



Update to a 1992 Assessment of Florida's Remaining Coastal Upland Natural Communities

Final Report for in fulfillment of
Florida Department of Environmental
Protection Grant Agreement # G0088

December 2005



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FLORIDA
Natural Areas
INVENTORY

Cover Photographs

top: spray-pruned scrub at Eglin AFB, Ann Johnson

middle: Godfrey's goldenaster (*Chrysopsis godfreyi*), Al Schotz

bottom: beach at Canaveral National Seashore, Dale Jackson

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Florida Natural Areas Inventory
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Gary R. Knight, Director

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DEP Agreement No. G0088
pursuant to U.S. Department of Commerce (NOAA)
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ABSTRACT

In 1992 the Florida Natural Areas Inventory identified and described all coastal upland sites in Florida in both public and private ownership that were greater than 20 acres in extent and in natural condition. A review of these 241 sites in 2004, using current aerial photography and ownership information, revealed that of the 19,500 acres of coastal uplands in private ownership in 1992, 25% had been developed, 37% had been acquired for conservation purposes and 38% remained in natural condition in private ownership. Of the 133 sites all or a portion of which were in private ownership in 1992, 37 were substantially protected, 38 partially protected, 49 largely unprotected, and 9 largely developed by 2004. Field visits to publicly owned sites altered by hurricane damage (8) or removal of Australian pine (5) since 1992 revealed that low-lying natural communities suffered the greatest loss in species diversity from the effects of standing salt water from hurricane flooding and that establishment of stable natural communities capable of resisting re-invasion after exotic removal may take over a decade. All natural coastal wetland sites in Florida greater than 200 acres in extent and in private ownership (105) were also identified and mapped.

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INTRODUCTION

In 1989-1992 the Florida Natural Areas Inventory (FNAI) conducted a survey of remaining coastal uplands in natural condition and greater than 20 acres in extent on Florida's barrier island and ocean/gulf-front shores, identifying 236 sites. The purpose of the current study is to review these sites in reference to current ownership data and recent aerial photography, rank those remaining in natural condition, and analyze changes in condition and trends of loss. An additional aim is to map coastal wetlands greater than 200 acres in extent in private ownership. The information generated will contribute to the state's evaluation of future preservation opportunities along the Florida coast.

METHODS

2004 digital ortho quarter quad (DOQQ) true color photography at 1 m resolution was obtained for purposes of digitizing the upland and wetland site boundaries. Natural coastal upland boundaries were digitized using areas outlined on USGS topographic maps in the original study (Johnson and Muller 1993a,b, and c; Johnson et al. 1992 and 1993; Krueger 1992). By comparing the original 1989-1991 Department of Transportation black and white aerial photography (9"X9" contact prints at roughly 1:24,000) with the (much finer resolution) 2004 DOQQ aerial photography, additions and deletions were made to the original boundaries to correct mistakes (natural areas missed or developed areas included) in the delineation of the boundaries of natural coastal uplands at the time of the original study.

Parcels within the corrected boundaries in public ownership at the time of the original study were delineated using hatched areas on original maps, supplemented by county appraiser parcel data; parcels acquired by public agencies since the original study were delineated using county appraiser parcel data and the FNAI managed area data layer. Areas within the original boundaries that were developed since the original study were outlined by examination of the 2004 DOQQ aerials. From the resulting shapefile, a map of each site was generated showing the original (corrected) boundary of each site, plus the area within that boundary originally in public ownership, the area acquired by the public or by conservation non-profit organizations since the original study, the area developed since the original study, and the area remaining natural in private ownership. For a small subset of sites, two other categories of parcels were added: 1) "restored", which were areas originally either cleared of natural vegetation or in Australian pine that were restored to natural vegetation by 2004, and 2) "exotics removed" which were areas originally in Australian pine where the exotics had been removed by 2004, but re-colonization by native coastal species had not yet occurred.

Field visits were made to a total of 31 sites: all five new sites identified, plus 26 sites targeted because of major changes to natural communities that had occurred since the original study, due either to hurricane impact or to exotic removal. Sites heavily impacted by recent hurricanes were identified from post-hurricane video footage provided by the Florida Integrated Science Center of the U.S. Geological Survey in St. Petersburg. Sites where Australian pine invasion had previously been identified (Johnson, 1994) that had

since undergone removal and/or restoration were identified in consultation with park personnel and other experts.

In addition, resource information for 16 sites, comprising part of the Keys Wildlife and Environmental Area, was updated as a result of recent field visits by FNAI staff, as was resource information for five sites visited by the first author in the interval since the original study. Changes to communities and rare species were entered into the FNAI database and noted in the one-page summaries for each site that accompany the maps for each region (Appendices 1-5).

Coastal wetland areas greater than 200 acres in extent were initially identified using FLUCCS (Florida Land Use, Cover, and Forms Classification System) maps produced by the Florida Water Management Districts; all areas mapped as mangrove, saltmarsh or tidal flat that were greater than 200 acres in extent were examined against a 2004 DOQQ aerial photographic background and the shapefile edited as needed. Current parcel data from county appraisers and the FNAI managed area data layer were used to determine ownership within the remaining parcels. Privately owned parcels greater than 200 acres were selected; privately owned parcels connected by publicly owned coastal wetlands were also included if the sum of their acreages (determined by inspection) was greater than 200 acres. Areas of private and public ownership within these mixed ownership parcels were not separately digitized. In contrast to the treatment of upland coastal sites, wetland areas owned by non-profit conservation organizations were considered as part of private acreage on the assumption that these parcels were being held for state acquisition, rather than being managed as independent preserves by the non-profit organizations themselves and therefore should be included in acreage that still needed to be acquired.

RESULTS

The shapefile of coastal upland sites consists of 236 (corrected) original sites, plus five new sites, i.e., natural uplands > 20 acres seen on the 1989-1991 photography that were missed in the original survey, to give a baseline of 241 coastal upland sites in natural condition in 1989-1992, totaling approximately 90,000 acres. Portions of these sites in public ownership were shown as hatched in the original survey; with few exceptions these have remained in public ownership and in natural condition. Changes to the portions originally in private ownership fall into three categories: 1) no change (i.e. still private, still undeveloped); 2) acquired by public agency (or conservation non-profit organization), and 3) developed. Of the 19,478 acres of privately owned coastal upland acreage in natural condition in 1989-1992, 7479 acres (38%) remain undeveloped in 2004, 7151 acres (37%) were acquired by public agencies (or non-profit conservation organizations) and remain in natural condition, and 4849 acres (25%) were developed (including 53 acres which were acquired by public agencies and developed, usually to provide public access such as parking lots, roads, etc.; Fig. 1).

Privately Owned Upland Sites in 1992

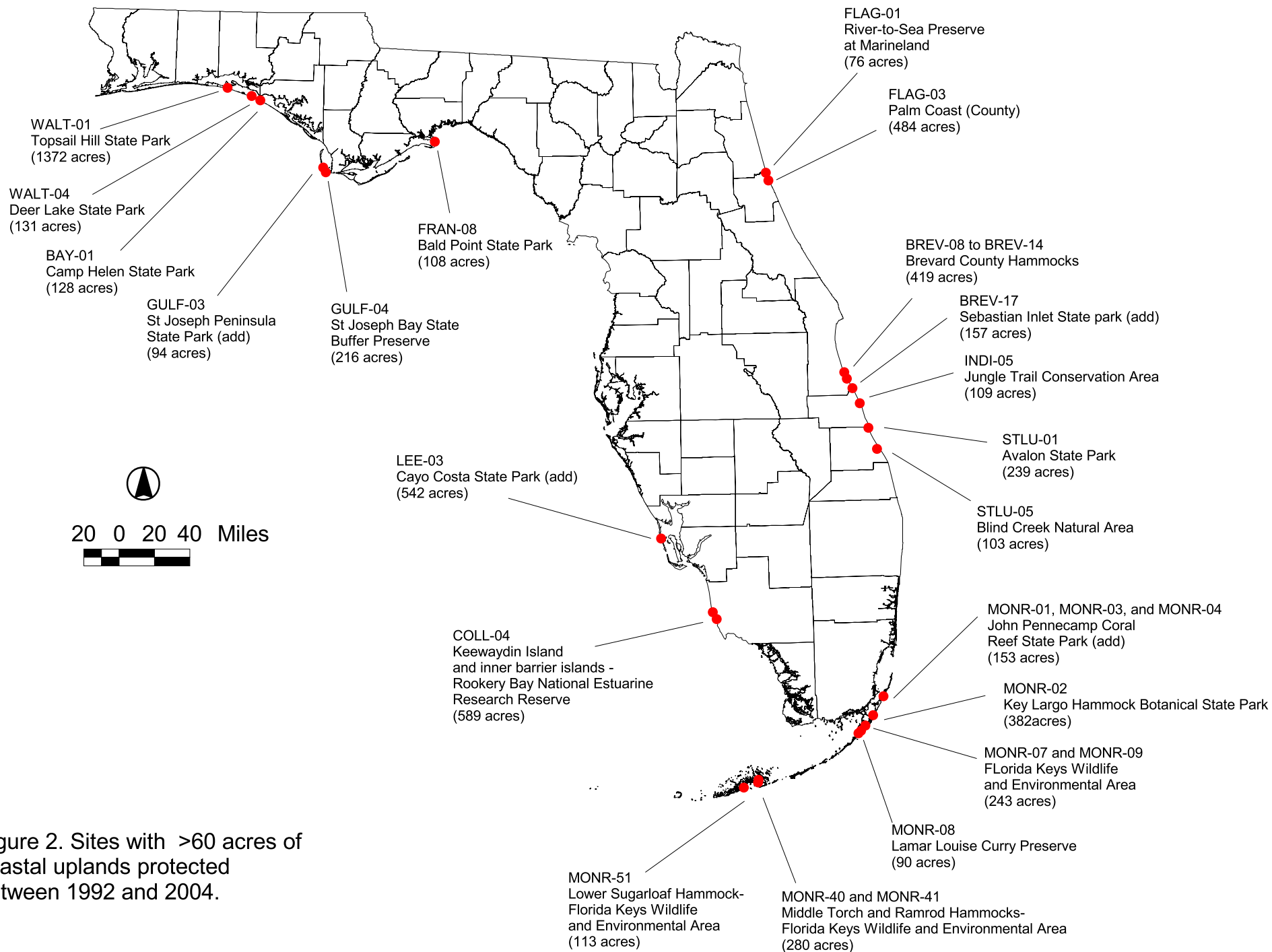
Protected sites. Of the 19,478 acres of coastal uplands in private ownership in 1992, 7151 acres were protected by public acquisition by 2004, distributed over 111, or roughly half, of the 241 sites (Table 1); 25 sites had over 60 acres protected (Fig.2). These 25 sites include six new state parks, four in the panhandle (Topsail Hill, Deer lake, Camp Helen and Bald Point), one in St. Lucie county on the southeast coast (Avalon), and one in the Keys (Key Largo Hammock Botanical State Park), plus many scattered sites (totaling 636 acres) encompassed in the new Florida Keys Wildlife and Environmental Area, managed by the Florida Fish and Wildlife Conservation Commission. Others represent major additions to existing managed areas, including Cayo Costa, Sebastian Inlet, John Pennecamp Coral Reef, and St Joseph Peninsula State Parks, as well as to Rookery Bay National Estuarine Research Reserve, which saw the addition of substantial portions of Keewaydin, Little Marco, and Cannon barrier islands.

The remaining acquired sites consist primarily of county parks on the east coast, in Flagler, Brevard, Indian River and St. Lucie counties. Many of these sites, particularly in Brevard and Indian River counties, include part of the Archie Carr National Wildlife Refuge, and have been acquired as part of a cooperative effort by county, state, Federal, and non-profit agencies to protect what are the major nesting beaches of loggerhead sea turtles (*Caretta caretta*) in the western hemisphere.

Three smaller sites under 60 acres, Atsena Otie Key (LEVY-3 [44 acres]), Buck Key (LEE-7 [27 acres]), and Juno Dunes Natural Area (PALM-5 [45 acres]), are also important acquisitions for the quality of the resources they protect; in case of Atsena Otie and Buck Keys, they complete existing public holdings; in the case of Juno Dunes, it preserves a large acreage of scrub, a rare community type which there is little further opportunity to protect in the southeast region of the coast.

The final summary report of the original study (Johnson and Muller 1993a) rated the privately owned sites in each region on the basis of size and quality of natural communities and numbers of rare species. All 10 of the highest priority sites identified in that study (p.36) have been wholly or partly protected by public acquisition by 2004; these include Topsail Hill (WALT-1) and Deer Lake (WALT-4) in the panhandle region; the area north of Sebastian Inlet State Park (BREV-17) and sites in Indian River County (INDI-2 Treasure Shores, INDI-5 North Baytree) in the southeast region, Keewaydin Island (COLL-4), Buck Key (LEE-7), and inholdings in Cayo Costa State Park (LEE-3) in the southwest region, and North Key Largo Hammocks (MONR-2) and Middle Torch Key (MONR-40) in the Keys region.

Of the 24 other highly rated sites identified in Table 13 of the original report, 11 were partially or completely protected by 2004: Cape San Blas (GULF-4) and Royal Bluff (FRAN-6) in the panhandle; South of Marineland –as River-to-Sea Preserve (FLAG-1), Palm Coast (FLAG-3), and North Peninsula State Park (VOLU-1) in the northeast region; Jetty park (BREV-4), North Floridana Beach-as Maritime Hammock Sanctuary (BREV-13), and North Loggerhead Park-as Juno Dunes Natural Area (PALM-5) in the southeast region; Palo Alto (MONR-1), and Big Torch North (MONR-38) in the Keys region and Little Marco Island (COLL-6) in the southwest region.



Developed sites. Twenty-two sites have had more than 60 acres developed since the original study (Fig. 3). Development has been particularly concentrated in Walton County with 6 sites totaling 866 upland acres developed, and in Gulf and Franklin counties with 5 sites totaling 1640 acres developed since 1992. Developed sites have been more spread out along the Atlantic coast, with a total of 5 sites in the northeast region, totaling 1173 acres, developed and 5 sites in the southeast, totaling 406 acres. The only site with greater than 60 acres developed in the southwest region is Keewaydin Island and no sites in the Keys region have exceeded 60 acres developed.

Of the sites highly rated on the basis of their natural resources listed in the original study (table 13 in Johnson and Muller 1993a) Draper Lake (WALT-2) and Inlet Beach (WALT-5) in the panhandle region have had 45% and 63% respectively of their acreage developed; in the northeast region American Beach and Anastasia Plaza have had 56% and 63% of their acreage developed; in the southeast region the South End of Jungle Trail (INDI-6) is 58% developed. All of these sites have some natural acreage remaining and no part of them is yet in public ownership.

Sites remaining in natural condition. Thirty sites have over 60 acres remaining in natural condition (Fig. 4), with the two largest remaining sites in the panhandle, St Michels Landing (BAY-7 - 336 acres) and Palm Point (GULF-2 - 1109 acres). Both of these sites are still largely in natural condition; St Michels Landing was identified in the original report as a potentially excellent site based on the condition of similar acreage adjacent to it on Tyndall Air Force Base.

The remaining sites offer opportunities either to 1) add to existing public acreage or 2) acquire smaller parcels for local preserves. Sites with remaining natural lands were reviewed individually and prioritized based on the resources of the remaining natural lands and their potential contribution toward enhancing the size and manageability of adjacent already acquired lands (Table 3). Top priorities for adding to existing public acreage include River-to-Sea Preserve at Marineland (FLAG-1) a highly rated site with >100 acres remaining; several sites in the Keys with substantial acreage remaining (MONR-40, -41, -45, and -51), all of which have already been identified in Florida Forever project boundaries, Bald Point State Park (FRAN-8) in the panhandle (also within a Florida Forever project boundary) and several smaller acreages which if not acquired would leave existing public lands split into disconnected or oddly-shaped parcels (BREV-17, MONR-50, and COLL-10). Fourteen of the 35 sites ranked A, AB, or B are not within an existing FF project nor are they presumed to be identified for acquisition as inholdings and additions to public lands (Table 3).

Several large sites that have been mostly developed still have coherent blocks of natural acreage potentially suitable for smaller preserves; these include Draper Lake (WALT-2), Inlet Beach (WALT-5), Indian Pass Beach (GULF-5), and St George Island West (FRAN-3) in the panhandle, and Anastasia Plaza (STJO-4) in the northeast region. None of these are within existing FF project boundaries.

Summary of site status. Heretofore the sites have been treated according to their total acreage in the categories of protected, developed or remaining natural in private

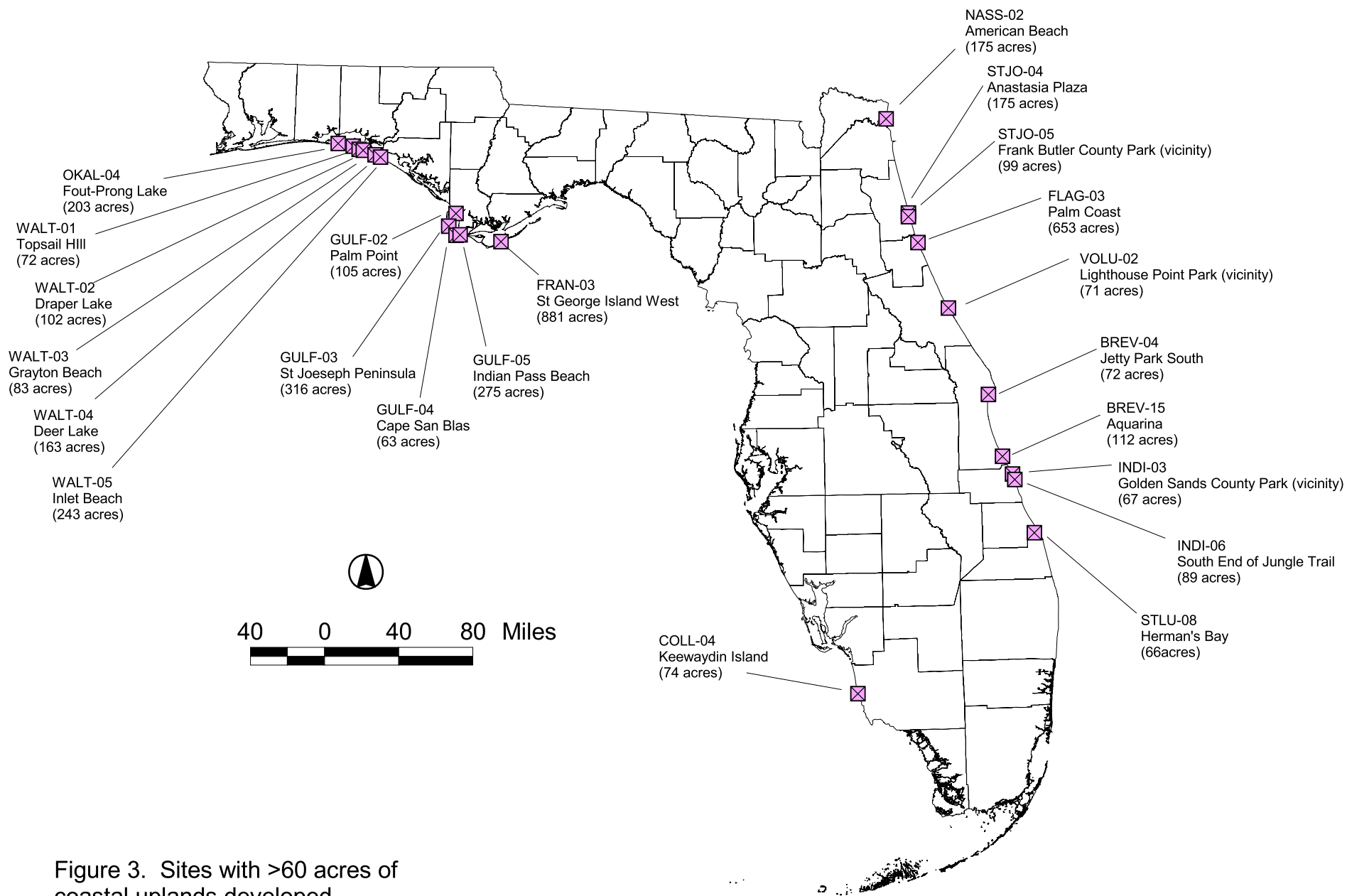
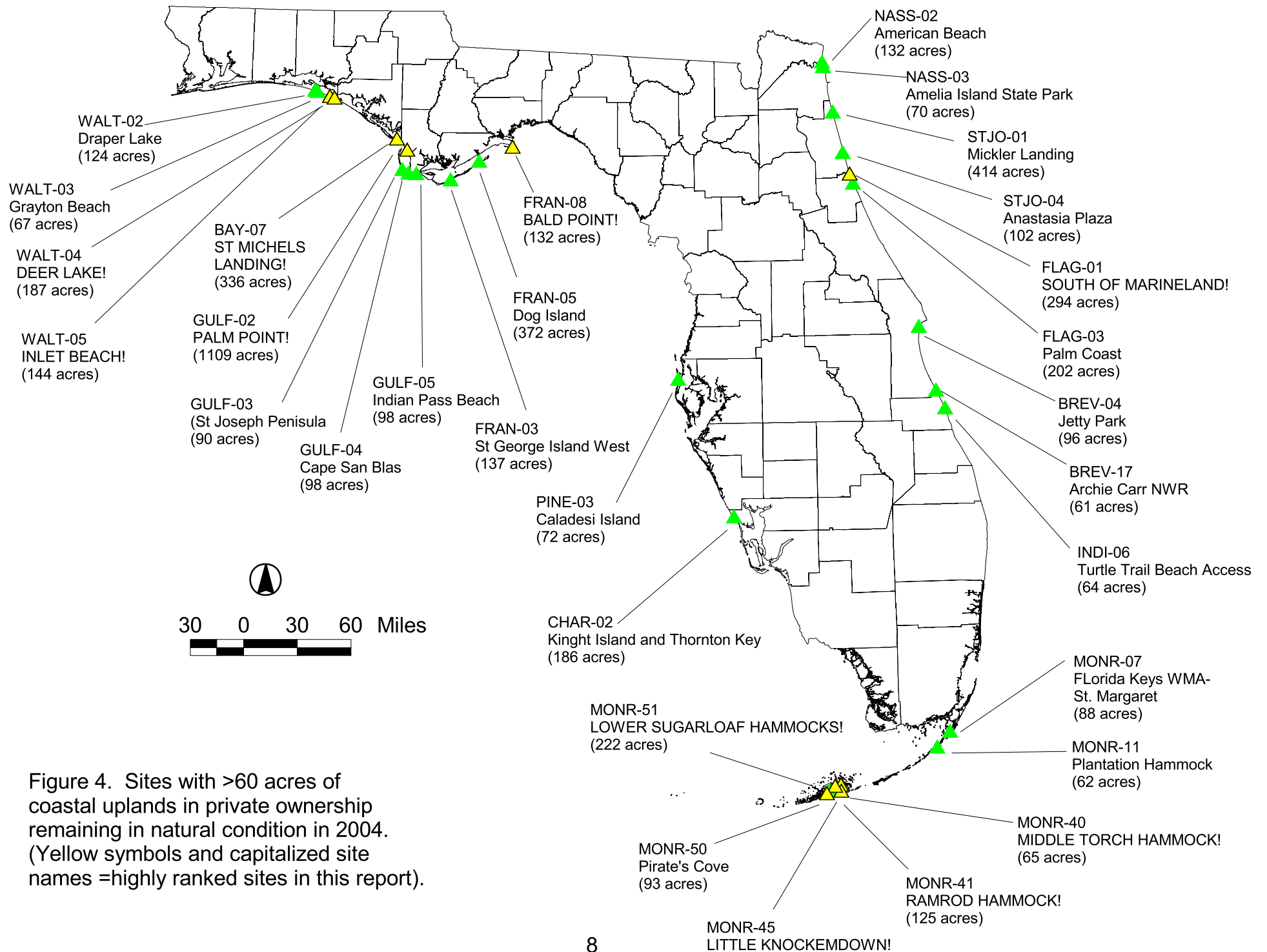


Figure 3. Sites with >60 acres of coastal uplands developed between 1992 and 2004.



ownership. Table 4 shows the acreage in each category for those sites that originally had some private acreage and categorizes each site as mostly protected, partially protected, mostly unprotected, or mostly developed. Of the 133 sites that originally had private coastal upland acreage in natural condition, 37 were substantially protected, 38 were partially protected, 37 were substantially unprotected, and 9 were substantially developed by 2004. In addition there were 12 sites where public acquisition is probably not applicable (N/A); these include six where private homes are scattered under maritime hammock canopy and seven where beachfront has built out in front of existing homes (Fig 5; czm_uplands_site_status_2004.shp).

Publicly Owned Upland Sites

A subset of public sites was chosen for field visits to document possible major changes to their natural communities, due either to recent hurricane landfalls or to removal of dense stands of exotic Australian pines (*Casuarina equisetifolia*). Specific information gained for each site is incorporated in the FNAI database and summarized in Appendices 1-5.

Hurricane effects. Most severely affected were coastal natural communities on Santa Rosa Island and Perdido Key (ESCA-1 to ESCA-5) in the panhandle, which were hit by Hurricanes Opal, and Erin in 1995, Ivan in 2004 and Katrina and Dennis in 2005. While sea oats and coastal grassland communities bore the brunt of the physical impact of the storms, they are composed of fast-growing grasses well-adapted to re-establish quickly following storms; of the more stable communities, the higher scrub and maritime hammock communities survived in the lee of tall dunes; most heavily impacted were lower-lying communities (coastal interdunal swale and mesic flatwoods) where standing salt water killed most of the vegetation. Plant diversity in these areas was severely reduced and may take decades to recover. Similar effects in low-lying hammocks were seen along the southeast coast where sites on Hutchinson Island (STLU-3 to STLU-5) were affected by Hurricanes Frances and Jeanne in 2004.

Exotic removal. Five sites were visited to assess the effects of removal of Australian pine, Bill Baggs Cape Florida State Park (DADE-3), Keewaydin Island (COLL-4), Lovers Key (LEE-13), Don Pedro Island State Park (CHAR-3) and St Lucie Inlet Preserve State Park (MART-5). Succession to native species was occurring on all sites, except the latter which had just recently been cleared, but had not proceeded to a recognizable natural community at any site visited, even Cape Florida which had been cleared of Australian pines and restored by plantings following Hurricane Andrew in 1992. It appears to be a long process for succession to produce a stable coastal strand or maritime hammock community dense enough to keep out recurrent invasion by Australian pine. Blowing Rocks Preserve (MART-9) is perhaps the oldest coastal restoration project (begun in the late 1980's) and the cover of native species there appears from aerial inspection to be fairly complete. Australian pine has been the dominant colonizer of newly exposed coastal sites for so long that the natural stages of succession to coastal strand and hammock are not well understood, although, of course the process must have occurred frequently in the past as the coastal communities recovered from storms. Exotic removal sites present an opportunity to gain a better understanding of the stages and timing of this natural coastal process.

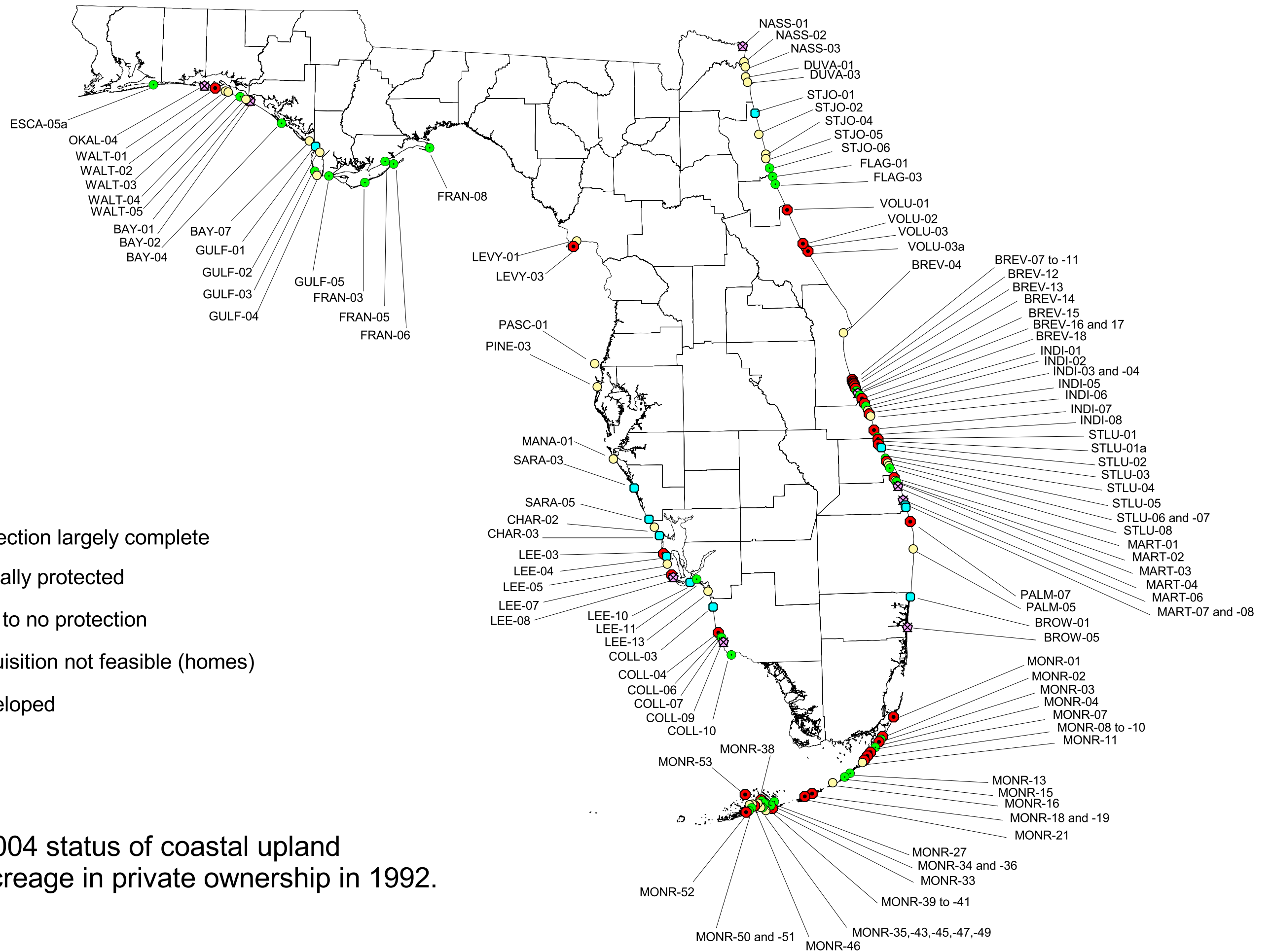


Figure 5. 2004 status of coastal upland sites with acreage in private ownership in 1992.

Wetland Sites

Sites with > 200 acres of natural wetlands in private ownership totaled 105 (Fig. 5). The largest sites (> 2000 acres) were located in Collier, Duval, Nassau, Charlotte and St Johns counties. Acquisition of several of these sites present good opportunities for the state and/or other public agencies to consolidate large acreages of existing natural wetlands and uplands in public ownership and prevent degradation of adjacent currently managed wetland resources. Some good examples of this type of site are FRAN-w2 and Wakulla - w1 at the mouth of the Ochlockonee River, COLL-w2 near Wiggins Pass, COLL-w6 in the Ten Thousand Islands area near Everglades City, STJO-w1 bordering Guana River Marsh Aquatic Preserve, HERN-w1 bordering Chassahowitska Wildlife Management Area and Weekiwachee Preserve, and LEVY-w2 which connects Cedar Key Scrub State Reserve, Cedar Keys National Wildlife Refuge and Wacasassa Bay Preserve. Another set of sites, primarily in Nassau and Duval counties, presents an opportunity for de novo protection of a large, currently unprotected wetland resource while it is still in relatively prime condition.

Acreage within Florida Forever Project Boundaries

Forty-six of the coastal upland sites with remaining acreage in private ownership have acreage identified by the state for acquisition under the Florida Forever program, with a total of 1579 private acres falling within the boundaries of existing Florida Forever projects (Table 5; coastal_upland_FF.shp). Of the wetland sites, only the Florida Forever acreage of those entirely in private ownership can be determined, since the public and private portions of the mixed ownership sites were not digitized separately. Sixteen entirely private wetland sites had a total of 6114 acres within existing Florida Forever projects (Table 6; coastal_wetland_private_FF.shp). Of the wetland sites in mixed public/private ownership, twenty-seven (coastal_wetland_mixed_FF.shp) had acreage in existing Florida Forever projects, but public and private acreage within these sites would have to be digitized to determine the total private acreage within Florida Forever project boundaries.

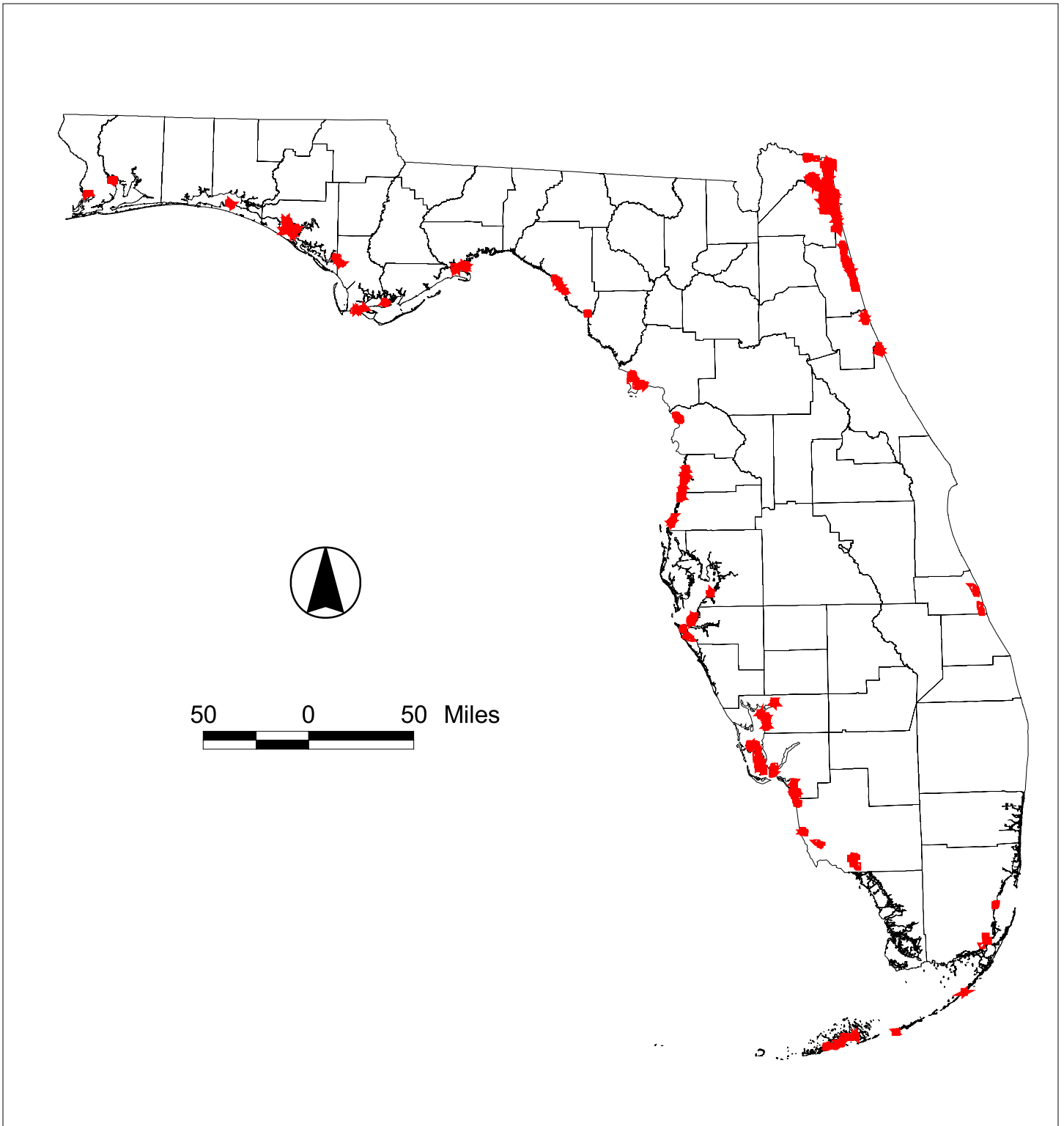


Figure 6. Privately owned coastal wetlands > 200 acres (105 sites) - 2005.

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Sources of Videos and Aerial Photography of 2004-05 Hurricane Damage

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Table1. Acreage of coastal uplands protected between 1992 and 2004.

Site Number	Name	Managed Area	Acreage protected 1992-2004
WALT-01	Topsail Hill Preserve State Park		1372.3
LEE-03	Cayo Costa State Park		541.6
FLAG-03	Palm Coast		482.7
COLL-04	Keewaydin Island	Rookery Bay National Estuarine Research Reserve	443.8
MONR-02	North Key Largo Hammocks	Dagny Johnson Key Largo Hammock Botanical State Park	382.5
STLU-01	Avalon State Park		238.8
GULF-04	Cape San Blas		216.1
MONR-40	Middle Torch Hammock	Florida Keys Wildlife and Environmental Area	199.6
BREV-13	North Florida Beach	Maritime Hammock Sanctuary	172.1
BREV-17	North of Sebastian Inlet	Sebastian Inlet State Park	157.2
WALT-04	Deer Lake State Park		130.6
BAY-01	Camp Helen State Park		128.4
STLU-05	Blind Creek Natural Area		115.1
MONR-51	Lower Sugarloaf Hammocks	Florida Keys Wildlife and Environmental Area	112.9
FRAN-08	Bald Point State Park		107.8
INDI-05	North of Baytree Development	Jungle Trail Conservation Area	107.0
MONR-09	Dove Creek Hammocks	Florida Keys Wildlife and Environmental Area	101.4
COLL-06	Little Marco Island	Rookery Bay National Estuarine Research Reserve	94.8
MONR-08	Rock Harbor Hammock	Lamar Louise Curry Preserve	91.1
BREV-08	Coconut Point Sanctuary		89.4
MONR-01	Palo Alto	John Pennekamp Coral Reef State Park	80.6
MONR-41	Ramrod Berms and Hammocks	Florida Keys Wildlife and Environmental Area	80.4
GULF-03	St. Joseph Peninsula State Park		78.5
FLAG-01	South of Marineland	River to Sea Preserve at Marineland	76.0
MONR-07	St. Margaret	Florida Keys Wildlife and Environmental Area	69.9
COLL-10	Cape Romano	Rookery Bay National Estuarine Research Reserve	58.9
FRAN-06	Royal Bluff		58.5
INDI-02	Treasure Shores		55.9
MONR-38	Torchwood Hammock	Florida Keys Wildlife and Environmental Area	55.8
MONR-21	Marathon Airport Hammock	Florida Keys Wildlife and Environmental Area	53.4
COLL-07	Cannon Island	Rookery Bay National Estuarine Research Reserve	50.5
LEE-07	Buck Key	J. N. Ding Darling National Wildlife Refuge	45.8
STLU-01a	Queen's Island		45.7
BREV-09	Sea Grape Manor North	Archie Carr National Wildlife Refuge	45.4
PALM-05	Loggerhead Park	Juno Dunes Natural Area	45.1
MONR-04	Largo Sound Village	John Pennekamp Coral Reef State Park	44.5
LEVY-03	Atsena Otie Key	Cedar Keys National Wildlife Refuge	43.9
MONR-50	Pirate's Cove	Florida Keys Wildlife and Environmental Area	40.8
MONR-52	Sugarloaf Beach	Florida Keys Wildlife and Environmental Area	40.3
MONR-39	Big Torch South	Florida Keys Wildlife and Environmental Area	38.9
BREV-12	Washburn Cove Sanctuary		38.8
MONR-36	Little Torch North	Florida Keys Wildlife and Environmental Area	38.7
BREV-14	Honest John's Fish Camp	Snagg Point	36.5
VOLU-01	North Peninsula State Park		36.2
MONR-10	Tavernier Towne Hammock	Florida Keys Wildlife and Environmental Area	34.8
BREV-18	Sebastian Inlet State Park		33.2
GULF-01	Beacon Hill		32.2
MONR-27	No Name Hammock	National Key Deer Refuge	31.9
LEE-11	Bunche Beach	San Carlos Bay - Bunche Beach Preserve	29.0
MONR-03	North Sound Hammock	John Pennekamp Coral Reef State Park	27.7
MONR-45	Little Knockemdown	Florida Keys Wildlife and Environmental Area	27.2
STJO-06	Ft. Matanzas National Monument		23.4
BREV-10	Hog Point Cove	Archie Carr National Wildlife Refuge, Hog Point Sanctuary	23.3
VOLU-03a	Green Mound Archaeological Site		22.8
FRAN-03	St George Island West		19.9
INDI-07	Prang Island		19.5
INDI-08	Round Island Park		18.9
MONR-19	Long Point	Curry Hammock State Park	18.4
MONR-33	Long Beach	Great White Heron National Wildlife Refuge	18.3
MONR-13	Teatable Hammock	Lignumvitae Key Botanical State Park	18.0
MONR-15	Matecumbe Hammock	Lignumvitae Key Botanical State Park	17.8
STLU-02	Fish House Cove	King's Island	17.0
BREV-07	Coconut Point Park		15.4
MONR-34	Coupon Bight Hammocks	National Key Deer Refuge	15.1
BREV-16	Pepper Cove	Barrier Island Ecosystem Center	14.3

Table1. Acreage of coastal uplands protected between 1992 and 2004.

Site Number	Name	Managed Area	Acreage protected 1992-2004
BREV-11	Hog Point Sanctuary		14.2
STLU-04	South of Blue Heron Boulevard	John Brooks Park	14.1
VOLU-03	Smyrna Dunes Park		13.7
MONR-43	Cupania Hammock		12.5
STLU-08	Herman's Bay Beach Access		11.8
INDI-01	Sebastian Inlet South	Sebastian Inlet State Park	10.0
MONR-11	Plantation Hammock		8.2
MART-03	House of Refuge Park		8.2
MART-01	Bob Graham Beach Park		7.7
MONR-46	Cudjoe Hammocks East	Florida Keys Wildlife and Environmental Area	6.6
MONR-53	Sawyer Key Berms	Great White Heron National Wildlife Refuge	5.0
VOLU-02	Lighthouse Point Park		5.0
BAY-04	Shell Island	St Andrews State Park	4.6
GULF-05	Indian Pass Beach		3.3
BREV-15	Aquarina	Archie Carr National Wildlife Refuge	3.0
INDI-03	Golden Sands County Park		1.3
TOTAL			7151.0

Table 2. Acreage of coastal uplands developed between 1992 and 2004.

Site Number	Name	Acres developed by 2004	Total acreage available	Percent developed
FRAN-03	St George Island West	880.9	1037.8	85
FLAG-03	Palm Coast	651.7	1337.8	49
GULF-03	St. Joseph Peninsula State Park	301.2	484.7	62
GULF-05	Indian Pass Beach	274.6	426.1	64
WALT-05	Inlet Beach	243.4	387.3	63
OKAL-04	Four Prong Lake	202.6	202.6	100
STJO-04	Anastasia Plaza	174.6	277.0	63
WALT-04	Deer Lake State Park	163.1	480.2	34
NASS-02	American Beach	150.7	278.4	54
BREV-15	Aquarina	111.7	157.2	71
GULF-02	Palm Point	104.9	1213.9	9
WALT-02	Draper Lake	101.8	226.2	45
STJO-05	Frank Butler County Park	99.0	154.3	64
INDI-06	South End of Jungle Trail	88.3	153.2	58
COLL-04	Keewaydin Island	73.5	553.5	13
WALT-01	Topsail Hill Preserve State Park	72.5	1500.9	5
VOLU-02	Lighthouse Point Park	70.6	120.5	59
WALT-03	Grayton Beach State Park	67.7	134.8	50
INDI-03	Golden Sands County Park	67.1	128.0	52
GULF-04	Cape San Blas	63.3	377.8	17
BREV-04	Jetty Park South	62.4	161.9	39
STLU-08	Herman's Bay Beach Access	56.8	93.8	61
VOLU-01	North Peninsula State Park	48.3	92.9	52
LEE-08	Wulfert Hammock	40.5	40.5	100
STJO-01	Mickler Landing	38.4	452.4	8
INDI-08	Round Island Park	33.8	82.3	41
LEE-05	Cayo Costa State Park - North Captiva	32.1	62.0	52
CHAR-03	Don Pedro Island State Park	31.8	85.6	37
MART-04	Sailfish Point	31.7	51.5	61
BREV-10	Hog Point Cove	30.6	53.9	57
FLAG-01	South of Marineland	29.7	400.1	7
INDI-04	South of Wabasso Beach Park	27.9	68.1	41
NASS-03	Amelia Island State Park	24.2	94.4	26
BREV-11	Hog Point Sanctuary	24.1	41.7	58
FRAN-05	Jeff Lewis Wilderness Preserve-Dog Is	21.3	393.0	5
INDI-02	Treasure Shores	19.1	119.3	16
BAY-02	Phillips Inlet East	18.9	36.9	51
COLL-09	Hideaway Beach	18.7	38.2	49
FRAN-08	Bald Point State Park	17.6	257.3	7
FRAN-06	Royal Bluff	17.0	90.0	19
MONR-38	Torchwood Hammock	16.9	82.7	20
SARA-05	Manasota Key Hammocks	15.5	67.4	23
BREV-13	North Floridana Beach	12.5	190.4	7
MART-07	Jupiter Estates North	12.0	66.5	18
CHAR-02	Knight Island and Thornton Key	11.5	197.9	6
SARA-03	Midnight Pass	11.0	31.3	35
BROW-01	Hillsboro Beach Estates	10.7	28.5	38
MART-08	Jupiter Island Estates South	10.3	27.4	38
GULF-01	Beacon Hill	9.6	66.6	14
BREV-07	Coconut Point Park	9.2	24.6	37
STLU-01	Avalon State Park	8.8	268.7	3
MONR-33	Long Beach	8.5	32.3	26

Table 2. Acreage of coastal uplands developed between 1992 and 2004.

Site Number	Name	Acres developed by 2004	Total acreage available	Percent developed
MONR-39	Big Torch South	8.3	82.2	10
BROW-05	Hollywood North Beach Regional Park	6.6	6.6	100
MART-02	Stuart Beach Park	6.0	34.0	18
MONR-43	Cupania Hammock	5.9	60.0	10
MONR-07	Florida Keys Wildlife and Environmenta	4.5	164.9	3
MART-03	House of Refuge Park	4.4	24.8	18
INDI-05	North of Baytree Development	4.3	120.2	4
LEE-03	Cayo Costa State Park	4.2	595.5	1
BREV-16	Pepper Cove	4.1	23.2	18
COLL-03	Vanderbilt Beach	2.8	42.8	6
MONR-11	Plantation Hammock	2.6	73.7	4
MONR-41	Ramrod Berms and Hammocks	2.4	207.4	1
STJO-06	Ft. Matanzas National Monument	2.4	42.1	6
BREV-17	North of Sebastian Inlet	2.4	221.4	1
COLL-06	Little Marco Island	2.4	121.9	2
BREV-12	Washburn Cove Sanctuary	1.9	55.4	3
MART-06	Hobe Sound	1.8	1.8	100
LEE-13	Lovers Key State Park	1.5	19.9	7
MONR-51	Lower Sugarloaf Hammocks	0.9	336.0	<1
MONR-09	Florida Keys Wildlife and Environmenta	0.8	122.7	1
MART-01	Bob Graham Beach Park	0.5	11.5	5
TOTAL		4795.5	15800.3	30

Table 3. Acreage of natural coastal uplands in private ownership in 2004.

Site Number	Name	Managed Area	Natural private acreage-2005	Natural public acreage-2005	Rank	within FF proj?	Comments
GULF-02	Palm Point		1109.0	0.0	A	n	unique "beach plain" topography but development plans well advanced ("Windmark" development)
BAY-07	St. Michels Landing		336.2	0.0	A	n	complements existing public lands on Tyndall AFB (oldest, most stable portion of Crooked East barrier Island), but development plans well advanced
FLAG-01	South of Marineland	River-to-Sea Preserve at Marineland	294.4	76.0	A	n	excellent addition to existing park - temperate maritime hammock, strand and beach -possibly owned by homeowners assoc - conservation easement?
MONR-51	Lower Sugarloaf Hammocks	Florida Keys WEA	222.3	112.9	A	y	important to complete existing public ownership -within Florida Keys Ecosystem FF project
WALT-04	Deer Lake State Park		186.5	130.6	A	y	opportunity to add to existing park - similar quality lands - highly rated site in original report (not within existing FF project)
WALT-05	Inlet Beach		143.9	0.0	A	n	low spray-pruned scrub on western end is still natural but development is ongoing - highly rated site in panhandle in original report
FRAN-08	Bald Point State Park		131.9	107.8	A	y	need to complete existing public ownership along Gulf frontage - within Dickerson Bay/Bald Point FF project
MONR-41	Ramrod Berms and Hammocks	Florida Keys WEA	124.6	80.4	A	y	additions needed to complete protection of existing upland parcels- within Florida Keys Ecosystem FF project
MONR-45	Little Knockemdown	Florida Keys WEA	101.6	27.2	A	y	most of site remains to be acquired; within Florida Keys Ecosystem FF project; one of highest rated sites in Keys in original report
MONR-40	Middle Torch Hammock	Florida Keys WEA	65.0	255.4	A	y	additions needed to complete protection of existing upland parcels- within Florida Keys Ecosystem FF project - one of highest rated sites in Keys in original report
INDI-02	Treasure Shores		44.2	135.7	A	y	many small parcels needed to complete existing protection of important turtle nesting beach - within Archie Carr Sea Turtle Refuge FF project
MONR-43	Cupania Hammock		41.6	16.9	A	y	purchase needed to avoid jigsaw puzzle of public ownership in Cupania Hammock-partially within Florida Keys Ecosystem FF project
MONR-36	Little Torch North	Florida Keys WEA	37.2	38.7	A	y	additions needed to complete protection of existing upland parcels- within Florida Keys Ecosystem FF project
COLL-10	Cape Romano	Rookery Bay NERR	35.3	117.8	A	n	purchase needed to avoid jigsaw puzzle of public ownership on Cape Romano
FRAN-05	Dog Island	Jeff Lewis Wilderness Preserve	371.7	1313.3	AB	n	protection would complement existing non-profit preserve on east end of island
STJO-04	Anastasia Plaza		102.4	0.0	AB	n	continuous hammock to beach dune portion remains at north end plus a larger strip of maritime hammock along coast road.
MONR-50	Pirate's Cove	Florida Keys WEA	93.5	40.8	AB	y	additions needed to complete protection of existing upland parcels- within Florida Keys Ecosystem FF project

Table 3. Acreage of natural coastal uplands in private ownership in 2004.

Site Number	Name	Managed Area	Natural private acreage-2005	Natural public acreage-2005	Rank	within FF proj?	Comments
MONR-07	St. Margaret	Florida Keys WEA	88.1	69.9	AB	y	additions needed to complete protection of existing upland parcels- within Florida Keys Ecosystem FF project
NASS-03	Amelia Island State Park		70.2	189.9	AB	n	potential addition to northern end of park - missed in 1992 report; 2004 photography not available, but area appears natural on 1999 photography
MONR-11	Plantation Hammock		62.9	8.2	AB	y	most remain to be acquired - --within Florida Keys Ecosystem FF project
BREV-17	North of Sebastian Inlet	Sebastian Inlet SP	61.8	165.9	AB	y	many small parcels needed to complete existing protection of important turtle nesting beach - within Archie Carr Sea Turtle Refuge FF project
PASC-01	Anclote Key Preserve State Park		36.3	256.3	AB	inhold?	Dutchman Key east of Anclote Key-would be excellent addition to existing park
INDI-08	Round Island Park		29.7	26.1	AB	n	one larger parcel with beachfront and backdune communities is partially cleared but not developed; adjacent to land within Indian River Lagoon Blueway FF project
COLL-06	Little Marco Island	Rookery Bay NERR	24.8	94.8	AB	inhold?	island mostly undeveloped; acquisition of these interdigitated small parcels would preserve tropical maritime hammock largely intact- highly rated site in original report
GULF-05	Indian Pass Beach		148.3	33.8	B	n	mostly beach dune and some scrub; as local or county park would provide excellent recreational opportunities.
NASS-02	American Beach		127.6	3.2	B	n	tall dune remains and beach dune to south of county park - possible conservation easement?
INDI-03	Golden Sands County Park		59.5	8.4	B	p	only isolated portions remain; county park could be expanded slightly to south - highly rated site in original report
INDI-04	South of Wabasso Beach Park		40.1	0.0	B	n	hammock and strand remain but are not contiguous - highly rated site in original report
MONR-03	North Sound Hammock	John Pennekamp Coral Reef SP	35.1	97.9	B	y	2 parcels needed to complete protection of site - within Florida Keys Ecosystem FF project
MONR-39	Big Torch South	Florida Keys WEA	35.0	38.9	B	y	2 main parcels to complete protection of site - partially within Florida Keys Ecosystem FF project; other WEA sites nearby (MONR-40, MONR-38)
COLL-07	Cannon Island	Rookery Bay NERR	24.2	234.5	B	inhold?	2 parcels needed to complete acquisition of large inner barrier island
BREV-14	Honest John's Fish Camp	Snagg Point	22.8	36.5	B	y	southern 1/2 of hammock fronting lagoon - within Indian River Lagoon Blueway FF project
STLU-01a	Queen's Island		22.5	45.7	B	p	acquisition of two parcels would provide intact boundary for existing preserve - only northern parcel within Indian River Lagoon Blueway FF project

Table 3. Acreage of natural coastal uplands in private ownership in 2004.

Site Number	Name	Managed Area	Natural private acreage-2005	Natural public acreage-2005	Rank	within FF proj?	Comments
BREV-12	Washburn Cove Sanctuary		14.7	38.8	B	n	parcels would buffer existing parcel from developed portion and provide increased beach frontage for turtle nesting protection
LEE-11	Bunche Beach	Bunche Beach Preserve	12.2	29.9	B	n	acquisition of these two parcels would complete public ownership by adding northwest end of this beach segment - within Estero Bay FF project
LEE-07	Buck Key	J. N. Ding Darling NWR	8.2	153.4	B	inhold?	would complete protection of entire island-excellent tropical hammock
FLAG-03	Palm Coast		202.3	484.8	C	p	hammock surrounded by development but would add to existing county lands; portion in Flagler County Blueway FF project
CHAR-02	Knight Island and Thornton Key		186.4	0.0	C	n	inner barrier with temperate/tropical maritime hammock - exclusive development-possible conservation easement?
FRAN-03	St George Island West		137.0	19.9	C	n	remaining natural portion near Sike's Cut might be suitable for a local park
WALT-02	Draper Lake		124.4	0.0	C	n	some natural lakeshore remains but beachfront portion developed; border Pt. Washington FF project
BREV-04	Jetty Park South		99.4	15.1	C	n	maritime hammock parcel remains but is cut off from connection to coast; could be added to existing county park
GULF-04	Cape San Blas		98.4	927.5	C	n	central portion developed leaving only fringe
STLU-04	South of Blue Heron Boulevard	John Brooks Park	90.2	107.0	C	n	FP&L power plant: has remained natural but Australian pines are a continuing source for infestation of adjacent public lands
GULF-03	St. Joseph Peninsula State Park		89.9	2764.3	C	inhold?	parcels isolated by development - only one contiguous with existing public land
PINE-03	Caladesi Island State Park		71.9	336.7	C	inhold?	low area of marsh and dunes forming "filled-in" portion of old Dunedin Pass; contiguous with state park
WALT-03	Grayton Beach State Park		67.1	441.7	C	inhold?	potential addition to western end of the park with lakeshore and Gulf frontage - missed in 1992
WALT-01	Topsail Hill Preserve State Park		56.2	1545.4	C	inhold?	inholdings remaining in large state park
STJO-05	Frank Butler County Park		55.3	15.4	C	n	hammock isolated from coast; one portion adjacent to existing county park
DUVA-01	Big Talbot Island State Park		51.7	1400.1	C	inhold?	inholdings in large state park
STLU-06	Florida Power and Light Nuclear Plant		50.1	0.0	C	n	FP&L power plant: has remained natural but Australian pines are a continuing source for infestation of adjacent public lands
LEE-03	Cayo Costa State Park		49.7	1849.8	C	inhold?	inholdings in large state park
BREV-15	Aquarina	Archie Carr NWR	42.5	3.8	C	p	isolated parcels of maritime hammock one of which is within the Indian River Lagoon FF project
MANA-01	Beer Can Island		39.4	5.3	C	n	prograded beachfront south of inlet - 2004 photography not available

Table 3. Acreage of natural coastal uplands in private ownership in 2004.

Site Number	Name	Managed Area	Natural private acreage-2005	Natural public acreage-2005	Rank	within FF proj?	Comments
MONR-27	No Name Hammock	National Key Deer Refuge	36.4	428.9	C	y	several small parcels would complete protection of existing upland parcels- within Florida Keys Ecosystem FF project
COLL-04	Keewaydin Island	Rookery Bay NERR	36.2	443.8	C	inhold?	many small parcels on Keewaydin Island - source for re-infestation of Australian pine
MONR-35	Big Munson		35.4	0.0	C	n	owned by Boy Scouts of America - possible conservation easement?
STLU-07	Walton Rocks Beach Access		33.1	0.0	C	n	FP&L power plant: has remained natural but Australian pines are a continuing source for infestation of adjacent public lands
MONR-34	Coupon Bight Hammocks	National Key Deer Refuge	32.3	72.1	C	y	3 separate areas need to complete existing public ownership - within Coupon Bight/Key Deer FF project
LEVY-01	Islands North of Cedar Key	Cedar Keys NWR	31.2	273.4	C	inhold?	island inholdings within Cedar Keys National Wildlife Refuge
ESCA-05a	Santa Rosa County Beaches		31.2	121.1	C	n	these 3 dune areas with frontage on Santa Rosa Sound would make a good addition to existing County land which is not yet developed as a park
LEE-05	North Captiva Island	Cayo Costa SP	29.9	275.4	C	inhold?	private holdings mostly on south end of Captiva Island - subject to overwash during Hurricane Charlie (2004)
STLU-05	Blind Creek Natural Area		29.8	115.1	C	n	FP&L power plant: has remained natural but Australian pines are a continuing source for infestation of adjacent public lands
MONR-49	Sugarloaf Hammocks North	Great White Heron NWR	29.1	218.9	C	p	site mostly acquired - parcel on southeast end of public land; partially within Florida Keys Ecosystem FF project
MART-02	Stuart Beach Park		28.1	32.4	C	n	slightly disturbed hammock bordering mangroves; narrow connection to beach, but borders existing county park
STJO-02	Guana River State Park	Guana Tolomato Matanzas NERR	24.8	1712.7	C	inhold?	2 inholdings in Guano-Tolomato-Matanzas NERR
STLU-01	Avalon State Park		21.1	396.3	C	inhold?	inholdings in large state park
MONR-08	Rock Harbor Hammock	Lamar Louise Curry Preserve	21.0	91.1	C	y	two strips along road; high density development would detract from existing preserve - within Florida Keys Ecosystem FF project
MONR-09	Dove Creek Hammocks	Florida Keys WEA	20.6	120.7	C	y	3 parcels needed to complete acquisition of site - within Florida Keys Ecosystem FF project
LEE-13	Lovers Key State Park		18.4	153.4	C	y	prograded sandspit at inlet- acquisition would provide access to county-owned portion at tip; too unstable for development - within Estero Bay FF project
BAY-02	Phillips Inlet East		18.0	0.0	C	n	central portion of hammock cleared, dividing it into two isolated parcels
STLU-08	Herman's Bay Beach Access		16.4	12.4	C	y	potential to double size of small county park by adding parcel to south; "developed" strip to south actually only just cleared; within Indian River Lagoon Blueway FF proj
STJO-06	Ft. Matanzas National Monument		16.2	232.7	C	y	several small lots in county-owned portion - within Northeast Florida Blueway FF proj

Table 3. Acreage of natural coastal uplands in private ownership in 2004.

Site Number	Name	Managed Area	Natural private acreage-2005	Natural public acreage-2005	Rank	within FF proj?	Comments
MONR-02	North Key Largo Hammocks	Dagny Johnson Key Largo Hamn	15.4	2103.5	C	inhold?	inholdings in large state park
FRAN-06	Royal Bluff		14.5	58.5	C	inhold?	parcels would protect what remains of the highest dune on this section of coastline (following sand mining of center of it) and consolidate existing boundaries of public lands
MART-03	House of Refuge Park		12.2	23.7	C	n	several parcels would complete public ownership
MONR-13	Teatable Hammock	Lignumvitae Key Botanical SP	11.7	18.0	C	n	parcel not within Florida Keys Ecosystem FF project - few houses embedded in central portion of hammock (adj. to existing public land) but east end appears completely natural
MONR-38	Torchwood Hammock	Florida Keys WEA	10.0	213.8	C	y	ties together a complicated pattern of existing ownership in one of the parcels--within Florida Keys Ecosystem FF project
BAY-04	Shell Island	Tyndall AFB, St Andrews SP	9.6	1417.1	C	inhold?	small, scattered inholdings in large state park
VOLU-01	North Peninsula State Park		8.4	491.7	C	inhold?	inholdings in large state park
MONR-16	North Layton Hammock		8.0	0.0	C	y	small site within Florida Keys Ecosystem FF project
MONR-47	Cudjoe Hammocks West	Great White Heron NWR	7.7	106.7	C	n	house in center of parcel otherwise natural - not within FF project
INDI-05	North of Baytree Development	Jungle Trail Conservation Area	6.9	107.0	C	p	4 parcels on edges of public owned area - 2 within Archie Carr Sea Turtle Refuge FF project
BREV-13	North Floridana Beach	Maritime Hammock Sanctuary	5.8	188.4	C	n	2 hammock parcels bordering existing sanctuary - not within Archie Carr Sea Turtle Refuge FF project
MONR-33	Long Beach	Great White Heron NWR	5.5	25.5	C	y	small natural parcels alternating with developed parcels in western portion of site - within Florida Keys Ecosystem FF project
BREV-16	Pepper Cove	Barrier Island Ecosystem Center	4.8	14.9	C	y	small parcels connecting existing public parcels along sea turtle nesting beach - within Archie Carr Sea Turtle Refuge FF project
MONR-15	Matecumbe Hammock	Lignumvitae Key Botanical SP	4.7	17.8	C	y	connecting link for portion in public ownership - partially developed--within Florida Keys Ecosystem FF
BREV-11	Hog Point Sanctuary		3.4	14.2	C	n	site mostly developed; this long narrow strip would buffer publicly owned portion from development to south
MONR-18	Valhalla		3.2	0.0	C	y	comprises entire site - hammock surrounded by mangroves - within Florida Keys Ecosystem FF project
PALM-07	South of Southern Boulevard Bridge		3.2	2.3	C	n	small site - parcel is south of publicly (non-profit) owned portion and is partially cleared
VOLU-03a	Green Mound Archaeological Site		3.0	26.9	C	inhold?	two strips of natural land buffering publicly owned site to north
MART-01	Bob Graham Beach Park		2.8	39.7	C	inhold?	outparcel in middle of strip of public land along beach
DUVA-03	Huguenot Memorial Park		2.7	259.4	C	n	small private parcel on west edge of park
MONR-46	Cudjoe Hammocks East	Florida Keys WEA	2.5	159.5	C	y	small parcel on edge of publicly owned land - within Florida Keys Ecosystem FF project
STJO-01	Mickler Landing		413.9	0.0	N/A		not feasible to acquire - many houses embedded in hammock possible conservation easement?

Table 3. Acreage of natural coastal uplands in private ownership in 2004.

Site Number	Name	Managed Area	Natural private acreage-2005	Natural public acreage-2005	Rank	within FF proj?	Comments
INDI-06	South End of Jungle Trail	Turtle Trail Beach Access	64.9	0.0	N/A		only isolated portions of strand and hammock remain separated by development - highly rated site in original report
MART-07	Jupiter Estates North		54.5	0.0	N/A		not feasible to acquire - many houses embedded in hammock possible conservation easement?
CHAR-03	Don Pedro Island State Park		53.8	111.2	N/A		prograded beachfront with beach dune and coastal grassland at southern tip of Don Pedro island - low probability of development
SARA-05	Manasota Key Hammocks		51.9	0.0	N/A		not feasible to acquire - many houses embedded in hammock possible conservation easement?
VOLU-03	Smyrna Dunes Park		45.2	141.8	N/A		prograded beach fronting private lots - low probability of development
VOLU-02	Lighthouse Point Park		44.9	75.0	N/A		temperate maritime hammock isolated from beach with a few embedded houses -possible conservation easement?
COLL-03	Vanderbilt Beach		40.1	28.9	N/A		long narrow beachfront, mostly beach dune - low probability of development
STLU-03	Ft. Pierce Inlet State Park		29.4	69.1	N/A		prograded beach fronting private lots - low probability of development
LEE-10	Sanibel Island Lighthouse		26.2	24.0	N/A		prograded beach fronting private lots - low probability of development
SARA-03	Midnight Pass	Palmer Point County Park	20.3	26.5	N/A		prograded beach - low probability of development
MART-04	Sailfish Point		19.8	0.0	N/A		prograded beach fronting private lots - low probability of development
COLL-09	Hideaway Beach		19.5	2.9	N/A		mostly fringing central developed portion but potential to add small area of hammock to county-owned portion at tip
BROW-01	Hillsboro Beach Estates		17.8	0.0	N/A		hammock largely developed; low probability of development of area fronting beach
MART-08	Jupiter Island Estates South		17.1	0.0	N/A		not feasible to acquire - many houses embedded in hammock possible conservation easement?
LEE-04	Cabbage Key		13.9	0.0	N/A		not feasible to acquire - many houses embedded in hammock possible conservation easement?
GULF-01	Beacon Hill		8.2	32.2	N/A		undeveloped beachfront not contiguous with existing public acreage
BAY-01	Camp Helen State Park		3.9	128.4	N/A		mostly beachdune on highly variable shoreline
MART-09	Blowing Rocks Preserve		1.0	86.0	N/A		existing conservation easement
TOTAL			7478.7				

Table 4. Status in 2004 of sites with privately owned coastal upland acreage in 1992.

SITE_NUM	SITE NAME	MANAGED AREA	orig pri	orig pri acres	orig pri acres	orig pri acres	mostly	partially	mostly	mostly	Comments
			acres	pub nat '04	pri nat-'04	devel-'04	protected	protected	un-protected	developed	
BAY-01	Camp Helen SP		132.3	128.4	3.9	0.0	1				done!
BREV-07	Coconut Point Park		24.6	15.4	0.0	9.2	1				done
BREV-08	Coconut Point Sanctuary		89.4	89.4	0.0	0.0	1				done!
BREV-09	Sea Grape Manor North	Archie Carr NWR	45.4	45.4	0.0	0.0	1				done!
BREV-10	Hog Point Cove	Archie Carr NWR, Hog Point Sanctua	53.9	23.3	0.0	30.6	1				done
BREV-11	Hog Point Sanctuary		41.7	14.2	3.4	24.1	1				done
BREV-13	North Floridana Beach	Maritime Hammock Sanctuary	190.4	172.1	5.8	12.5	1				done
BREV-18	Sebastian Inlet SP		33.2	33.2	0.0	0.0	1				done!
COLL-04	Keewaydin Island	Rookery Bay NERR	553.5	443.8	36.2	73.5	1				done!
INDI-01	Sebastian Inlet South	Sebastian Inlet SP	10.0	10.0	0.0	0.0	1				done
INDI-05	North of Baytree Development	Jungle Trail Conservation Area	120.2	107.0	6.9	6.3	1				done!
INDI-07	Prang Island		19.5	19.5	0.0	0.0	1				done!
LEE-03	Cayo Costa SP		595.5	541.6	49.7	4.2	1				some more
LEE-07	Buck Key	J. N. Ding Darling NWR	54.0	45.8	8.2	0.0	1				done!
LEVY-03	Atsena Otie Key	Cedar Keys NWR	43.9	43.9	0.0	0.0	1				done!
MART-01	Bob Graham Beach Park		11.5	7.7	2.8	1.1	1				done
MONR-01	Palo Alto	John Pennekamp Coral Reef SP	80.6	80.6	0.0	0.0	1				done!
MONR-02	North Key Largo Hammocks	Key Largo Hammock Botanical SP	397.9	382.5	15.4	0.0	1				close
MONR-04	Largo Sound Village	John Pennekamp Coral Reef SP	44.5	44.5	0.0	0.0	1				done!
MONR-08	Rock Harbor Hammock	Lamar Louise Curry Preserve	112.1	91.1	21.0	0.0	1				close
MONR-09	Dove Creek Hammocks	Florida Keys WEA	122.7	101.4	20.6	0.8	1				close
MONR-10	Tavernier Towne Hammock	Florida Keys WEA	34.8	34.8	0.0	0.0	1				done!
MONR-19	Long Point	Curry Hammock SP	18.4	18.4	0.0	0.0	1				done!
MONR-21	Marathon Airport Hammock	Florida Keys WEA	53.4	53.4	0.0	0.0	1				done!
MONR-33	Long Beach	Great White Heron NWR	32.3	18.3	5.5	8.5	1				partial
MONR-38	Torchwood Hammock	Florida Keys WEA	82.7	55.8	10.0	16.9	1				crucial piece remaining
MONR-46	Cudjoe Hammocks East	Florida Keys WEA	9.1	6.6	2.5	0.0	1				minor change
MONR-52	Sugarloaf Beach	Florida Keys WEA	40.3	40.3	0.0	0.0	1				done!
MONR-53	Sawyer Key Berms	Great White Heron NWR	5.0	5.0	0.0	0.0	1				done!
PALM-05	Loggerhead Park North	Juno Dunes Natural Area	45.7	45.1	0.0	0.7	1				done!
STLU-01	Avalon SP		268.7	238.8	21.1	8.8	1				done!
STLU-02	Fish House Cove	King's Island	17.0	17.0	0.0	0.0	1				done!
STLU-05	Blind Creek Natural Area		144.9	115.1	29.8	0.0	1				done
VOLU-01	North Peninsula SP		92.9	36.2	8.4	48.3	1				done
VOLU-03	Smyrna Dunes Park		58.9	13.7	45.2	0.0	1				only private beachfront re
VOLU-03a	Green Mound Archaeological Site		25.8	22.8	3.0	0.0	1				done!
WALT-01	Topsail Hill Preserve SP		1500.9	1372.3	56.2	72.5	1				done!
BAY-04	Shell Island	Tyndall AFB, St Andrews SP	14.2	4.6	9.6	0.0		1			more
BREV-12	Washburn Cove Sanctuary		55.4	38.8	14.7	1.9		1			more
BREV-14	Honest John's Fish Camp	Snagg Point	59.2	36.5	22.8	0.0		1			more
BREV-16	Pepper Cove	Barrier Island Ecosystem Center	23.2	14.3	4.8	4.1		1			more
BREV-17	North of Sebastian Inlet	Sebastian Inlet SP	221.4	157.2	61.8	2.4		1			more
COLL-06	Little Marco Island	Rookery Bay NERR	121.9	94.8	24.8	2.4		1			more
COLL-07	Cannon Island	Rookery Bay NERR	74.7	50.5	24.2	0.0		1			more
COLL-10	Cape Romano	Rookery Bay NERR	94.1	58.9	35.3	0.0		1			crucial piece remaining
ESCA-05a	Santa Rosa County Beaches		31.2	0.0	31.2	0.0		1			more
FLAG-01	South of Marineland	River-to-Sea Preserve at Marineland	400.1	76.0	294.4	29.7		1			more**

Table 4. Status in 2004 of sites with privately owned coastal upland acreage in 1992.

SITE_NUM	SITE NAME	MANAGED AREA	orig pri	orig pri acres	orig pri acres	orig pri acres	mostly	partially	mostly	mostly	Comments
			acres	pub nat '04	pri nat-'04	devel-'04	protected	protected	un-protected	developed	
FLAG-03	Palm Coast		1337.8	482.7	202.3	652.8		1			more
FRAN-03	St George Island West		1037.8	19.9	137.0	880.9		1			more
FRAN-05	Dog Island	Jeff Lewis Wilderness Preserve	393.0	0.0	371.7	21.3		1			more
FRAN-06	Royal Bluff		90.0	58.5	14.5	17.0		1			partly developed
FRAN-08	Bald Point SP		257.3	107.8	131.9	17.6		1			crucial piece remaining
GULF-03	St. Joseph Peninsula SP		484.7	78.5	89.9	316.4		1			more**
GULF-05	Indian Pass Beach		426.1	3.3	148.3	274.6		1			more
INDI-02	Treasure Shores		119.3	55.9	44.2	19.1		1			more
INDI-08	Round Island Park		82.3	18.9	29.7	33.8		1			more
LEE-11	San Carlos Bay - Bunche Beach Preserve		41.3	29.0	12.2	0.0		1			more
MART-03	House of Refuge Park		24.8	8.2	12.2	4.4		1			more
MONR-03	North Sound Hammock	John Pennekamp Coral Reef SP	62.7	27.7	35.1	0.0		1			more
MONR-07	St. Margaret	Florida Keys WEA	164.9	69.9	88.1	6.9		1			more
MONR-13	Teatable Hammock	Lignumvitae Key Botanical SP	29.7	18.0	11.7	0.0		1			more
MONR-15	Matecumbe Hammock	Lignumvitae Key Botanical SP	22.5	17.8	4.7	0.0		1			crucial piece remaining
MONR-27	No Name Hammock	National Key Deer Refuge	68.2	31.9	36.4	0.0		1			more
MONR-34	Coupon Bight Hammocks	National Key Deer Refuge	47.4	15.1	32.3	0.0		1			more
MONR-36	Little Torch North	Florida Keys WEA	75.9	38.7	37.2	0.0		1			crucial piece remaining
MONR-39	Big Torch South	Florida Keys WEA	82.2	38.9	35.0	8.3		1			more
MONR-40	Middle Torch Hammock	Florida Keys WEA	264.6	199.6	65.0	0.0		1			more **
MONR-41	Ramrod Berms and Hammocks	Florida Keys WEA	207.4	80.4	124.6	2.4		1			more**
MONR-50	Pirate's Cove	Florida Keys WEA	134.2	40.8	93.5	0.0		1			more**
MONR-51	Lower Sugarloaf Hammocks	Florida Keys WEA	336.0	112.9	222.3	0.9		1			more**
STJO-06	Ft. Matanzas National Monument		42.1	23.4	16.2	2.4		1			more
STLU-01a	Queen's Island		68.2	45.7	22.5	0.0		1			more
STLU-04	South of Blue Heron Boulevard	John Brooks Park	104.3	14.1	90.2	0.0		1			more
STLU-08	Herman's Bay Beach Access		93.8	11.8	16.4	65.6		1			partially developed
WALT-04	Deer Lake SP		480.2	130.6	186.5	163.1		1			adjacent lands
BAY-07	St. Michels Landing		336.2	0.0	336.2	0.0			1		no change
BREV-04	Jetty Park South		161.9	0.0	99.4	62.4			1		partially developed
CHAR-02	Knight Island and Thornton Key		197.9	0.0	186.4	11.5			1		more
DUVA-01	Big Talbot Island SP		51.7	0.0	51.7	0.0			1		small
DUVA-03	Huguenot Memorial Park		2.7	0.0	2.7	0.0			1		small
GULF-02	Palm Point		1213.9	0.0	1109.0	104.9			1		more**
GULF-04	Cape San Blas		377.8	216.1	98.4	63.3			1		more
INDI-03	Golden Sands County Park		128.0	1.3	59.5	67.1			1		isolated pieces
INDI-04	South of Wabasso Beach Park		68.1	0.0	40.1	27.9			1		more
INDI-06	South End of Jungle Trail	Turtle Trail Beach Access	153.2	0.0	64.9	88.3			1		more
LEE-05	North Captiva Island	Cayo Costa SP	62.0	0.0	29.9	32.1			1		partially developed
LEE-13	Lovers Key SP		19.9	0.0	18.4	1.5			1		changeable coast
LEVY-01	Islands North of Cedar Key	Cedar Keys NWR	31.2	0.0	31.2	0.0			1		no change
MANA-01	Beer Can Island		39.4	0.0	39.4	0.0			1		eroding
MART-02	Stuart Beach Park		34.0	0.0	28.1	6.0			1		partially developed
MONR-11	Plantation Hammock		73.7	8.2	62.9	2.6			1		far to go
MONR-16	North Layton Hammock		8.0	0.0	8.0	0.0			1		no change
MONR-18	Valhalla		3.2	0.0	3.2	0.0			1		no change
MONR-35	Big Munson		35.4	0.0	35.4	0.0			1		no change

Table 4. Status in 2004 of sites with privately owned coastal upland acreage in 1992.

SITE_NUM	SITE NAME	MANAGED AREA	orig pri acres	orig pri acres pub nat '04	orig pri acres pri nat-'04	orig pri acres devel-'04	mostly protected	partially protected	mostly un-protected	mostly developed	Comments
MONR-43	Cupania Hammock		60.0	12.5	41.6	5.9			1		crucial piece remaining
MONR-45	Little Knockemdown	Florida Keys WEA	128.8	27.2	101.6	0.0			1		more**
MONR-47	Cudjoe Hammocks West	Great White Heron NWR	7.7	0.0	7.7	0.0			1		minor remains
MONR-49	Sugarloaf Hammocks North	Great White Heron NWR	29.1	0.0	29.1	0.0			1		no change
NASS-02	American Beach		278.4	0.0	127.6	150.7			1		more
NASS-03	Amelia Island SP		94.4	0.0	70.2	24.2			1		more**
PALM-07	South of Southern Boulevard Bridge		3.2	0.0	3.2	0.0			1		small
PASC-01	Anclote Key Preserve SP		36.3	0.0	36.3	0.0			1		no change
PINE-03	Caladesi Island SP		71.9	0.0	71.9	0.0			1		no change
STJO-02	Guana River SP	Guana Tolomato Matanzas NERR	24.8	0.0	24.8	0.0			1		more
STJO-04	Anastasia Plaza		277.0	0.0	102.4	174.6			1		more
STJO-05	Frank Butler County Park		154.3	0.0	55.3	99.0			1		isolated from oceanfront
STLU-06	Florida Power and Light Nuclear Plant		50.1	0.0	50.1	0.0			1		no change
STLU-07	Walton Rocks Beach Access		33.1	0.0	33.1	0.0			1		no change
VOLU-02	Lighthouse Point Park		120.5	5.0	44.9	70.6			1		mostly embedded private
WALT-02	Draper Lake		226.2	0.0	124.4	101.8			1		some lakefront
WALT-03	Grayton Beach SP		134.8	0.0	67.1	67.7			1		adjacent lands
WALT-05	Inlet Beach		387.3	0.0	143.9	243.4			1		western portion
BAY-02	Phillips Inlet East		36.9	0.0	18.0	18.9				1	developed splits up rema
BREV-15	Aquarina	Archie Carr NWR	157.2	3.0	42.5	111.7				1	remainder broken up
BROW-05	Hollywood North Beach Regional Park		6.6	0.0	0.0	6.6				1	gone
COLL-09	Hideaway Beach		38.2	0.0	19.5	18.7				1	gone
LEE-08	Wulfert Hammock	Sanibel-Captiva Conservation Founda	40.5	0.0	0.0	40.5				1	gone
MART-04	Sailfish Point		51.5	0.0	19.8	31.7				1	only private beachfront re
MART-06	Hobe Sound		1.8	0.0	0.0	1.8				1	gone
NASS-01	Fort Clinch SP		6.2	0.0	0.0	6.2				1	gone
OKAL-04	Four Prong Lake		202.6	0.0	0.0	202.6				1	gone
BROW-01	Hillsboro Beach Estates		28.5	0.0	17.8	10.7			N/A		private homes
CHAR-03	Don Pedro Island SP		85.6	0.0	53.8	31.8			N/A		private beachfront
COLL-03	Vanderbilt Beach		42.8	0.0	40.1	2.8			N/A		private beachfront
GULF-01	Beacon Hill		66.6	32.2	8.2	26.1			N/A		private beachfront
LEE-04	Cabbage Key		13.9	0.0	13.9	0.0			N/A		private homes
LEE-10	Sanibel Island Lighthouse		26.2	0.0	26.2	0.0			N/A		private beachfront
SARA-03	Midnight Pass	Palmer Point County Park	31.3	0.0	20.3	11.0			N/A		private beachfront
STLU-03	Ft. Pierce Inlet SP		29.4	0.0	29.4	0.0			N/A		private beachfront
MART-07	Jupiter Estates North		66.5	0.0	54.5	12.0			N/A		private homes
MART-08	Jupiter Island Estates South		27.4	0.0	17.1	10.3			N/A		private homes
SARA-05	Manasota Key Hammocks		67.4	0.0	51.9	15.5			N/A		private homes
STJO-01	Mickler Landing		452.4	0.0	413.9	38.4			N/A		private homes
TOTAL			19477.5	7151.0	7477.7	4848.8	37	38	37	9	121+12 N/A

Table 5. Acreage of coastal upland sites in private ownership that lies within existing Florida Forever projects.

Site Number	Name	Florida Forever Project	ACRES
BREV-14	Snagg Point - formerly Honest John's Fish Camp	Indian River Lagoon Blueway	22.783
BREV-15	Archie Carr National Wildlife Refuge - formerly Aquarina	Indian River Lagoon Blueway	9.658
BREV-16	Barrier Island Ecosystem Center - formerly Pepper Cove	Archie Carr Sea Turtle Refuge	4.169
BREV-17	Sebastian Inlet State Park - formerly North of Sebastian Inlet	Archie Carr Sea Turtle Refuge	50.111
FLAG-01	River to Sea Preserve at Marineland - formerly "South of Marineland"	Flagler County Blueway	225.184
FLAG-03	Palm Coast	Flagler County Blueway	44.653
FRAN-08	Bald Point State Park	Dickerson Bay/Bald Point	74.741
INDI-02	Treasure Shores	Archie Carr Sea Turtle Refuge	28.855
INDI-03	Golden Sands County Park	Archie Carr Sea Turtle Refuge	8.124
INDI-05	Jungle Trail Conservation Area - formerly North of Baytree Development	Archie Carr Sea Turtle Refuge	2.466
INDI-06	Turtle Trail Beach Access - formerly South End of Jungle Trail	Archie Carr Sea Turtle Refuge	13.009
INDI-08	Round Island Park	Indian River Lagoon Blueway	0.601
LEE-11	San Carlos Bay - Bunche Beach Preserve	Estero Bay	12.236
LEE-13	Lovers Key State Park	Estero Bay	18.421
MONR-02	Dagny Johnson Key Largo Hammock Botanical State Park - formerly North Key Largo Hammocks	North Key Largo Hammocks	14.338
MONR-03	John Pennekamp Coral Reef State Park - formerly North Sound Hammock	Florida Keys Ecosystem	29.995
MONR-07	Florida Keys Wildlife and Environmental Area - formerly St. Margaret	Florida Keys Ecosystem	72.468
MONR-08	Lamar Louise Curry Preserve - formerly Rock Harbor Hammock	Florida Keys Ecosystem	11.791
MONR-09	Florida Keys Wildlife and Environmental Area - formerly Dove Creek Hammocks	Florida Keys Ecosystem	17.504
MONR-11	Plantation Hammock	Florida Keys Ecosystem	48.347
MONR-15	Lignumvitae Key Botanical State Park - formerly Matecumbe Hammock	Florida Keys Ecosystem	4.307
MONR-16	North Layton Hammock	Florida Keys Ecosystem	7.891
MONR-18	Valhalla	Florida Keys Ecosystem	2.832
MONR-27	National Key Deer Refuge - formerly No Name Hammock	Coupon Bight/Key Deer	31.923
MONR-33	Great White Heron National Wildlife Refuge - formerly Long Beach	Coupon Bight/Key Deer	3.233
MONR-34	National Key Deer Refuge - formerly Coupon Bight Hammocks	Coupon Bight/Key Deer	32.281
MONR-36	Florida Keys Wildlife and Environmental Area - formerly Little Torch North	Florida Keys Ecosystem	21.082
MONR-38	Florida Keys Wildlife and Environmental Area - formerly Torchwood Hammock	Florida Keys Ecosystem	5.830
MONR-39	Florida Keys Wildlife and Environmental Area - formerly Big Torch South	Florida Keys Ecosystem	22.711
MONR-40	Florida Keys Wildlife and Environmental Area - formerly Middle Torch Hammock	Florida Keys Ecosystem	56.268
MONR-41	Florida Keys Wildlife and Environmental Area - formerly Ramrod Berms and Hammocks	Florida Keys Ecosystem	120.537
MONR-43	Cupania Hammock	Florida Keys Ecosystem	17.114
MONR-45	Florida Keys Wildlife and Environmental Area - formerly Little Knockemdown	Florida Keys Ecosystem	101.611
MONR-46	Florida Keys Wildlife and Environmental Area - formerly Cudjoe Hammocks East	Florida Keys Ecosystem	2.418
MONR-49	Great White Heron National Wildlife Refuge - Sugarloaf Hammocks North	Florida Keys Ecosystem	20.438
MONR-50	Florida Keys Wildlife and Environmental Area - Pirate's Cove	Florida Keys Ecosystem	90.198
MONR-51	Florida Keys Wildlife and Environmental Area - Lower Sugarloaf Hammocks	Florida Keys Ecosystem	196.926
STJO-02	Guana Tolomato Matanzas National Estuarine Research Reserve-Guana River Site	Northeast Florida Blueway	13.890
STJO-05	Frank Butler County Park	Northeast Florida Blueway	5.572
STJO-06	Ft. Matanzas National Monument	Northeast Florida Blueway	10.743
STLU-01	Avalon State Park	Indian River Lagoon Blueway	0.671
STLU-01a	Queen's Island	Indian River Lagoon Blueway	4.968
STLU-08	Herman's Bay Beach Access	Indian River Lagoon Blueway	13.070
WALT-01	Topsail Hill Preserve State Park	South Walton County Ecosystem	33.813
WALT-03	Grayton Beach State Park	South Walton County Ecosystem	43.798
WALT-04	Deer Lake State Park	South Walton County Ecosystem	5.471
TOTAL			1579.050

Table 6. Acreage of wetland sites entirely in private ownership that lies within existing Florida Forever projects.

Site Number	Florida Forever Project	Natural Community Types	Community Condition	Acres	Owner type	Comments
DUVA-w12	Pumpkin Hill Creek	saltmarsh	natural	1006.349	private	The Nature Conservancy owns; within Nassau and St Johns River Marshes AP
DUVA-w15	Northeast Florida Blueway	saltmarsh	natural	117.192	private	partially in Timucuan Ecologic and Historic Preserve
INDI-w2	Indian River Lagoon Blueway	mangrove	perimeter dikes	147.554	private	borders Oslo Conservation Area (SJRWMD and county)
LEE-w10	Estero Bay	mangrove	natural	12.749	private	
LEE-w11	Estero Bay	mangrove	natural	91.363	private	
LEE-w12	Estero Bay	mangrove	natural	341.041	private	
LEE-w13	Estero Bay	mangrove	natural	287.040	private	borders Big Hickory Island Preserve (county)
LEVY-w1	Caber Coastal Connector Tract	saltmarsh	natural	603.566	private	borders Lower Suwanee NWR
MANA-w1	Terra Ceia	mangrove	natural	1054.370	private	borders Terra Ceia Preserve SP
MONR-w2	Florida Keys Ecosystem	mangrove	natural	561.838	private	
MONR-w6	Florida Keys Ecosystem	mangrove	natural	370.938	private	borders Florida Keys WEA
MONR-w7	Florida Keys Ecosystem	mangrove, scrub mangrove	natural	103.179	private	borders Great White Heron NWR and Florida Keys WEA
MONR-w8	Florida Keys Ecosystem	tidal flat, mangrove, scrub mangrove	natural	89.308	private	borders Great White Heron NWR
NASS-w3	Tiger/Little Tiger Island	saltmarsh	natural	924.033	private	
STJO-w4	NE Florida Blueway	saltmarsh	natural	181.599	private	
VOLU-w1	Flagler County Blueway	saltmarsh	ditched	221.650	private	adjacent to Tomoka Marsh Aquatic Preserve
TOTAL				6113.769		

Table 7. List of shapefiles accompanying this report.

Name	Content	Location
czm_uplands_2004.shp	polygons of portions of all coastal upland sites in Florida >20acres in natural condition in 1992, classified by whether they were in public or private ownership in 1992, in public or private ownership in 2004, and developed or not in 2004	CD accompanying this report
czm_wetlands_2004.shp	polygons of all coastal wetlands in private ownership greater than 200 acres in extent with their ownership type, natural communities and Florida Forever project, if any.	CD accompanying this report
czm_uplands_site_status_2004.shp	point file of coastal upland sites that had some acreage in private ownership in 1992 labelled according to status of public acquisition of entire site.	CD accompanying this report
czm_uplands_private_FF.shp	private upland acreage within Florida Forever projects (clip of subset of sites remaining natural in private ownership in czm_uplands_2004.shp with FNAI Florida Forever project boundaries shapefile [ffbot.shp])	CD accompanying this report
czm_wetlands_private_FF.shp	private wetland acreage within Florida Forever projects (clip of subset of sites wholly in private ownership in czm_wetlands_2004.shp with FNAI Florida Forever project boundaries shapefile [ffbot.shp])	CD accompanying this report
czm_wetlands_public_private_FF.shp	mixed public/private wetland sites within Florida Forever projects (subset of sites in mixed public/private ownership in czm_wetlands_2004.shp that are wholly or partially within a Florida Forever project)	CD accompanying this report