HCP 1. Method of data transfer. 2. Person that received data. 3. Person that supplied data. 4. Date that data was transferred.
						Species	Species			
						Life Stage of SEA TURTLES Involved 1. Egg/Embryo 2. Pre-emergence hatchling 3. Post-emergence hatchling 4. Adult	Incubation Phase of SEA TURTLE NESTS Involved Qualitative 1. Early 2. Mid 3. Late			
1991 (No data on exact date)	DUSK, NIGHT or DAWN (anecdotal evidence)	Anastasia State Park	No data	Phone Logs between Heather McCarthy (<i>Senior Scientist, EAI</i>) and Paul Crawford (<i>Park Manager, ASP, since July 1990</i>) on January 31, 2002 and J.B. Miller (<i>Park Biologist, ASP, since about 1998</i>) on February 1, 2002.	One hatchling from unmarked nest that presumably emerged around dawn was found run over by a vehicle.	1	NA	Lethal	Killing	Personal communication between Heather McCarthy (<i>Senior Scientist, EAI</i>) and Paul Crawford (<i>Park Manager</i>) on January 31, 2002 and J.B. Miller (<i>District Park Biologist</i>) on February 1, 2002.
						Leatherback	NA			
						Post-emergence Hatchling	NA			
July 11, 1994	DUSK, NIGHT or DAWN (anecdotal evidence)	South Ponte Vedra, “300 yards south of preserve,” presumed to be Guana River Marsh Aquatic Preserve	Carol A. Houston (<i>sea turtle nest monitor</i>)	Signed affidavit by Carol A. Houston on August 23, 1994 mailed to Sandy MacPherson (<i>Sea Turtle Recovery Coordinator, USFWS Jacksonville</i>)	Fresh nest run over by vehicle(s) before nest was marked, and excavation for relocation revealed 15 out of a total of 30 eggs “were crushed and destroyed.”	15	One	Lethal	Killing, Harming, Harassing	Fax from Sandy MacPherson (<i>National Sea Turtle Coordinator, USFWS Jacksonville</i>) to Heather McCarthy (<i>Senior Scientist, EAI</i>) on May 1, 2002.
						No data	No data			
						Eggs/Embryos	Early incubation-nest laid night before.			
July 17, 1994	DUSK, NIGHT or DAWN (anecdotal evidence)	“Approximately ¼ mile north of St. Augustine Inlet in front of Fiddler’s Green Restaurant at 2750 Anahana Drive”	Jenna Clark (<i>St. Johns County lifeguard</i>)	FWC Marine Turtle Hatchling Disorientation Incident Report Form filed by Evelyn Stauber signed on September 2, 1994 with supporting letter signed by Jenna Clark on August 24, 1994.	“These turtles had appeared to be run over by some sort of vehicle” (<i>excerpt from letter by Jenna Clark</i>)	5	NA	Lethal	Killing	Fax from Jan Brewer (<i>Environmental Manager, St. Johns County</i>) to Heather McCarthy (<i>Senior Scientist, EAI</i>) on May 2, 2002.
						No data	NA			
						Post-emergence Hatchling	NA			

Date of Incident	Time of Incident	Location of Incident 1. Point on map [#1 choice]. 2. Vicinity on map [#2 choice]. 3. Combination of the following data points [#3 choice]: a. FWC Turtle Survey Zone b. Driving Zone 4X4: [G R Marsh Aq Pr – Vilano Ramp VILANO: Vilano Ramp – Porpoise Pt. ST.AUG.BCH: A St. – Crescent Bch Ramp CRESCENT: Crescent Bch Ramp – Matanzas Inlet	Observer of Take 1. Name 2. Affiliation	Documentation of Take 1. Type of Documentation 2. Name 3. Date	Description of Take 1. Direct quote from incident record. 2. Summary of incident.	Number	Number	What the take lethal or sublethal? 1. LETHAL: Resulted in death. 2. SUBLETHAL: Resulted in harm or potential harm.	Specific Act(s) that Constitute a Take as defined in the Endangered Species Act ¹ ¹ ESA 3(18) defines “take” as “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”	Source and Date of this Information for this HCP 1. Method of data transfer. 2. Person that received data. 3. Person that supplied data. 4. Date that data was transferred.
						Species	Species			
						Life Stage of SEA TURTLES Involved 1. Egg/Embryo 2. Pre-emergence hatchling 3. Post-emergence hatchling 4. Adult	Incubation Phase of SEA TURTLE NESTS Involved Qualitative 1. Early 2. Mid 3. Late			
July 23, 1994	NIGHT: 11:30pm – 11:45pm	a. “near the Vilano Ramp” b. “Vilano Ramp 0.1 mile north of St. Augustine Inlet”	a. St. Johns County Wildlife Care workers b. Anne W. Andrews (St. Johns Wildlife Care)	a. Newspaper article in the <i>St. Augustine Record</i> authored by Franceska Hanley on July 26, 1994. b. FWC Marine Turtle Hatchling Disorientation Incident Report Form by Anne W. Andrews signed on August 1, 1994.	a. About 20 vehicles, perhaps in violation of night driving ban, (NOTE: This activity is not authorized by St. Johns County) ran over about 29 emergent hatchlings. b. “The Sheriff called at 11:30 PM because hatchlings were crawling up the ramp and getting run over.	29	NA	Lethal	Killing	a. Fax from Sandy MacPherson (<i>National Sea Turtle Coordinator, USFWS Jacksonville</i>) to Heather McCarthy (<i>Senior Scientist, EAI</i>) on May 1, 2002. b. Disorientation Form mailed to Heather McCarthy (<i>Senior Scientist, EAI</i>) from Meghan Conti (<i>Environmental Specialist, FWC Tequesta</i>) on May 3, 2002.
						Loggerhead	NA			
						Post-emergence Hatchling	NA			
August 13, 1994	DUSK, NIGHT or DAWN (<i>anecdotal evidence</i>)	1.5 miles north of Vilano Ramp	Evelyn D. Stauber (<i>FWC Marine Turtle Principal Permit Holder</i>)	FWC Marine Turtle Hatchling Disorientation Incident Report Form filed by Evelyn D. Stauber signed on August 23, 1994 and accompanying letter by Evelyn D. Stauber signed on August 23, 1994.	One emergent hatchling from marked nest found in tire track, presumably run over by vehicle sometime during the night before.	1	NA	Lethal	Killing	Fax from Sandy MacPherson (<i>National Sea Turtle Coordinator, USFWS Jacksonville</i>) to Heather (<i>Senior Scientist, EAI</i>) on May 1, 2002.
						No data	NA			
						Post-emergence Hatchling	NA			
August 14, 1994	DUSK, NIGHT or DAWN (<i>anecdotal evidence</i>)	1.5 miles north of Vilano Ramp	Evelyn D. Stauber (<i>FWC Marine Turtle Principal Permit Holder</i>)	FWC Marine Turtle Hatchling Disorientation Incident Report Form filed by Evelyn Stauber signed on August 23, 1994 and accompanying letter by Evelyn D. Stauber signed on August 23, 1994.	One emergent hatchling from marked nest found in tire track, presumably run over by vehicle sometime during the night before.	1	NA	Lethal	Killing	Fax from Sandy MacPherson (<i>National Sea Turtle Coordinator, USFWS Jacksonville</i>) to Heather McCarthy (<i>Senior Scientist, EAI</i>) on May 1, 2002.
						No data	NA			
						Post-emergence Hatchling	NA			

Date of Incident	Time of Incident	Location of Incident	Observer of Take	Documentation of Take	Description of Take	Number	Number	What the take lethal or sublethal?	Specific Act(s) that Constitute a Take as defined in the Endangered Species Act ¹	Source and Date of this Information for this HCP
						Species	Species			
						Life Stage of SEA TURTLES Involved	Incubation Phase of SEA TURTLE NESTS Involved			
August 17, 1994	DUSK, NIGHT or DAWN (anecdotal evidence)	"Approximately ¼ mile north of St. Augustine Inlet in front of Fiddler's Green Restaurant at 2750 Anahana Drive"	Jenna Clark (St. Johns County lifeguard)	FWC Marine Turtle Hatchling Disorientation Incident Report Form filed by Evelyn Stauber signed on September 2, 1994.	"One hatchling run over by a vehicle"	1	NA	Lethal	Killing	Fax from Sandy MacPherson (National Sea Turtle Coordinator, USFWS Jacksonville) to Heather McCarthy (Senior Scientist, EAI) on May 1, 2002.
						Loggerhead	NA			
						Post-emergence Hatchling	NA			
September 8, 1995	DUSK, NIGHT or DAWN (anecdotal evidence)	"Butler Beach"	Evelyn D. Stauber (FWC Marine Turtle Principal Permit Holder)	1995 Sea Turtle Nesting Survey Forms with data collected by Evelyn Stauber between June 1, 1995 and October 12, 1995.	"No evaluation due to high water, rain, and cars running over it" [the nest].	NA	1	Sublethal	Harassing, Harming	Fax from Evelyn Stauber (FWC PPH) to Heather McCarthy (Senior Scientist, EAI) on February 4, 2002.
						NA	Loggerhead			
						NA	No data			
June 14, 1996	DAWN	Crescent Beach (Zone A, INBS)	Andrew Rich (U.S. Park Ranger, FNM and FWC Marine Turtle Principal Permit Holder)	Nesting Report Form	"Turtle encountered deep vehicle ruts 6" where a vehicle had become stuck, the turtle crawled around ruts and nested."	1	NA	Sublethal	NA	Emailed data spreadsheet from Andrew Rich (U.S. Park Ranger, FWC PPH) to Heather McCarthy (Senior Scientist, EAI) on May 10, 2002.
						Loggerhead	NA			
						Adult	NA			
June 23, 1996	DUSK, NIGHT or DAWN (anecdotal evidence)	"3096 Coastal Highway, approximately 1.2 miles north of St. Augustine Inlet"	Diane Reed (FWC Marine Turtle Principal Permit Holder)	FWC Marine Turtle Hatchling Disorientation Incident Report Form filed by Diane Reed signed on June 30, 1996.	"Found staked nest that had been run over by a vehicle-photographed and restaked nest- there did not appear to be damage to the nest site or nest cavity"	NA	1	Sublethal	Harassing, Harming	Mailed from Meghan Conti (Environmental Specialist, FWC Tequesta) to Heather McCarthy (Senior Scientist, EAI) on January 28, 2002.
						NA	No data			
						NA	No data			

Date of Incident	Time of Incident	Location of Incident 1. Point on map [#1 choice]. 2. Vicinity on map [#2 choice]. 3. Combination of the following data points [#3 choice]: a. FWC Turtle Survey Zone b. Driving Zone 4X4: [G R Marsh Aq Pr – Vilano Ramp VILANO: Vilano Ramp – Porpoise Pt. ST.AUG.BCH: A St. – Crescent Bch Ramp CRESCENT: Crescent Bch Ramp – Matanzas Inlet	Observer of Take 1. Name 2. Affiliation	Documentation of Take 1. Type of Documentation 2. Name 3. Date	Description of Take 1. Direct quote from incident record. 2. Summary of incident.	Number	Number	What the take lethal or sublethal? 1. LETHAL: Resulted in death. 2. SUBLETHAL: Resulted in harm or potential harm.	Specific Act(s) that Constitute a Take as defined in the Endangered Species Act ¹ ¹ ESA 3(18) defines “take” as “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”	Source and Date of this Information for this HCP 1. Method of data transfer. 2. Person that received data. 3. Person that supplied data. 4. Date that data was transferred.
						Species	Species			
						Life Stage of SEA TURTLES Involved 1. Egg/Embryo 2. Pre-emergence hatchling 3. Post-emergence hatchling 4. Adult	Incubation Phase of SEA TURTLE NESTS Involved Qualitative 1. Early 2. Mid 3. Late			
July 28, 1999	DAWN	Old A1A Summer Haven	Samantha Stytzer (<i>Biology Intern, FMNM</i>)	Nesting Report Form	“Two hatchlings from nest on 6/2/99 Old A1A nest #9 found dead in tire ruts, report was filed with U.S. Fish and Wildlife Service [sic] deaths were a result of beach renourishment equipment creating tire ruts in the beach.” (NOTE: This activity is not authorized by St. Johns County)	2	NA	Could not be determined if the vehicle ran over the hatchlings or if the hatchlings were trapped by rut and desiccated.	Harassing, Harming, Trapping, or Killing	Microsoft Excel file entitled “FMNM_Repro Success_1999.xls” emailed from Andrew Rich (<i>U.S. Park Ranger, FWC PPH</i>) to Heather McCarthy (<i>Senior Scientist, EAI</i>) on February 20, 2002. Emailed data spreadsheet from Andrew Rich to Heather McCarthy on May 10, 2002.
						Loggerhead	NA			
						Post-emergence Hatchlings	NA			
No data	DUSK, NIGHT or DAWN (<i>anecdotal evidence</i>)	FWC Survey Zones of Guana River South and South Ponte Vedra (between Guana River State Park and Usina Beach Ramp)	No data	Phone Logs between Heather McCarthy (<i>Senior Scientist, EAI</i>) and Sandy Stam (<i>FWC Marine Turtle Principal Permit Holder</i>) on January 31, 2002.	Live hatchlings found trapped (not run over) in tire ruts on the beach.	“Probably about 4 to 5 per year”	NA	Sublethal	Harassing, Trapping, and Harming	Personal communication between Heather McCarthy (<i>Senior Scientist, EAI</i>) and Sandy Stam (<i>FWC PPH</i>) on January 31, 2002 (further details were not available—original field notebooks have been discarded by PPH.)
						No data	NA			
						Post-emergence Hatchlings	NA			
June 14, 2000	DUSK, NIGHT or DAWN (<i>anecdotal evidence</i>)	Guana River State Park	Bert Charest (<i>Park Biologist, GRSP, October 1992 through 2000</i>)	FMRI Loggerhead Nest Productivity Form, Guana River State Park, 1999-2000.	Nest “run over by truck 6/14.” Nest was laid on May 29, 2000 and had an emergence date of August 1, 2000.	NA	1	Sublethal	Harassing, Harming	Microsoft Excel file entitled “guana.productivity.1999-2000.xls” emailed to Heather McCarthy (<i>Senior Scientist, EAI</i>) sent from Anne Meylan (<i>Research Scientist, FMRI St. Petersburg</i>) on January 30, 2002.
						NA	Loggerhead			
						NA	Very early incubation- eight days after nest was laid			

Date of Incident	Time of Incident	Location of Incident 1. Point on map [#1 choice]. 2. Vicinity on map [#2 choice]. 3. Combination of the following data points [#3 choice]: a. FWC Turtle Survey Zone b. Driving Zone 4X4: [G R Marsh Aq Pr – Vilano Ramp VILANO: Vilano Ramp – Porpoise Pt. ST.AUG.BCH: A St. – Crescent Bch Ramp CRESCENT: Crescent Bch Ramp – Matanzas Inlet	Observer of Take 1. Name 2. Affiliation	Documentation of Take 1. Type of Documentation 2. Name 3. Date	Description of Take 1. Direct quote from incident record. 2. Summary of incident.	Number	Number	What the take lethal or sublethal? 1. LETHAL: Resulted in death. 2. SUBLETHAL: Resulted in harm or potential harm.	Specific Act(s) that Constitute a Take as defined in the Endangered Species Act ¹ ¹ ESA 3(18) defines “take” as “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”	Source and Date of this Information for this HCP 1. Method of data transfer. 2. Person that received data. 3. Person that supplied data. 4. Date that data was transferred.
						Species	Species			
						Life Stage of SEA TURTLES Involved 1. Egg/Embryo 2. Pre-emergence hatchling 3. Post-emergence hatchling 4. Adult	Incubation Phase of SEA TURTLE NESTS Involved Qualitative 1. Early 2. Mid 3. Late			
August 18, 2002	NIGHT or DAWN (anecdotal evidence) (Turtle found at 6:45 AM.)	“1.6 miles north of Matanzas Inlet” LATITUDE: 29° 43.482 LONGITUDE: 81° 14.066	Andrew Rich (U.S. Park Ranger, FNM and FWC Marine Turtle Principal Permit Holder)	FWC Sea Turtle Stranding Report Form signed by Andrew Rich on August 18, 2002 with accompanying photographs.	“Hatchling turtle crushed on beach. Hatchling most likely came from a nest located directly west of the dead turtle. This nest is numbered “Index #8” on our survey beach, TP#031. This nest had its primary emergence the previous night or morning of the incident. Vehicle tracks over turtle and condition of turtle seem to indicate death was a result of vehicle driving on the beach.”	1	NA	Lethal	Killing	Fax from Sandy MacPherson (National Sea Turtle Coordinator, USFWS Jacksonville) to Heather McCarthy (Senior Scientist, EAI) on August 22, 2002.
						Loggerhead	NA			
						Post-emergence Hatchlings	NA			
August 18, 2002	NIGHT or DAWN (anecdotal evidence) (Turtles found at 7:50 AM.)	“0.6 miles north of Matanzas Inlet—Fort Matanzas National Monument” LATITUDE: 29° 42.831 LONGITUDE: 81° 13.733	Andrew Rich (U.S. Park Ranger, FNM and FWC Marine Turtle Principal Permit Holder)	FWC Sea Turtle Stranding Report Form signed by Andrew Rich on August 18, 2002 with accompanying photographs.	“Hatchling turtles crushed on beach. Hatchlings most likely came from a nest located directly west of the dead turtles. This nest is numbered “Index #9” on our survey beach, TP#031. This nest had its primary emergence the previous night or morning of the incident. Turtles run over by vehicle traffic on the beach at Fort Matanzas National Monument.”	5	NA	Lethal	Killing	Fax from Sandy MacPherson (National Sea Turtle Coordinator, USFWS Jacksonville) to Heather McCarthy (Senior Scientist, EAI) on August 22, 2002.
						Loggerhead	NA			
						Post-emergence Hatchlings	NA			
						43 hatchlings	Post-emergence Hatchlings Run Over and Killed.			
						1 nest (with 15 eggs crushed)	Nests Run Over and Eggs/Embryos Crushed and Killed.			
						3 nests	Nests Run Over with No or Unknown Damage to Eggs/Embryos/Hatchlings.			
						2 hatchlings (dead) + and an additional 4-5 hatchlings (live) per year	Hatchlings Trapped (live or dead) in Tire Ruts.			

Table 6-1

Annual Take Assessment under the HCP in Volusia County, Florida.

Year	Number of Sea Turtle Nests	Number of Vehicles on the Beaches between April-Sept.	Hatchlings Run Over by Vehicles	Unmarked Nests Run Over by Vehicles	Marked Nests Run Over by Vehicles	Live Hatchlings Documented to Traverse Tire Ruts to Ocean	INCIDENTS OF TAKES RECORDED
1997	346	1.16 million	0	0	0	9 incidents (unknown number of hatchlings)	0 DIRECTLY LETHAL 9 SUBLETHAL
1998	538	Over 1 million	3 hatchling emerged in daytime and run over by public vehicle	0	0	3 incidents (unknown number of hatchlings)	3 DIRECTLY LETHAL 3 SUBLETHAL
1999	628	Over 1 million	2 hatchlings run over during early morning (perhaps by nighttime operation of official vehicles)	1	0	4 incidents (unknown number of hatchlings)	2 DIRECTLY LETHAL 4 SUBLETHAL 1 UNKOWN
2000	620	1.24 million	0	0	0	9 incidents (unknown number of hatchlings)	0 DIRECTLY LETHAL 9 SUBLETHAL
2001	448	1.14 million	1 hatchling disoriented at ramp and run over by public safety vehicle	0	0	3 incidents (unknown number of hatchlings)	1 DIRECTLY LETHAL 3 SUBLETHAL
Total	513	Over 5.5 million	6	1	0	28 incidents (unknown number of hatchlings)	6 DIRECTLY LETHAL 28 SUBLETHAL 1 UNKOWN

Table 7-1

**Temporal Distribution of Loggerhead Hatchling Emergence Events from
Natural Nests on Melbourne Beach, Florida.**

Time Period	Percent of Loggerhead Hatchling Emergence Events Occurring during this Time Period	Sunrise and Sunset
Before 7:00 PM	0	<i>Sunset occurred between 7:45 – 8:14 PM.</i>
Before 8:00 PM	0.6	
Before 9:00 PM	3.2	
Before 10:00 PM	12.7	
10:00 PM – 5:00 AM	86.0	
After 5:00 AM	1.3	<i>Sunrise occurred between 6:43 – 7:02 AM.</i>
After 6:00 AM	0.6	
After 7:00 AM	0	
After 8:00 AM	0	

Source: Witherington, Bjourndal, and McCabe 1990.

Table 7-2

Earliest and Latest Nest Dates and Expected Hatchling Emergence Dates in St. Johns County, 1988-2001.

Year	Earliest Loggerhead Nest Date	Latest Loggerhead Nest Date	Latest Expected Loggerhead Hatchling Emergence Date ¹	Earliest Green Nest Date	Latest Green Nest Date	Latest Expected Green Hatchling Emergence Date ¹	Earliest Leather-back Nest Date	Latest Leather-back Nest Date	Latest Expected Leatherback Hatchling Emergence Date ¹
1988	May 22	Aug 18	Oct 14	June 23	July 3	Aug 29	June 7	July 13	Sept 14
1989	May 18	Sept 23	Nov 19						
1990	May 5	Sept 2	Oct 29						
1991	May 9	July 30	Sept 25						
1992	May 15	Aug 19	Oct 15						
1993	May 10	Aug 21	Oct 17	Aug 12	Aug 13	Oct 9	April 18	May 20	July 22
1994	May 4	Sept 2	Oct 29	May 6	Sept 14	Nov 10			
1995	May 9	Aug 12	Oct 8	May 31	June 21	Aug 17			
1996	May 15	Aug 18	Oct 14	June 27	Aug 22	Oct 18			
1997	May 9	Aug 19	Oct 15	May 20	July 10	Sept 5	June 26	June 26	Aug 28
1998	May 19	Aug 16	Oct 12	June 16	Aug 17	Oct 13			
1999	May 3	Aug 20	Oct 16				May 15	June 13	Aug 15
2000	May 1	Sept 1	Oct 28	June 4	Aug 15	Oct 11			
2001	May 1	Sept 14	Nov 10	June 8	July 16	Sept 11	June 19	July 11	Sept 12

¹ The expected date of hatchling emergence for loggerhead, green, and leatherback turtles was determined by adding the average incubation period for each species to the latest nest date. The average incubation period was calculated using the 2001 reproductive success data reported by the PPHs to FWC. The average incubation period was 57 days for loggerhead and green turtles and 63 days for leatherbacks. Incubation periods can vary on annual, seasonal, and spatial scales, however raw data from the PPHs was not available to calculate more accurate incubation periods.

Sources: Meylan *et al.* 1995 for 1988-1992 data and FWC *unpublished data* 2002 for 1993-2001 data.

Table 7-3

The 2001 Procedures Used by the FWC Marine Turtle Principal Permit Holders to Mark Nests in St. Johns County.

Beach Survey Zone	Length km (miles)	FWC Marine Turtle Principal Permit Holder	Daily Start Time	Daily End Time	Seasonal Start Date	Seasonal End Date	Procedures for Nest Marking during 2001 Nesting Season
North Ponte Vedra	3.9 km (2.4 mi)	Sandy Stam	Usually 6-9 AM; Average 7:30 AM	Usually an hour or more after Start Time	May 1	Around Labor Day, then checked existing nests only	Marked all nests with barricade of 4 stakes connected with orange flagging tape and FWC Sea Turtle Nest sign (Stam <i>pers. comm.</i> 19 Sept 2001).
Beach Club Drive North	3.0 km (1.8 mi)						
Beach Club Drive South	5.9 km (3.7 mi)	Robert Stoll	5:30- 6 AM, depends on sunrise	Usually finish by 8 AM	First week of May	When last nest emerged	Marked all nests with one stake and FWC Sea Turtle Nest sign. Marked every third nest with 4 stakes: 1 stake landward of nest on beach, 1 stake landward of nest in dune, 2 stakes at 45 degree angles from nest clutch in dune (Stoll <i>pers. comm.</i> 20 Sept 2001).
Old Ponte Vedra	1.7 km (1.0 mi)	Sandy Stam	Same as Sandy Stam's areas above.				
Guana River State Park	6.8 km (4.2 mi)	J.B. Miller	8:30 AM <i>[Note: During 2002, new Park Biologist begins earlier (Owen pers. comm. 2002).]</i>	15 minutes to 1 hour after Start Time	First week of May; Officially May 15 for INBS	Officially August 15 for INBS; Sometimes monitored after August 15	Marked all nests with one stake landward of nest in the dune. Marked some nests with 3 stakes connected by flagging tape (Dickson <i>pers. comm.</i> 18 Sept 2001).
Guana River South	5.1 km (3.1 mi)	Sandy Stam	Same as Sandy Stam's areas above.				
South Ponte Vedra	8.0 km (5.0 mi)		<i>[Note: During 2002, Guana River South is listed under the permit of J.B. Miller and monitored by the Park Biologist at GRSP.]</i>				
Vilano Beach	4.5 km (2.8 mi)	Peter Lardner	6:00 AM	6:45-7 AM	First or second week of May	Mid-August	Marked all nests with 4 stakes connected by flagging tape (Lardner <i>pers. comm.</i> 20 Sept 2001).
Anastasia State Park	7.2 km (4.5 mi)	J.B. Miller	About 6:30 AM, depends on sunrise	About 7:30 AM	May 1	When last nest emerged	Marked all nests with 1 stake, FWC Sea Turtle Nest sign, and self-releasing in situ cage (Wamser <i>pers. comm.</i> 19 Sept 2001). <i>[Note: During 2002, cages will not be used (Miller pers. comm. 2002).]</i>
St. Augustine Beach	10.1 km (6.3 mi)	Evelyn Stauber	Usually 6-9 AM	30 min- 1 hour after Start Time	May 15	Officially August 15 (some volunteers continued all nests emerged)	Marked all nests with 4 stakes connected by flagging tape (Stauber <i>pers. comm.</i> 20 Sept 2001).
Fort Matanzas North	7.5 km (4.6 mi)	Andrew Rich	7:00 AM	Usually by 9:00 AM	Officially May 15 for INBS (unless earlier for renourishment)	Officially August 31 for INBS; Often ended in October	Typically did not mark nests. Marked only nests in heavy beach driving areas with stakes connected by flagging tape (Parker <i>pers. comm.</i> 18 Sept 2001). <i>[Note: During 2002, marks all nests with stakes connected by flagging tape in 10-ft radius (Rich pers. comm. 2002).]</i>
Fort Matanzas South	4.1 km (2.6 mi)						

Table 8-1

General Funding Sources for HCP Programs and Policies.

Funding Source	User Group	Approximate Proportion of Contribution	Guidelines for Types of HCP Programs to be Funded
Category III Tourist Development Tax	Beach Visitors and Tourists	1/3	Public awareness materials; horseback riding registration program
General Fund	Taxpayers of St. Johns County	1/3	Beach Lighting Management Program; support of Sea Turtle Nest Monitoring Plan
Beach Toll Revenue	Beach Drivers	1/3	Rut Removal Plan; all programs and materials required for implementation of HCP beach driving policies, such as barricades, signage, mounted trash receptacles, marking traffic lanes and Conservation Zone.

**Table 8-2
Proposed HCP Budget**

Minimization Measures		Recommended Funding Source	Associated Costs	Alternative Measures
	HCP Coordinator	Beach Fund & General Fund	1x full time position at \$30,056 \$30,056 + Personal Services = \$40,743 Operating expenses at \$6,500 Contractual Services \$35,000 <i>Total Estimated Expense = \$82,243</i>	
7.2.1	Restricting public vehicular beach access to the hours between 8:00 AM and 8:00 PM from May 1 through October 31.	Beach Fund	4 LG Zone Units Clearing beach within zones commencing 1830 to 2030 hours. Two individuals per patrol unit: 4(2 x \$11.08 p/hr + 2 x 9.59 p/hr) x 184 days = \$30,176 \$30,176 + Personal Services = \$34,144 Signage \$600 / Communications \$1,470 Vehicle Expenses = \$4,500 / Estimated Expense \$40,714 Current Expenditures = \$14,546 / <i>Increase of \$26,168</i>	Note 7.2.6 Alternative 1 additional Code Enforcement HCP Ranger 1700 to 2100 hrs 1(4 x 11.08) x 184 days = \$8,096 + Personal Services = \$9,161 Vehicle Expenses = \$200 <i>Total Estimated Expense = \$9,361</i>
7.2.2	Installing & Maintaining Traffic Barricades	Beach Fund	Ongoing expense regardless of HCP status. No additional expenditure requirements over current beach management practices.	
7.2.3	Reducing the length of beaches from 14.7 miles to proposed 10.2 miles	Beach Fund	Signage north of Vilano Ramp estimated at \$900.00 Signage at Fort Matanzas estimated at \$120.00 <i>Total Estimated Expense = \$1,020.00</i>	

Minimization Measures		Recommended Funding Source	Associated Costs	Alternative Measures
7.2.4	Development and implementation of rut removal program	Beach Fund	1 x (4x4) ATV \$5,300 Rut Removal Device \$250 Vehicle Expenses \$400 1 x Driver commencing June 17 through October 31 from 1830 to 2030 hrs (sliding scale schedule) 2 x \$7.54 p/hr x 137 days = \$2,055 \$2,055 + Personal Services = \$2,325 <i>Total Estimated Expense = \$8,275</i>	Note: 7.2.6 Alternative Rut Removal Device \$250 <i>Total Estimated Expense = \$250</i>
7.2.5	Monitoring & Conspicuous marking of all sea turtle nests in the plan area	General Fund	Supported and administered by HCP Coordinator Materials \$500 <i>Total Estimated Expense = \$500</i>	
7.2.6	Increased and dedicated enforcement of beach driving policies and procedures	Beach Fund	Estimate provided by Sheriff's Office \$331,200 Current Expenditures = \$142,448 / Increase of \$220,000 * Note Attached Proposal	4 Code Enforcement HCP Rangers (2 on North Beach + 2 on South Beach Staggered shift 0800 – 1700 hrs & 1200 – 2100 hrs commencing May 1 through October 31) (4 x 11.08 p/hr) x 184 days = \$65,231 + Personal Services = \$73,809 4 x (4x4) ATV \$21,200 Vehicle Expenses \$2,500 Communications \$960 Operating Supplies \$150 <i>Total Estimated Expenditures = \$98,619</i>

Minimization Measures		Recommended Funding Source	Associated Costs	Alternative Measures
7.2.7	Developing and distributing of public awareness materials	TDC Category III	Educational Brochures to all purchasers of Beach Passes \$14,000 Educational brochures to hotel/motel/chamber \$3,000 <i>Total Estimated Expense = \$17,000</i>	
7.2.8	Elevating trash receptacles on posts along public driving areas	Beach Fund	125 Posts supporting 250 trash receptacles <i>Total Estimated Expense = \$6,250</i>	
7.2.9	Increased Enforcement of existing Conservation Zone	Beach Fund	Note 7.2.6 Place post for trash receptacles along conservation zone Signage for post \$900 <i>Total Estimated Expense = \$900</i>	

Mitigation Measures		Recommended Funding Source	Associated Costs	Alternative Measures
7.3.1	Develop proactive beach lighting management program, including St. Augustine Beach	General Fund	Encompassed within Proposed Beach Lighting Officer proposed in 2003 budget process estimated at \$10,334 Used 4x4 Vehicle & associated expenses \$18,400 Operating Supplies \$3,500 <i>Total Estimated Expense = \$32,234</i>	
7.3.2	Develop a horseback riding registration program	TDC Category III	Training Program (web based/hard copy) Minimal Cost Registration Cards & Kiosks \$1,200 Enforcement: Note 7.2.6 <i>Total Estimated Expense = \$1,200</i>	
7.3.3	Restrict Porpoise Point vehicular access to allow re-establishment of natural dune features	Beach Fund	Marking traffic corridor from porpoise point ramp to St. Augustine inlet including marking of 30 foot conservation zone Enforcement: Note 7.2.6 <i>Total Estimated Expense = \$1,500</i>	
			Total Estimated Expense: \$397,290	\$251,077
			Total Minus Capital Outlay: \$370,740	\$208,627

Fund Account	Designation	2003 Proposed Budget
134	Sheriff's Beach Patrol	\$62,000
135	City of St. Augustine Beach – Beach Patrol	\$58,000
136	Lifesaving Corps	\$457,415
137	Beach Services	\$132,799
138	Beach Toll Collections	\$290,493
***	Habitat Conservation Plan	\$251,077 – \$397,290
	TOTAL	\$1,251,784 - \$1,397,997

Revenue Sources	2003 Estimated Revenue
Beach Access Fees	\$980,000
ASRA Contract	\$29,500
General Fund	\$21,000
TOTAL	\$1,030,500

Primary Revenue Sources:

1. Beach Toll Collections
2. TDC Category III
3. General Fund

Additional Revenue Sources:

1. Off-Beach Parking
2. Special Event Permit Fees
3. Code Violations

Table 9-1

Schedule of HCP Implementation Activities.

Activity	Information/Materials Furnished to USFWS	Deadline for Completion ¹
Advertise for HCP Coordinator, Beach Lighting Officer, and Beach Rangers	Copies of job descriptions as advertised	Upon issuance of ITP
Hire HCP Coordinator and Beach Lighting Officer, and Beach Rangers	Copies of resumes	3 months
Prepare appropriate ordinance amendments	Copies of ordinance amendments	1 month
Restricting public vehicular access to the beaches between 5:00 AM and 10:00 PM between May 15 and October 15	NA	Upon passage of appropriate ordinance amendments (Target: 3 Months)
Increased and dedicated enforcement of beach driving policies and procedures	NA	Upon issuance of ITP
Increased enforcement of existing Conservation Zone regulations	NA	Upon issuance of ITP
Installation of traffic barricades at beach ramps that will effectively restrict non-authorized vehicles from accessing the beach	Copies of procedures and maintenance schedules	3 months

**Table 9-1
(Continued)**

Activity	Information/Materials Furnished to USFWS	Deadline for Completion ¹
Installation of appropriate signage and barricades to reduce the length of beach upon which public vehicles are allowed to operate	Copies of procedures and maintenance schedules	3 months
Develop public awareness material regarding driving regulations and protected species' issues	Copy of draft flier for review and approval	1 year
Distribution of public awareness material	NA	3 months following USFWS approval
Meeting to standardize sea turtle nest monitoring activities among PPHs	Notification of meeting	2 months
Develop Countywide Sea Turtle Nest Monitoring Plan	Copy of Sea Turtle Nest Monitoring Plan for review and approval	4 months
Initiation of Countywide Sea Turtle Monitoring Program	NA	During first full nesting season following USFWS approval of Monitoring Program ²
Develop Rut Removal Plan	Copy of Rut Removal Plan for review and approval	1 month ³
Implement Rut Removal Plan	NA	During first full nesting season following USFWS approval of Rut Removal Plan
Develop proactive Beach Lighting Management Program	Copy of Beach Lighting Management Program for review and approval	6 months
Implement proactive Beach Lighting Management Program (BLMP)	NA	First full nesting season following USFWS approval of BLMP

Table 9-1
(Continued)

Activity	Information/Materials Furnished to USFWS	Deadline for Completion ¹
Elevate trash receptacles, thereby demarking Conservation Zone along public driving areas within AIBM habitat (i.e. Anastasia Island)	Copies of procedures and maintenance schedules	8 months
Develop Horseback Riding Monitoring Program	Copy of Horseback Riding Monitoring Program for review and approval	10 months
Initiate Horseback Riding Monitoring Program	NA	1 year
Apply for additional funding for additional research and/or monitoring programs	Names of individuals and/or agencies involved, goals, methods, locations, authorizations, as appropriate, and time allocations	9 months
HCP budgets for current and/or next fiscal years	Proposed budgets for HCP programs for current and/or next fiscal years	3 months
Unforeseen circumstances not specifically addressed in HCP having potentially significant impacts on sea turtles and/or AIBM	Description of the event/situation, geographic and temporal extent to which the beach is affected, and the potential for impacts to sea turtles, AIBM, and/or other protected species in the Plan Area	5 business days following unforeseen circumstance
Annual Report	Data summary and HCP program evaluation	March 31 of each year (commencing with March 31 following the first nesting season that the HCP is in effect)

Table 9-1
(Continued)

Activity	Information/Materials Furnished to USFWS	Deadline for Completion ¹
Develop standard operating procedures for responding to daytime nesting and hatchling events	Copies of procedures for review and approval	3 months
Implement standard operating procedures for responding to daytime nesting and hatchling events	NA	6 months
Develop beach driving management plan for Summer Haven	Copies of procedures for review and approval	4 months
Implement beach driving management plan for Summer Haven	NA	8 months
Formal HCP Review	Review and evaluation of HCP programs and sea turtle and AIBM protection measures	Annually for the first 3 years and every 5 years thereafter
HCP updates	Revisions to reflect USFWS-approved changes to HCP programs	Every 5 years

¹ All deadlines are from date of issuance of ITP, unless otherwise specified.

² Marking and barricading of all sea turtle nests will commence upon issuance of the ITP.

³ The proposed Plan will be implemented upon issuance of the ITP, and any required changes will be phased in over a 60-day period following USFWS approval.

**APPENDIX C. ST. JOHNS COUNTY DIVISION OF BEACH MANAGEMENT NORTH
BEACH VEHICULAR ACCESS PERMIT APPLICATION**

**St. Johns County
Division of Beach Management**

**North Beach Vehicular Access
Permit Application**

1. NAME, ADDRESS AND TELEPHONE NUMBER OF INDIVIDUAL APPLYING FOR NORTH BEACH VEHICULAR PERMIT: _____

2. VEHICLE INFORMATION:

Name on Registration	Tag Number	Vehicle Make	Vehicle Model	Vehicle color

3. IS THE VEHICLE ALL-WHEEL OR 4-WHEEL DRIVE? _____

4. WHAT IS THE INTENDED PURPOSE FOR VEHICULAR ACCESS TO NORTH BEACH?

- A. FISHING () YES () NO
- B. SUNBATHING () YES () NO
- C. SWIMMING () YES () NO
- D. SURFING () YES () NO
- E. OTHER (_____) () YES () NO

5. AS THE PERMIT HOLDER I UNDERSTAND THAT IT SHALL BE PROHIBITED FOR ME TO:

- A. Transfer the permit from one vehicle, operator, or owner to another vehicle, operator, or owner;
- B. Operate the permitted vehicle on any portion of the beach other than the driving area;
- C. Operate the permitted vehicle on the beach at a speed of more than ten miles per hour;
- D. Park or operate the permitted vehicle on the beach at any time other than the hours established herein;
- E. Park or operate the permitted vehicle on the beach between the hours of 10:00 p.m. and 5:00 a.m. from May 15, of each year, through October 15, of each year;
- F. Operate the permitted vehicle so as to pass any other motor vehicle (moving in the same direction), except under circumstances indicating that such other vehicle is in a temporarily disabled condition;
- G. Park or operate the permitted vehicle in the conservation zone (15 feet seaward from the seaward toe of the most seaward dune, dune scarp, sea wall, or line of permanent vegetation, or half the distance to the mean high-water level, whichever is the lesser).

- H. Park the permitted vehicle on any portion of the beach other than in the parking area;
- I. Cause the permitted vehicle to enter or exit the beach other than through an open vehicular approach;
- J. Cause the permitted vehicle to enter the beach without having paid the required vehicular access fee;
- K. Fail to obey any directive of a beach ranger, PSA, or law enforcement officer authorized under the provisions of the Beach Code;
- L. Intentionally cause sand to be thrown into the air or across any beach area;
- M. Operate a horn except for a bonafide safety purpose.

Furthermore, I understand that, at all times, I shall yield the right-of-way to pedestrians, and shall take such precautions as may be necessary before parking, or before moving the permitted vehicle previously parked, to avoid accident or collision with or injury to any persons or property.

In addition, I understand that soft sand and extreme tidal conditions may limit vehicle access. As the permit holder it shall be my responsibility to promptly remove the permitted vehicle should it succumb to the sand and/or tides. It shall also be my responsibility to fill in any holes left during the removal of said vehicle.

Finally, I understand that any violation to the aforementioned activities including any violation to the St. Johns County Beach Code may lead to a citation and the immediate revocation of my permit.

Printed Name of Applicant

Signature of Applicant

Date

Permit Issued By

Date

Permit Number

Expiration Date

APPENDIX D. FLORIDA NATURAL AREAS INVENTORY OF RARE PLANTS AND ANIMALS WITHIN THE HCP PLAN AREA, ST. JOHNS COUNTY, FLORIDA

FLORIDA NATURAL AREAS INVENTORY

1018 Thomasville Road, Suite 200-C, Tallahassee, FL 32303 (850) 224-8207

April, 1998
Page 1**St. Johns County Summary**
Rare Species and Natural Communities

Occurrence		Global	State	Federal	State	
Scientific Name	Common Name	Rank*	Rank*	Status*	Status*	Status†
FISH						
<i>Acipenser brevirostrum</i>	shortnose sturgeon	G3	S1	LE	LE	C
<i>Acipenser oxyrinchus oxyrinchus</i>		G3T7	S1	N	N	C
<i>Agonostomus monticola</i>	mountain mullet	G5	S3	N	N	C
<i>Ameiurus brunneus</i>	snail bullhead	G4	S3	N	N	P
<i>Awaous tajasca</i>	river goby	G5	S1S2	N	N	P
<i>Microphis brachyurus</i>	opossum pipefish	G5	S2	N	N	C
<i>Notropis cummingsae</i>	dusky shiner	G5	S4	N	N	P
<i>Petromyzon marinus</i>	sea lamprey	G5	SA	N	N	C
AMPHIBIANS						
<i>Notophthalmus perstriatus</i>	striped newt	G2G3	S2S3	N	N	P
<i>Rana capito</i>	gopher frog	G4	S3	N	LS	P
REPTILES						
<i>Alligator mississippiensis</i>	American alligator	G5	S4	T(S/A)	LS	C
<i>Caretta caretta</i>	loggerhead	G3	S3	LT	LT	C
<i>Chelonia mydas</i>	green turtle	G3	S2	LE	LE	C
<i>Clemmys guttata</i>	spotted turtle	G5	S3?	N	N	C
<i>Crotalus adamanteus</i>	eastern diamondback rattlesnake	G5	S3	N	N	C
<i>Dermochelys coriacea</i>	leatherback	G3	S2	LE	LE	C
<i>Drymarchon corais couperi</i>	eastern indigo snake	G4T3	S3	LT	LT	C
<i>Gopherus polyphemus</i>	gopher tortoise	G3	S3	N	LS	C
<i>Lepidochelys kempii</i>	Kemp's ridley	G1	S1	LE	LE	P
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	G5T3?	S3	N	LS	C
BIRDS						
<i>Accipiter cooperii</i>	Cooper's hawk	G4	S3?	N	N	P
<i>Aimophila aestivalis</i>	Bachman's sparrow	G3	S3	N	N	P
<i>Ajaia ajaja</i>	roseate spoonbill	G5	S2S3	N	LS	P
<i>Aramus guarana</i>	limpkin	G5	S3	N	LS	P
<i>Ardea alba</i>	great egret	G5	S4	N	N	C
<i>Charadrius melodus</i>	piping plover	G3	S2	LT	LT	C
<i>Egretta caerulea</i>	little blue heron	G5	S4	N	LS	C
<i>Egretta thula</i>	snowy egret	G5	S4	N	LS	P
<i>Egretta tricolor</i>	tricolored heron	G5	S4	N	LS	C
<i>Elanoides forficatus</i>	swallow-tailed kite	G4	S2S3	N	N	C
<i>Eudocimus albus</i>	white ibis	G5	S4	N	LS	C
<i>Falco columbarius</i>	merlin	G5	SU	N	N	P
<i>Falco peregrinus</i>	peregrine falcon	G4	S2	LE	LE	P
<i>Falco sparverius paulus</i>	southeastern American kestrel	G5T3T4	S3?	N	LT	P
<i>Haematopus palliatus</i>	American oystercatcher	G5	S3	N	LS	P
<i>Haliaeetus leucocephalus</i>	bald eagle	G4	S3	LT	LT	C
<i>Ixobrychus exilis</i>	least bittern	G5	S4	N	N	P
<i>Laterallus jamaicensis</i>	black rail	G4	S3?	N	N	P
<i>Mycteria americana</i>	wood stork	G4	S2	LE	LE	C

FLORIDA NATURAL AREAS INVENTORY

1018 Thomasville Road, Suite 200-C, Tallahassee, FL 32303 (850) 224-8207

April, 1998

Page 2

St. Johns County Summary
Rare Species and Natural Communities

Occurrence		Global	State	Federal	State	
Scientific Name	Common Name	Rank*	Rank*	Status*	Status*	Status†
<i>Nyctanassa violacea</i>	yellow-crowned night-heron	G5	S3?	N	N	P
<i>Nycticorax nycticorax</i>	black-crowned night-heron	G5	S3?	N	N	P
<i>Pandion haliaetus</i>	osprey	G5	S3S4	N	LS**	P
<i>Pelecanus occidentalis</i>	brown pelican	G4	S3	N	LS	P
<i>Picoides borealis</i>	red-cockaded woodpecker	G3	S2	LE	LT	P
<i>Picoides villosus</i>	hairy woodpecker	G5	S3?	N	N	P
<i>Plegadis falcinellus</i>	glossy ibis	G5	S2	N	N	P
<i>Rynchops niger</i>	black skimmer	G5	S3	N	LS	P
<i>Sterna antillarum</i>	least tern	G4	S3	N	LT	C
<i>Sterna caspia</i>	Caspian tern	G5	S2?	N	N	P
<i>Sterna maxima</i>	royal tern	G5	S3	N	N	C
<i>Sterna sandvicensis</i>	sandwich tern	G5	S2	N	N	P
<u>MAMMALS</u>						
<i>Corynorhinus rafinesquii</i>	Rafinesque's big-eared bat	G3	S3?	N	N	P
<i>Eubalaena glacialis</i>	black right whale	G1	S1	LE	LE	C
<i>Mustela frenata olivacea</i>	southeastern weasel	G5T4	S3?	N	N	P
<i>Mustela vison lunisus</i>	Atlantic salt marsh mink	G5T3	S2	N	N	C
<i>Neofiber alleni</i>	round-tailed muskrat	G3	S3	N	N	P
<i>Peromyscus polionotus phasma</i>	Anastasia beach mouse	G5T1	S1	LE	LE	C
<i>Podomys floridanus</i>	Florida mouse	G3	S3	N	LS	P
<i>Sciurus niger shermani</i>	Sherman's fox squirrel	G5T2	S2	N	LS	P
<i>Sorex longirostris longirostris</i>	southeastern shrew	G5T5	S4	N	N	P
<i>Trichechus manatus</i>	manatee	G2?	S2?	LE	LE	C
<i>Ursus americanus floridanus</i>	Florida black bear	G5T2	S2	C	LT**	C
<u>VASCULAR PLANTS</u>						
<i>Adiantum tenerum</i>	brittle maidenhair fern	G5	S3	N	LE	R
<i>Asclepias viridula</i>	southern milkweed	G2	S2	N	LT	C
<i>Baptisia calycosa var calycosa</i>	Canby's wild indigo	G2T1	S1	N	N	C
<i>Calamovilfa curtissii</i>	Curtiss' sandgrass	G3	S3	N	LT	R
<i>Calydorea coelestina</i>	Bartram's ixia	G2	S2	N	LE	C
<i>Chamaesyce cumulicola</i>	sand-dune spurge	G2	S2	N	LE	C
<i>Cheiroglossa palmata</i>	hand fern	G4	S2	N	LE	R
<i>Ctenium floridanum</i>	Florida toothache grass	G2	S2	N	N	C
<i>Glandularia maritima</i>	coastal vervain	G3	S3	N	LE	C
<i>Hedyotis nigricans var pulvinata</i>	narrow-leaved bluets	G5T1Q	S1	N	N	C
<i>Helianthus carnosus</i>	lake-side sunflower	G1G2	S1S2	N	LE	C
<i>Litsea aestivalis</i>	pondspice	G3	S2	N	LE	C
<i>Monotropsis reynoldsiae</i>	pigmy pipes	G1Q	S1	N	LE	C
<i>Nemastylis floridana</i>	fall-flowering ixia	G2	S2	N	LE	C
<i>Nolina atopocarpa</i>	Florida beargrass	G3	S3	N	LT	C
<i>Pteroglossaspis ecristata</i>	wild coco	G2G3	S2	N	LT	C
<i>Pycnanthemum floridanum</i>	Florida mountain-mint	G3	S3	N	N	C
<i>Rhynchospora punctata</i>	pineland beakrush	G1?	S1?	N	N	C
<i>Rudbeckia nitida</i>	St. John's Susan	G1G2	S1S2	N	LE	C
<i>Ruellia noctiflora</i>	white-flowered wild petunia	G2G3	S2	N	LE	C

FLORIDA NATURAL AREAS INVENTORY

1018 Thomasville Road, Suite 200-C, Tallahassee, FL 32303 (850) 224-8207

April, 1998

Page 3

St. Johns County Summary
Rare Species and Natural Communities

Occurrence		Global	State	Federal	State	
Scientific Name	Common Name	Rank*	Rank*	Status*	Status*	Status†
<i>Spiranthes polyantha</i>	green ladies'-tresses	G3G5	S1S2	N	LE	R
<i>Verbesina heterophylla</i>	variable-leaf crownbeard	G2	S2	N	N	C
<u>NATURAL COMMUNITIES</u>						
Basin Swamp		G4?	S3	N	N	C
Baygall		G4?	S4?	N	N	C
Beach Dune		G4?	S2	N	N	C
Coastal Grassland		G3	S2	N	N	C
Coastal Interdunal Swale		G3	S2	N	N	C
Coastal Strand		G3?	S2	N	N	C
Depression Marsh		G4?	S3	N	N	C
Dome Swamp		G4?	S3?	N	N	C
Estuarine Tidal Marsh		G4	S4	N	N	C
Floodplain Swamp		G?	S4?	N	N	C
Hydric Hammock		G?	S4?	N	N	C
Maritime Hammock		G4	S2	N	N	C
Mesic Flatwoods		G?	S4	N	N	C
Sandhill		G2G3	S2	N	N	C
Scrubby Flatwoods		G3	S3	N	N	C
Scrub		G2	S2	N	N	C
Xeric Hammock		G?	S3	N	N	C
<u>OTHER</u>						
Bird rookery				N	N	C

* See attached *FNAI Rank Explanations* sheet for definitions of Global and State Ranks, and State and Federal Status** See attached *FNAI Rank Explanations* sheet, *Special Animal Listings - State and Federal Status* section

† COUNTY OCCURRENCE STATUS

Vertebrates and Invertebrates:

C = (Confirmed) Occurrence status derived from a documented record in the FNAI data base.

P = (Potential) Occurrence status derived from a reported occurrence for the county, or the occurrence lies within the published range of the taxon.

N = (Nesting) For sea turtles only; occurrence status derived from documented nesting occurrences.

Plants, Natural Communities, and Other:

C = (Confirmed) Occurrence status derived from a documented record in the FNAI data base or from a herbarium specimen.

R = (Reported) Occurrence status derived from published reports.

Florida Natural Areas Inventory Rank Explanations

July 2000

FEDERAL AND STATE LEGAL STATUSES

Provided by FNAI for information only.
For official definitions and lists of protected species, consult the relevant state or federal agency.

FEDERAL LEGAL STATUS

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

- LE Endangered: species in danger of extinction throughout all or a significant portion of its range.
- LT Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
- E(S/A) Endangered due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
- T(S/A) Threatened due to similarity of appearance (see above).
- PE Proposed for listing as Endangered species.
- PT Proposed for listing as Threatened species.
- C Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
- XN Non-essential experimental population.
- MC Not currently listed, but of management concern to USFWS.
- N Not currently listed, nor currently being considered for listing as Endangered or Threatened.

FLORIDA LEGAL STATUSES

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

- LE Endangered: species, subspecies, or isolated population so few or depleted in number or so restricted in range that it is in imminent danger of extinction.
- LT Threatened: species, subspecies, or isolated population facing a very high risk of extinction in the future.
- LS Species of Special Concern is a species, subspecies, or isolated population which is facing a moderate risk of extinction in the future.
- PE Proposed for listing as Endangered.
- PT Proposed for listing as Threatened.
- PS Proposed for listing as Species of Special Concern.
- N Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505.

- LE Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
- LT Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
- PE Proposed for listing as Endangered.
- PT Proposed for listing as Threatened.
- N Not currently listed, nor currently being considered for listing.

*Florida Natural Areas Inventory Rank Explanations**July 2000***GLOBAL AND STATE RANKS**

Florida Natural Areas Inventory (FNAI) defines an element as any rare or exemplary component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature. FNAI assigns two ranks to each element found in Florida: the **global rank**, which is based on an element's worldwide status, and the **state rank**, which is based on the status of the element within Florida. Element ranks are based on many factors, including estimated number of occurrences, estimated abundance (for species and populations) or area (for natural communities), estimated number of adequately protected occurrences, range, threats, and ecological fragility.

GLOBAL RANK DEFINITIONS

- G1 Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or human factor.
- G2 Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or human factor.
- G3 Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals), or found locally in a restricted range, or vulnerable to extinction from other factors.
- G4 Apparently secure globally (may be rare in parts of range).
- G5 Demonstrably secure globally.
- GH Occurred historically throughout its range, but has not been observed for many years.
- GX Believed to be extinct throughout range.
- GXC Extirpated from the wild but still known from captivity or cultivation.
- G#? Rank uncertain (e.g., G2?).
- G#G# Range of rank; insufficient data to assign specific global rank (e.g., G2G3)
- G#T# Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species, and the T portion refers to the subgroup; T# has same definition as G#.
- G#Q Ranked as species but there is some question as to whether it is a valid species.
- G#T#Q Same as above, but validity as subspecies or variety is questioned.
- GU Global rank unknown; due to lack of information, no rank or range can be assigned.
- G? Temporarily not ranked.

STATE RANK DEFINITIONS

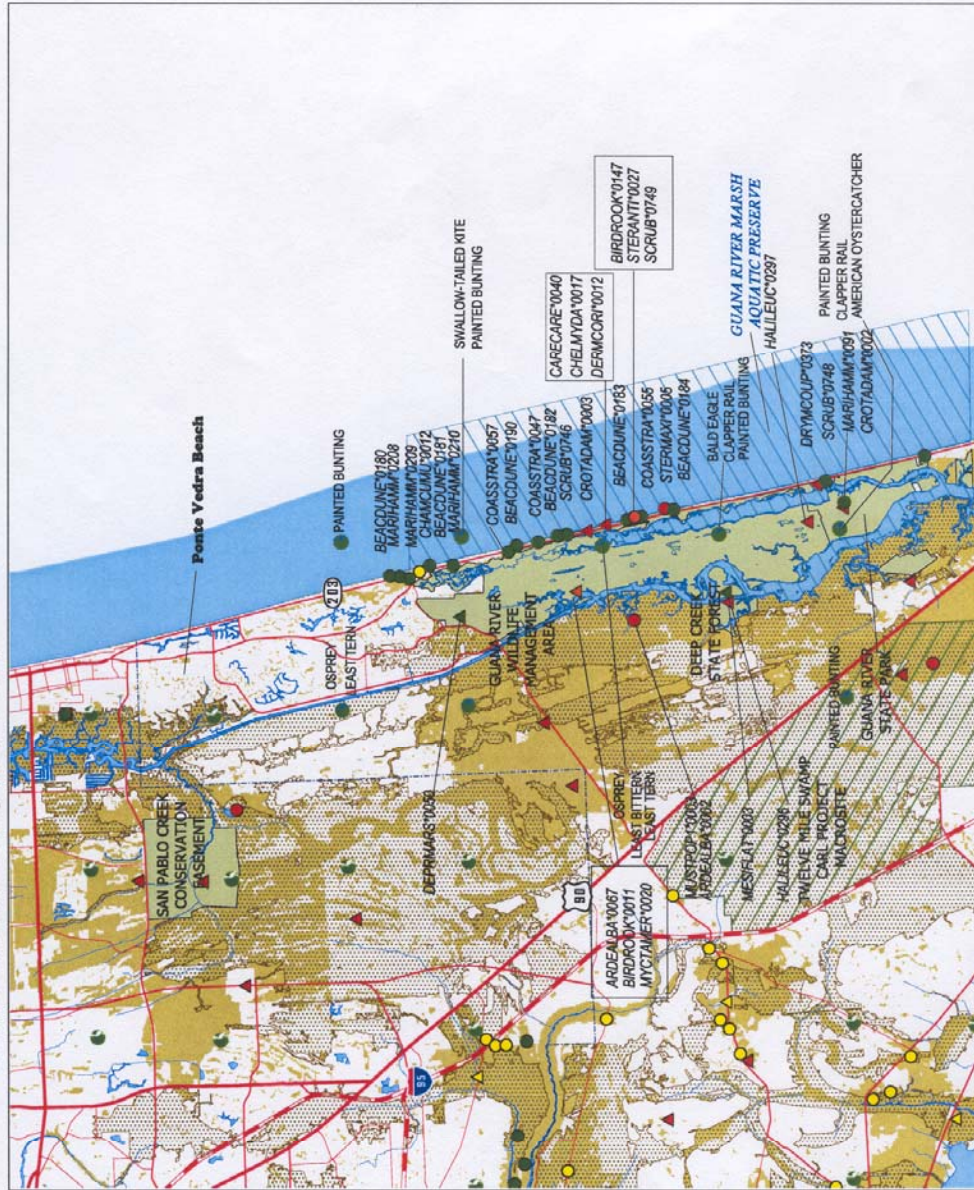
State ranks (S#) follow the same system and have the same definitions as global ranks, except they apply only to Florida, with the following additions:

- SA Accidental in Florida and not part of the established biota.
- SE Exotic species established in Florida (may be native elsewhere in North America).
- SX Believed to be extirpated from state.

1018 Thomasville Road, Suite 200-C
Tallahassee, FL 32303
(850) 224-8207

Florida Natural Areas Inventory

Coast of St. Johns County (Map 1 of 2)



LEGEND

Element Occurrences:
 sec min gen
 ● ▲ ▲ ▲ ▲
 ● ▲ ▲ ▲ ▲
 ● ▲ ▲ ▲ ▲
 ● ▲ ▲ ▲ ▲
 ● ▲ ▲ ▲ ▲
 ● ▲ ▲ ▲ ▲

Managed Areas:
 FL Game & Fresh Water Fish Breeding Bird Atlas Project
 US Fish & Wildlife Service Scrub Jay Survey
 Federal
 State
 Local
 Private
 Aquatic Preserves

Land Acquisition Projects:
 Conservation and Recreation Lands (CARL) 2000 Projects

Non-managed Natural Areas:
 Potential Natural Areas
 FNAI Potential Habitat for Rare Species

Principal highways
 Secondary highways
 Local roads
 County boundaries
 Water

0 1 2 3 4 5 Miles

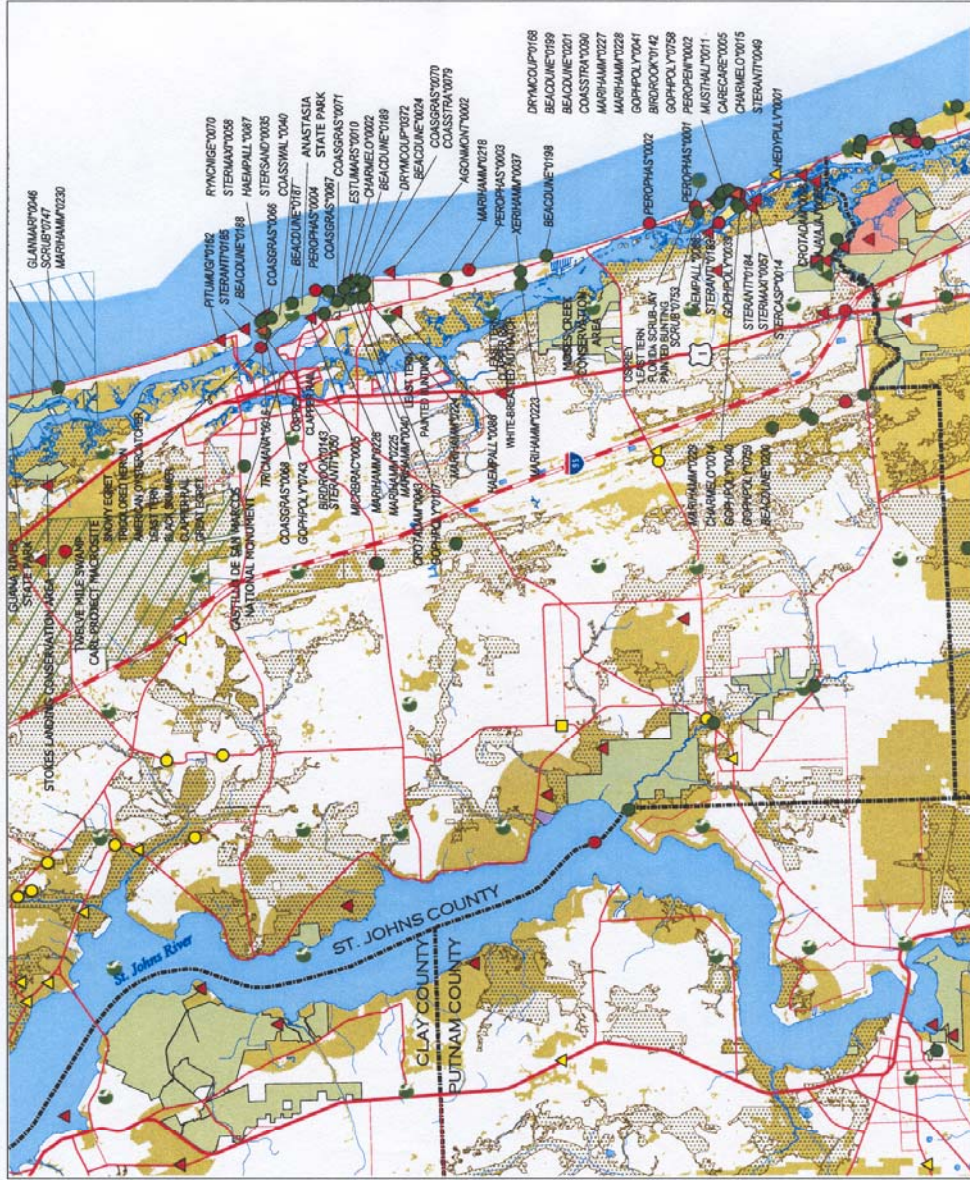
NOTE: Map should not be interpreted without accompanying documents.

Prepared by J. Gething
 16 October 2001
 Data Source: FNAI 03/01

1018 Thomasville Road, Suite 200-C
Tallahassee, FL 32303
(850) 224-8207

Florida Natural Areas Inventory

Coast of St. Johns County (Map 2 of 2)



NOTE: Map should not be interpreted without accompanying documents.

LEGEND

Element Occurrences:
Precision: sec min gen

- Animals: Red square, Red triangle, Red circle
- Plants: Yellow square, Yellow triangle, Yellow circle
- Natural Communities: Green square, Green triangle, Green circle
- Other: Orange square, Orange triangle, Orange circle

FL Game & Fresh Water Fish
Breeding Bird Atlas Project
US Fish & Wildlife Service
Scrub Jay Survey

Managed Areas:

- Federal: Yellow box
- State: Light green box
- Local: Orange box
- Private: Purple box
- Aquatic Preserves: Blue hatched box

Land Acquisition Projects:

- Conservation and Recreation Lands (CARL) 2000 Projects: Green hatched box

Non-managed Natural Areas:

- Potential Natural Areas: Yellow hatched box
- FNAI Potential Habitat for Rare Species: Brown hatched box

Principal highways: Red double line
Secondary highways: Red dashed line
Local roads: Red solid line
County boundaries: Dashed line
Water: Blue area

Prepared by J. Oetting
16 October 2001
Data Source: FNAI 03/01

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL BANK	STATE BANK	FEDERAL STATUS	STATE STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
AGONMONT'0002	AGONOSTOMUS MONTICOLA	MOUNTAIN MULLET	G5	S3	N	N	1989-08-03	NO GENERAL DESCRIPTION GIVEN	4 SPECIMENS COLLECTED (UF-006924).
AJAJAJA'0065	AJAJA AJAJA	ROSEATE SPOONBILL	G5	S23	N	LS	1980-06-26	Total marsh	1990-06-26: J.A. Howis, GFC - observed 19 adults; Brian Peters from Ft. Meigs National Monument reports spoonbills have been in this area for the past couple of months.
ARDEALBA'0002	ARDEA ALBA	GREAT EGRET	G5	S4	N	N	1976-06-17	FRESH WATER MARSH, NESTING SUBSTRATES INCLUDE CYPRESS AND BROADLEAF TREES (> 7 M).	AERIAL SURVEY OF 10 NESTS, FLYING OR FLEDGED YOUNG PRESENT 1976-06-17; NOT PRESENT 1977-04; ROOKERY UNUSED 1978.
ARDEALBA'0067	ARDEA ALBA	GREAT EGRET	G5	S4	N	N	1978-08	CYPRESS DOME AREA SURROUNDING DOME DOMINATED BY PINES AND PALMETTOS; NESTING SUBSTRATE IS CYPRESS AND BUSHES OVER WATER.	25-35 PAIRS IN 7/78; 12 PAIRS IN 8/78.
BEACDUNE'0024	BEACH DUNE		G47	S2	N	N	1984	WELL DEVELOPED DUNES, ACCRETING TO N. ERODING IN S. SEA OATS PLATEAU AND BLUFF FACE - BROAD BEACH WITH BICYCLES ALONG IT. NO CARS ON BEACH. HIGH SHELL CONTENT.	SEA OATS, BEACH ELDER, & SALT MEADOW CORD GRASS.
BEACDUNE'0180	BEACH DUNE		G47	S2	N	N	1991-10-19		UNIOLA PANICULATA-45%; SPARTINA PATENS-5%; VA IMBRICATA-10%; SABAL PALMETTO-1%; YUCCA ALCOFOLIA-1%; SPOROBOLUS VIRGINICUS-3%; HYDROCOTYLE BONARIENSIS-5%; IPOMOEA STOLONIFERA-2%; ORUNTHIA STRICTA 1%; ATRIPLEX PENTANDRA (DEAD)-1%.
BEACDUNE'0181	BEACH DUNE		G47	S2	N	N	1991-10-19	SMALL 1-3' DUNE FOLLOWED BY A 25-30' STABLE DUNE RIDGE - FRONT EDGE IS DOMINATED BY SEA OATS. (SPECIES LIST IN EODATA IS FOR SMALLER DUNE.) SMALL WOODEN FENCE ON SEWARD EDGE OF SMALL DUNE IN SOME AREAS. DNR SEA OATS RESTORATION.	SEAWARD 'PIONEER' ZONE: SPOROBOLUS VIRGINICUS-A; HYDROCOTYLE BONARIENSIS-C; VA IMBRICATA (IN PATCHES)-O; HETEROHECA SUBAXILLARIS-O; ATRIPLEX PENTANDRA-A; CHAMAESYCE BOMBENSIS-O, FIRST DUNE (1-3' TALL); UNIOLA PANICULATA-A; SPARTINA PATENS-LA; HETEROH

10/16/2001
1

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL STATE RANK	FEDERAL STATE RANK	STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
BEACDUNE'0182	BEACH DUNE		G47	S2	N	1991-10-18	35' BLUFF WITH GRASSY SEAWARD FACE AND 30 M GRASSY "PLATEAU" AT BASE. NARROW SHELLY BEACH WITH DRIFT TO BASE OF SEA OATS. NO SIGN OF EROSION FROM RECENT NORTHEASTERS THAT HIT JACKSONVILLE BCH.	SEA OATS (UNOLA PANICULATA) DOMINANT; BEACH CORDGRASS (SPARTINA PATENS) DOMINANT IN DIP AT BASE OF BLUFF. CENCHRUS STOLONIFERA COMMON AT CREST OF BLUFF; ATRIPLEX PENTANDRA OCCASIONAL ON DRIFTLINE (DEAD); IVA IMBRICATA SCATTERED THRO
BEACDUNE'0183	BEACH DUNE		G47	S2	N	1991-10-19	SEA OATS ON 30' BLUFF AND 30 M PLATEAU SEAWARD.	UNOLA PANICULATA-70%; HETEROTHECA SUBAXILLARIS-10%; IVA IMBRICATA-10%; SPOROBOLUS VIRGINICUS-5%; IPOMOEA STOLONIFERA; SPARTINA PATENS-25%; CHAMAESYCE BOMBENSIS-1%; POMOPSIS RUBRA03-2%; ORLINTIA STRICTA-1%; CROTON PUNCTATUS-5%.
BEACDUNE'0184	BEACH DUNE		G47	S2	N	1991-10-18	BEACH DUNE CURVING UP INTO A LARGE (40') DUNE RIDGE STABILIZED BY DUNE VEGETATION ON THE SEAWARD EDGE (DOMINATED BY SEA OATS AND BEACH CORDGRASS) AND STRAND VEGETATION ON TOP (RED BAY, MYRTLE OAK, YAUPON AND OTHERS).	COCODOMINANTS: UNOLA PANICULATA, SPARTINA PATENS; LOCALLY ABUNDANT: TRIPULIS PURPUREA; FREQUENT: IVA IMBRICATA; COMMON: HETEROTHECA SUBAXILLARIS, HYDROCOTYLE BONARIENSIS, IPOMOEA STOLONIFERA, CHAMAESYCE BOMBENSIS; OCCASIONAL: ATRIPLEX PENTANDRA, SPOROBOL
BEACDUNE'0187	BEACH DUNE		G47	S2	N	1991-10-20	BEACH DUNE (IN MOUNDS TO 20' TALL WITH ABOUT 60% VEG. COVER) SLOPES DOWN THROUGH A PIONEER VEG. ZONE THEN 50-60 YDS. TO THE WATERS EDGE.	DOMINANT: UNOLA PANICULATA; FREQUENT: HETEROTHECA SUBAXILLARIS; LOCALLY ABUNDANT: CROTON PUNCTATUS, TRIPULIS PURPUREA; COMMON: HYDROCOTYLE BONARIENSIS, IPOMOEA STOLONIFERA, CENCHRUS SP., STROPHOSTYLES HELVOLA; OCCASIONAL: IPOMOEA PES-CARRAE, CHAMAESYCE

10/16/2001
2

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
BEACDUNE*0189	BEACH DUNE		G4?	S2	N N N	1992-04-26	BROAD, FLAT, RECENTLY PROGRADED, BEACH ITORN UP BY VEHICLES WHICH ARE PREVENTING PLANT COLONIZATION AND DISTURBING BIRD NESTING.	THREE DUNE ROWS OF SEA OATS INDICATE RECENT PROGRADATION. SEA OATS SHOW PROGRESSIVELY MORE DEAD STEMS AS ONE MOVES INLAND WHEREAS TELEGRAPH WEED AND EVENING PRIMROSE INCREASE. CAT BRIAR AND TROUGH BUCKTHORN ARE AMONG FIRST INVADERS FROM STRAND COMMUNITY.
BEACDUNE*0200	BEACH DUNE		G4?	S2	N N N	1992-04-25	BEACH DUNE ALONG SOUTH EAST SHORE OF RATTLESNAKE ISLAND N OF RIPRAP.	LOW 3' DUNE OF SEA OATS WITH CROTON PUNCTATUS AND IVA MBRICATA ABUNDANT IN PROGRADING PORTIONS. OTHER SPECIES INCLUDE: PHYSALIS WATERIL, CASSIA CHAMAECRISTA, PANICUM AMARULUM, ATRIPLEX PENTANELRA, SESUVIUM PORTULACAESTRUM.
BEACDUNE*0201	BEACH DUNE		G4?	S2	N N N	1992-04-26	BROAD FLAT BEACH WITH CARS ON IT.	3 ROWS OF 20' TALL SEA OATS DUNES BEHIND BEACH INDICATE RAPID PROGRADATION. WOODY PLANTS (SMILAX, BUNELLIA) INVADING LEE SLOPE OF 3RD DUNE RIDGE. ATRIPLEX AND IVA MBRICATA ON DRIFTLINE.
BIRDROCK*0011	BIRD ROOKERY				N N N	1978-08	CYPRESS DOME AREA SURROUNDING DOME DOMINATED BY PINES & PALMETTOS; NESTING SUBSTRATE IS CYPRESSAND BUSHES OVER WATER.	CATTLE EGRET (300-500 PRS 7/78, 40 PRS 8/78), GREAT EGRET (25-35 PRS 7/78, 12 PRS 8/78), WOOD STORK (25 PRS 7/78; 8 PRS 8/78).
BIRDROCK*0142	BIRD ROOKERY				N N N	1993-05-26	SANDY BEACH.	Active colony: 1987, 1988, 1990-1993 (U87GFC02FLUS); detailed data given in Sierra antillarum EO # 050, 1987-05-07: A TOTAL OF 62 STERNA ANTILLARUM COUNTED (U87CBR01) WITH AN ESTIMATED 31 BREEDING PAIRS IN TWO SUBCOLONIES OF 12 AND 50 BRDS. ALONG CA. 0.

10/16/2001
4

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL STATE RANK	FEDERAL STATE STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
BIRDROOK*0143	BIRD ROOKERY		N	N	1993-05-26	SANDY BEACH.	1993: 05/26 - Hovis reports 6 adults and 2 nests (U87GFC02FLUS). 1988: Nesting began on 02 June and ended on 30 August; 15 nests reported (U87GFC02FLUS). 1987-05-06: AN ESTIMATED 25 PAIRS OF STERNA ANTILLARUM IN COLONY. 1 NEST FOUND (U88OME01FLUS).
BIRDROOK*0147	BIRD ROOKERY		N	N	1993-05-26	COQUINA AND SAND BEACH WITH SEA CATS AND SEA OX-EYE.	1993: 05/26 - Hovis reports 8 adults and 4 young (U87GFC02FLUS) ca. 4.2 miles south of Middel Landing. 1988: 100 PAIRS OF STERNA ANTILLARUM IN COLONY IN 1988 (PND0BER01). 1987: 10 BREEDING PAIRS IN 1987 (U87CBR01).
CARECARE*0005	CARETTA CARETTA	LOGGERHEAD	G3	LT	1980	0.8 KM STRETCH OF ATLANTIC COASTAL BEACH.	NESTING BEACH. 1980: FL DNR RECORDED 3 NESTS IN 0.8 KM STRETCH (AVG. 3.6/100).
CARECARE*0040	CARETTA CARETTA	LOGGERHEAD	G3	LT	1988	COQUINA AND SAND BEACH; CO POSSIBLY ON DEVELOPED PRIVATE BEACH.	BERKE (1988) REPORTED 15 NESTS/CRAWLS.
CHAMCUMU*0012	CHAMAESYCE CUMULICOLA	SAND-DUNE SPURGE	G2	N	1964-10-11	NO GENERAL DESCRIPTION GIVEN	PROSTRATE, FREQUENT IN SAND (FL & FRUIT)
CHARMELO*0002	CHARADRIUS MELODUS	PIPING PLOVER	G3	(LE-LT) LT	1991-01-17	BEACH DUNE, MARINE UNCONSOLIDATED SUBSTRATES (TIDAL SANDFLATS AND MUDFLATS).	WINTERING SITE. 1991 PIPING PLOVER WINTER CENSUS (U92PWS01FL) FOUND 1 BRD IN 8.0 MILE SURVEY. SMALL NUMBERS REGULARLY OBSERVED IN PAST WINTERS (PNDOUT01FL). ON 21 FEB 87 NICHOLLS OBSERVED 6 FORAGING ON EXPOSED MUDFLATS/SANDFLATS BEHIND THE JETTY AND AT

10/16/2001
5

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL STATE		DATE	OBSERVED	DESCRIPTION	COMMENTS
			RANK	STATUS				
CHARMELO0014	CHARADRIUS MELODUS	PIPING PLOVER	G3	S2 (LE-LT)	1991-01-20	1991	BEACH DUNE AND MARINE UNCONSOLIDATED SUBSTRATE.	WINTERING SITE: 1991 PIPING PLOVER WINTER CENSUS (USZFWSD01FL) FOUND 2 BIRDS IN 6.0 MILE SURVEY OF FT. MATANZAS NATIONAL MONUMENT (SEE EO #16). 1987-02-22: TWO CHARADRIUS MELODUS OBSERVED FORAGING WITH A SMALL GROUP OF MULTIPLE SPECIES SHOREBIRDS ON NARROW SANDS
CHARMELO0015	CHARADRIUS MELODUS	PIPING PLOVER	G3	S2 (LE-LT)	1991	1991	BEACH DUNE AND MARINE UNCONSOLIDATED SUBSTRATE (SANDFLATS).	WINTERING SITE: 1991 PIPING PLOVER WINTER CENSUS (USZFWSD01FL) FOUND 2 BIRDS IN 6.0 MILE SURVEY OF FT. MATANZAS NATIONAL MONUMENT (SEE EO #16). 1987-02-22: 4 OBSERVED ROOSTING IN A SMALL CLUMP OF GRASS AMONGST A LARGE GROUP OF SHOREBIRDS (UR7NIC09FL).
CHELMYDA0017	CHELONIA MYDAS	GREEN TURTLE	G3	S2 (LE-LT)	1988	1988	COQUINA AND SAND BEACH, EO POSSIBLY ON DEVELOPED, PRIVATE BEACH.	BERKE (1988) REPORTED 2 NESTS/SCRAWLS.
COASGRAS0066	COASTAL GRASSLAND		G3	S2	1991-10-20	1991-10-20	15-20' DUNES NOT FORMING A CLEAR LINEAR RIDGE/SWALE PATTERN.	TELEGRAPH WEED (HETEROOTHECA SUBAXILLARIS). OTHER SPECIES INCLUDE SEA OATS, UNIOCLA PANICULATA, BEACH MORNING GLORY (POMOEA STOLONIFERA), AND BROOMSEDGE (ANDROPOGON SP).
COASGRAS0087	COASTAL GRASSLAND		G3	S2	1991-10-20	1991-10-20	MAT OF VINES AND HERBS COVERING BACKDUNES AT FORMER TIP OF PENINSULA (OLD BOUNDARY OF STATE PARK) BEFORE JOINED TO CONCH ISLAND.	80-100% COVER: HETEROOTHECA SUBAXILLARIS-50 TO 80%; STOPHOCOTYLE HELVOLA-20 TO 30%; HYDROCOTYLE BONARIENSIS-10 TO 20%; SMILAX AURICULATA-20%; RUBUS SP -10%; OPUNTIA STRICTA-2%; OPUNTIA PLUSILLA-2%; CENCHRUS INCERTUS-5%.

10/16/2001
6

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
COASGRAS*0068	COASTAL GRASSLAND		G3	S2	N N N	1991-10-20	HIGHER AREA COVERED BY MAT OF FORBS. DREDGE SPOIL WITH MANY SHELLS MIXED INTO QUARTZ SAND.	OPEN HERBACEOUS VEGETATION OF ABOUT 75% COVER ON HARDENED SURFACE OF 50% SAND/50% SHELL (DREDGE SPOIL). DOMINANT HERBACEOUS SPECIES ARE BROOMSEDGE (ANDROPOGON VIRGINICUS) AND TELEGRAPH WEED (HETEROTHECA SURBAYLLARIS). SCATTERED CLUMPS OF WOODY SPECIES ARE
COASGRAS*0070	COASTAL GRASSLAND		G3	S2	N N N	1992-04-02	FL.D.O.T. AERIAL ST. JOHNS COUNTY #11, 11/7/88. ERODED AREA - NARROW GRASSY ZONE BEHIND SEA OATS FOREDUNE.	GRASSY AREA WHERE BEACH SAND SPILLED INTO LOW SWALE. BEACH CORDGRASS DOMINANT ON LEE SLOPE OF FOREDUNE; SEASHORE PASPALUM DOMINANT IN FLAT BEHIND DUNE PLUS NUMEROUS HERBACEOUS SPP. SUCH AS PHYLLANTHUS ABNORMALIS, GALLARDA PULCHELLA, VITIS AESTIVALIS, ETC.
COASGRAS*0071	COASTAL GRASSLAND		G3	S2	N N N	1992-04-02	FL.D.O.T. AERIAL ST. JOHNS COUNTY #11, 11/7/88. SPRAY PRUNED OAK SCRUB.	DENSE SPRAY-PRUNED SCRUB FORMING THIN BAND SEAWARD OF HAMMOCK. DOMINATED BY VIRGINIA LIVE OAK PLUS TOUGH BUCKTHORN, YAUPON, AND PATCHY MYRTLE OAK.
COASSTRA*0047	COASTAL STRAND		G37	S2	N N N	1991-10-18	DENSE TALL SHRUB STAND ON INLAND SLOPE OF 30' RIDGE ABOVE BEACH.	PERSEA BORBONIA-60%, ILEX VOMITORIA-35%, SABAL PALMETTO-10%, BUMELIA TENAX-10%, MORWARDA PUNCTATA-2%.
COASSTRA*0055	COASTAL STRAND		G37	S2	N N N	1991-10-19	DENSE SHRUBBY STAND.	PERSEA BORBONIA-50 TO 75%; QUERULUS GEMINATA-5%; VITIS OF AESTIVALIS-5%; BUMELIA TENAX-10%; SABAL PALMETTO-5%; ERYTHRINA HERBACEA-1%; SERENOA REPENS-25%; MIKANIA CORDIFOLIA-5%.

10/16/2001
7

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
COASSTRA'0057	COASTAL STRAND		G3?	S2	N	N	1991-10-18	BEAUTIFUL, LARGELY PRISTINE STRAND COMMUNITY ATOP AND LANDWARD OF A 35' DUNE RIDGE AND RUNNING SOME 6-8 MILES ALONG THE COAST.	SHRUBS-ABUNDANT: PERSEA BORBONIA, ILEX VOMITORIA; LOCALLY ABUNDANT: SERENOA REPENS FREQUENT; SABAL PALMETTO; COMMON: SMILAX AURICULATA, HERBS-COMMON: RUBUS SP., PARTHENOCISSUS QUINQUEFOIA, VITIS SP., OCCASIONAL: CENCHRUS SP.; HETEROTHECA SUBAXILLARIS, DWARFED VIRGINIA LIVE OAK (QUERCUS VIRGINIANA) FORMS SOLID CANOPY 5'-20' TALL WITH 1' OF DEAD TWIGS PROTRUDING ABOVE SURFACE. YAUPON FORMS LOWER CANOPY SEAWARD OF OAKS.
COASSTRA'0079	COASTAL STRAND		G3?	S2	N	N	1992-04-02	FL.D.O.T. AERIAL ST., JOHNS COUNTY #11, 11/1788, OAK STRAND.	
COASSTRA'0080	COASTAL STRAND		G3?	S2	N	N	1992-04-26	DENSE TO SCATTERED WOODY SPECIES SHOWING SPRAY-PRUNED FORM.	COMMON SHRUBS INCLUDE: ILEX VOMITORIA, BUMELIA TENAX, SMILAX AURICULATA, VITIS AESTIVALIS AND JUNIPERUS SILICICOLA. CABBAGE PALMS FEW AND SHORT NEAR A1A. SERENOA REPENS-PATCHES.
COASSWAL'0040	COASTAL INTERDUNAL SWALE		G3	S2	N	N	1991-10-20	15-20' DUNES NOT FORMING A CLEAR LINEAR RIDGE/SWALE PATTERN.	VEGETATED INLAND FROM OCEAN. THOSE NEAREST OCEAN HAVE PLANTS NOT DIFFERENT FROM ADJACENT DUNES: HYDROCOTYLE BONARIENSIS, IPOMOEA STOLONIFERA. FURTHER INLAND THEY ARE DIFFERENTIATED WITH HIGH COVER OF GRASSES AND SEDGES: SPARTINA
CROTADAM'0002	CROTALLUS ADAMANTEUS	EASTERN DIAMONDBACK RATTLESNAKE	G4	S3	N	N	1995-11-03	Coastal area with Interdunal Swale, Maritime Hammock, Coastal Strand, Coastal Scrub, etc.	1995-11-03: One DOR > 4 ft. adult observed (U95CHA03). 1995-10-17: One snake (ca. 2 ft.) observed (U95CHA06). 1995-05-07: 1 juvenile (ca. 1 ft.) DOR on A1A (U95CHA02). 1995-04-21: 1 juvenile (ca. 1 ft.) ACR on dirt road (U95CHA01). 1995-02-16: One snake.

10/16/2001
8

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL STATE		DATE OBSERVED	DESCRIPTION	COMMENTS
			RANK	STATUS			
CROTADAMP0003	CROTALUS ADAMANTEUS	EASTERN DIAMONDBACK RATTLESNAKE	G4	S3 N N	1986-10-05	Coastal Strand (saw palmetto, yaupon, redbay, cabbage palm, scrub oaks).	1995-10-05: 1 DOR observed (U95CHA05). 94-10-07: Juvenile DOR (U94CHA06). 94-06-16: Young snake, ca. 3-3.5 ft. long, observed crossing road from west to east (U94CHA02). One DOR juvenile.
CROTADAMP0043	CROTALUS ADAMANTEUS	EASTERN DIAMONDBACK RATTLESNAKE	G4	S3 N N	1994-08	Maritime Hammock, developed campground.	1989-12-12: Adult ca. 4.5 feet; observed in dunes (U94MOLD1). The light gray area on the Mark Hurd aerial here is an herbaceous basin marsh dominated by <i>Cladium jamaicense</i> , and <i>Spartina bakeri</i> , with lesser abundances of <i>Cephalanthus occidentalis</i> , <i>Panicum cordata</i> , and <i>Panicum hemiltonii</i> . The surrounding uplands ar
CROTADAMP0088	CROTALUS ADAMANTEUS	EASTERN DIAMONDBACK RATTLESNAKE	G4	S3 N N	1988-12-12	NO GENERAL DESCRIPTION GIVEN	BERKE (1988) REPORTED 5 NESTS/CRAWLS.
DEPRMARS0050	DEPRESSION MARSH		G47	S3 N N	1993-09-29	NO GENERAL DESCRIPTION GIVEN	INDIGO OBSERVED BY BARRY MANSELL POST-1970 (MOLER INTERVIEW OF MANSELL, 1981-01-24)
DERMCOOR0012	DERMOCHELYS CORIACEA	LEATHERBACK	G3	S2 LE LE	1988	COQUINA AND SAND BEACH, EO POSSIBLY ON DEVELOPED, PRIVATE BEACH.	INDIGO OBSERVED BY NEIL EICHOLZ (GFC) 1970 (MOLER INTERVIEW OF N. EICHOLZ, 1982-04-19). MUSEUM SPECIMEN: FMNH 8899, 24 APR 1920 FROM ANASTASIA ISLAND.
DRYMCOLP0168	DRYMARCHON CORAIS COUPERI	EASTERN INDIGO SNAKE	G473	S3 LT LT	1970->	NO GENERAL DESCRIPTION GIVEN	INDIGO OBSERVED BY NEIL EICHOLZ (GFC) 1970 (MOLER INTERVIEW OF N. EICHOLZ, 1982-04-19). MUSEUM SPECIMEN: FMNH 8899, 24 APR 1920 FROM ANASTASIA ISLAND.
DRYMCOLP0372	DRYMARCHON CORAIS COUPERI	EASTERN INDIGO SNAKE	G473	S3 LT LT		NO GENERAL DESCRIPTION GIVEN	INDIGO OBSERVED BY BARRY MANSELL (MOLER INTERVIEW OF B. MANSELL, 1981-01-24).
DRYMCOLP0373	DRYMARCHON CORAIS COUPERI	EASTERN INDIGO SNAKE	G473	S3 LT LT		NO GENERAL DESCRIPTION GIVEN	INDIGO OBSERVED BY BARRY MANSELL (MOLER INTERVIEW OF B. MANSELL, 1981-01-24).
ESTUMARS0010	ESTUARINE TIDAL MARSH		G4	S4 N N	1988-08-11	SALT RUN ESTUARY MARSH	3 ZONES: 1. FIMBRISTYLIS-SPOROBOLUS 2. AVICENNIA-BATIS3. SPARTINA ALTERNIFOLIA 3RD ZONE COMPRISES MOST OF EO. P88JOH01-SALICORNIA VIRGINICA IN BATIS ZONE. NO AVICENNIA SEEN.

10/16/2001
9

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL TANK	STATE RANK	FEDERAL STATUS	STATE STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
GLANMAR'0046	GLANDULARIA MARITIMA	COASTAL VERVAIN	G3	S3	N	LE	1992-04-23	CHOPPED STRIP OF SCRUB FROM A1A WEST TO LAGOON.	SCATTERED PLANTS GROWING IN OPEN SUN IN SANDY SOIL AMONG THE CUT STUMPS OF SCRUB OAKS. IN FLOWER.
GOPHPOL'Y0039	GOPHERUS POLYPHEMUS	GOPHER TORTOISE	G3	S3	(PS)	LS	1979-02-09	RUDERAL, CREATED BY DUMPING OF SPILL FROM INTRACOASTAL WATERWAY (DREDGED IN 1942); ROLLING TOPOGRAPHY, DOMINATED BY BROOKSEDGE; SOME UNCLIA, OPUNTIA, MITRICA.	LOGAN'S 1979 SURVEY SUGGESTED CA 0.78 TORTOISES/HA (EST POP = 7); BURROW SIZES IN U79LOG01 (MEAN = 30 CM).
GOPHPOL'Y0040	GOPHERUS POLYPHEMUS	GOPHER TORTOISE	G3	S3	(PS)	LS	1979-02-09	OPEN BEACH SCRUB COMMUNITY DOMINATED BY SEA OATS; OPUNTIA SPP., SMLAX, FEW TREES OR LARGE SHRUBS.	LOGAN'S 1979 SURVEY SUGGESTED CA 14.74 TORTOISES/HA (BASED ON POP EST OF 29), THE HIGHEST TORTOISE DENSITY HE RECORDED IN HIS ENTIRE SURVEY; TORTOISES ALSO LARGER THAN ON ADJACENT ANASTASIA ISLAND; BURROW SIZES IN U79LOG01 (MEAN = 28.6 CM).
GOPHPOL'Y0041	GOPHERUS POLYPHEMUS	GOPHER TORTOISE	G3	S3	(PS)	LS	1979-02-09	OPEN BEACH SCRUB COMMUNITY DOMINATED BY SEA OATS; OPUNTIA SPP., SMLAX, FEW TREES OR LARGE SHRUBS.	LOGAN'S 1979 SURVEY SUGGESTED CA 2.13 TORTOISES/HA (EST POP = 29); BURROW SIZES IN U79LOG01 (MEAN = 21 CM).
GOPHPOL'Y0107	GOPHERUS POLYPHEMUS	GOPHER TORTOISE	G3	S3	(PS)	LS	1987	IN HAMMOCK	A FEW INDIVIDUALS BUT NO POPULATION ESTIMATE (PNDU01FL). 1987 POP. ESTIMATE OF FORT MATANZAS S.R.A. = 118 BASED ON BURROW COUNT. IFNA ASSUMES CONCH ISLAND NOT INCLUDED IN SURVEY; STUDY SUGGESTS THAT POPULATION HAS REMAINED STABLE FROM 1978-1988 (U91M)

10/16/2001
10

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
GOPHPOLY0743	GOPHERUS POLYPHEMUS	GOPHER TORTOISE	G3	S3	(PS)	LS	1991-10-20	HIGHER AREA COVERED BY MAT OF FORBS (DREDGE SPOIL) WITH MANY SHELLS MIXED INTO QUARTZ SAND.	ONE ACTIVE BURROW (AND TRACKS) SEEN MEASURING APPROXIMATELY 1 FT. WIDE BY 6" HIGH AT ENTRANCE. OPEN HERBACEOUS VEGETATION DOMINATED BY BROOMSEDGE (ANDROPOGON VIRGINICUS) AND TELEGRAPH WEED (HETEROTHECA SUBAXILLARIS).
GOPHPOLY0758	GOPHERUS POLYPHEMUS	GOPHER TORTOISE	G3	S3	(PS)	LS	1992-04-26	COASTAL STRAND OF BUCKTHORN, RED CEDAR, SAW PALMETTOS WITH OPENINGS BETWEEN SHRUB CLUMPS.	1 ACTIVE BURROW SEEN - WIDTH OF ENTRANCE CA. 18".
GOPHPOLY0759	GOPHERUS POLYPHEMUS	GOPHER TORTOISE	G3	S3	(PS)	LS	1992-04-26	SCATTERED TREES (RED CEDAR, CABABAGE PALM) AND SHRUBS (YALUPON, TOUGH BUCKTHORN, HERCULES' CLUB) ON WHAT APPEARS TO BE OLD DREDGE SPOIL(?). NO OAKS.	NUMEROUS TRACKS SEEN IN OPENINGS IN YOUNG HAMMOCK ASSOCIATED SPECIES: BLACKBERRY VINES, CAT BRIAR, PRICKLY PEAR.
HAEMPALL0086	HAEMATOPUS PALLIATUS	AMERICAN OYSTERCATCHER	G5	S3	N	LS	1976	NO GENERAL DESCRIPTION GIVEN	1976: 08/11 5 birds; 09/05 9, 1977: 9/05 4 birds; 9/24 4, 1978: 6/02 2 birds; 6/16 9.
HAEMPALL0087	HAEMATOPUS PALLIATUS	AMERICAN OYSTERCATCHER	G5	S3	N	LS	1993-05-26	Beach dune	1993-05-26: J.A. Hovis, GFC - 1 pair; possible breeding.
HAEMPALL0088	HAEMATOPUS PALLIATUS	AMERICAN OYSTERCATCHER	G5	S3	N	LS	1993-05-26	Dredge spoil	1993-05-26: J.A. Hovis, GFC - 4 birds; probable breeding.
HALLILEUC0296	HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	G4	S3	(PS)	LT	1988	NO GENERAL DESCRIPTION GIVEN	NEST: 1975-1978, 1981-1982, 1984-1985, 1987 ACTIVE, 1983 INACTIVE. FLEDGED YOUNG 1976-1978, 1982, 1984, 1987, 1975 UNKNOWN, NO DATA 1979-1980, 1986, 1988.
HALLILEUC0297	HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	G4	S3	(PS)	LT	1981	NO GENERAL DESCRIPTION GIVEN	ACTIVE NEST: UNKNOWN # OF YOUNG IN 1981; 0 YOUNG IN 1980.
HEDYPULV0001	HEDYOTIS NIGRICANS VAR PULVINATA	NARROW-LEAVED BLUEETS	G5THQ	SH	N	N	1971-08-05	Sand shell flats.	Abundant, very thick stems, cushion plant (fl.).
MARIHAMM0040	MARTINE HAMMOCK		G4	S2	N	N	1984	ON OLDER DUNES	DOMINATED BY LIVE OAK, MAGNOLIA & RED BAY. YALUPON IN UNDERSTORY.

10/16/2001
11

FVAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
MARIHAMPT0081	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N N N	1991-10-19	Live oak hammock-mid sized trees.	Canopy: Quercus virginiana, Carya glabra, Liquidambar styraciflua; Understory shrubs: Ilex ambigua, Serenoa repens, Vaccinium arboreum; Understory herbs: Scleria triglomerata, Chasmodon leucom. 30' CANOPY 100% COVER BEHIND 30' DUNE RIDGE ABOVE BEACH; PERSEA BORBONIA-40%; QUERCUS VIRGINIANA-30%; SABAL PALMETTO (WETTER PORTIONS)-25%; VITIS MUNSONIANA-10%; ILEX VOMITORIA-5%; MAGNOLIA GRANDIFLORA-1%; VERBESINA VIRGINICA-5%; TRICHOSTEMA SUBFRUTESCEN
MARIHAMPT0208	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N N N	1991-10-19	OAKPALM HAMMOCK	100% TOTAL VEGETATIVE COVER, CANOPY HT. ABOUT 30'. QUERCUS VIRGINIANAGEMINATA (INTERMEDIATE VEIN & HAIRS)-50%; PERSEA BORBONIA-30%; VITIS MUNSONIANA-10%; CELTIS LAEVIGATA-2%; SERENOA REPENS-10%; OSMANTHUS AMERICANA-1%; ILEX VOMITORIA-20%; MAGNOLIA GRAND
MARIHAMPT0209	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N N N	1991-10-19	OAKPALM HAMMOCK	BEHIND 2ND DUNE RIDGE INLAND FROM COAST (HOUSING DEVELOPMENT ON FIRST RIDGE, E OF ATA); MAGNOLIA GRANDIFLORA-20%; QUERCUS VIRGINIANA-50%; SABAL PALMETTO-10%; QUERCUS LAURIFOLIA-3%; RHYNCHOSPORA MEGALOCARPA-2%; SERENOA REPENS-25%; PERSEA BORBONIA-25%; OSM
MARIHAMPT0210	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N N N	1991-10-19	TEMPERATE PALMOAK HAMMOCK. 1942: CA. 400' BAND OF HAMMOCK IN LEE OF 35 DEGREE SLOPE OF 30' MAIN DUNE. SAND WITH MANY SHELL FRAGMENTS. ADVANCING DUNE ENCROACHING ON HAMMOCK AND MAGNOLIA TO 12' DBH.	

10/16/2001
12

FVAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL STATE RANK	FEDERAL STATE RANK	STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
MARIHAMM0081	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N N N	1991-10-19	Live oak hammock-mid sized trees.	Canopy: Quercus virginiana, Carya glabra, Liquidambar styraciflua; Understory shrubs: Ilex ambigua, Serenoa repens, Vaccinium arboreum; Understory herbs: Scleria triglomerata, Chasmodon leucom. 30' CANOPY 100% COVER BEHIND 30' DUNE RIDGE ABOVE BEACH; PERSEA BORBONIA-40%; QUERCUS VIRGINIANA-30%; SABAL PALMETTO (WETTER PORTIONS)-25%; VITIS MUNSONIANA-10%; ILEX VOMITORIA-5%; MAGNOLIA GRANDIFLORA-1%; VERBESINA VIRGINICA-5%; TRICHOSTEMA SUBFRUTESCEN
MARIHAMM0208	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N N N	1991-10-19	OAKPALM HAMMOCK	100% TOTAL VEGETATIVE COVER, CANOPY HT. ABOUT 30'. QUERCUS VIRGINIANAGENIATA (INTERMEDIATE VEIN & HAIRS)-50%; PERSEA BORBONIA-30%; VITIS MUNSONIANA-10%; CELTIS LAEVIGATA-2%; SERENOA REPENS-10%; OSMANTHUS AMERICANA-1%; ILEX VOMITORIA-20%; MAGNOLIA GRAND
MARIHAMM0209	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N N N	1991-10-19	OAKPALM HAMMOCK	BEHIND 2ND DUNE RIDGE INLAND FROM COAST (HOUSING DEVELOPMENT ON FIRST RIDGE, E OF ATA); MAGNOLIA GRANDIFLORA-20%; QUERCUS VIRGINIANA-50%; SABAL PALMETTO-10%; QUERCUS LAURIFOLIA-3%; RHYNCHOSPORA MEGALOCARPA-2%; SERENOA REPENS-25%; PERSEA BORBONIA-25%; OSM
MARIHAMM0210	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N N N	1991-10-19	TEMPERATE PALMOAK HAMMOCK. 1942: CA. 400' BAND OF HAMMOCK IN LEE OF 35 DEGREE SLOPE OF 30' MAIN DUNE. SAND WITH MANY SHELL FRAGMENTS. ADVANCING DUNE ENCROACHING ON HAMMOCK AND MAGNOLIA TO 12' DBH.	

10/16/2001
12

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
MARHAM0218	MARITIME HAMMOCK		G4	S2	N	1992-04-22	MARITIME HAMMOCK DOMINATED BY VIRGINIA LIVE OAK WITH OCCASIONAL REDBAY AND MAGNOLIA. CABBAGE PALMS VERY RARE. UNDERSTORY MOSTLY YALUPON AND SAW PALMETTO. RIDGE SWALE TOPOGRAPHY.	CANOPY 15-25' HIGH DOMINATED BY VIRGINIA LIVE OAK WITH OCCASIONAL REDBAY AND MAGNOLIA. CABBAGE PALMS VERY RARE. UNDERSTORY MOSTLY YALUPON AND SAW PALMETTO. RIDGE SWALE TOPOGRAPHY.
MARHAM0223	MARITIME HAMMOCK		G4	S2	N	1992-04-26	Maritime hammock along border of marshes on west side of barrier island.	30 to 40' tall canopy of Virginia live oak. Understory of yalupon and saw palmetto.
MARHAM0224	MARITIME HAMMOCK		G4	S2	N	1992-04-02	FL.D.O.T. AERIAL ST. JOHNS COUNTY #11, 11/7/88. PALMOAK-HAMMOCK WITH MUCH RED CEDAR.	LOW (DISTURBED?) HAMMOCK DOMINATED BY SOUTHERN RED CEDAR, VIRGINIA LIVE OAK AND CABBAGE PALM. UNDERSTORY OF CAROLINA LAUREL, CHERRY AND YALUPON. (NO MAGNOLIA; NO SAND LIVE OAK.)
MARHAM0225	MARITIME HAMMOCK		G4	S2	N	1992-04-02	FL.D.O.T. AERIAL ST. JOHNS COUNTY #11, 11/7/88. MATURE OAK/MAGNOLIA HAMMOCK.	MATURE HAMMOCK DOMINATED BY LARGE VIRGINIA LIVE OAKS AND OCCASIONAL MAGNOLIAS. RED BAY AND WILD OLIVE ALSO PRESENT WITH SAW PALMETTOS, YALUPON IN UNDERSTORY.
MARHAM0226	MARITIME HAMMOCK		G4	S2	N	1992-04-02	FL.D.O.T. AERIAL ST. JOHNS COUNTY #11, 11/7/88. OAK/RED BAY HAMMOCK.	CANOPY 10-15 FT. HIGH: QUERCUS GEMINATA; QUERCUS HEMISPHERICA; PERSEA BORBONIA; QUERCUS MYRTIFOLIA; O. UNDERSTORY: SERENOA REPENS; O. MYRICA CERIFERA; ILEX OPACA; R. VITIS MUNSONIANA; A. D. DOMINANT; A-ABUNDANT; O- OCCASIONAL, LA-LOCALLY ABUNDANT; R.

10/16/2001
13

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL RANK	STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
MARIHAM0227	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N	N	1992-04-25	MARITIME HAMMOCK A LONG NATURE TRAIL S OF PARKING LOT.	CANOPY 20 TO 25' TALL DOMINATED BY QUERCUS VIRGINIANA. ASSOCIATED SPECIES INCLUDE REBAY AND SOUTHERN RED CEDAR, YALPON, MYRTLE OAK, AND SAW PALMETTO DOMINATE UNDERSTORY. SCATTERED PAWPAY (ASIMINA PARVIFLORA) PRESENT.
MARIHAM0228	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N	N	1992-04-25	LOW SAND LIVE OAK HAMMOCK.	15' CANOPY DOMINATED BY QUERCUS GEMINATA WITH RED BAY, SOUTHERN RED CEDAR, HERCULES' CLUB, CORAL BEAN, AND YALPON ALSO PRESENT.
MARIHAM0229	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N	N	1992-04-25	DEVELOPING HAMMOCK (ON DREDGE SPOIL?) - NO OAKS.	LOW, SCATTERED TO CLUMPED, TREES AND SHRUBS, MAINLY SOUTHERN RED CEDAR, CABBAGE PALM, HERCULES' CLUB, WAX MYRTLE, AND YALPON.
MARIHAM0230	MARITIME HAMMOCK	MARITIME HAMMOCK	G4	S2	N	N	1992-04-23	OAK HAMMOCK FORMING NARROW FRINGE ALONG SALT MARSHES.	25' OAKS OF QUERCUS VIRGINIANA DOMINANT. TREE-SIZE QUERCUS GEMINATA (STILL WITH OLD FLOWERING CATKINS ON TWIGS) PREVALENT NEAR SEAWARD RIDGE. PRUNUS CAROLINIANA OCCASIONAL IN UNDERSTORY PLUS YALPON AND SAW PALMETTO.
MESIFLAT0003	MESIC FLATWOODS	MESIC FLATWOODS	G7	S4	N	N	1981-01-25	ISLAND IN SALT MARSH (SPARTINA) WITH BIG OLD-LOOKING PINES. NO EVIDENCE OF DISTURBANCE.	SAID TO BE VIRGIN SLASH PINE.
MICBRAC0005	MICROPHIS BRACHYURUS	OPOSSUM PIPEFISH	G4S5	S2	(PS)	N	1953-10-23	NO GENERAL DESCRIPTION GIVEN	1 SPECIMEN COLLECTED (UF-0018111).
MUSTHAL0011	MUSTELA VISON LUTENSIS	ATLANTIC SALT MARSH MINK	G5T3	S2	N	N		NO GENERAL DESCRIPTION GIVEN	7 SPECIMENS COLLECTED (MCZ 87224-30).

10/16/2001
14

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL STATE		DATE	OBSERVED DESCRIPTION	COMMENTS
			RANK	STATUS			
MUSTPOPT0003	MYCTERIA AMERICANA	WOOD STORK	G4	S2 (FS) LE	1976-06-17	FRESH WATER MARSH, NESTING SUBSTRATE INCLUDES CYPRESS AND BROADLEAF TREES (> 7 M).	AERIAL SURVEY OF 46 NEST-HATCHING YOUNG PRESENT 04-27; AERIAL SURVEY OF 30 NEST-FLYING OR FLEDGED YOUNG PRESENT 1976-06-17; NOT PRESENT 1977-04; ROOKERY UNUSED 1978.
MYCTAMER0020	MYCTERIA AMERICANA	WOOD STORK	G4	S2 (FS) LE	1978-08	CYPRESS DUNE, AREA SURROUNDING DUNE DOMINATED BY PINES AND PALMETTOS; NESTING SUBSTRATE IS CYPRESS AND BUSHES OVER WATER.	25 PAIRS IN 7/78; 8 PAIRS IN 8/78.
PEROPENI0002	PEROMYSCUS POLIIONOTUS PHASMA	ANASTASIA BEACH MOUSE	GST1	S1 LE	1986-06-12	BEACH DUNE	BETWEEN 22 MAY - 12 JUNE 1986, 24 ANASTASIA BEACH MICE WERE TRAPPED DURING 197 ADJUSTED TRAP NIGHTS.
PEROPHAS0001	PEROMYSCUS POLIIONOTUS PHASMA	ANASTASIA BEACH MOUSE	GST1	S1 LE	1986-06-12	BEACH DUNE	BETWEEN 22 MAY - 12 JUNE 1986, 2 PEROMYSCUS POLIIONOTUS PHASMA WERE TRAPPED DURING 121.5 ADJUSTED TRAP NIGHTS
PEROPHAS0002	PEROMYSCUS POLIIONOTUS PHASMA	ANASTASIA BEACH MOUSE	GST1	S1 LE	1986-06-12	BEACH DUNE	BETWEEN 22 MAY - 12 JUNE 1986, 5 PEROMYSCUS POLIIONOTUS PHASMA WERE TRAPPED DURING 100 ADJUSTED TRAP NIGHTS.
PEROPHAS0003	PEROMYSCUS POLIIONOTUS PHASMA	ANASTASIA BEACH MOUSE	GST1	S1 LE	1986-06-12	BEACH DUNE	BETWEEN 22 MAY - 12 JUNE 1986, 3 PEROMYSCUS POLIIONOTUS PHASMA WERE TRAPPED DURING 120 ADJUSTED TRAP NIGHTS.
PEROPHAS0004	PEROMYSCUS POLIIONOTUS PHASMA	ANASTASIA BEACH MOUSE	GST1	S1 LE	1986-06-12	BEACH DUNE AND COASTAL STRAND	BETWEEN 22 MAY - 12 JUNE 1986, 30 PEROMYSCUS POLIIONOTUS PHASMA WERE TRAPPED DURING 306 ADJUSTED TRAP NIGHTS. SINGLE CAPTURE IN COASTAL STRAND HABITAT OCCURRED ON N.W. END OF ISLAND (SEE ATTACHED MAP).

10/16/2001
15

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL RANK	STATE STATUS	FEDERAL STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
PITUMUG10162	PITUOPHIS MELANOLEUCUS MUGTUS	FLORIDA PINE SNAKE	G4T37	S3	N	N	LS		COASTAL STRAND DOMINATED BY SERENOA REPENS, QUERCUS VIRGINIANA, ZANTHOXYLUM CLAVATUM, ERITHRINA HERBACEA, AND SCATTERED UNIOLEA PANICULATA. COASTAL STRAND GRADES TO MARITIME HAMMOCK.	1 LARGE (CA. 6 FOOT) DOR INDIVIDUAL
RYNCHISE0070	RYNCHOPS NIGER	BLACK SKIMMER	G5	S3	N	N	LS	1993-05-26	Beach dune	1993/05/26 - J.A. Hovis, GFC, observed 82 adults. Site revisited 06/23/93; no evidence of nesting, 6 skimmers observed loafing on the shoreline. Bruce Morene reports 12 black skimmer nests in 1992.
SCRUB0746	SCRUB		G2	S2	N	N	N	1991-10-18	COASTAL STRAND; 5-10' TALL DENSE STAND OF SPRAY-PRUNED SHRUBS.	QUERCUS GEMINATA (5 HT.)-50%; OSMANTHUS AMERICANUS-5%; SERENOA REPENS (GLAUOUS)-5%; QUERCUS CF CHAPMANII-1%; PERSEA BORBONIA-35%.
SCRUB0747	SCRUB		G2	S2	N	N	N	1992-04-23	NO GENERAL DESCRIPTION GIVEN	LOW DENSE SPRAY-PRUNED OAK SCRUB WITH SAND LIVE OAK HEAVILY PREDOMINANT (QUERCUS GEMINATA). OTHER SHRUBS INCLUDE SERENOA REPENS, QUERCUS MYRTIFOLIA, QUERCUS CHAPMANII, AND CERATOLA ENCOIDES.
SCRUB0748	SCRUB		G2	S2	N	N	N	1998-09-12	Dense spray shorn scrub grading to hammock.	Dominant species: Quercus geminata, Ilex vomitoria, Bumelia lenax, Osmantthus americanus, Serenoa repens, Lyonia ferruginea. Associated species: Rhus copallina, Persea borbonia, Zanthoxylum clava herculis, Sabai palmato, Magnolia grandiflora, Erythrina h

10/16/2001
16

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
SCRUB0749	SCRUB		G2	S2	N	N	1991-10-19	6-7 AVG. HT. DENSE SPRAY-PRUNED OAK-DOMINATED SCRUB W/ OF A1A.	FR1JOH48: QUERCUS MYRTIFOLIA- 50%; SERENOA REPENS-50%; MAGNOLIA GRANDIFLORA-S TO 10%; PERSEA BORBONIA-20%; QUERCUS CHAPMANII-5%; QUERCUS GEMINATA- 35%; OSMANTHUS AMERICANUS-2%. QUERCUS ROLFSSHQ. GEMINATA X Q. CHAPMANII - HAS TOUGHER MORE INROLLED LEAVES W/
SCRUB0753	SCRUB		G2	S2	N	N	1992-04-26	DENSE SPRAY-PRUNED OAK SCRUB.	DENSE SPRAY-PRUNED OAK SCRUB. 4-6 TALL. QUERCUS GEMINATA = 70% COVER; ILEX VOMITORIA = 10%. PERSEA BORBONIA = 2%; QUERCUS MYRTIFOLIA = 2%; QUERCUS CHAPMANII = 2%; LYONIA FERRUGINEA = 1%.
STERANTI0027	STERNA ANTILLARUM	LEAST TERN	G4	S3	(PS)	LT	1993-05-26	COQUINA AND SAND BEACH WITH SEA OATS AND SEA OX-EYE.	1993: 05/26 - Hovis reports 8 adults, 4 nests ca. 4.2 miles S. of Wickler Landing (U97GFC02FLUS). 1988: 08/19 - BREEDING COLONY OF 100 PAIRS; YOUNG OF ALL AGES SEEN (P88BER01). 1997: 10 BREEDING PAIRS COUNTED IN 1987 (U97C8R01).
STERANTI0049	STERNA ANTILLARUM	LEAST TERN	G4	S3	(PS)	LT	1993-05-26	SANDY BEACH.	1993: 05/26 - Hovis reports 145 adults, 114 nests, and 18 chicks (U97GFC02FLUS). 1992: 05/02 - Hovis reports 2 nests on inlet side and 46 nests on ocean side (U97GFC02FLUS). 1991: 05/23 - Hovis reports 5 nests on inlet side and 45 nests on ocean side; 07
STERANTI0050	STERNA ANTILLARUM	LEAST TERN	G4	S3	(PS)	LT	1993-05-26	SANDY BEACH.	1993: 05/26 - Hovis reports 6 adults, 2 nests (U97GFC02FLUS). 1988: Nesting began on 02 June and ended on 30 August; 15 nests reported (U97GFC02FLUS). 1987-05-06: AN ESTIMATED 25 PAIRS IN COLONY; 1 NEST FOUND (U97GFC02FLUS).

FNAI ELEMENT OCCURRENCE RECORDS ON OR NEAR SITE

MAP LABEL	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	DATE OBSERVED	DESCRIPTION	COMMENTS
STERANTT0183	STERNA ANTILLARUM	LEAST TERN	G4	S3	(PS) LT	1993-05-26	Dredge spoil	1993/05/26: J.A. Hovis, GFC, observed 8 adults, 2 nests, 0 chicks (U97GFC02FLUS).
STERANTT0184	STERNA ANTILLARUM	LEAST TERN	G4	S3	(PS) LT	1993-05-26	Dredge spoil	1993/05/26: J.A. Hovis, GFC, observed 9 adults, 1 nest, 0 chicks (U97GFC02FLUS).
STERANTT0185	STERNA ANTILLARUM	LEAST TERN	G4	S3	(PS) LT	1993-06-04	Houseset, marina, beach, pier	1993/06/04: J.A. Hovis, GFC, observed 120 adults, 28 nests, 28 chicks; two separate subcolonies surveyed and then pooled; survey data is a summary of both colonies; exact count of chicks (U97GFC02FLUS).
STERCASP0014	STERNA CASPIA	CASPIAN TERN	G5	S27	N N	1993-01-28	Coastal Grassland.	1993-01-28: J.M. Howard, GFC, observed 10 adults loafing and foraging one day after winter storm.
STERMAXT0005	STERNA MAXIMA	ROYAL TERN	G5	S3	N N	1988-08-19	COQUINA AND SAND BEACH.	20-40 ADULTS AND YOUNG SEEN LOAFING ON BEACH.
STERMAXT0057	STERNA MAXIMA	ROYAL TERN	G5	S3	N N	1993-01-28	Coastal Grassland.	1993-01-28: J.M. Howard, GFC - 100 birds observed loafing and feeding one day after winter storm.
STERMAXT0058	STERNA MAXIMA	ROYAL TERN	G5	S3	N N	1993-05-26	Beach dune	1993-05-26: J.A. Hovis, GFC - 12 royal terns observed loafing on the beach.
STERSAND0035	STERNA SANDVICENSIS	SANDWICH TERN	G5	S2	N N	1993-05-26	Beach dune	1993-05-26: J.A. Hovis, GFC, observed 2 adult terns loafing on the beach.
TRICHMANA0016	TRICHECHUS MANATUS	MANATEE	G2	S2	LE LE	1994-08-31	ATLANTIC COAST, COASTAL RIVERS AND CONTIGUOUS INTRACOASTAL WATERWAY; MOSTLY BRACKISH WITH NO SUBMERGED SPERMATOPHYTES; FW IN SHORT SUPPLY.	MOST SIGHTINGS IN SPRING, SUMMER AND FALL. FEW IN WINTER; MANATEES FEED ON BANK GRASSES AND ALGAE; UNCOMMON TO RELATIVELY ABUNDANT; CA. 45 INHABIT THIS AREA IN SUMMER, 25 IN WINTER.
XERHAMM0037	XERIC HAMMOCK		G7	S3	N N	1992-04-26	Xeric hammock with spray-pruned canopy 10 to 20 ft tall.	10 to 20 ft sand live oak hammock with rusty ironia, redbay, myrtle oak, and chaparral oak also in the canopy and saw palmetto dominant in the understory.

10/16/2001
18

APPENDIX E. TABLE OF REFERENCED GIS RESOURCES

This table describes all the data used to create the GIS layers presented in this document. Independently of its original projection, all layers were converted to the same spatial reference:

Horizontal_Datum: North American Datum of 1983

SPCS_Zone_Identifier: East (3601)

Planar_Distance_Units: feet

Ellipsoid_Name: Clarke 1866

Florida Department of Environmental Protection: GIS Geodata Directory. FDEP Bureau of Information Systems. http://www.dep.state.fl.us/gis/								
DATA LAYER NAME	DESCRIPTION	SCALE	DATUM	PROJECTION	MAP UNITS	GENERAL AREA COVERED	LAYER DATE	DATE OF INFORMATION
cntyshor	Detailed shoreline with county boundaries	1 : 24,000 for county boundaries 1 : 40,000 for shorelines	NAD 1983 - HPGN	Albers Equal Area Conic	meters	Statewide	12/9/1999	unknown
Florida Department of Environmental Protection: Office of Beaches and Coastal Systems. http://www.dep.state.fl.us/beaches/data/data.htm								
DATA LAYER NAME	DESCRIPTION	SCALE	DATUM	PROJECTION	MAP UNITS	GENERAL AREA COVERED	LAYER DATE	DATE OF INFORMATION
af00cccl	Coastal Construction Control Lines in Florida	1:24,000	NAD 1983	Geographic	feet	Statewide	1/1/2001	1986 - 1/1/2001
criteros2001	Critical Beach Erosion Areas in Florida	1:24,000	NAD 1983	Geographic	feet	Statewide	4/14/2000	1986 - 1/1/2001
fl_r_mon	Range Monument Master Positions in Florida	1:24,000	NAD 1983	Geographic	feet	Statewide	4/14/2000	1986 - 1/1/2001
stjyr125.dwg	Historical Shoreline Data: Drawings	1:24,000	NAD 1983	Florida State Plane East	feet	St Johns County	1988	1858-1980
stj99y.ere	Historical Shoreline Data: MHWL Files	N/A	NAD 1983	Florida State Plane East	feet	St Johns County	1999	1858-1999
Florida Geographic Data Library. GeoPlan Center, University of Florida. http://www.fgd.org/								
DATA LAYER NAME	DESCRIPTION	SCALE	DATUM	PROJECTION	MAP UNITS	GENERAL AREA COVERED	LAYER DATE	DATE OF INFORMATION
trl02ea	Existing Recreation Trails 2002	1:24,000 to 1:25,000	NAD 1983 - HPGN	Albers Equal Area Conic	meters	Statewide	2/2002	1994-2002
National Park Service Geographic Information Systems. National Park Service. http://www.nps.gov/gis								
DATA LAYER	DESCRIPTION	SCALE	DATUM	PROJECTION	MAP	GENERAL	LAYER	DATE OF

NAME					UNITS	AREA COVERED	DATE	INFORMATION
park_polygon (Castilho de San Marcos)	Castillo De San Marcos National Monument Small-Scale Base GIS Data	1:24,000 to 1:200,000	NAD 1927	Universal Transverse Mercator Zone 17	meters	National Monument	2000	2001
park_polygon (Fort Matanzas)	Fort Matanzas National Monument Small-Scale Base GIS Data	1:24,000 to 1:200,000	NAD 1927	Universal Transverse Mercator Zone 17	meters	National Monument	2000	2001
State Parks Geographic Information System (GIS) Database. FDEP Office of Park Planning, Division of Recreation and Parks								
DATA LAYER NAME	DESCRIPTION	SCALE	DATUM	PROJECTION	MAP UNITS	GENERAL AREA COVERED	LAYER DATE	DATE OF INFORMATION
boundary_sp (Anastasia State Park)	Boundary for Anastasia State Park - Legal Description	unknown	NAD 1927	Florida State Plane East	feet	State Park	2001	1949-1987
boundary_sp (Guana River State Park)	Boundary for Guana River State Park Boundary - Legal Description	unknown	NAD 1927	Florida State Plane East	feet	State Park	2001	1984
St. Johns County GIS Data Library. St. Johns County GIS Program								
DATA LAYER NAME	DESCRIPTION	SCALE	DATUM	PROJECTION	MAP UNITS	GENERAL AREA COVERED	LAYER DATE	DATE OF INFORMATION
county	County Boundary	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001
city	City Names, Boundaries, And Annexations	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001
hydro_maj	Major Rivers, Waterways, and Water Bodies	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001
hydro_min	Minor Rivers and Waterways	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001

road_maj	Major Road Centerlines	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001
landuse96	1996 Existing Land Use	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001
landuse	Land Use for 2015	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001
beach_access	Recreational Beach Access Points	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001
major_park	Major Parks	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001
recreational	Recreational Areas (City, County, State, Federal)	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001
scenic_hwy	Scenic Highways	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001
contour	Elevation Contour Lines (5 Foot)	various	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2001
sjc99-ne. sjc99-se	Digital Orthophotography (1 foot pixel resolution compressed to 10:1)	1"=840' Urban Areas 1"=1680' Rural Areas	NAD 1983	Florida State Plane East	feet	St Johns County	9/2001	2/1999
St. Johns County Digital Parcel Data. St. Johns County Property Appraiser's Office 2000								
DATA LAYER NAME	DESCRIPTION	SCALE	DATUM	PROJECTION	MAP UNITS	GENERAL AREA COVERED	LAYER DATE	DATE OF INFORMATION
s0329, s0429, s0529, s0629, s0330, s0430, s0530, s0630, s0730, s0830, s0930, s1030	Township-Range Digital Parcel Layers	various	NAD 1983	Florida State Plane East	feet	St Johns County	2001	2000
sjfmap1.txt	Parcel Information Data Base							

St. Johns County Vehicle and Pedestrian Traffic Analysis and Beach Lighting Analysis Study (Applied Technology Management Data CD).								
DATA LAYER NAME	DESCRIPTION	SCALE	DATUM	PROJECTION	MAP UNITS	GENERAL AREA COVERED	LAYER DATE	DATE OF INFORMATION
beachaccess	Recreational Beach Access Points	unknown	NAD 1983	Florida State Plane East	feet	St Johns County Atlantic Coast	2001	2001
beachzones	Land Use, Pedestrian Traffic, Lightning Potential	unknown	NAD 1983	Florida State Plane East	feet	St Johns County Atlantic Coast	2001	2001
Taylor Engineering Inc, 2001								
DATA LAYER NAME	DESCRIPTION	SCALE	DATUM	PROJECTION	MAP UNITS	GENERAL AREA COVERED	LAYER DATE	DATE OF INFORMATION
shore_protection_structures	Manmade Shore Protection Features (GPS Data)	unknown	NAD 1983	Florida State Plane East	feet	St Johns County Atlantic Coast	2001	2001
turtle_nesting_areas	FDEP's Sea Turtle Nesting Densities Areas Combined by Monitoring Zone	unknown	NAD 1983	Florida State Plane East	feet	St Johns County Atlantic Coast	2001	1998-2000

APPENDIX F. TABLE OF REFERENCED PERSONAL COMMUNICATIONS

Last Name as Cited in Text	Full Name	Title or Position	Place of Employment or Affiliation
Bandy	Arnold Bandy	Chief of Police	St. Augustine Beach Police Department
Bard	Alice M. Bard	Environmental Specialist II	Florida Department of Environmental Protection, Bureau of Parks, District 3
Barrow	Laura Barrow	County Attorney	St. Johns County Attorney's Office
Bosanko	Daniel J. Bosanko	Deputy County Attorney	St. Johns County Attorney's Office
Bowen	Dave Bowen, Jr.	Property owner Old A1A	Summer Haven
Brewer	Jan P. Brewer	Environmental Manager	St. Johns County Planning Division, Growth Management Services
Brooks	Billy Brooks	Field Biologist	U.S. Fish and Wildlife Service, Jacksonville Field Office
Charest	Bert Charest	Vice-President	St. Johns County Audubon Society
Clark	George Clark	Deputy Sheriff	St. Johns County Sheriff's Office
Cover	Chip Cover	Property owner Old A1A	Summer Haven
Delany	Jerry Delany	Member	Menorcan Cultural Society, St. Augustine
Dickson	Allen Dickson	Park Ranger	Florida Department of Environmental Protection, Bureau of Parks, Guana River State Park
Frank	Phil Frank	Scientist	U.S. Fish and Wildlife Service, Marathon, Florida Keys
Goodwin	Larry Goodwin	Director	Beachcomber Trash Services, St. Augustine
Green	Beverly Green	President	St. Johns County Horse Council
Hester	Randy Hester	Park Manager	Florida Department of Environmental Protection, Bureau of Parks, Guana River State Park
Holmberg	Albert Holmberg	City Commissioner	City of St. Augustine Beach

Last Name as Cited in Text	Full Name	Title or Position	Place of Employment or Affiliation
Lardner	Peter Lardner	Marine Turtle Permit Holder	Vilano Beach Sea Turtle Patrol
Lehman	Ric Lehman	Director	Palm Valley Stables
Lopez	Isabelle Lopez	County Attorney	St. Johns County Attorney's Office
Maguire	Craig A. Maguire	Citizen	St. Augustine
Martin, R.E.	R. Erik Martin	Scientific Director	Ecological Associates, Inc.
Martin, S.	Sacha Martin	Citizen	Vilano Beach
Mathis	Major Frank Mathis	Deputy Sheriff	St. Johns County Sheriff's Office
McDonald	June McDonald	Director	Sawgrass Stables
Meyer	Miles Meyer	Field Biologist	U.S. Fish and Wildlife Service, Jacksonville Field Office
Mickler, L.	Latrell Mickler	Citizen	St. Augustine
Mickler, Y.	Yulee Mickler	Citizen	St. Augustine
Miller	J.B. Miller	District 3 Biologist and Marine Turtle Permit Holder for all State Parks in Florida	Florida Department of Environmental Protection, Bureau of Parks, District 3
Monaghan	Jane C. Monaghan	Fish and Wildlife Biologist	U.S. Fish and Wildlife Service, Jacksonville Field Office
Mulholland	Rosi Mulholland	Regional Biologist	Florida Department of Environmental Protection, Bureau of Parks, District 3
Nelson	Lynn Nelson	Secretary Specialist	Florida Department of Environmental Protection, Bureau of Parks, Anastasia State Park
Owen	Rick Owen	Park Biologist	Florida Department of Environmental Protection, Bureau of Parks, Guana River State Park
Parker	Dave Parker	Site Supervisor	National Park Service, Fort Matanzas National Monument

Last Name as Cited in Text	Full Name	Title or Position	Place of Employment or Affiliation
Patrick	Lorna Patrick	Field Biologist	U.S. Fish and Wildlife Service, Ecological Services, Panama City, Florida
Perry	Neil Perry	Sheriff	St. Johns County Sheriff's Department
Reed	Diane Reed	Former Marine Turtle Permit Holder	Vilano Beach
Rich	Andrew Rich	US Park Ranger and Marine Turtle Permit Holder	National Park Service, Fort Matanzas National Monument
Sabo	Bill Sabo	Fishing Columnist	<i>St. Augustine Record</i> newspaper
Skinner	Talmadge S. Skinner	Citizen	Vilano Beach
Stam	Sandy Stam	Marine Turtle Permit Holder	Ponte Vedra North, Old Ponte Vedra, and South Ponte Vedra
Stauber	Evelyn Stauber	Marine Turtle Permit Holder	St. Augustine Beach, St. Johns Wildlife Care, Inc.
Stephenson	Joe Stephenson	Public Works Director	St. Johns County Public Works Department
Stoll	Dr. Robert Stoll	Marine Turtle Permit Holder	Beach Club Drive South
Usina	Frank Usina	Citizen	St. Augustine
Van Ghent	Roger Van Ghent	Director of Conservation Committee	St. Johns County Audubon Society
Wamser	Bob Wamser	Assistant Park Manager	Florida Department of Environmental Protection, Bureau of Parks, Anastasia State Park
Williams	Dave Williams	Supervisor of Beach Management	Division of Beach Management, Recreation and Parks Division, St. Johns County

**APPENDIX G. PROCEDURES FOR DAILY MARKING OF BEACH DRIVING LANES,
DIVISION OF BEACH MANAGEMENT, ST. JOHNS COUNTY.**

JOB DESCRIPTION FOR PLACING OF CONES
CITY OF ST. AUGUSTINE BEACH (CSAB) AND
ST. JOHNS COUNTY BEACHES (SJCBS)

Requirement:

Good driving record, reliable, able to work well with others, able to take directions, able to work well with out direct supervision. Minor paper work, able to work weekends and holidays. Perform other duties as assigned.

Physcial Requirements:

Good eyesight, No arm, leg or back problems. Able to lift 30 lbs, or more.

Description of Duties:

Area #1

March 1st - September 30th , (Season is subject to change). Must work 7 days a week. Put out cones at 7:30 & pick-up at 4:00 p.m. Place cones above high tide line / If tide is too high you must wait until it starts to recede.

Place 8 cones at neck of A Street then alternate the cones every 150 feet - car/people sign to the end of the line. At Ocean Trace place a keep right sign in center of ramp entrance. This is 4,050 feet of cones and 4,050 feet of signs with one keep right sign (Entrance of Ocean Trace). Total of 27 cones, 27 signs, one keep right sign, & one Do not enter sign placed at the end of (XXXX). ~~Place one person for 2 hours in the morning and 2 hours in the evening. With a helper time is cut to 40 minutes each shift. Cones are distributed from the neck of A Street to just South of Ocean Trace about 200 feet North of St. Augustine by the Sea (end of CSAB line).~~

A DO NOT ENTER sign is placed to left of ramp

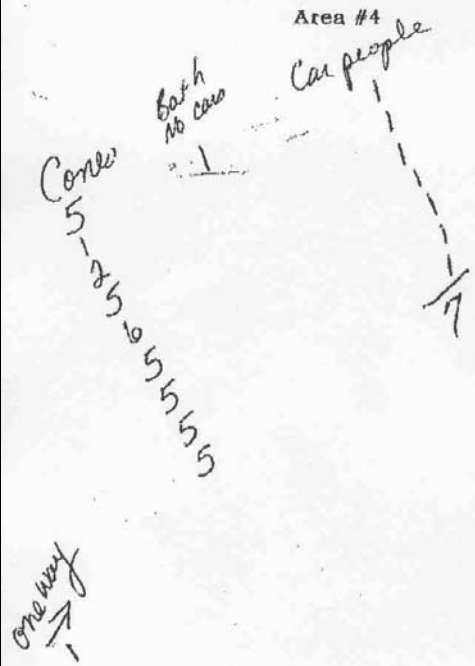
Area #2 thru #6 March 1st - June 7th (Season is subject to change)
/ Weekends & Holidays only. Cones from CSAB line, about 200 feet North of St. Augustine By The Sea, to campgrounds South of Dondanville Road. Start tight with two cones then car/people sign. Then five cones and car/people sign, do this three times, then three cones and a car/people sign. You are at the end of Area #2. Place 2 double stacked cones towards the ocean. Space between cones & car/people signs 150 feet. Total cones 27 & Total signs 5.

*27 cones
6 signs*

Area #3 From campgrounds South of Dondanville Road thru Matanzas Ave & Mary Street to just North of Crescent Beach at this time there are no controlled areas. Open space 3 miles or so.

Area #4 North of Crescent Beach thru Fort Matanzas as 3.15 miles or so. Two Way Traffic

At the Do Not Enter sign place: 2 cones double stacked, 1 bathing area / no vehicular traffic, 1 single cone towards the ocean. Place 1 cone 10 ft. South, 1 car/people sign 5 ft. from cones. Now place 2 cones then a car/people sign every 150 ft. **(IN THE ENTRANCE/EXIT ROAD PLACE 5 CONES ABOUT 2 FT. APART IN A STRAIGHT LINE WITH A SLIGHT CURVE TO THE RIGHT. PLACE A ONE WAY SIGN WITH ARROW TO THE SOUTH IN FRONT OF THESE CONES).** Now continue to cone South place 6 cones 150 ft. distance apart, 2 car/people signs, 3 cones and a car/people sign, place 2 cones 200 ft apart double stacked, and then place one bathing area / no vehicular traffic sign towards the ocean. **The next 2/10 of a mile is an uncontrolled area.**



May. 29, 2002 1:30PM

No. 7997 P. 4/5

Cones / Signs

one mile = 5,280 feet or 1,760 yards
There are 10 tenths to a mile

$$\begin{array}{r} 528 \\ 10 \overline{) 5,280} \end{array}$$

"A" St Territory 1.8 miles to SACB Line 150 feet apart

5,280

4,224

$$150 \div 9,504 = 63$$

12 End Cap Cones

31 Cones

31 Signs two way 15

Territory thru Campgrounds (Bryn Mahr 1 mile south
5,280 feet (150 feet apart)

12 End cap cones

15 Cones

20 one way signs 10

South Matanzas thru Mary St just before Craston House
1 mile South 5,280 feet

12, End Cap Cones

15 Cones

20 one way signs 10

Crescent Beach 1 mile South

5,280 feet

12 End Cap cones

15 Cones

5 extra cones on curve

1 Keep Right sign

2 Batching lanes / No vehicular traffic

20 two way signs 10

Jet Ski Area

4/10 of mile = 2,112 feet (100 feet apart)

No longer 12 End Cap cones

EXITS 19 cones

3 jet ski area NO Swimmers

Trade winds thru spy glass

1 mile south = 5,280 feet

12 End cap cones

15 cones

20 two way signs 10

Summer House to ramp

4/10 of mile south = 2,112 feet

12 End Cap cones

8 cones

6 two way signs 6

Grand total

cones
207

One Way
40 cut to 20

Two Way
77 cut to 40

