

QL
684
.F6
F63
BIRD

Florida Field Naturalist

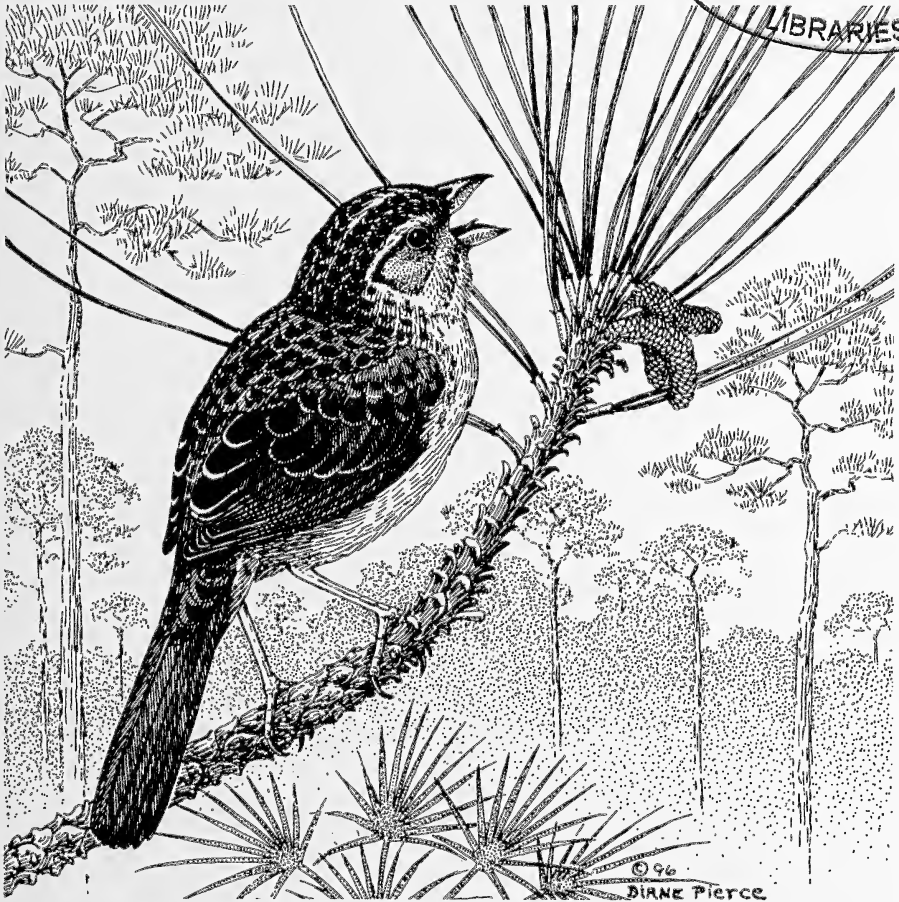
PUBLISHED BY THE FLORIDA ORNITHOLOGICAL SOCIETY

VOL. 41, No. 2

MAY 2013

PAGES 29-69

SMITHSONIAN
AUG 14 2013
LIBRARIES



FLORIDA ORNITHOLOGICAL SOCIETY

FOUNDED 1972

OFFICERS

PRESIDENT: DAVE GOODWIN, 807 Woodcarver Lane, Brandon, FL 33510. E-mail: Dave.Goodwin@aol.com

VICE PRESIDENT: ANN PAUL, Florida Coastal Islands Sanctuaries, 410 Ware Blvd., Suite 702, Tampa, FL 33619. E-mail: apaul@audubon.org

SECRETARY: BRIAN AHERN, 629 Gail Ave., Temple Terrace, FL 33617. E-mail: brianahern@aol.com

TREASURER: JOHN MURPHY, 766 Alligator Drive, Alligator Point, FL 32346. E-mail: southmoonunder@mchsi.com

EDITOR, *Florida Field Naturalist*: SCOTT ROBINSON, Florida Museum of Natural History, P.O. Box 117800, Gainesville, FL 32611-7800. E-mail: srobinson@flmnh.ufl.edu

Directors, Terms Expiring Spring 2013

MARIANNE KOROSY, 2021 Oak View Lane, Palm Harbor, FL 34683. E-mail: mkorosy@gmail.com

JON GREENLAW, 10503 Mistflower Lane, Tampa, FL 33647-3544. E-mail: jgreenlaw@earthlink.net

Directors, Terms Expiring Spring 2014

ERIK HANEY, 1015 14th Ave. North, St. Petersburg, FL 33705. E-mail: efalconh@netscape.net

GREGORY SCHROTT, Archbold Biological Station, P.O. Box 2057, Lake Placid, FL 33862. E-mail: gschrott@archbold-station.org

Directors, Terms Expiring Spring 2015

R. TODD ENGSTROM, 309 Carr Lane, Tallahassee, FL 32312. E-mail: engstrom@bio.fsu.edu

KARL MILLER, Florida Fish and Wildlife Conservation Commission, 1105 SW Williston Road, Gainesville, FL 32601. E-mail: karl.miller@myfwc.com

Honorary Members

SAMUEL A. GRIMES 1979; HELEN G. CRUICKSHANK 1980; OLIVER L. AUSTIN, JR. 1982
PIERCE BRODKORB 1982; WILLIAM B. ROBERTSON, JR. 1992; GLEN E. WOOLFENDEN 1994
TED BELOW 1999; FRED E. LOHRER 2009

All persons interested in Florida's natural history, especially its abundant bird life, are invited to join the Florida Ornithological Society by writing to the Treasurer. Annual membership dues are \$25 for individual members, \$30 for a family membership, \$15 for students, \$45 for contributing members, and \$40 for institutional membership; add \$5 for overseas delivery. One-time contributions for life membership are \$400 for individuals and \$500 for families. All members receive the *Florida Field Naturalist*.

Back issues (\$3.00 per issue) are available, prepaid, from the Treasurer. Notice of change of address, claims for undelivered or defective copies, and requests for information about advertising and subscriptions should be sent to the Treasurer.

The *Florida Field Naturalist* is published quarterly (March, May, September, and November) by the Florida Ornithological Society. It is printed by E.O. Painter Printing Co., P.O. Box 877, DeLeon Springs, FL 32130. The permanent address of the Florida Ornithological Society is Division of Birds, Florida Museum of Natural History, Museum Road at Newell Drive, University of Florida, Gainesville, FL 32611. The Florida Ornithological Society web site is at www.fosbirds.org

Florida Field Naturalist

PUBLISHED BY THE FLORIDA ORNITHOLOGICAL SOCIETY

VOL. 41, No. 2

MAY 2013

PAGES 29-69

Florida Field Naturalist 41(2):29-41, 2013.

REDDISH EGRET (*Egretta rufescens*) NESTING IN CLEARWATER HARBOR AND ST. JOSEPH SOUND, PINELLAS COUNTY, AND CRYSTAL BAY, CITRUS COUNTY, FLORIDA FROM 1991 TO 2011

ANN B. HODGSON¹ AND ANN F. PAUL

*Florida Coastal Islands Sanctuaries, Audubon Florida,
410 South Ware Boulevard, Suite 702, Tampa, Florida 33619*

¹*Current address: Resource Designs Inc., Natural Resource Research
& Planning, P. O. Box 311, Brooksville, Florida 34605*

Abstract.—Through the 1880s, Reddish Egrets (*Egretta rufescens*) occurred throughout Florida, and commonly among coastal colonial waterbird colonies in Pinellas County north to the St. Martins Keys in Citrus County. By around 1910, plume hunting and the associated disturbance at nesting colonies extirpated Florida's breeding population of Reddish Egrets, and nesting egrets were not found again in southern Florida until 1938. The first nesting record on Florida's central Gulf coast since 1890 occurred at the Alafia Bank Bird Sanctuary in Hillsborough Bay in 1974. Egrets slowly reappeared at suitable estuarine nesting sites throughout Tampa Bay and the nearby coast, and solitary pairs or small breeding groups now nest on at least 15 colony islands stretching from Three Rooker Island State Preserve (northern Pinellas County) south to Hemp Key in Pine Island Sound (Charlotte County), with the largest nesting concentration persisting at the Alafia Bank Bird Sanctuary. In Clearwater Harbor and St. Joseph Sound, egrets nested on eight dredged spoil-material islands from 1991 to 2011 (annual colony size \bar{x} = 0.01-2.8 nests, SD = 0.4-4.5, N ≤ 21 years). The annual mean number of nests was moderately correlated with the 21-year study period (R^2 = 0.427, P ≤ 0.001). In 2009, one brood of two recently fledged-but-dependent young were found on Bird Key I Island at the Bird Keys in Crystal Bay. This was the first nesting record of Reddish Egret in Citrus County in 129 years. Anthropomorphic disturbance of nesting egrets coupled with predation (primarily by raccoons, *Procyon lotor*) are the common causes of nest failure. We recommend expanding a collaborative colony stewardship program, and establishing appropriate distance buffers around these Gulf coast nesting sites to protect them from disturbance during the nesting season.

Through the 1880s, Reddish Egrets (*Egretta rufescens*) bred commonly among coastal colonial waterbird colonies on the Gulf coast

of Florida. In 1880, they were the most numerous heron nesting on Bird Key (27° 41' 60.00" N, 82° 41' 30.01" W), the bird colony island west of Maximo Point now designated as Indian Key in the Pinellas National Wildlife Refuge complex, and were numerous at Johns Pass (27° 47' 12.98" N, 82° 46' 25.00" W), in Boca Ciega Bay (Pinellas County) (Maynard 1881, Scott 1887, 1888, 1889, 1991). They bred north to the Anclote Keys (28° 11' 20.50" N, 82° 51' 3.50" W; Pasco County) (Scott 1888), and the St. Martins Keys (28° 47' 29.00" N, 82° 44' 18.00" W; Citrus County) (Scott 1889). Scott (1888) noted "The birds are common on the Gulf Coast of Florida as far north as the Anclote Keys. . . ." and added (Scott 1889) "I am indebted to a friend . . . for the information that this species in its dark phase still breeds in numbers at rookeries at St. Martin's Keys, about forty-five miles north of Tarpon Springs, in the Gulf." By around 1910, plume hunting and the associated disturbance at nesting colonies extirpated Florida's breeding population of Reddish Egrets (Scott 1887, Stevenson and Anderson 1994, Paul 1996). Nesting was not known again in Florida until 1938, when a single nest was found in eastern Florida Bay (Desmond 1939), followed by slow increases in the Lower Keys and Florida Bay (Baker 1944, Greene 1946, Allen 1954, Powell et al. 1989) up to Hemp Key (26° 36' 2.75" N, 82° 9' 9.14" W) in Pine Island Sound (Charlotte County) (Bancroft 1971).

In 1974, a single nest was found at the Alafia Bank Bird Sanctuary (27° 50' 55.00" N, 82° 24' 29.02" W) in Hillsborough Bay, the northeast section of Tampa Bay (Paul et al. 1975). This was the first nesting record on Florida's central Gulf coast since 1890. Reddish Egrets reappeared at estuarine nesting sites throughout Tampa Bay and the nearby coast over the next several decades, and solitary pairs or small breeding groups now nest on at least 15 colony islands stretching from Three Rooker Island State Preserve (28° 7' 4.81" N, 82° 50' 19.75" W) in northern Pinellas County south to Hemp Key, with the largest nesting concentration persisting at the Alafia Bank Bird Sanctuary (Hodgson et al. 2006, Hodgson and Paul 2010). Paul (1996) estimated a statewide population of 350-400 pairs and speculated that Florida's population was no more than 10% of the population before 1880. Green (2006) and Hodgson and Paul (2011a, unpublished data) estimated a state population of 250-350 pairs, with breeding locations extending from St. Joseph Sound on the west coast and Merritt Island National Wildlife Refuge on the east coast south to Florida Bay and the Keys.

Reddish Egrets nest generally on coastal islands in estuaries and forage for small fish, usually on nearby intertidal flats (Lowther and Paul 2002). Most nesting sites in Florida are on small (1-15 ha) islands with canopies of black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and red mangrove (*Rhizophora*

mangle) trees, or invasive exotic trees, primarily Brazilian pepper (*Schinus terebinthifolius*), separated from the mainland by deep-water channels (ABH and AFP, National Audubon Society, field notes, many dates). Reddish Egrets are secretive nesters, preferentially selecting sites behind densely foliated branches intersecting over a stream or lagoon, about 2-7 m above the water, on islands that are free of terrestrial predators (ibid.).

Here we describe the expansion of Reddish Egret nesting in Clearwater Harbor and St. Joseph Sound (CHSJS), Pinellas County, from 1991-2011, and report an observation of a brood of two fledged-but-dependent young 80 km north of Pinellas County at Bird Keys, Crystal Bay, Citrus County, in 2009.

METHODS

Field surveys.—We counted Reddish Egret nesting attempts (observations of incubation or nest tending) at islands in Clearwater Harbor and St. Joseph Sound annually from 1991. Nesting birds on these small islands can be seen usually through the foliage so we could directly count nests (and eggs or chicks when visible) by circling the islands in a small motorboat from about 30 m offshore. At the few larger islands where the nests could not be seen clearly through dense foliage, we used direct counts supplemented by flight line surveys conducted usually during the guard stage of chick development (Erwin and Ogden 1980, Erwin 1981, Paul et al. 2004) and classified an adult flying in a nest exchange as a nest. We visited nesting colonies usually only once during the nesting season during the annual peak of nesting activity each spring, which we estimated based on antecedent weather conditions and our regional observations of nesting activity.

Data analysis.—We compiled annual survey data and examined the trend of the relationship of annual nest abundance (mean annual number of nests for all surveyed colonies in CHSJS) and years of nesting effort (21-year study period) in the study area using Microsoft Excel (Data Analysis Tools).

RESULTS

Clearwater Harbor and St. Joseph Sound, Pinellas County.—A chain of dredged spoil material islands (none are natural islands) lies along the west side of the Intracoastal Waterway (ICW) in Clearwater Harbor, and on the east side of the ICW in St. Joseph Sound (Fig. 1). Dredging intertidal flats to establish navigable channels to the shoreline created other spoil islands. These islands developed arboreal cover of mangroves, cabbage palm (*Sabal palmetto*), and Australian pine (*Casuarina* sp.), frequently bordered by Brazilian pepper, following the vegetation succession pattern for central Florida spoil islands (Lewis and Lewis 1978). Spoil islands from the Anclote Keys south through St. Joseph Sound to Clearwater Harbor were surveyed in 1986, in emulation of W. E. D. Scott's 1886 trip down the coast, but Reddish Egrets were not found nesting in this area (R. T. Paul [RTP], field notes). Audubon did not re-survey the area until 1991. The

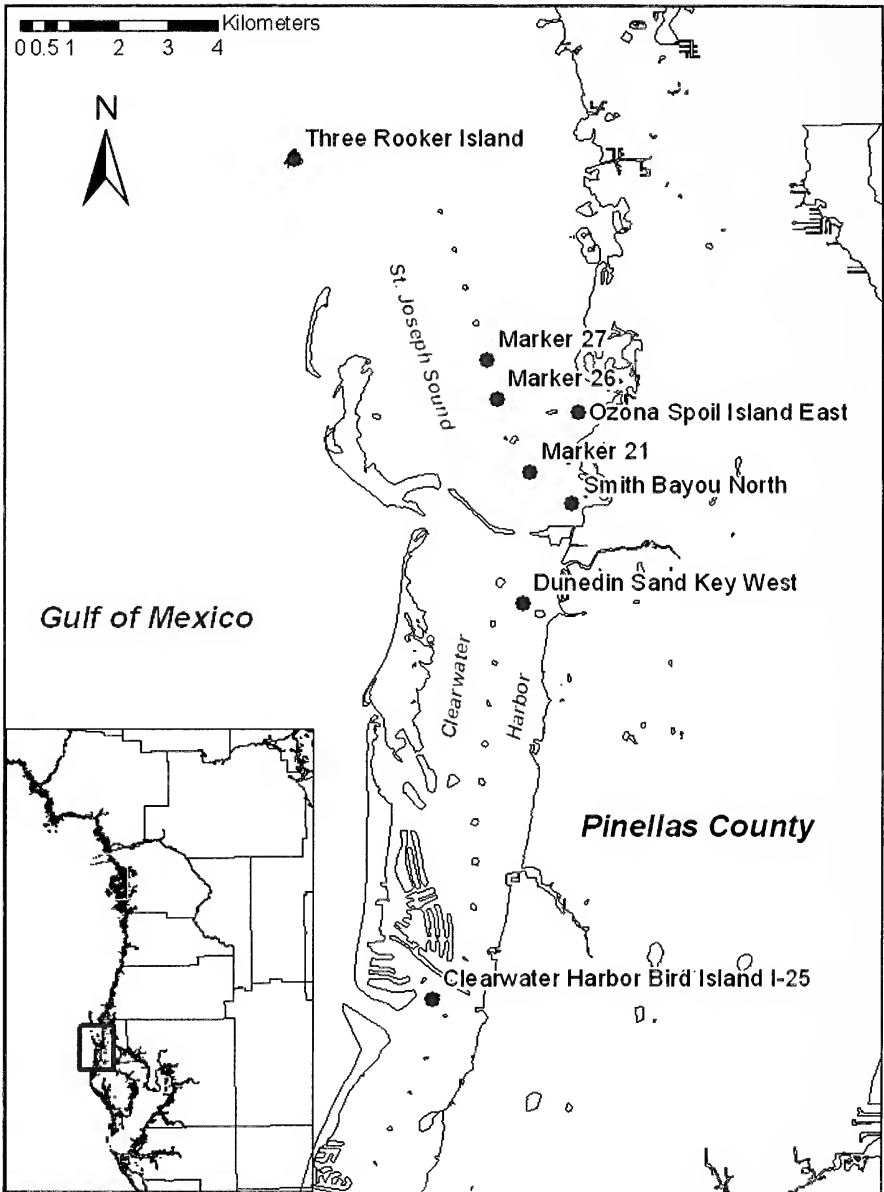


Figure 1. Reddish Egret nesting sites in Clearwater Harbor and St. Joseph Sound, Pinellas County, Florida.

following chronology describes the progressive appearance of nesting Reddish Egrets at the CHSJS spoil islands from 1991 to 2011.

On 28 June 1991, one pair of Reddish Egrets was found nesting on the Marker 21 spoil island ($28^{\circ} 3' 42.41''$ N, $82^{\circ} 47' 35.39''$ W) in

St. Joseph Sound (RTP, field notes; Holland 1991) (Table 1). The 5-ha island had short (2.5 m) mangroves (mangroves in the Tampa Bay area were beginning to regrow after being freeze-damaged in the 1989 freeze), but the nest was about 5 m high in Brazilian pepper and had one downy-headed young about four weeks old (Fig. 1). Later that day, two pairs of Reddish Egret adults were observed, each feeding a fledged but still dependent young, at Clearwater Harbor's bird colony island I-25 (27° 57' 58.73" N, 82° 48' 52.26" W). I-25 is an 11-ha crescent-shaped island densely covered with mangroves and a few Brazilian pepper trees growing on an elevated rise on the southeastern end, fringed with scattered stands of smooth cordgrass (*Spartina alterniflora*) and an intertidal seagrass flat.

On 1 July 1995, a Reddish Egret adult was seen flying into the colony at Marker 26 (28° 4' 32.08" N, 82° 47' 59.99" W), about 2 km north of Marker 21, during a flight-line survey of the heron and ibis colony (RTP, field notes). Marker 26 is a 3-ha spoil island dominated by a dense thicket of Brazilian pepper with a few Australian pines fringing the north and west sides, above a shoreline of rocky oyster outcrops. We believe waterbirds abandoned Marker 21, which has a wide sandy beach that attracted much recreational use in the early 1990s, and moved to Marker 26 in the 1995 nesting season.

On 21 May 2002, two nesting pairs appeared at Three Rooker Island, 2.4 km north of Marker 26 (RTP, field notes). Three Rooker Island is an undeveloped sandy barrier island vegetated with smooth- and saltmeadow cordgrass (*S. patens*), other halophytic forbs, and a coastal hammock of short mangroves, cabbage palms, and sea grapes (*Cocoloba uvifera*) on the south end of the island, where a small colony of herons and White Ibis (*Eudocimus albus*) have nested since ca. 2000.

On 17 May 2003, two unflighted dark-morph young were seen at Smith Bayou North (28° 3' 31.88" N 82° 46' 45.02" W), 1.4 km east of Marker 21 (RTP, field notes). This 1-ha island had red-, white-, and black mangroves with Brazilian pepper, halophytic forbs, and Spanish bayonet (*Yucca aloifolia*) on the crown of the island. A second nesting report was obtained on 5 April 2006 when one dark morph adult was seen here on a nest (AFP, field notes).

On 28 April 2005, one white-morph adult flew into a breeding colony in a prickly pear cactus (*Opuntia stricta*) and Brazilian pepper thicket on 0.5-ha Dunedin Sand Key West (28° 2' 17.17" N, 82° 47' 40.79" W), 0.7 km west of Dunedin (AFP, field notes). A second nesting record occurred 11 June 2010 when two large young, both white morphs, were seen in the thicket (AFP, field notes). On the other side of the island, a dark-morph adult and a dark-morph sub-adult were seen in a fringe of red- and black mangroves, but nesting was not confirmed.

Table 1. Nesting pairs of Reddish Egrets in Clearwater Harbor and St. Joseph Sound, Pinellas County, Florida, 1991-2011.

Year	3 Rooker Island				Smith Bayou				Clearwater Harbor				Mean	SD
	Marker 27	Marker 26	Marker 21	Marker 21	North	Key West	Dunedin Sand	Ozona	Spoil East	Bird Island	I-25	Occupied Sites (N)		
1991	0	0	1	NS*	0	0	0	0	0	1	2	2	0.3	0.5
1992	0	NS	0	NS	NS	NS	NS	NS	0	0	0	0	0.0	0.0
1993	0	0	0	NS	0	0	0	0	0	1	1	1	0.1	0.4
1994	0	0	0	NS	0	0	0	0	0	3	1	3	0.4	1.1
1995	0	0	1	NS	0	0	0	0	0	4	2	5	0.7	1.5
1996	0	0	2	NS	0	0	0	0	0	8	2	10	1.4	3.0
1997	0	0	0	NS	0	0	0	0	0	2	1	2	0.3	0.8
1998	0	0	6	NS	0	0	0	0	0	8	2	14	2.0	3.5
1999	0	0	4	NS	0	0	0	0	0	4	2	8	1.1	2.0
2000	0	0	8	NS	0	0	0	0	0	3	2	11	1.6	3.1
2001	0	0	6	NS	0	0	0	0	0	5	2	11	1.6	2.7
2002	2	0	8	0	0	0	0	0	0	7	3	17	2.1	3.4
2003	1	0	6	1	0	0	0	0	0	4	4	12	1.5	2.3
2004	2	0	10	0	0	0	0	0	0	10	3	22	2.8	4.5
2005	0	1	5	0	0	1	0	0	0	2	4	9	1.1	1.7
2006	1	0	2	1	NS	NS	0	0	0	3	4	7	1.0	1.2
2007	1	0	3	0	0	0	0	0	0	6	3	10	1.3	2.2
2008	2	0	3	0	0	0	0	0	0	3	3	8	1.0	1.4
2009	6	0	5	NS	NS	NS	0	0	0	1	3	12	2.0	2.8
2010	7	0	2	0	1	1	0	0	0	3	4	13	1.6	2.5
2011	12	0	3	0	0	0	1	1	1	2	4	18	2.3	4.1
Mean	1.6	0.1	3.7	0.1	0.2	0.1	0.1	0.1	0.1	3.8	2.5	9.3		
SD	3.1	0.2	3.0	0.2	0.4	0.3	0.2	0.2	0.2	2.7	1.2	5.8		

*NS = not surveyed.

On 17 May 2011, one dark morph pair was found nesting at Ozona Spoil East (28° 4' 23.03" N, 82° 46' 59.61" W), 1.6 km east of Marker 26 (AFP, field notes). The colony is on the west end of the 0.5-ha island in a Brazilian pepper and cabbage palm thicket.

Nesting effort was concentrated at I-25 (annual colony size \bar{x} = 3.8 nests, SD = 2.7, N = 21 years) since 1991, at Marker 26 (\bar{x} = 3.7 nests, SD = 3.0, N = 17 years) since 1995, and at Three Rooker Island (\bar{x} = 1.6 nests, SD = 3.1, N = 9 years) since 2002 (Table 1). Egrets bred only once at Marker 21 and Marker 27, and sporadically at three other islands closer to the mainland: Smith Bayou North (2003, 2006), Dunedin Sand Key West (2005, 2010), and Ozona Spoil East (2011). Annual mean nesting effort was 2.5 occupied sites (SD = 1.2, N = 21 years), and 9.3 nests (SD = 5.8, N = 21 years) in CHSJS. The annual mean number of nests was moderately correlated with the 21 year study period ($R^2 = 0.427$, $P \leq 0.001$). The spring 2004 nesting season preceded and was not affected by the four hurricanes that crossed west-central peninsular Florida in September 2004; however, in 2005 the number of nesting pairs was 41% of the preceding year's effort, although nesting substrate was not damaged notably in CHSJS, and remained lower for several years following the hurricanes.

Crystal Bay, Citrus County.—Crystal Bay, the estuary of the Crystal River, contains three groups of islands where colonial waterbirds have bred since the 1990s (Fig. 2). The Bird Keys (28° 52' 34.67" N, 82° 41' 55.59" W) are a group of four small islands on the southwest edge of Crystal Bay, within the Florida Department of Environmental Protection's St. Martins Marsh Aquatic Preserve. The low-lying keys are vegetated with 7-10 m tall black- and red mangroves, with well-developed canopies, that grew on these islands since the 1989 freeze, edged irregularly with narrow stands of smooth cordgrass, surrounded by a shallow intertidal flat with oyster shell rakes and wide expanses of shoal grass (*Halodule wrightii*) and turtlegrass (*Thalassia testudinum*). Bird Key I (0.6 ha; 28° 52' 39.63" N, 82° 42' 2.89" W) has a cove on the north side, while Bird Key II (0.7 ha; 28° 52' 35.06" N, 82° 41' 53.63" W) has three interior ponds. The two smaller islands, Bird Key III and IV, are nearby. Mullet Key (0.6 ha; 28° 52' 50.72" N, 82° 41' 31.61" W), 0.9 km northeast of the Bird Keys, is a shell ridge vegetated with mangroves. Sandy Hook (4.0 ha; 28° 52' 56.65" N, 82° 41' 22.62" W), 150 m north of Mullet Key, is a broad shelly island vegetated with black mangroves, smooth cordgrass, and black needlerush (*Juncus roemerianus*) surrounding several involuted coves.

On 19 June 1996, a small heron colony but no Reddish Egrets was found nesting in some stubby mangrove snags on Mullet Key (AFP, field notes). Audubon did not survey Crystal Bay from 1997 to 2009.

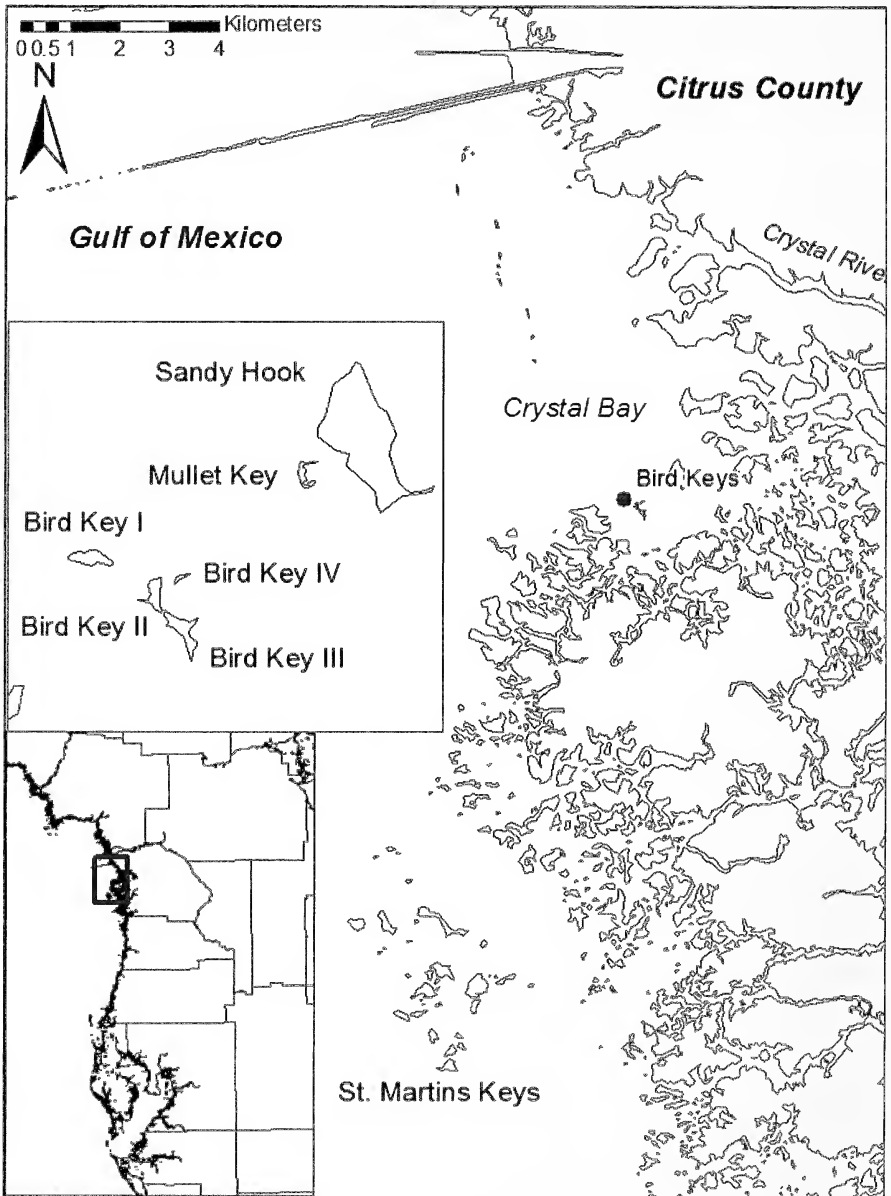


Figure 2. Bird Keys, Mullet Key, and Sandy Hook, Crystal Bay, Citrus County, Florida.

On 7 June 2009, a mixed wading-bird colony with 413 nesting pairs but no Reddish Egrets was found nesting on Bird Key I (AFP, field notes).

On 29 August, the colony was re-visited and two dark-morph Reddish Egret young were found standing about 1 m apart at mid-

canopy on the south side of the island, characteristic of fledglings of a single brood that are still dependent on their parents, but no adults were observed (AFP, field notes). Both young were alert, with grayish-brown feathers, exhibiting primaries of irregular lengths, dark bills and legs, and yellow irides, estimated to be 8-10 weeks old. One of the young vigorously defended its roost position in the mangroves against an interloping young Great Egret (*Ardea alba*).

On 30 August, the two young Reddish Egrets were re-sighted perched on the island, but adults were not seen (AFP, field notes).

Two days later (1 September), ABH and AFP returned and found the two young again sitting side-by-side in the same position within the canopy (Fig. 3), and observed them for more than one hour without the parents revisiting the site.

DISCUSSION

Mangroves begin to reach the upper range of their distribution on Florida's Gulf coast in northern Pinellas County, and were freeze-damaged but not killed in Clearwater Harbor and St. Joseph Sound in the 1989 freeze. As Reddish Egrets appeared in CHSJS in the 1990s, novel nesting habitat on the spoil islands was available, bridging the distance from Tampa Bay to the Anclote Keys (Hodgson and Paul 2010,



Figure 3. Reddish Egret young-of-the-year brood of two at Bird Key I, Crystal Bay, Citrus County, Florida on 1 September 2009 (photograph: A. B. Hodgson).

Hodgson and Paul 2011a, b). The origin of the egrets that nested in CHSJS is not known; they could have dispersed from colonies farther south on the coast, although we speculate that it is more likely that they came from some of the established colonies in Tampa Bay. The origin of the egrets that nested in Citrus County is similarly unknown. Wading-bird nesting habitat is not present along coastal Pasco County, where the coastal vegetation transitions from arboreal to herbaceous cover and there are no offshore islands above the Anclote Keys. Reddish Egrets were not found during annual surveys of waterbird colonies on Bird Key (28° 40' 23.99" N, 82° 41' 10.00" W) or Crawl Key (28° 39' 9.00" N, 82° 41' 12.98" W) in Chassahowitzka Bay in Hernando County from 2005-2011 (ABH, unpublished data). Dispersing Reddish Egret adults and young-of-the-year occur commonly after the nesting season along the upper Gulf coast and panhandle of Florida (Stevenson and Anderson 1994, National Audubon Society 2010), and it is plausible that Reddish Egrets flew over the Crystal Bay islands while dispersing from colonies farther south or while returning south from a nomadic flight.

Mangroves were killed to the ground in Citrus County in the 1989 freeze (Hebert 1993), but have re-colonized the small outer islands in the past two decades and the trees have gained some height so that the overwashed islands have developed usable nesting habitat. The nesting record on Bird Key I was plausible as the mangroves re-grew to envelop the embayments on the island and create the "branches over-arching shallow lagoons" configuration preferred as nesting habitat by Reddish Egrets.

Reddish Egret young fledge at around 6.5-7 weeks, but the parents feed the dependent young at the colony for another 2-4 weeks, so the brood of fledglings seen at Bird Key I were in a stage at which they were flying but still dependent (Paul 1996). We speculate that egg laying for these young occurred during the week of 7 June, about the same time when AFP first visited the colony, although the nest was apparently so well concealed that it was not observed.

Management recommendations.—Anthropogenic disturbance of wading-bird colonies is a frequent cause of nesting failure (Rodgers 1995, Carney and Sydeman 1999). All the CHSJS wading bird colonies are pressured from various recreational activities that draw visitors disruptively close to nesting birds (such as fishing the island perimeters, picnicking or sunbathing on the enticing sand beaches, or nature watching by kayak). Similarly, fishermen and recreational kayakers have been observed disturbing the Bird Key I colony (ABH and AFP, pers. obs.). Our management recommendations encompass several strategies to educate the public about the consequences of colony disturbance by humans, and solicit their participation in protecting colonial waterbird colonies during nesting:

- 1) enlist interested volunteers to participate in protection of these colonies and establish cooperative stewardship between the responsible state agencies using a protocol such as Audubon's Project ColonyWatch program (Paul and Paul 2004),

- 2) post the islands with regulatory and informational signs to educate the public about colonial waterbird nesting behavior and deter intrusion during the nesting season,

- 3) remove fishing line or other entangling marine debris during the fall, when birds are typically not nesting, to prevent death or injury to colonial waterbirds, and

- 4) implement an appropriate surrounding buffer, which may vary according to the site conditions of each island, to minimize disturbance during the nesting season.

Clearwater Harbor, St. Joseph Sound, and Crystal Bay's Bird Keys are the northernmost extension of Reddish Egret nesting on Florida's peninsular Gulf of Mexico coastline and, cumulatively, these islands support approximately 10% of the estimated state population. Protecting these nesting pairs contributes to achieving the objectives of the range-wide conservation action plan for Reddish Egrets (USFWS, unpublished report) and maintaining the population goals of Florida's statewide imperiled wading bird action plan (FWC, unpublished report), both of which are currently in public review.

ACKNOWLEDGMENTS

We posthumously acknowledge Richard T. Paul, Audubon's Florida Coastal Islands Sanctuaries Manager from 1980-2004, who thoroughly described the species' range and nesting behavior in Florida. We thank AFP's family Mike, Colleen, and Kate Fearney for providing their pontoon boat and assisting with the Crystal Bay field surveys. Many volunteers assisted with CHSJS field surveys: Bruce Ackerman; Susan Werner; Dana Kerstein; and Sid Crawford, St. Petersburg Audubon Society; and Sally Braem; Florida Department of Environmental Protection's Division of State Parks, accompanied the Three Rooker Island survey in 2002. Karen Hill, Pinellas County Environmental Department, participated in the Smith Bayou survey in 2003. Sid Crawford and Matthew C. Smith participated in the 2010 survey. Audubon staff Erica Porto-Capellupo, Paige Martin, and Mark Rachal assisted with various surveys in 2005, 2006, and 2011, respectively. Matt Smith prepared the location maps. Comments from Bill Pranty; Melissa Charbonneau, formerly the manager of St. Martins Marsh Aquatic Preserve; and John P. Kelly improved the draft manuscript. Field notes are retained at the Florida Coastal Islands Sanctuaries office, Tampa, Florida.

LITERATURE CITED

- ALLEN, R. P. 1954. The Reddish Egret: bird of colors and contrasts. *Audubon* 56:252-255.
- BAKER, J. H. 1944. The director reports to you: good news from Florida rookeries. *Audubon* 46:117.
- BANCROFT, G., JR. 1971. Northern breeding record for Reddish Egret. *Auk* 88:429.

- CARNEY, K. M., AND W. J. SYDEMAN. 1999. A review of human disturbance effects on nesting colonial waterbirds. *Waterbirds* 22(1):68-79.
- DESMOND, T. C. 1939. Reddish Egret nesting near Tavernier, Florida. *Auk* 56:329.
- ERWIN, R. M., AND J. C. ODGEN. 1980. Multiple-factor influences upon feeding flight rates at wading bird colonies (alias: are flight-line counts useful?). *Proceedings of the Colonial Waterbird Group* 3:225-234.
- ERWIN, R. M. 1981. Censusing wading bird colonies: an update on the "flight-line" count method. *Colonial Waterbirds* 4:91-95.
- FREDERICK, P. C., A. F. PAUL, R. T. PAUL, AND B. B. ACKERMAN. 2004. Are flight-line counts useful for estimating numbers of nesting wading birds? A field test. Pacific Seabird Group/Waterbird Society joint meeting. 19-22 January 2005, Portland, Oregon.
- GREEN, M. C. 2006. Status Report and Survey Recommendations on the Reddish Egret (*Egretta rufescens*). U.S. Fish and Wildlife Service, Atlanta, Georgia.
- GREENE, E. R. 1946. Birds of the Lower Florida Keys. *Quarterly Journal of the Florida Academy of Science* 8:199-265.
- HEBERT, P. J. 1993. Freezes and hurricanes in Florida. National Weather Service Forecast Office, Miami, Florida. <<http://www.nwas.org/digest/papers/1993/Vol18-Issue2-2-Sep1993/Pg2-Hebert.pdf>>. Accessed 9 February 2012.
- HODGSON, A. B., AND A. F. PAUL. 2010. Twenty-five years after BASIS I: An update on the current status and recent trends in colonial waterbird populations of Tampa Bay. Pages 233-247 in S. T. Cooper, Ed. *Proceedings, Tampa Bay Area Scientific Information Symposium, BASIS 5:20-23*. October 2009, St. Petersburg, Florida.
- HODGSON, A. B., AND A. F. PAUL. 2011a. The Status of Reddish Egrets in Tampa Bay, Florida, USA, 1974-2008. Audubon of Florida Florida Coastal Islands Sanctuaries, Tampa, Florida. Prepared for U. S. Fish and Wildlife Service, Atlanta, Georgia.
- HODGSON, A. B., AND A. F. PAUL. 2011b. Birds of the CHSJS Estuary. Section 5.7 in Janicki Environmental, Inc. 2011. State of the Resource Report for Clearwater Harbor and St. Joseph Sound. Prepared for Pinellas County Department of Environment and Infrastructure, Clearwater, Florida.
- HODGSON, A. B., A. F. PAUL, AND M. L. RACHAL. 2006. Chapter 14: Birds. Pages 14-1-14-14 in Baywide Environmental Monitoring Report, 2002-2005. Technical Publication 06-06. Tampa Bay Estuary Program, St. Petersburg, Florida.
- HOLLAND, N. 1 July 1991. Rare egrets return to area from brink of extinction. *Tampa Tribune, Pinellas Edition*. 1 July 1991.
- LEWIS, R. R., AND C. S. LEWIS. 1978. Colonial Bird Use and Plant Succession on Dredged Material Islands in Florida - Vol. II: Patterns of Plant Succession. Contract No. DACW39-76-C-0161. Dredged Material Research Program. U. S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, Mississippi.
- LOWTHER, P. E., AND R. T. PAUL. 2002. Reddish Egret (*Egretta rufescens*). The Birds of North America Online (A. Poole, Ed.). The Birds of North America. Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <<http://bna.birds.cornell.edu/bna/species/633doi:10.2173/bna.633>>.
- MAYNARD, C. J. 1881. The Birds of Eastern North America. C. J. Maynard and Co., Newtonville, Massachusetts.
- NATIONAL AUDUBON SOCIETY. 2010. The Christmas Bird Count Historical Results [Online]. Available <<http://www.christmasbirdcount.org>> [15 June 2012].
- PAUL, R. T. 1996. Reddish Egret. Pages 281-294 in *Rare and Endangered Biota of Florida*, Vol. V. Birds. J. A. Rodgers et al., eds. University Press of Florida, Gainesville, Florida.
- PAUL, R. T., A. J. MEYERIECKS, AND F. M. DUNSTAN. 1975. Return of Reddish Egrets as breeding birds in Tampa Bay. *Florida Field Naturalist* 3:9-10.
- PAUL, R. T., AND A. F. PAUL. 2004. Project ColonyWatch Manual. Florida Coastal Islands Sanctuaries, National Audubon Society, Tampa, Florida.

- PAUL, R. T., A. F. PAUL, B. B. ACKERMAN, AND P. C. FREDERICK. 2004. Evaluating the Potential for Flight-line Counts as a Tool for Counting Nesting Wading Birds (Ciconiiformes). Report for US Geological Survey, Patuxent, Maryland.
- POWELL, G. V. N., R. D. BJORK, J. C. OGDEN, R. T. PAUL, A. H. POWELL, AND W. B. ROBERTSON, JR. 1989. Population trends in some Florida Bay wading birds. *Wilson Bulletin* 101:436-537.
- RODGERS, J. A., JR., AND H. T. SMITH. 1995. Set-back distances to protect nesting bird colonies from human disturbance in Florida. *Conservation Biology* 9:89-99.
- SCOTT, W. E. D. 1887. The present condition of some of the bird rookeries of the Gulf Coast of Florida. *Auk* 4:135-144, 213-222, 273-284.
- SCOTT, W. E. D. 1888. Supplementary notes from the Gulf Coast of Florida, with a description of a new species of Marsh Wren. *Auk* 5:183-188.
- SCOTT, W. E. D. 1889. A summary of observations on the birds of the Gulf Coast of Florida. *Auk* 6:13-18.
- SCOTT, W. E. D. 1891. Florida heron rookeries. *Auk* 8: 318-319.
- STEVENSON, H. M., AND B. H. ANDERSON. 1994. *The Birdlife of Florida*. University Press of Florida, Gainesville.

NEST COMPONENTS OF CRESTED CARACARAS (*Caracara cheriway*) BREEDING IN FLORIDA

JENNIFER A. SMITH^{1,2} AND MICAH N. SCHOLER³

¹*Department of Fish and Wildlife Conservation, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061*

²*School of Natural Resources, University of Nebraska – Lincoln, Lincoln, Nebraska 68583*

E-mail: jsmith60@unl.edu

³*Department of Biological Sciences and Raptor Research Center, Boise, Idaho 83275*

Crested Caracaras (*Caracara cheriway*) are medium-sized raptors in the family Falconidae with a wide distribution ranging from South and Central America, Mexico, and the southernmost United States (Morrison and Dwyer 2012) where they occur in Texas and Arizona, with an isolated population in south-central Florida (Morrison and Dwyer 2012). Crested Caracaras primarily inhabit open grassland and improved pastures planted and managed specifically for cattle forage (Morrison and Humphrey 2001). In south-central Florida, these habitats are at risk of being converted to other land uses and, as a result, the resident population of Crested Caracaras is listed as threatened by the U.S. Fish and Wildlife Service (U.S. Fish and Wildlife Service 1987) and the state of Florida (Florida Game and Freshwater Fish Commission 1997).

While the breeding biology of Florida's Crested Caracara population has received some attention (see Morrison 1999) detailed descriptions of its nesting habits are limited because nests are often inaccessible to researchers. For example, nests can be located in nest trees at a height of up to 17 m (Morrison and Dwyer 2012) and are often located on privately owned land (Morrison and Humphrey 2001). As a result, previous studies of Crested Caracara nesting habits in Florida have focused on nest site characteristics such as tree species, nest height and orientation, and surrounding vegetation that can be recorded while causing minimal disturbance to the nest site (Morrison et al. 1997, Morrison 2007). Unlike many other Falconiformes, Crested Caracaras build well-constructed nests by actively collecting and weaving plant material into bulky, round structures (Morrison and Dwyer 2012). However, the structural components of Crested Caracara

nests in Florida have been largely unexplored. Here, we provide the first detailed analysis of nesting materials used by Crested Caracaras in south-central Florida based on our dissection of three Crested Caracara nests. Information regarding the specific materials used by Crested Caracaras to construct nests may be important to consider when developing habitat restoration and conservation plans for this threatened population.

METHODS

While monitoring breeding Crested Caracaras across south-central Florida during 2011 and 2012 we found three Crested Caracara nests on the ground directly below known nest trees; all of which were Cabbage Palms (*Sabal palmetto*). Each nest was found after periods of strong wind which presumably dislodged them. We discovered Nest One on 10 May 2011 in Glades County, Florida (27° 04.13', -080° 59.03') in an improved pasture occupied by cattle, Nest Two on 27 January 2012 in Highlands County, Florida (27° 13.32', -081° 12.09') on top of a canal levee adjacent to an area dominated by citrus groves, and Nest Three on 7 March 2012 in Highlands County, Florida (27° 08.39', -081° 12.93') in an unimproved pasture also occupied by cattle. Since we discovered nests in the same year that they were constructed (J. A. Smith and M. N. Scholer, pers. obs.), we considered all nests to be new rather than re-used for more than one breeding season.

We assumed that all nests had been fully constructed since (1) Nest One contained prey items suggesting that it had been used by the resident adults to raise young, (2) behavioral observations indicated that the onset of incubation had occurred at Nest Two, and (3) eggs had been laid in Nest Three, which were subsequently destroyed after the nest was dislodged (J. A. Smith and M. N. Scholer, pers. obs.). To ensure that we collected the entire nest for our analysis, we visually assessed nest trees for signs of nesting material and searched for nest components within a 10 m radius of each nest tree. Although all of the nests had been partially damaged as a result of falling on to the ground, each nest had a clear open cup and consisted of a single structural layer (see Hansell 2000) comprised primarily of intertwined woody stems, vines and herbaceous shrub stems. None of the nests had nest lining.

To investigate the materials used in nest construction in more detail, we dissected each nest into its component parts which were then identified to the most precise taxonomic group possible and weighed to calculate fresh mass. We then dried nest components to a constant weight in a drying oven (Fisher Scientific, Pittsburg, Pennsylvania) at 60° C.

RESULTS

Stems from herbaceous shrubs made up the largest proportion of all three nests; although, the most commonly used species differed between nests. Flat-top Goldenrod (*Euthamia graminifolia*) made up the largest proportion of Nest One (29.83%; Table 1), whereas Shrubby False Buttonweed (*Spermocoe verticillata*), a non-native species, and knotweed (*Polygonum* sp.) made up the largest proportions of nests Two and Three (47.26% and 80.98%, respectively; Table 1). Vines also occurred in all three nests with Virginia Creeper (*Parthenocissus quinquefolia*) being the dominant vine species (Table 1). Grasses were

Table 1. List of materials found in Crested Caracara (*Caracara cheriway*) nests breeding in south-central Florida in 2011 and 2012 (n = 3). Dry nest mass is given following each nest number.

Nest	English name	Scientific name	Description	Status	Mass (%)	
One (1383g)	Flat-top Goldenrod Unidentified	<i>Euthamia graminifolia</i> N/A	Herbaceous shrub Unidentified	Native N/A	29.83 23.80	
	Virginia Creeper	<i>Parthenocissus quinquefolia</i>	Vine	Native	14.48	
	Bigpod Sesbania	<i>Sesbania herbacea</i>	Legume	Native	9.18	
	Knotweed	<i>Polygonum</i> sp.	Herbaceous shrub	Native	4.52	
	Unidentified vine	<i>Smilax</i> spp.	Vine	Native	4.10	
	Shrubby False Buttonweed	<i>Spermocece verticillata</i>	Herbaceous shrub	Non-native	3.56	
	Carpetgrass	<i>Axonopus</i> sp.	Grass	Native	2.30	
	Prey remains ¹	N/A	Prey remains	N/A	2.25	
	Brazilian Pepper	<i>Schinus terebinthifolius</i>	Woody stems	Non-native	1.66	
	Synthetic materials ²	N/A	Synthetic materials	N/A	1.55	
	Sicklepod	<i>Senna obtusifolia</i>	Legume	Non-native	1.47	
	Unidentified grass	Grass spp.	Grass	Native/non-native	0.56	
	Live Oak	<i>Quercus virginiana</i>	Woody stems	Native	0.33	
	Cutleaf ground-cherry	<i>Physalis angulata</i>	Herbaceous shrub	Native	0.31	
	Balsam Apple	<i>Momordica balsamina</i>	Vine	Non-native	0.07	
	Two (2627.5g)	Shrubby False Buttonweed	<i>Spermocece verticillata</i>	Herbaceous shrub	Non-native	47.25
		Carpetgrass	<i>Axonopus</i> sp.	Grass	Native	15.10
Unidentified		N/A	Unidentified	N/A	13.80	
Rough hairy Indigo		<i>Indigofera hirsuta</i>	Herbaceous shrub	Non-native	9.32	
Bigpod Sesbania		<i>Sesbania herbacea</i>	Herbaceous shrub	Native	5.55	
Cabbage Palm (roots)	<i>Sabal palmetto</i>	Woody roots	Native	2.90		

¹Prey remains = cow dung, Wild Boar (*Sus scrofa*) skin and hair.

²Synthetic material = baler twine.

³Prey remains = cow dung, Armored Catfish (*Callichthys callichthys*) head and pelvic fins, Wild Boar (*Sus scrofa*) skin and hair.

⁴Synthetic material = baler twine, electrical wire, metal wire.

Table 1. (Continued) List of materials found in Crested Caracara (*Caracara cheriway*) nests breeding in south-central Florida in 2011 and 2012 (n = 3). Dry nest mass is given following each nest number.

Nest	English name	Scientific name	Description	Status	Mass (%)
	Prey remains ³	N/A	Prey remains	N/A	1.39
	Caesarweed	<i>Urena lobata</i>	Herbaceous shrub	Non-native	1.23
	Virginia Creeper	<i>Parthenocissus quinquefolia</i>	Vine	Native	0.95
	Virginia Pepperweed	<i>Lepidium virginicum</i>	Herbaceous shrub	Native	0.78
	Synthetic materials ⁴	N/A	Synthetic materials	N/A	0.73
	Flat-top Goldenrod	<i>Euthamia graminifolia</i>	Herbaceous shrub	Native	0.46
	Blackberry	<i>Rubus</i> sp.	Briar	Native	0.19
	Bahiagrass	<i>Paspalum notatum</i>	Grass	Non-native	0.16
	Virginia Buttonweed	<i>Diodia virginiana</i>	Herbaceous shrub	Native	0.07
	Bermudagrass	<i>Cynodon dactylon</i>	Grass	Non-native	0.05
	Unidentified legume	<i>Fabacea</i> spp.	Legume	Native/non-native	0.05
	Turkey-tangle Frogfruit	<i>Phyla nodiflora</i>	Herbaceous shrub	Native	0.02
Three (1901.9g)	Knotweed	<i>Polygonum</i> sp.	Herbaceous shrub	Native	80.98
	Flat-top Goldenrod	<i>Euthamia graminifolia</i>	Herbaceous shrub	Native	12.67
	Unidentified	N/A	Unidentified	N/A	4.83
	Virginia Creeper	<i>Parthenocissus quinquefolia</i>	Vine	Native	0.45
	Eastern Poison Ivy	<i>Toxicodendron radicans</i>	Vine	Native	0.36
	Blackberry	<i>Rubus</i> sp.	Briar	Native	0.34
	Live Oak	<i>Quercus virginiana</i>	Woody stems	Native	0.29
	Arcadian St. Johnswort	<i>Hypericum edisonianum</i>	Herbaceous shrub	Native	0.09
	Bahiagrass	<i>Paspalum notatum</i>	Grass	Non-native	0.03
	Muscadine	<i>Vitis rotundifolia</i>	Vine	Native	0.02

¹Prey remains = cow dung, Wild Boar (*Sus scrofa*) skin and hair.²Synthetic material = baler twine.³Prey remains = cow dung, Armored Catfish (*Callichthys callichthys*) head and pelvic fins, Wild Boar (*Sus scrofa*) skin and hair.⁴Synthetic material = baler twine, electrical wire, metal wire.

also present in all three nests and were woven throughout the nest structures. Carpet-grass (*Axonopus* sp.) was the predominating grass in nests One and Two and Bahiagrass (*Paspalum notatum*), a non-native species, was the most commonly occurring grass in Nest Three (Table 1). Other nest components included various non-native species of legumes such as Sicklepod (*Senna obtusifolia*) and Roughhairy Indigo (*Indigofera hirsuta*), woody stems of Live Oak (*Quercus virginiana*), woody roots from Cabbage Palms, blackberry briars (*Rubus* sp.) and synthetic materials (Table 1).

DISCUSSION

As in our study, Crested Caracaras in other populations have also been found to construct their nests from a wide range of plant species with herbaceous shrubs often being the most commonest. For example, twigs from the herbaceous species Broomwood (*Gutierrezia sarothrae*) were common in Crested Caracara nests found in southern Texas (Dickinson and Arnolds 1996) and in Baja California Rama Parda (*Ruellia peninsularis*) occurred in 69% of 13 nests (Rivera-Rodriguez and Rodriguez-Estrella 1998). Nests constructed in Baja California also commonly contained vines, including Coral Vine (*Antigonon leptopus*) and synthetic materials (Rivera-Rodriguez and Rodriguez-Estrella 1998); a finding shared by our study. Furthermore, in accordance with our results, nests constructed in southern Texas contained species of briar including Macartney Rose (*Rosa bracteata*), Dewberry (*Rubus trivialis*), and woody stems of Yaupon (*Ilex vomitoria*) (Dickinson and Arnolds 1996).

It is likely that Crested Caracaras primarily use herbaceous shrubs, woody stems, and briars to construct their nests since they are relatively rigid, can be securely placed in a tree and, therefore, provide structural support for the nest contents. In comparison, grasses and other more flexible plant materials may be used to weave and secure together the larger, less flexible plant materials such as herbaceous shrub stems. Synthetic materials such as baler twine, electrical wire and metal wire may also serve a similar function. In contrast, nesting materials used by other caracara species throughout Central and South America are not consistent with those used by Crested Caracaras. Whittaker (1996) notes that nests of Black Caracaras (*Daptrius ater*), as well as Red-throated Caracaras (*D. americanus*), are constructed with large woody twigs more similar in form to nests constructed by hawks of the genera *Buteo* and *Accipiter*. Other species of caracaras, such as Yellow-headed Caracaras (*Milvago chimachima*), are suspected of using nests previously built by other bird species or, in some cases, utilizing nesting cavities in trees or other man-made structures (Johansson et al. 1999).

Our results indicate that Crested Caracaras in south-central Florida construct their nests using a wide range of native and non-native plant species. While our study did not specifically compare used versus available plant material, the variability of plants found in Crested Caracara nests suggests that they are constructed from the most readily accessible materials within the territory of each breeding pair. However, little is known about nest material selection by Crested Caracaras. Therefore, future studies should focus on how nesting material availability within Crested Caracara territories influences nest composition. Results from such studies may provide valuable information that can be used in the planning of habitat restoration and conservation plans for the threatened population of Crested Caracaras in south-central Florida.

ACKNOWLEDGMENTS

We thank Jason Pearce, MacArthur Agro-ecology Research Center and South Florida Water Management District for land access. We are indebted to C. Steele, J. Maki, E. Boughton, S. Orzell and E. Bridges for their assistance in identification of nest components and to J. Fraser and J. Morrison for continuous support and advice. Our research was funded by a grant from the Wildlife Foundation of Florida, for which we are indebted. Funds in the foundation were supplied by permit applicants as compensation for impacts from land development projects, and we are grateful to personnel who participated and to the U.S. Fish and Wildlife Service for facilitating this process.

LITERATURE CITED

- DICKINSON, V. M., AND K. A. ARNOLD. 1996. Breeding biology of the Crested Caracara in south Texas. *Wilson Bulletin* 108:516-523.
- FLORIDA GAME AND FRESH WATER FISH COMMISSION. 1997. Florida's Endangered Species, Threatened Species, and Species of Special Concern. Florida Game and Fresh Water Fish Commission, Tallahassee.
- HANSELL, M. 2000. *Bird Nests and Construction Behaviour*. Cambridge University Press, Cambridge, United Kingdom.
- JOHANSSON, C. A., E. T. LINDER, C. M. WHITE, AND J. C. LYRA FLEURY. 1999. Nesting observations of the Yellow-headed Caracara in the Cerrado region of Brazil. *Ornitologia Neotropical* 10:211-215.
- MORRISON, J. L., AND J. DWYER. 2012. Crested Caracara (*Caracara plancus*) in *The Birds of North America*, No. 249 (A. Poole and F. Gill, Eds.). The Academy of Natural Sciences, Philadelphia, Pennsylvania, and The American Ornithologists' Union, Washington, D.C.
- MORRISON, J. L. 1999. Breeding biology and productivity of Florida's Crested Caracaras. *Condor* 101:505-517.
- MORRISON, J. L. 2007. Characteristics of nest sites used by Crested Caracaras in south-central Florida. *Florida Field Naturalist* 35:1-37.
- MORRISON, J. L., AND S. R. HUMPHREY. 2001. Conservation value of private lands for Crested Caracara in Florida. *Conservation Biology* 15:675-684.
- MORRISON, J. L., M. A. McMILLIAN, S. M. MCGEHEE, AND L. D. TODD. 1997. First record of Crested Caracaras nesting in a cypress. *Florida Field Naturalist* 25:51-53.

- RIVERA-RODRIGUEZ, L. B., AND R. RODRIGUEZ-ESTRELLA. 1998. Breeding biology of the Crested Caracara in the Cape region of Baja California, Mexico. *Journal of Field Ornithology* 69:160-168.
- U.S. FISH AND WILDLIFE SERVICE. 1987. Endangered and threatened wildlife and plants: threatened status of the Florida population of the Audubon's Crested Caracara. Final Rule. *Federal Register* 52:25229-25231.
- WHITTAKER, A. 1996. Nesting records of the genus *Daptrius* (Falconidae) from the Brazilian Amazon, with the first documented nest of the Black Caracara. *Ararajuba* 4:107-109.

INCIDENTAL CAPTURE OF AN ALTERNATIVE PREY BY A DIETARY SPECIALIST, THE SNAIL KITE (*Rostrhamus sociabilis*)

ERIC A. RIDDELL AND DANIEL P. CAVANAUGH

Department of Wildlife Ecology and Conservation, University of Florida,

Gainesville, Florida, 32611

Referred to as a dietary specialist (Beissinger et al. 1994, Cattau et al. 2010), the endangered Snail Kite (*Rostrhamus sociabilis plumbeus*) is a medium-sized raptor found in central and southern Florida (Cottam and Knappen 1939). Its diet consists almost exclusively of apple snails (*Pomacea* spp.) (Sykes et al. 1995). Despite being dietary specialists, Snail Kites have been observed consuming a variety of alternative prey including small turtles (Sykes and Kale 1974, Beissinger 1988, 1990), mammals (Sykes and Kale 1974), a Speckled Perch (*Pomoxis nigromaculatus*), and crayfish (*Procambarus* spp.) (Bennetts et al. 1994). Snail Kites forage during the day and capture food near the water's surface (Snyder and Snyder 1969); therefore, crayfish in particular would seem to be an unlikely prey source for Snail Kites as they are nocturnal, cryptic, and benthic (Momot et al. 1978, Davis and Huber 2007). Furthermore, crayfish are vigilant (Davis and Huber 2007) and highly mobile relative to apple snails. Here we describe the incidental capture of crayfish by Snail Kites in southern Florida.

We performed field observations in southern Florida from May 2010 to June 2012 as part of an ongoing study to monitor foraging activity of Snail Kites. Observations were conducted using a high-powered scope mounted on an airboat, which gave us the ability to record detailed accounts of the subjects' behavior. The vast majority of prey consumed were apple snails (>99%); however, we recorded two occasions in which crayfish were captured while inside an apple snail shell by adult, male Snail Kites in Big Cypress National Preserve (BCY) and Water Conservation Area-3A (WCA-3A). The first capture occurred in BCY on 20 October 2011 at 0941. The vegetation near the capture consisted of *Eleocharis* spp. and *Cladium jamaicensis*. The second capture occurred at WCA-3A on 4 May 2012 at 0923. The vegetation near the capture was *C. jamaicensis*. On both occasions, Snail Kites perched with the snail shell, removed the crayfish from the snail shell, and consumed small portions of meat from the ventral side of the abdomen and cephalothorax.

Several studies suggest that the use of alternative prey by Snail Kites occurs during periods of snail scarcity, such as severe droughts and cold weather (Beissinger 1990, Bennetts et al. 1994, Sykes and Kale 1974, Takekawa and Beissinger 1983). While this may be true in some cases, our observations suggest that the Snail Kites may have inadvertently captured crayfish. Therefore, the incorporation of crayfish in the Snail Kite's diet may be more associated with crayfish occupying apple snail shells rather than Snail Kites seeking an alternative prey source during periods of snail scarcity. These observations identify a potential misconception regarding prey selection by Snail Kites, which may have implications in future conservation efforts.

ACKNOWLEDGMENTS

We thank Dr. Wiley Kitchens, Kyle Pias, and Jean Olbert for their helpful comments. We would also like to thank the Florida Fish and Wildlife Cooperative Research Unit

for the opportunity to conduct these observations. We thank the USGS for the logistical support and funding provided for the project, and an anonymous referee for improving the manuscript.

LITERATURE CITED

- BEISSINGER, S. R. 1988. The Snail Kite. *In* Handbook of North American Birds. Vol. 4. R. S. Palmer ed. Yale University Press, New Haven, Connecticut.
- BEISSINGER, S. R. 1990. Alternative foods of a diet specialist, the Snail Kite. *Auk* 107:327-333.
- BEISSINGER, S. R., T. J. DONNAY, AND R. WALTON. 1994. Experimental analysis of diet specialization in the Snail Kite: the role of behavior conservatism. *Oecologia* 100:54-65.
- BENNETTS, R. E., M. W. COLLOPY, AND J. A. RODGERS, JR. 1994. The Snail Kite in the Florida Everglades: A food specialist in a changing environment. *In* Everglades: The Ecosystem and its Restoration (J. Ogden and S. Davis Eds.) St. Lucie Press, Delray Beach, Florida.
- CATTAU, C. E., J. MARTIN, AND W. M. KITCHENS. 2010. Effects of an exotic prey species on a native specialist: Example of the Snail Kite. *Biological Conservation* 143:513-520.
- COTTAM, C., AND P. KNAPPEN. 1939. Food of some uncommon North American birds. *Auk* 56:138-169.
- DAVIS, K. M., AND R. HUBER. 2007. Activity patterns, behavioural repertoires, and agonistic interactions of crayfish: A non-manipulative field study. *Behaviour* 144:229-247.
- MOMOT, W. T., H. GOWING, AND P. D. JONES. 1978. The dynamics of crayfish and their role in ecosystems. *American Midland Naturalist* 99:10-35.
- SNYDER, N. F., AND H. A. SNYDER. 1969. A comparative study of mollusc predation by Limpkins, Everglades Kites, and Boat-tailed Grackles. *Living Bird* 8:177-223.
- SYKES, P. W., JR., AND H. W. KALE II. 1974. Everglade Kites feed on non-snail prey. *Auk* 91:818-820.
- SYKES, P. W., JR., J. A. RODGERS, JR., AND R. E. BENNETTS. 1995. Snail Kite (*Rostrhamus sociabilis*). *In* The Birds of North America, Number 171 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, and the American Ornithologists' Union, Washington, D.C.
- TAKEKAWA, J. E., AND S. R. BEISSINGER. 1983. First evidence of Snail Kite feeding on the introduced snail, *Pomacea bridgesi*, in Florida. *Florida Field Naturalist* 11:107-108.

**RED-SHOULDERED HAWKS (*Buteo lineatus*) CONTINUE TO
INCUBATE EGGS ON GROUND AFTER NEST FALLS**

CHRISTOPHER W. EBERLY
32 Old Orchard Lane, Warrenton, Virginia 20186

Email: ceberly@dodpif.org

In early February, 2012, a pair of Red-shouldered Hawks (*Buteo lineatus*) began constructing a nest in a residential area of Halifax Plantation, Ormond Beach, Volusia



Figure 1. Washington Palms where nest was built, showing proximity to driveways, sidewalk, and street. Photo: Google Maps.



Figure 2. Female Red-shouldered Hawk incubating one of the two whole eggs. Photo: Bill Fraser.

County, Florida. The nest was located among the palm fronds in the middle of three Washington (or Mexican Fan) Palms (*Washingtonia robusta*) up to 10 m tall. The palms are planted in a triangular pattern, approximately 1 m from each other. The trees are between two driveways (within 3 m of each) and a sidewalk, approximately 4 m from the street (Fig. 1).

The palm fronds swayed freely with the wind, causing debris from the nest to drop and settle at the base of the trees. Both the male and female continued to rebuild and fortify the nest. The pair began incubating an unknown number of eggs on or about March 3.

On about 15 March, Steve Fritter heard the one of the hawks vocalizing persistently at the nest site. He found that a significant portion of the nest and four eggs had fallen to the ground between the three trees (Fig. 2). Among the debris were four eggs; two of the eggs were cracked and two others seemed whole. The next day the female (identified by size) was incubating one of the whole eggs amid the nest remnants on the ground (Fig. 2). By the next day the second whole egg had been repositioned and both eggs were being incubated there. The pair took turns incubating, the male always facing southeast, and the female facing northwest. After a week one of the eggs had been moved away and the birds continued to incubate the other.

The hawks continued this behavior regularly, pausing only to stretch when sunlight would find their shaded spot, or briefly flying away a short distance on unusual occasions when they apparently felt threatened. They would stay in place even when dogs were escorted by Mr. Fritter reported seeing a bird on the nest shortly after dusk, but did not observe whether the pair incubated all night. Incubation for Red-shouldered Hawk eggs is typically 33 days (Dykstra et al. 1994). By 10 April the hawks had abandoned the nest. This would have been approximately 38 days after incubation began. The whole eggs, while not cracked, may have been damaged and become unviable after falling to the ground.

I found no references to similar behavior by Red-shouldered Hawks in Bent (1961) or Dykstra et al. (1994). An internet search also failed to provide any examples of similar behavior.

ACKNOWLEDGMENTS

I thank Steve Fritter for reporting the information and the residents of Halifax Plantation for their love of birds and allowing the hawks to continue their attempt at incubating the eggs. I appreciate the suggestions of an anonymous referee, which helped to improve the manuscript.

LITERATURE CITED

- BENT, A. C. 1961. Life Histories of North American Birds of Prey. Dover Publications, New York, New York.
- DYKSTRA, C. R., J. L. HAYS, AND S. T. CROCOLL. 2008. Red-shouldered Hawk (*Buteo lineatus*), The Birds of North America Online (A. Poole, Ed.). Cornell Lab of Ornithology, Ithaca, New York. Retrieved from the Birds of North America Online: <<http://bna.birds.cornell.edu/bna/species/107>>.

FIELD OBSERVATIONS

Fall Report: August-November 2012.—This report consists of significant bird observations compiled by the Field Observations Committee (FOC). Electronic submissions to the FOC should be in the following format: species, number of individuals, age and sex of the bird(s), color morph if applicable, location (including county), date, observer(s), and significance. Seasons are winter (December-February), spring (March-May), summer (June-July), and fall (August-November). Submit observations to regional compilers within two weeks after the close of each season, or to the state compiler within one month. Addresses of the compilers follow this report.

Sight-only observations are considered “reports” while only those supported by verifiable evidence (photographs, video or audio recordings, or specimens) are called “records.” Species for which documentation is required by the FOC and by the FOS Records Committee (FOSRC; <fosbirds.org/official-florida-state-bird-list>) are marked here with an asterisk (*). A county designation (in italics) accompanies the first-time listing of each site in this report. Abbreviations in this report are: AFB = Air Force Base, AFR = Air Force Range, EOS = end of season, NERR = National Estuarine Research Reserve, nm = nautical mile, NP = National Park, NS = National Seashore, NSRA = North Shore Restoration Area, NWR = National Wildlife Refuge, SF = State Forest, SP = State Park, STA = Stormwater Treatment Area, STF = sewage treatment facility, WMA = Wildlife Management Area, and N, S, E, W etc., for compass directions. Bold-faced entries denote birds newly reported or verified in Florida, or record numbers. Photographs or video- or audio-recordings archived by the FOC are identified by a plus (+); BPA catalog numbers are provided for the most significant of these.

SUMMARY OF THE FALL SEASON

Although 2012 was an active tropical storm season, Florida was largely spared extensive damage. Tropical Storm *Debby*, which landed at Steinhatchee on 26 June, flooded considerable areas south to Pasco County, with maximum rainfall of 28.7 inches (73.1 cm) in Wakulla County. Hurricane *Isaac*, which made landfall in Louisiana on 28-29 August, also caused much flooding damage, primarily in the southern half of the Florida peninsula. *Isaac* brought unprecedented numbers of shearwaters into waters off the Pensacola area. The main avian story was the invasion of Red-breasted Nuthatches that reached into the central peninsula; a poor pine crop north of Florida was blamed. It was a good season for rarities, as evidenced by a surprising five Say’s Phoebes. Two Black-necked Swans at Lakeland provided a new exotic for the state.

SPECIES ACCOUNTS

BLACK-BELLIED WHISTLING-DUCK: 50 at Circle B Bar Reserve (*Polk*) 19 Aug (G. Schrott); 1 at Taminco Sanctuary (*Santa Rosa*) 20 Aug-3 Sep (L. Kelly); 1 at M & M Dairy (*Duval*) 25 Aug (K. Dailey); 1 pair with 3 young at Lake Killarney (*Leon*) 17 Sep-19 Oct (E. Woodruff); 4 at Guana Tolomato Matanzas NERR (*St. Johns*) 23 Sep (D. Reed); 1 pair with 11 chicks at Lettuce Lake Park, Tampa (*Hillsborough*) 23 Sep (+J. Fagan); 1 immature at Tiger Point Preserve (*Duval*) 30 Sep (P. Graham); 1 pair with 10 young at Lacoochee (*Pasco*) 19 Oct (fide B. Hansen); 1 pair with young at Tampa 20 Oct (G. Parsons); 1 pair with 9 chicks at “Viera Wetlands,” Viera (*Brevard*) 28 Oct (J. Cenger); 1 pair with young at Lake McClendon north of Jessamine (*Hernando*) 10 Nov (B. Wagner); 200 at STA-5 (*Hendry*) 24 Nov (M. England).

- GREATER WHITE-FRONTED GOOSE: 35 at Fort Walton Beach STF (*Okaloosa*) 8 Nov (B. & L. Duncan); 2 at Watermelon Pond (*Alachua*) 14 Nov (D. & S. Ewing).
- GRAYLAG GOOSE: 8 at Lake Morton, Lakeland (*Polk*) 1 Sep (B. Pranty, V. Ponzio).
- SNOW GOOSE: 1 at Ponce de Leon Inlet (*Volusia*) 2 Nov (M. Brothers); as many as 5 at Merritt Island NWR (*Brevard*) 10-26 Nov (J. Morris); 1 at Lake Apopka NSRA (*Orange*) 11 Nov (H. Robinson); 2 at Guana Tolomato Matanzas NERR 16 Nov (C. Bailey); 1 at Brandon 17-23 Nov (R. Newell, +T. Roller); 59 at St. Marks NWR (*Wakulla*) 23-26 Nov (B. Pranty, V. Ponzio); 1 at Paynes Prairie Preserve SP (*Alachua*) 30 Nov (F. Goodwin).
- ROSS'S GOOSE: 2 at St. Marks NWR 23-26 Nov (+B. Pranty, J. Cavanagh).
- CANADA GOOSE: 1 at St. Marks NWR 25 Nov (J. Murphy).
- MUTE SWAN: 43 at Lake Morton, Lakeland 1 Sep (B. Pranty, V. Ponzio).
- BLACK SWAN: 12 at Lake Morton 1 Sep included 2 juveniles and 1 adult on a nest (+B. Pranty, V. Ponzio).
- BLACK-NECKED SWAN (*CYGNUS MELANCORYPHUS*): 2 at Lake Morton 1 Sep (V. Ponzio, +B. Pranty [BPA 4240]).
- EGYPTIAN GOOSE: 3 at Avon Park (*Highlands*) 2 Oct (M. McMillian).
- WOOD DUCK: 1 female with 6 chicks at Oviedo (*Seminole*) 26 Aug (E. Kwater).
- GADWALL: 2 at Gulf Harbors, New Port Richey (*Pasco*) 16 Oct (D. Gagne, B. Pranty); 86 at Lake Apopka NSRA 21 Nov (H. Robinson).
- EURASIAN WIGEON: as many as 2 males at Merritt Island NWR 9 Nov-EOS (+M. Harris, +M. Brothers).
- AMERICAN WIGEON: 10 at Long Key SP (*Monroe*) 30 Oct (R. Galvez).
- MALLARD: 353 at Lake Morton 1 Sep (B. Pranty, V. Ponzio).
- BLUE-WINGED TEAL: 2 at Lake Apopka NSRA 15 Aug (H. Robinson); 60 at Merritt Island NWR 18 Aug (J. Thomson); 1,050 in 7 flocks passed Green Key, New Port Richey (*Pasco*) 8 Sep (K. Tracey); 2,000 passed Curry Hammock SP (*Monroe*) variously 17 Sep-28 Oct (R. Galvez, T. Keyel); 500 passed Fred Howard Park, Tarpon Springs (*Pinellas*) 2 Oct (G. Deterra).
- CINNAMON TEAL: 1 at Fort Walton Beach STF 30 Sep-6 Oct (M. Swan); 1 at Merritt Island NWR 3 Oct-EOS (D. Simpson); 1 at STA-1E (*Palm Beach*) 3 Nov (J. Boyd); 1 at St. Marks NWR 23 Nov (A. Wraithmell); 1 at STA-5, 24 Nov (M. England).
- RINGED TEAL: 5 at "Cutler Wetlands" (*Miami-Dade*) 13-19 Oct (J. Boyd, +T. Mitchell).
- *WHITE-CHEEKED PINTAIL: 2 at South Dade Landfill (*Miami-Dade*) 3-5 Oct (J. Friers, +L. Manfredi [BPA 4325]).
- REDHEAD: 3 at Holiday (*Pasco*) 22 Sep (D. Gagne); 6 at West Lake, Everglades NP (*Miami-Dade*) 17 Nov (J. Boyd); 2,200 at Tarpon Springs 19 Nov (J. Wells).
- RING-NECKED DUCK: 1 at Lake Morton 1 Sep (V. Ponzio, B. Pranty); 1,750 on a single pond at The Villages (*Sumter*) 25 Nov (J. Dinsmore).
- GREATER SCAUP: 14 at Lake Apopka NSRA 18 Nov (H. Robinson).
- LESSER SCAUP: 1 at St. Petersburg (*Pinellas*) 29 Aug (M. Burns).
- SURF SCOTER: 10 at Ponce de Leon Inlet 7 Nov (M. Brothers); 2 at Lake Elberta Park, Tallahassee (*Leon*) 14 Nov (+E. Schunke, BPA 4566); 1 at Cedar Key (*Levy*) 18-21 Nov (D. Henderson, N. Taylor); 6 at Lake Apopka NSRA 21 Nov, and 1 there 23 Nov (H. Robinson).
- WHITE-WINGED SCOTER: 2 at Alligator Point (*Franklin*) 13 Nov (J. Murphy); 1 at Cedar Key 18-21 Nov (D. Henderson, N. Taylor); 1 at Marineland (*St. Johns*) 19 Nov (D. Simpson); 1 at Ponce de Leon Inlet 29 Nov (M. Brothers).
- BLACK SCOTER: 30 at Fort Clinch SP (*Nassau*) 31 Oct (P. Leary); 15 at Ponce de Leon Inlet 31 Oct, 39 on 1 Nov, and 100 there 7 Nov (M. Brothers); 10 at Vilano Beach (*St. Johns*) 8 Nov (M. Gardler); 200 off *Volusia* almost daily early Nov-EOS (M. Brothers); 170 passed Canaveral NS (*Brevard*) 20 Nov (D. Simpson); 3 at Fort De Soto Park (*Pinellas*) 21 Nov-EOS (R. Harrod); 6 at Bowditch Point, Fort Myers Beach (*Lee*) 28 Nov (V. McGrath); 100 along *St. Johns* 30 Nov, with 70% headed north (G. Davis).

- BUFFLEHEAD: 1 at The Villages (*Sumter*) 18 Nov (J. Dinsmore); 1 at Lake Apopka NSRA 21 Nov (H. Robinson).
- *COMMON MERGANSER: 1 adult male at J. N. "Ding" Darling NWR (*Lee*) 23 Nov (+K. Ramos, BPA 4877a-b).
- RED-BREASTED MERGANSER: 15 passed Key Vista Nature Park, Holiday 16 Oct (B. Pranty, D. Gagne).
- RING-NECKED PHEASANT: 1 at Sarasota (*Sarasota*) 20 Nov (T. Mossbarger).
- COMMON LOON: 1 at Curry Hammock SP 10 Nov (R. Galvez).
- *RED-NECKED GREBE: 1 at Lake Elberta Park 13 Nov-EOS (+E. Schunke, +B. Pranty [BPA 4633]).
- EARED GREBE: 1 at Alligator Lake (*Columbia*) 30 Nov (J. Krummrich).
- AMERICAN FLAMINGO: 1 at Snake Bight, Everglades NP (*Monroe*) 6 Sep (+G. Harrold, BPA 4252a-b) had been banded as a nestling at Rio Lagartos Biosphere Preserve, Yucatan, Mexico in Sep 2010 (fide P. Frezza).
- *NORTHERN FULMAR: 1 at Daytona Beach Shores 14 Oct (+M. Brothers, BPA 4592a-b; specimen to FLMNH).
- BLACK-CAPPED PETREL: 11 off Ponce de Leon Inlet 16 Sep (M. Brothers).
- CORY'S SHEARWATER: 1 at Pensacola Beach (*Escambia*) 30 Aug (B. & L. Duncan, D. Stangeland); 10 birds 30-60 nm off Perdido Key (*Escambia*) 2 Sep (C. Litteken); among 83 off Ponce de Leon Inlet 16 Sep were 3 thought to represent the E Atlantic race *C. d. diomedea* (+M. Brothers, BPA 4339a-h).
- GREAT SHEARWATER: 20 at Pensacola Beach 30 Aug (B. & L. Duncan, D. Stangeland); 2 birds 15 nm off Clearwater Beach (*Pinellas*) 31 Aug, and 1 bird 10 nm off there 8 Sep (S. Czaplicki); 15 birds 30-60 nm off Perdido Key 2 Sep (C. Litteken).
- AUDUBON'S SHEARWATER: 30 at Pensacola Beach 30 Aug (B. & L. Duncan, D. Stangeland); 3 birds 30-60 nm off Perdido Key 2 Sep (C. Litteken).
- SHEARWATER SPECIES: 30 at Pensacola Beach 30 Aug (B. & L. Duncan, D. Stangeland).
- BAND-RUMPED STORM-PETREL: 13 birds 30-60 nm off Perdido Key 2 Sep (C. Litteken); 1 off Ponce de Leon Inlet 16 Sep (+M. Brothers).
- MAGNIFICENT FRIGATEBIRD: 2 at Alligator Point 27 Aug were associated with *Isaac* (J. Murphy); widespread along the coast in the W panhandle during *Isaac*, with 115 at Gulf Breeze (*Santa Rosa*) 29 Aug (B. & L. Duncan); 1 inland over San Felasco Hammock Preserve SP (*Alachua*) 18 Sep (M. Manetz, J. Mays); 1 at Guana Tolomato Matanzas NERR 3 Oct (D. Reed); 1 at Jacksonville Beach (*Duval*) 3 Nov (B. Tinsman).
- BROWN BOOBY: 3 at Huguenot Memorial Park (*Duval*) 18-23 Aug (K. Dailey); 1 along the Sunshine Skyway (*Pinellas*) 25 Aug (R. Miller); 1 at Canaveral NS 25 Oct (M. Harris).
- NORTHERN GANNET: 52 at Curry Hammock SP 30 Oct (R. Galvez, T. Keyel); 16 from Long Key SP 30 Oct (R. Galvez).
- ANHINGA: 60 in a kettle over Moccasin Slough Park, Orange Park (*Clay*) 8 Sep (L. McCullagh).
- AMERICAN WHITE PELICAN: 250 at Fort De Soto Park 15 Oct-EOS (R. Smith); 1,800 at Curry Hammock SP 20 Oct, and a total of 2,300 there through 3 Nov (R. Galvez, T. Keyel); 194 over Weekiwachee Preserve (*Hernando*) 21 Oct (C. Fisher, B. Pranty); 275 along Sister's Creek (*Duval*) 1 Nov (P. Leary).
- BROWN PELICAN: 2 at Harry Leu Gardens, Orlando (*Orange*) 7 Sep (J. Thomson); 480 at a colony at Apalachicola Bay (*Franklin*) 20 Sep (R. Cassidy); 3 at Lake Fairview, Orlando 12 Nov (P. Hueber).
- AMERICAN BITTERN: 1 passed Bunche Beach, Fort Myers 9 Aug (V. McGrath); 1 at Paynes Prairie Preserve SP 27 Aug (J. Mays).
- GREAT BLUE HERON: 253 passed Curry Hammock SP variously 16 Sep-9 Nov (R. Galvez, T. Keyel); 200 flew in from the ocean near St. Augustine 3 Oct, with 400 others there 4 Oct (D. Reed).

- GREAT BLUE HERON, WHITE MORPH: 1 at Merritt Island NWR 18 Aug (J. Thomson); 1 at Orlando 21 Nov (D. Freeland).
- GREAT EGRET: 7 birds 47 nm off Ponce de Leon Inlet 2 Nov (M. Brothers).
- SNOWY EGRET: 1,400 near Belle Glade (*Palm Beach*) 15 Sep (C. Weber).
- BLACK-CROWNED NIGHT-HERON: 16 along Dunedin Causeway (*Pinellas*) 30 Sep (E. Kwater).
- YELLOW-CROWNED NIGHT-HERON: 1 leucistic at Blowing Rocks Preserve (*Martin*) 11 Sep (+P. Quincy).
- GLOSSY IBIS: 100 at Gulf Harbors, New Port Richey 22 Sep (B. Pranty).
- WHITE-FACED IBIS: 1 at Lake Apopka NSRA 12 Sep (H. Robinson).
- ROSEATE SPOONBILL: 12 at Lake Apopka NSRA 31 Aug (H. Robinson); 13 at Alligator Point 16 Nov (S. Parker); 2 at Kingsley Plantation (*Duval*) 23 Nov (K. Dailey).

Table 1. Raptor and falcon migration (*southbound only*) past Curry Hammock SP, 15 Sep-11 Nov (R. Galvez, T. Keyel).

SPECIES	SEASON	HIGH COUNT
Turkey Vulture	7,758	5,714 on 30 Oct
Osprey	1,454	122 on 15 Sep
Mississippi Kite	99	28 on 27 Sep
Northern Harrier	959	139 on 20 Oct
Sharp-shinned Hawk	1,942	287 on 20 Oct
Cooper's Hawk	766	87 on 20 Oct
Broad-winged Hawk	7,236	1,398 on 30 Oct
Swainson's Hawk	105	56 on 30 Oct
American Kestrel	3,242	435 on 20 Oct
Merlin	584	52 on 20 Oct
Peregrine Falcon	3,836	651 on 10 Oct
TOTAL	27,981	

TURKEY VULTURE: 1,000 headed north over Cockroach Bay Preserve (*Hillsborough*) in 75 min, 3 Nov (C. Cox, L. Deaner); 120 over Fort De Soto Park 3 Nov (R. Smith).

SWALLOW-TAILED KITE: 1,642 at Lake Apopka NSRA 3 Aug (H. Robinson); 1 at Big Pine Key (*Monroe*) 27 Oct (G. Kent).

SNAIL KITE: 1 at Alligator Lake 7-19 Sep (J. Krummrich, J. Hintermister) was banded as a nestling at Lake Tohopekaliga (*Osceola*) in Jun 2012; as many as 6 (including 2 pairs) at Edward Medard Park, Plant City (*Hillsborough*) all season, with both nests active 2 Sep (B. Ahern, E. Kwater).

MISSISSIPPI KITE: 1 at Pine Lakes (*Duval*) 22 Aug (L. Johannsen); 3 at Bonner Park, Largo (*Pinellas*) 25 Aug (T. Young); 1 at Fort De Soto Park 12 Sep (+S. Tavaglione); 1 at Sawgrass Lake Park, St. Petersburg 15 Sep (+S. Harris, S. Pepper); 5 at Tallahassee 10 Oct (R. Cassidy).

BALD EAGLE: 1 at Spruce Creek Park (*Volusia*) 26 Sep captured a Snowy Egret in flight (D. Hartgrove).

NORTHERN HARRIER: 1 at Lake Apopka NSRA 24 Aug (H. Robinson).

SHARP-SHINNED HAWK: 10 passed Sanibel Lighthouse Park (*Lee*) 21 Oct (V. McGrath).

BROAD-WINGED HAWK: 1 juvenile over Eagle Point Park, Holiday (*Pasco*) 22 Sep (D. Gagne); 1 at Fort De Soto Park 12 Oct-27 Nov (J. Wells); 12 passed Sanibel Lighthouse Park 21 Oct (V. McGrath); 86 over Key West (*Monroe*) 30 Oct (R. Qually); 8 or 9 (all but one juveniles) over Cockroach Bay Preserve 3 Nov (+C. Cox, L. Deaner); 1 juvenile over Lake Apopka NSRA 16 Nov (H. Robinson); 1 juvenile rescued from the ocean off Bill Baggs Cape Florida SP (*Miami-Dade*) 25 Nov (+F. Tonioli).

- SHORT-TAILED HAWK: 11 reports of 14 individuals (5 dark, 4 light, and 5 unspecified morphs) in the peninsula to 11 Nov, all of singles except 2 at Sawgrass Lake Park 19 Aug (E. Haney) and 3 at Werner-Boyce Salt Springs SP, Port Richey (*Pasco*) 16 Sep (V. Ponzio, B. Pranty).
- SWAINSON'S HAWK: 11 over Genius Drive Nature Preserve, Winter Park (*Orange*) 28 Oct (B. Anderson); 5 over Key West 30 Oct (R. Qually); 1 over Cockroach Bay Preserve 3 Nov (+C. Cox, L. Deaner); 1 at Lake Apopka NSRA 11 Nov (H. Robinson).
- RED-TAILED HAWK: 1 juvenile "Krider's" at Merritt Island NWR 5 Nov (+M. Harris).
- GOLDEN EAGLE: 1 juvenile over Port Charlotte (*Charlotte*) 30 Oct (J. Bouton).
- SORA: 125 at Paynes Prairie Preserve SP 13 Oct (J. Hintermister).
- PURPLE GALLINULE: 5 at Edward Medard Park 3 Sep (B. Ahern, R. Smith); 1 adult with 2 juveniles (second brood) at St. Petersburg 30 Sep (R. Smith).
- AMERICAN COOT: 6 off Ponce de Leon Inlet 2 Nov (M. Brothers).
- LIMPKIN: 1 at Florida State College, Jacksonville 22 Aug (+P. Graham); 1 pair with 4 half-grown colts at Lake Morton 1 Sep (B. Pranty, V. Ponzio); 25 at Edward Medard Park 3 Sep (B. Ahern, R. Smith).
- SANDHILL CRANE: 1 leucistic at Muse (*Glades*) 19-25 Oct (+A. Friedman); 2 at Brannan Field Road, Jacksonville 29 Oct (J. Green); 25 over Gainesville 29 Oct (A. Kratter); 31 at Alligator Point 29 Nov (S. Parker).
- AMERICAN GOLDEN-PLOVER: 1 at "Viera Wetlands" 17 Sep (M. Gardler); 2 at the Everglades Agricultural Area along CR-880 (*Palm Beach*) 8 Oct (V. McGrath); 2 at Fort Walton Beach STF 15 Oct-20 Nov (M. Swan, B. & L. Duncan); 1 at St. Joseph Peninsula SP (*Gulf*) 18 Oct (+D. Chapman); 1 at St. Marks NWR 20 Nov (D. Morrow).
- SNOWY PLOVER: 29 at Anclote Key Preserve SP (5 in *Pasco* and 24 in *Pinellas*) 10 Aug (R. Smith, L. Kenney, B. Pranty, V. Ponzio).
- WILSON'S PLOVER: 6 at Ben T. Davis Beach, Tampa (*Hillsborough*) 2 Sep (B. Ahern).
- SEMIPALMATED PLOVER: 130 at Shell Key Preserve (*Pinellas*) 11 Aug (R. Smith); 1 or singles at Lake Jackson (*Highlands*) 29 Aug and 17 Sep (G. Schrott); 100 at North Anclote Bar (*Pasco*) 9 Oct (K. Tracey).
- PIPING PLOVER: 3 at Cape Romano, Rookery Bay NERR (*Collier*) 2 Aug (T. Below); 13 at Anclote Key Preserve SP (*Pinellas*) 10 Aug (R. Smith, L. Kenney); 1 at Titusville (*Brevard*) 18 Aug (J. Thomson).
- AMERICAN OYSTERCATCHER: 12 at Cape Romano 2 Aug (T. Below).
- BLACK-NECKED STILT: 25 at Spring Hill STF (*Hernando*) 6 Aug (M. Gardler); 550 near Belle Glade 15 Sep (C. Weber).
- AMERICAN AVOCET: 2 in alternate plumage at Cayo Costa SP (*Lee*) 11 Aug (C. Ewell); 40 near Belle Glade 15 Sep (C. Weber); 7 at Green Key 16 Oct (D. Gagne); 2 at Gulf Harbors 21 Oct-10 Nov (K. Tracey); 3 at Hague (*Alachua*) 28 Oct (J. Martin); 1 at Little Talbot Island SP (*Duval*) 30 Oct (J. Becker); 1 at Key West 30 Oct (R. Qually); 17 at Shell Mound (*Levy*) 20 Nov (M. Gardler).
- SPOTTED SANDPIPER: 12 at Rookery Bay NERR 22 Aug (T. Below).
- SOLITARY SANDPIPER: 8 at St. Petersburg 9 Sep (R. Smith).
- WILLET: 1 at Auburndale (*Polk*) 5 Aug (C. Fredricks); 1 at Oviedo (*Seminole*) 19 Aug (P. Hueber); 1 at Lake Apopka NSRA 31 Aug (H. Robinson).
- LESSER YELLOWLEGS: 1,100 near Belle Glade 15 Sep (C. Weber); 950 at STA-5, 15 Sep (M. England).
- UPLAND SANDPIPER: 60 in the Everglades Agricultural Area 12 Aug (M. Berney).
- WHIMBREL: 5 at Cape Romano 2 Aug (T. Below); 1 at Anclote Key Preserve SP (*Pinellas*) 10 Aug (R. Smith, L. Kenney).
- LONG-BILLED CURLEW: 1 at Cape Romano 2 Aug (T. Below); 1 at Fort De Soto Park 10 Aug-22 Sep (D. Sauvageau); 1 along SR-60, 16 km west of Yeehaw Junction (*Osceola*) 20 Sep (E. Kwater); 1 at Joe Overstreet boat ramp, Lake Kissimmee (*Osceola*) 28

- Nov-EOS (B. Stalnaker, +J. Stefancic [BPA 5001]); 1 male at Bunche Beach all season (C. Ewell).
- MARBLED GODWIT: 82 at Cape Romano 2 Aug (T. Below); 24 at Cedar Key 20 Nov (M. Gardler).
- SANDERLING: 265 at Anclote Key Preserve SP (*Pasco*) 10 Aug (B. Pranty, V. Ponzio).
- SEMPALMATED SANDPIPER: 1 or singles at Merritt Island NWR 19 Nov (+M. Brothers) and 30 Nov (+C. Fredricks).
- WHITE-RUMPED SANDPIPER: 2 at Carrabelle Beach (*Franklin*) 1 Sep (R. Cassidy); 1 at Lake Apopka NSRA 9 Sep (H. Robinson); 1 at Merritt Island NWR 28 Oct (+M. Harris).
- BAIRD'S SANDPIPER: 1 at Merritt Island NWR (*Brevard*) 21 Aug (M. Gardler, D. Freeland); 1 at Ponce de Leon Inlet 30 Aug (+M. Brothers).
- PECTORAL SANDPIPER: 95 at "Viera Wetlands" 20 Aug (D. Freeland, M. Gardler); 2 in S *Columbia* 7 Nov (J. Krummrich).
- BUFF-BREASTED SANDPIPER: 3 at Southeast Farm (*Leon*) 1 Aug (E. Schunke, A. Wraithmell); 1 at Belle Glade 11 Aug (R. Torres, T. Mitchell), and 3 there at King Ranch 24 Sep (V. McGrath, S. Damon); 1 at Carrabelle Beach (*Franklin*) 2 Sep (R. Cassidy); 1 at Fort De Soto Park 2 Sep (R. Harrod); 1 at Gulf Harbors 14 Oct (+D. Bowman).
- RUFF: 1 at Lake Apopka NSRA 9 Sep (H. Robinson).
- WILSON'S SNIFE: 15 at Curry Hammock SP 27 Oct (R. Galvez, T. Keyel).
- WILSON'S PHALAROPE: 1 at Spring Hill STF 2-7 Aug (M. Gardler, +S. Mann); as many as 10 at Merritt Island NWR 7 Aug-24 Oct (M. Brothers); 3 at Belle Glade 11 Aug (R. Torres, T. Mitchell); 2 at "Viera Wetlands" 18 Sep (M. Gardler, D. Freeland).
- RED-NECKED PHALAROPE: 4 off Ponce de Leon Inlet 16 Sep (M. Brothers, B. Anderson); 1 at Merritt Island NWR 24 Oct (M. Harris).
- RED PHALAROPE: 3 off Ponce de Leon Inlet 2 Nov (M. Brothers); 1 at Amelia Island SP (*Nassau*) 12 Nov (L. Johannsen).
- BLACK-LEGGED KITTIWAKE: 1 near Marineland (*St. Johns*) 23 Nov (G. Davis).
- SABINE'S GULL: 1 at Ponce de Leon Inlet 24 Oct (+M. Brothers).
- LAUGHING GULL: 1 aberrant with orange-red bill, legs, and feet at Ponce de Leon Inlet 24 Oct (+M. Brothers).
- FRANKLIN'S GULL: singles at Ponce de Leon Inlet 9 & 30 Oct and 6 & 12-13 Nov (+M. Brothers); 1 first-cycle at Ormond-By-The-Sea (*Volusia*) 13 Oct (+M. Brothers); 1 at Taminco 22 Oct (L. Kelly); 1 at Mexico Beach (*Bay*) 25 Oct (G. Williams); 1 at Fort Clinch SP 27 Oct (P. Leary); 1 at Cocoa (*Brevard*) 6-8 Nov (+M. Harris, D. Bales); 1 at Jacksonville 7 Nov (M. Gardler); 1 at Pensacola 15 Nov (+A. Williams).
- ICELAND GULL: 1 adult at Canaveral NS 18 Nov (P. Hueber, details); 1 first-cycle at Ponce Inlet 26 Nov (+M. Brothers).
- LESSER BLACK-BACKED GULL: 1 at Okaloosa Island (*Okaloosa*) 4 Aug (M. Swan); 33 at Curry Hammock SP 30 Oct (T. Keyel); 1 at Long Key SP 8 Nov (R. Galvez); 1 at Upper Matecumbe Key (*Monroe*) 15 Nov (D. Freeland).
- GLAUCOUS GULL: 1 adult at Ponce Inlet 29 Nov (+M. Brothers).
- GREAT BLACK-BACKED GULL: 1 adult at Treasure Island (*Pinellas*) to 1 Sep (R. Smith).
- SOOTY TERN: 1 inland at Paynes Prairie Preserve SP 27 Aug (L. Davis); 15 birds 30-60 nm off Perdido Key 2 Sep (C. Litteken); 1 at Fort De Soto Park 15 Sep (+D. McRee); 31 off Ponce de Leon Inlet 16 Sep (M. Brothers, B. Anderson); 1 at Canaveral NS 25 Oct (M. Harris).
- BRIDLED TERN: singles at Gulf Breeze and Pensacola Beach 28 Aug (L. Duncan); 2 off Perdido Key 2 Sep (C. Litteken); 2 off Ponce de Leon Inlet 16 Sep (M. Brothers, B. Anderson).
- LEAST TERN: 320 at Gandy Beach (*Pinellas*) 15 Aug (R. Smith).
- GULL-BILLED TERN: 1 at Gandy Beach 4 Aug (B. Ahern); 1 at Lake Apopka NSRA 17 Aug (H. Robinson); 1 at Bunche Beach 19 Aug (C. Ewell); as many as 2 at Merritt Island NWR 9-28 Nov (+M. Harris, D. Freeland).
- BLACK TERN: 800 at Ben T. Davis Beach 16 Aug (C. Fisher); 21 at Lake Jackson 29 Aug (G. Schrott).

- COMMON TERN: 3 at Fort De Soto Park 7 Aug (R. Smith); 1 at Bunche Beach 19 Aug (C. Ewell); 2 at Lake Apopka NSRA 27 Aug (H. Robinson); 2 along Sanibel Causeway (*Lee*) 27 Aug (V. McGrath); 3,500 at Honeymoon Island SP 7 Oct (E. Kwater, C. Fisher); 2,150 at North Anclote Bar 9 Oct (K. Tracey).
- FORSTER'S TERN: 500 at Honeymoon Island SP 7 Oct (E. Kwater, C. Fisher); 295 at Lake Apopka NSRA 18 Nov (H. Robinson).
- ROYAL TERN: 550 at Fort De Soto Park 7 Aug (R. Smith); 300 at North Anclote Bar 9 Oct (K. Tracey); 1 at Lake Apopka NSRA 24 Oct (H. Robinson); 44 inland at Brandon 6 Nov (E. Kwater).
- SANDWICH TERN: 1,500 at Fort De Soto Park 7 Aug (R. Smith); 2,000 at Shell Key Preserve 23 Sep (R. Smith); 200 at North Anclote Bar 9 Oct (K. Tracey); 1 at Edward Medard Park 4 Nov (+R. Newell, BPA 4241) provided the first inland record.
- *ELEGANT TERN: 1 at Siesta Key Beach (*Sarasota*) 4 Oct-9 Nov (B. Samuelson, +S. Wilson, BPA 4583).
- STERNA SPECIES: 1 possible "Cayenne" Tern—the southern form of Sandwich Tern for which no Florida record is known—at Siesta Key Beach 10 Aug and 22 Oct-19 Nov (+S. Wilson, BPA 4162a-d, BPA 4596).
- BLACK SKIMMER: 450 along Dunedin Causeway 31 Oct (J. Wells); 700 at Fred Howard Park 22 Nov (M. Gardler); 270 at Fort Island Gulf Beach (*Citrus*) 23 Nov (M. Gardler).
- POMARINE JAEGER: perhaps the same individual at Siesta Key Beach (*Sarasota*) 15 Sep (+J. Ulrikson, BPA 4460a-b) and at Fort De Soto Park 16 Sep-22 Oct (+R. Smith, BPA 4347a-b).
- LONG-TAILED JAEGER: 1 at Ponce de Leon Inlet 24 Oct (+M. Brothers, BPA 4556).
- WHITE-CROWNED PIGEON: 281 passed Curry Hammock SP variously 15 Sep-5 Nov (R. Galvez, T. Keyel); 13 at Bill Baggs Cape Florida SP 3 Oct (R. Diaz).
- AFRICAN COLLARED-DOVE: 1 at Gulf Harbors 16 Oct (D. Gagne, +B. Pranty).
- WHITE-WINGED DOVE: 200 roosted along CR-721 (*Highlands*) 12 Oct (P. Miller).
- DIAMOND DOVE: 1 at Palmetto (*Manatee*) 30 Aug (+J. Strome).
- BLACK-BILLED CUCKOO: 1 at St. George Island SP 9 Sep (J. Murphy); 1 at Bill Baggs Cape Florida SP 23 Sep (M. Davis).
- SMOOTH-BILLED ANI: 2 at Fort Zachary Taylor Historic SP, Key West 21-22 Sep (Rangel Diaz); 6 at Marquesas Keys (*Monroe*) 21 Sep (*vide* Rangel Diaz); 1 at Bill Baggs Cape Florida SP 3 Oct-EOS (R. Diaz).
- GROOVE-BILLED ANI: 1 at Fort Pickens, Gulf Islands NS (*Escambia*) 24 Sep (B. & L. Duncan); 1 at Redlands (*Miami-Dade*) 17 Oct (+*fide* B. Rapoza, BPA 5003); 1 at St. Joseph Peninsula SP 18 Oct (+D. Chapman).
- BURROWING OWL: 1 at Honeymoon Island SP 8-11 Nov (+D. Sauvageau, E. Kwater).
- LESSER NIGHTHAWK: 20 over C-111 Canal (*Miami-Dade*) 19 Nov (R. Galvez).
- COMMON NIGHTHAWK: hundreds each at Cantonment (*Escambia*) and Milton (*Santa Rosa*) 6 Sep (J. Callaway, J. Nickerson); 1,600 passed Palm Harbor 9 Sep (J. Wells).
- CHIMNEY SWIFT: 1,250 at Lake Apopka NSRA 2 Sep, and 1,415 there 23 Sep (H. Robinson).
- BUFF-BELLIED HUMMINGBIRD: 2 at Naples (*Collier*) 26-28 Oct (+R. Galligan, BPA 4509, BPA 4510).
- BLACK-CHINNED HUMMINGBIRD: 3 singles banded at Tallahassee 5, 28, & 30 Nov (F. Dietrich).
- RUFOUS HUMMINGBIRD: 1 at Ocala (*Marion*) 24 Aug-EOS (+A. Giminez); 1 at Lakeland (*Polk*) 21 Sep (S. Schenk); 1 at Lehigh Acres (*Lee*) 22 Sep-EOS (S. Damon, V. McGrath); 1 at Mead Garden 17 Oct-EOS (P. Hueber); 1 at Alachua (*Alachua*) 21 Oct (B. Wallace); 3 in one suburban yard at Valrico (*Hillsborough*) 31 Oct-EOS (+S. Backes); 1 at Genius Drive Nature Preserve, Winter Park 21 Oct (P. Hueber, B. Anderson); 14 singles banded in the panhandle variously 8 Sep-30 Nov (F. Dietrich).
- SELASPHORUS SPECIES: singles at Gainesville 12 Sep (M. Manetz), 29 Oct-EOS (M. Manetz), and 3 Nov-EOS (R. Robinson); 2 at Bok Tower Gardens, Lake Wales (*Polk*) 5-20 Oct (D. Sauvageau, G. Schrott); 1 at Lakeland 8 Oct (R. Morris).

- RED-HEADED WOODPECKER: 1 at Boyd Hill Nature Preserve, St. Petersburg 12 Sep (D. Sauvageau); 1 at Honeymoon Island SP 14-16 Sep (G. Deterra); 1 at Fort De Soto Park 16 Sep (B. Ahern); 1 at Lake Seminole Park, Seminole (*Pinellas*) 7 Oct (S. Tess); 1 at Matheson Hammock Park (*Miami-Dade*) 21 Oct-EOS, and 2 there 8 Nov-EOS (L. Manfredi).
- PEREGRINE FALCON: **651**, a world-record count, passed Curry Hammock SP (*Monroe*) 10 Oct, and the seasonal total (15 Sep-13 Nov) of **3,836** also set the world record (fide B. Stal-naker).
- LOVEBIRD SPECIES: 1 apparent hybrid at Holiday 14 Aug (+K. Tracey).
- NANDAY PARAKEET: 2 at Temple Terrace (*Hillsborough*) 26 Aug-EOS (B. Ahern); 1 at Sun City Center (*Hillsborough*) 1 Oct (R. Webb).
- BLUE-CROWNED PARAKEET: 2 at Palm Bay (*Brevard*) 11 Aug (S. Crespo); 1 at Sun City Center 8 Sep (+R. Webb).
- SCALY-HEADED PARROT: 1 at the University of Miami, Miami 10 Aug (+B. Rossheim, BPA 4168).
- EASTERN WOOD-PEWEE: 2 that called at Honeymoon Island SP 6 Nov (+R. Smith).
- YELLOW-BELLIED FLYCATCHER: 1 at St. George Island SP 9 Sep (J. Cavanagh, J. Murphy); 1 at Paynes Prairie Preserve SP 26 Sep (+B. Wallace); 1 at Mead Garden 26-29 Sep (P. Hueber, B. Anderson); 1 at Hillsborough River SP (*Hillsborough*) 30 Sep (B. Ahern).
- *ALDER FLYCATCHER: 1 heard calling at Fort De Soto Park 15 Sep (B. Ahern, R. Smith, S. Tavaglione); 1 heard calling at Altamonte Springs 17 Sep (P. Hueber, details); 2 at Paynes Prairie Preserve SP 24-29 Sep (M. Manetz); 1 banded at Bill Baggs Cape Florida SP 10 Oct (+R. Diaz, BPA 5004).
- "TRAIL'S" FLYCATCHER: 1 at Fort De Soto Park 14-16 Sep (J. Hooks); 1 at Merritt Island NWR 18 Sep (M. Harris); 1 at Maritime Hammock Sanctuary (*Brevard*) 21 Sep (A. Bankert).
- LEAST FLYCATCHER: 1 at Lake Lisa Park, Port Richey 3-7 Oct (+K. Tracey, B. Pranty); 1 at Fort De Soto Park 5-6 Oct (S. Tavaglione, G. Williams); 1 at Paynes Prairie Preserve SP 19 Oct (M. Manetz).
- EASTERN PHOEBE: 231 at Lake Apopka NSRA 4 Nov (H. Robinson).
- *SAY'S PHOEBE: 1 at Astatula (*Lake*) 30 Sep-EOS (+B. & L. Streepier); 1 at Tarpon Springs 7 Oct (+T. Mast, BPA 4505a-d); 1 at Taminco, Pace (*Santa Rosa*) 8 Oct (L. Kelly, +L. Goodman [BPA 4504a-b]); 1 at Weekiwachee Preserve (*Hernando*) 19 Oct (+D. Love, BPA 4492); 1 at Fort Walton Beach STF 10 Nov-1 Dec (+M. Swan, BPA 4618a-f).
- VERMILION FLYCATCHER: 1 at Fort Pickens 24 Sep (J. & B. Callaway, B. & L. Duncan); 1 or singles at Weekiwachee Preserve 7 & 16 Oct (+D. Love); 1 at Orlando Wetlands Park 13 Oct (fide R. Geisler); 1 at Frog Pond WMA (*Miami-Dade*) 13 Oct-EOS, and 2 there 3 Nov-EOS (J. Boyd); 1 at Lake Jackson 16 Oct (E. Schunke, A. Wraithmell); 1 near Carrabelle (*Franklin*) 25 Oct-EOS (G. Williams); 1 at Lake Apopka NSRA 7 Nov (H. Robinson); 1 at Paynes Prairie Preserve SP 8 Nov-EOS (J. Hintermister, +P. Graham).
- ASH-THROATED FLYCATCHER: 3 singles at Fort Pickens variously 11-27 Oct (J. & B. Callaway, B. & L. Duncan); 1 at St. George Island SP 19 Oct (D. Reed, J. Murphy); 1 at Gulf Breeze 20 Oct (B. Duncan); as many as 2 at Fort Walton Beach STF 8-19 Nov (B. & L. Duncan); 1 at Bronson (*Levy*) 17 Nov (C. Gordon); 1 at Frog Pond WMA 17 Nov-EOS (J. Boyd); 1 at St. Marks NWR 23 Nov (A. Wraithmell); 1 at "Viera Wetlands" 30 Nov (D. Freeland).
- BROWN-CRESTED FLYCATCHER: 1 at Lake Apopka NSRA 28 Nov-EOS (H. Robinson).
- *TROPICAL KINGBIRD: 1 at Bald Point SP (*Franklin*) 9-10 Oct (A. Wraithmell, +J. Murphy [BPA 5012]); 1 at Frog Pond WMA 8 Nov-EOS (L. Manfredi, J. Boyd).
- TROPICAL-TYPE KINGBIRD: 1 at Water Conservation Area 3 (*Broward*) 29 Oct (+K. Donnelly, BPA 4645a-c) had the large-billed appearance of a Tropical Kingbird.
- *CASSIN'S KINGBIRD: 1 at Lake Apopka NSRA 23 Nov (H. Robinson); 1 at STA-5, 24 Nov (M. England, +C. Smith [BPA 4641]).
- WESTERN KINGBIRD: 1 at Gulf Breeze 22 Aug (B. Duncan); 12 other reports 28 Sep-EOS, all of singles or duos in the peninsula except for trios at The Villages (*Marion*) 8 Nov (A. Horst) and Minneola (*Lake*) 21 Nov (J. Thomton).

- EASTERN KINGBIRD: 1 at Lake Apopka NSRA 3 Aug, and 11 there 19 Aug (H. Robinson); 23 at Fort De Soto Park 22 Aug (R. Smith); 2 juveniles fed by both parents at Merritt Island NWR 30 Aug (+B. Stalnaker); 115 passed Curry Hammock SP variously 15 Sep-8 Oct (R. Galvez, T. Keyel); 1 bird 14 nm off Ponce de Leon Inlet 16 Sep (M. Brothers, B. Anderson).
- GRAY KINGBIRD: 1 along Joe Overstreet Road 6 Aug (C. Fredricks); 9 singles along 5.5 km of beach at Anclote Key Preserve SP (*Pasco*) 10 Aug (B. Pranty, V. Ponzio); 1 at Lake Apopka NSRA 19 Sep (H. Robinson); 2 at Carrabelle 31 Oct (R. Cassidy).
- SCISSOR-TAILED FLYCATCHER: 17 reports statewide 7 Oct-EOS, with 3 at Long Key SP 17 Oct-8 Nov (R. Galvez), 10 at Alligator Point and Bald Point 20 Oct (D. Murphy, S. Parker), and 7 at Crane Point, Marathon (*Monroe*) 11 Nov (R. Galvez, T. Keyel).
- FORK-TAILED FLYCATCHER: 1 at Big Pine Key (*Monroe*) 19-22 Oct (+A. & G. Kent, BPA 4613).
- *THICK-BILLED VIREO: 1 at the Deering Estate at Cutler (*Miami-Dade*) 17 Nov (+R. Torres, BPA 4599).
- BELL'S VIREO: 1 at Matheson Hammock Park 9-29 Sep (J. Boyd, +R. Torres); 1 at Miramar (*Broward*) 9 Oct (K. Schneider); 1 at Fort Pickens 27-29 Oct (J. Pfeiffer).
- WARBLING VIREO: 1 at Cedar Key 7 Oct (D. Henderson).
- PHILADELPHIA VIREO: 1 at Aucilla WMA (*Jefferson*) 12 Sep (J. Hintermister, S. Nesbitt); 1 at Mead Garden 15 Sep (J. Stefancic); 9 other singles statewide 6-19 Oct.
- RED-EYED VIREO: 50 at Sawgrass Lake Park 9 Sep (R. Smith); 1 at Honeymoon Island SP 3 Nov (E. Kwater).
- *YELLOW-GREEN VIREO: 1 at Bill Baggs Cape Florida SP 17 Sep (+M. Davis [BPA 5005], E. Golden).
- BLACK-WHISKERED VIREO: 1 at Fort De Soto Park 30 Aug (E. Plage); 1 at St. George Island SP 8 Sep (R. Cassidy).
- NORTHERN ROUGH-WINGED SWALLOW: 2 at Honeymoon Island SP 10 Nov (E. Plage); 4 at Lake Elberta Park 21 Nov (D. Simpson).
- CLIFF SWALLOW: 2 at Lake Apopka NSRA 17 Aug (H. Robinson); 19 at St. Petersburg 26 Aug (S. Pratt); 8 at Paynes Prairie Preserve SP 27-28 Aug (J. Mays, R. Rowan); 6 at James E. Grey Preserve, New Port Richey 10 Sep (D. Gagne, D. Bowman); 2,500 over Jupiter Inlet Colony (*Palm Beach*) 13 Sep were estimated by a count taken every 5 mins over 4 hr (J. & L. Hailman, details)—this represents by far the Florida high count.
- CAVE SWALLOW: 1 at Fort Pickens 22 Oct (B. Duncan); 2 at Ponce de Leon Inlet 30 Oct, 8 on 31, and 80 there 1 Nov Oct (+M. Brothers); 1 at Altamonte Springs 6 Nov (P. Hueber); 1 at Fort De Soto Park 19 Nov (E. Plage).
- BARN SWALLOW: 19,500 at Lake Apopka NSRA 29 Aug (H. Robinson); 1 at Apalachicola Airfield (*Franklin*) 24 Nov (J. Murphy, +B. Pranty, V. Ponzio).

Table 2. Swallow migration past Curry Hammock SP and Long Key SP, 15 Sep-11 Nov (R. Galvez, T. Keyel).

SPECIES	Curry Hammock	Long Key
Purple Martin	12	0
Tree Swallow	5	0
Northern Rough-winged Swallow	5,374	220
Bank Swallow	130	3
Cliff Swallow	1,237	44
Cave Swallow	136	12
Barn Swallow	11,316	445
Swallow species	13,798	0
TOTALS	32,008	724

CAROLINA CHICKADEE: 1 at Pinecraft Park, Sarasota 12 Sep (J. Fisher); 1 at Boyd Hill Nature Preserve 6 Oct (E. Haney); 1 at Valrico 20 Oct-EOS (S. Gross).

- TUFTED TITMOUSE: 1 at Matheson Hammock Park 6 Oct (B. & N. LaFramboise).
- RED-BREASTED NUTHATCH: as many as 18 in *Franklin* 11 Oct-EOS (J. Murphy); as many as 15 at Cedar Key 16 Oct-EOS (D. Henderson, A. Kratter); 1 at Prairie Creek Preserve (*Alachua*) 16 Oct (J. Mays); 3 at Honeymoon Island SP 17 Oct-13 Nov (S. Reardon, R. Webb); 5 in *Leon* 18 Oct-17 Nov (R. Cassidy, E. Schunke); 8 at Gainesville 20 Oct-EOS (J. Killian, B. Wallace, G. Parks); 1 at Tomoka SP (*Volusia*) 23 Oct (M. Wilson); 5 at Key Vista Nature Park, Holiday 24 Oct-EOS (R. Smart, +B. Pranty); 2 at Guana WMA (*St. Johns*) 25 Oct-2 Nov (G. Davis); 1 at Brooker Creek Preserve (*Pinellas*) 25 Oct (T. Mast); 2 at Amelia Island SP 28 Oct (A. Schumann); 2 at Fort De Soto Park 2-5 Nov (J. Fitzgerald, S. McNemar); 3 at Merritt Island NWR (*Volusia* and *Brevard*) 2-13 Nov (M. Harris); 3 at Boyd Hill Nature Preserve 3 Nov-EOS (R. Smith, B. Ahern); 1 at Ocala National Forest (county?) 4 Nov (P. May); 1 at Cockroach Bay Preserve 4-5 Nov (G. Nareff, B. Ahern); 2 at Ichetucknee Springs SP (*Columbia*) 5 Nov (J. Krummrich); 1 at Chassahowitzka WMA (*Hernando*) 5 Nov (M. Gardler); 2 at Lake Sylvan Park, Sanford (*Seminole*) 6-10 Nov (+P. Hueber); 3 along Lust Road, Zellwood (*Orange*) 12 Nov (P. Hueber); 1 at Jay B. Starkey Wilderness Park (*Pasco*) 12 Nov (K. Tracey); 2 at Watermelon Pond 13-14 Nov (J. Mays, S. Ewing); 2 at Odessa (*Hillsborough*) 18 Nov (R. Milburn); 2 at Weedon Island Preserve (*Pinellas*) 19 Nov-EOS (S. Tavaglione); 1 at Wekiwa Springs SP (*Orange*) 20 Nov (G. Williams); 6 at Fort George Island (*Duval*) 23 Nov (K. Dailey); 3 at Guana WMA 25 Nov (A. Kratter); widely reported throughout the extreme W Panhandle (fide B. Duncan).
- BROWN-HEADED NUTHATCH: 1 at Hillsborough River SP 30 Sep (B. Ahern); 1 at Brooker Creek Preserve 18 Nov (D. Margeson).
- BROWN CREEPER: 1 at St. George Island SP 29 Oct (J. Murphy).
- HOUSE WREN: 1 at Maritime Hammock Sanctuary 21 Sep (A. Bankert); 1 at Holiday 22 Sep (D. Gagne); 150 at Lake Apopka NSRA 17 Oct (H. Robinson).
- SEDGE WREN: 1 at Long Key SP 16 Oct (R. Galvez).
- BLUE-GRAY GNATCATCHER: 500 at Gulf Breeze 21 Aug (B. & S. Duncan); 1 leucistic at Central Winds Park (*Seminole*) 17 Oct (+S. Simmons).
- GOLDEN-CROWNED KINGLET: 1 at Bayard Conservation Area (*Clay*) 21 Oct (L. McCullagh).
- GRAY-CHEEKED THRUSH: 60 heard over New Port Richey between 0600-0635 hr, 16 Oct (D. Gagne).
- SWAINSON'S THRUSH: 80 heard over New Port Richey between 0600-0635 hr, 16 Oct (D. Gagne).
- WOOD THRUSH: 1 at Highlands Hammock SP (*Highlands*) 6 Oct was eating what was thought to be a bullfrog tadpole (G. Schrott); 1 at Ormond Beach 8 Oct (M. Brothers); 1 at Fort Lauderdale (*Broward*) 9 Oct (J. Hutchison); 1 at Mead Garden 16 Oct (P. Hueber); 1 at Dunedin Hammock Park, Dunedin (*Pinellas*) 20 Oct (B. Ahern, R. Smith).
- GRAY CATBIRD: 148 at Starkey Wilderness Park 12 Oct (D. Gagne).
- COMMON MYNA: 8 at Milton 28 Oct included adults that were observed feeding young during summer (N. Seever, +P. Baker [BPA 4499, BPA 4500]).
- AMERICAN PIPIT: 1 at Merritt Island 13 Oct (D. Freeland); 1 at Gulf Harbors 16 Oct (D. Gagne, B. Pranty).
- SPRAGUE'S PIPIT: 1 at Fort Walton Beach STF 8-15 Nov (B. Duncan); 4 at Apalachicola 9 Nov-EOS (J. Murphy); 1 at Kanapaha Prairie (*Alachua*) 29 Nov (R. Rowan).
- CEDAR WAXWING: 1 at Melbourne Beach (*Brevard*) 26 Sep (A. Bankert).
- LAPLAND LONGSPUR: 1 at Hickory Mound Impoundment (*Taylor*) 2-6 Nov (+S. Hester [BPA 4572a-d], +J. Murphy [BPA 4773]).
- SNOW BUNTING: 1 at Canaveral NS (*Brevard*) 17 Nov-EOS (B. Siculo, +J. Greenlaw).
- OVENBIRD: 11 at Hillsborough River SP 30 Sep (B. Ahern); 1 at Bill Baggs Cape Florida SP 15 Oct had been banded as a hatch-year bird 22 Sep 2004 (M. Davis); 1 at Big Lagoon SP (*Escambia*) 7 Nov (B. Strader).

- LOUISIANA WATERTHRUSH: 25 at Lake Apopka NSRA 19 Aug (H. Robinson).
- GOLDEN-WINGED WARBLER: 14 reports in the peninsula 9 Sep-8 Oct, all of singles except 2 at Sawgrass Lake Park 9-10 Sep (R. Smith) and 3 at Merritt Island NWR 8 Oct (M. Harris).
- BLUE-WINGED WARBLER: 13 reports in the peninsula 1 Sep-8 Oct, all of singles except 2 at John Chesnut Park (*Pinellas*) 20 Sep (T. Mast).
- BLUE-WINGED WARBLER x GOLDEN-WINGED WARBLER: 1 "Brewster's Warbler" at Walt Disney World (*Orange*) 9 Oct (J. Thomson).
- SWAINSON'S WARBLER: 28 banded at Bill Baggs Cape Florida SP variously 16 Aug-24 Oct (M. Davis); 10 other reports in the peninsula 22 Aug-3 Oct, all of singles; 1 at Long Key SP 8 Nov (R. Galvez).
- ORANGE-CROWNED WARBLER: 1 at Central *Hillsborough* STF 16 Sep (C. Fisher); 2 at Fort Pickens 27 Sep (P. Baker).
- NASHVILLE WARBLER: 13 reports in the peninsula and the Keys 7 Sep-25 Nov, all of singles except 3 at Fort De Soto Park 10 Sep (E. Plage).
- CONNECTICUT WARBLER: 1 banded at Bill Baggs Cape Florida SP 3 Oct (+M. Davis).
- *MACGILLIVRAY'S WARBLER: 1 at Enchanted Forest Park (*Miami-Dade*) 9 Oct (J. King, details); 1 at Tropical Park (*Miami-Dade*) 27 Nov-EOS (+L. Manfredi, BPA 5006).
- MOURNING WARBLER: 3 singles at Gulf Breeze variously 30 Aug-29 Sep (B. & L. Duncan).
- KENTUCKY WARBLER: 1 at Bayonet Point 18 Aug (B. Pranty); 1 at Sawgrass Lake Park 19 Aug-9 Sep (E. Haney); 2 at John Chesnut Park 19 Aug (E. & S. Tess).
- HOODED WARBLER: 10 at Sawgrass Lake Park 19-20 Aug (E. Haney).
- AMERICAN REDSTART: 1 at Lake Apopka NSRA 3 Aug (H. Robinson); 1 at Fort De Soto Park 10 Sep was captured by a yellow rat snake (*Elaphe obsoleta*; T. Mossbarger); 24 at Highlands Hammock SP 6 Oct (G. Schrott).
- CAPE MAY WARBLER: 1 at John Chesnut Park 10 Sep (J. Wells); 1 at Fort De Soto Park 19-20 Sep, and 4 there 22 Sep (E. Plage, S. Tavaglione); 1 at Lake Apopka NSRA 6 Oct (H. Robinson).
- CERULEAN WARBLER: 15 reports in the peninsula 13 Aug-21 Sep, all of singles except 6 at Sawgrass Lake Park 19-23 Aug, and 2 there 9-10 Sep (E. Haney, R. Smith), and 10 in 30 min at James E. Grey Preserve 9 Sep (+K. Tracey).
- MAGNOLIA WARBLER: 1 at Orange Park (*Clay*) 5 Nov (L. McCullagh).
- BLACKBURNIAN WARBLER: 50 at Sawgrass Lake Park 9 Sep (R. Smith).
- YELLOW WARBLER: 65 in one hr at Green Key 8 Sep (K. Tracey), and 20 there 22 Sep (D. Gagne); 1 at Gulf Harbors 13 Oct-EOS was thought to be the same individual that wintered in the same Brazilian pepper clump during 2011-2012 (K. Tracey); 1 at Lake Woodruff NWR (*Volusia*) 24 Nov (+M. Brothers).
- CHESTNUT-SIDED WARBLER: 25 at Sawgrass Lake Park 9 Sep (R. Smith).
- BLACKPOLL WARBLER: 1 at Fairchild Tropical Garden 6 Oct (J. Boyd); 1 at Harry Leu Gardens 11 Oct (J. Thomson).
- BLACK-THROATED BLUE WARBLER: 1 at Boyd Hill Nature Preserve 24 Aug (S. Tavaglione); 55 of 70 banded at Bill Baggs Cape Florida SP 7 Oct (R. Diaz).
- PALM WARBLER: 2 in S *Columbia* 28 Aug (J. Krummrich); 441 at Lake Apopka NSRA 21 Oct (H. Robinson).
- PRAIRIE WARBLER: 1 at Lake Apopka NSRA 1 Aug, and 82 there 24 Aug (H. Robinson).
- CANADA WARBLER: 11 reports in the peninsula 29 Aug-6 Oct, all of singles except 2 at St. Petersburg 10 Sep (E. Haney).
- WILSON'S WARBLER: 8 reports statewide 10 Sep-15 Nov, all of singles except 6 at St. George Island SP 2 Oct (J. Hintermister, S. Nesbitt, J. Murphy) and 2 at Tallahassee 3 Nov (E. Schunke).
- WESTERN SPINDALIS: 1 female at Virginia Key 28 Nov-EOS (R. Diaz).
- CLAY-COLORED SPARROW: 24 reports statewide 28 Aug (at Gainesville; +M. Schubert, BPA 4234a-b)-17 Nov, all of singles except duos at Fort De Soto Park 20-26 Oct (D. Sau-

vageau), Merritt Island NWR 25-26 Nov (M. Harris), and Fort Pickens 24 Sep-19 Nov (J. & B. Callaway, B. & L. Duncan); 4 at Bald Point SP 4 Oct (J. Murphy); and 3 at Lake Jackson 16 Oct (E. Schunke).

LARK SPARROW: 14 reports statewide 13 Aug-10 Nov, all of singles, including at Columbia City (*Columbia*) 26 Aug (J. Krummrich) and Dunnellon (*Marion*) 21-22 Sep (F. Hileman).

GRASSHOPPER SPARROW: 3 at Long Key SP 30 Oct (R. Galvez).

LE CONTE'S SPARROW: 1 at Daytona Beach (*Volusia*) 4 Nov (+M. Brothers); 1 at Gulf Harbors 10 Nov (+M. Vetricek); 1 at Lake Woodruff NWR 15 Nov (H. Robinson).

NELSON'S SPARROW: 20 at Shiloh Marsh, Merritt Island NWR (*Volusia*) 7 Oct (D. Bales); 1 at Lake Jackson 16 Oct (E. Schunke).

SALT MARSH SPARROW: 1 banded at Shell Key Preserve 4 Nov (L. Deaner).

SEASIDE SPARROW: 1 juvenile at Merritt Island NWR 5 Aug (+L. Taylor); 1 juvenile at Cypress Point Park, Tampa 11 Sep (+C. Fisher, BPA 4041a-d); 1 juvenile found "in the middle of a street" at Daytona Beach (*Volusia*) 14 Sep (fide M. Brothers, specimen); 1 at Fort De Soto Park 16 Sep (+C. Herzog).

LINCOLN'S SPARROW: 1 at Lake Seminole Park 1-6 Nov (C. Gjervold); 1 at Lake Apopka NSRA 4 Nov (H. Robinson); 1 at Gulf Harbors 7-8 Nov (+D. Sauvageau, K. Tracey); 1 at Possum Branch Preserve, Safety Harbor (*Pinellas*) 8-11 Nov (J. Wells).

SWAMP SPARROW: 1 at Research Road, Everglades NP (*Miami-Dade*) 22 Nov captured and ate a fish (+B. Ponwith, BPA 5007).

WESTERN Tanager: 1 at Gulf Breeze 9 Sep (J. Callaway); 2 at St. George Island 10 Sep (G. Davis); 1 at Fort Pickens 23 Sep (J. & B. Callaway).

ROSE-BREASTED GROSBEAK: 1 at Lutz (*Pasco*) 13 Nov (D. Bowman); 1 at Vero Beach 22-24 Nov (B. Wagner); 1 at St. George Island SP 24 Nov (+P. Overmyer).

BLACK-HEADED GROSBEAK: 1 at Carrabelle Beach 22 Oct (C. Griffin).

BLUE GROSBEAK: 1 at Lake Seminole Park 6-16 Nov (R. Smith); 1 at Brooker Creek Preserve 8 Nov (T. Mast).

INDIGO BUNTING: 1 male in song along Noralyn Mine Road (*Polk*) 11 Aug (C. Fredricks); 25 at Long Key SP 18 Oct (R. Galvez).

INDIGO BUNTING x PAINTED BUNTING: 1 male at Redlands (*Miami-Dade*) 5 Nov (+fide B. Rapoza, BPA 5009a-b).

PAINTED BUNTING: 1 at Vero Beach (*Indian River*) 14 Aug (B. Wagner); 1 at Seminole (*Pinellas*) 15 Aug (+A. Nulph); 1 at Cockroach Bay Preserve 25 Aug (B. Ahern).

DICKCISSEL: 1 at Lake Apopka NSRA 17 Aug (H. Robinson).

BOBOLINK: 1 at Lake Apopka NSRA 1 Aug (H. Robinson); 1 at Fort Pickens 21 Aug (+D. Stangeland, BPA 4233a-c); 5,000 at one rice field near Belle Glade 15 Sep (C. Weber); 3,000 passed Long Key variously 21 Sep-18 Oct (R. Galvez).

*WESTERN MEADOWLARK: 1 at Fort Walton Beach STF 14 Nov (L. Duncan).

YELLOW-HEADED BLACKBIRD: 1 at Lake Apopka NSRA 14 Sep (H. Robinson); 1 at Cedar Key 22-25 Sep (D. Henderson); 1 at Eglin AFB (*Okaloosa*) 27 Sep (M. Swan); 1 at the Sarasota Celery Fields 30 Sep (V. Ponzio); 1 at Leesburg (*Lake*) 2 Oct (+L. Streeper); 1 at Fort Pickens 9 Oct (J. Callaway); as many as 4 at Hague 11 Oct-EOS (M. Manetz, J. Martin); 1 at Lake Jackson 16 Oct (E. Schunke, A. Wraithmell); 1 at Fort Walton Beach STF 14-17 Nov (B. & L. Duncan).

BREWER'S BLACKBIRD: 1 at Bayport Park (*Hernando*) 7 Nov-EOS (+D. Love); 1 at Clewiston (*Hendry*) 13 Nov (+E. Kwater, BPA 4534a-b); 3 at Apalachicola Airfield 24 Nov (+J. Murphy).

SHINY COWBIRD: 1 at Cedar Key 15 Aug (D. Henderson).

BRONZED COWBIRD: 1 at Cedar Key 25 Sep (D. Henderson); 1 at St. George Island 20 Oct (R. Cassidy); 1 at DeLeon Springs (*Volusia*) 20 Oct (+M. Brothers); 2 at Hague 22-31 Oct (M. Manetz, J. Mays); 1 at Carrabelle 9 Nov (+J. Murphy); 9 males at Clewiston

- 8 Nov-EOS (D. Simpson, +E. Kwater); 1 at Riverview (*Hillsborough*) 24-25 Nov (+C. Fisher); 1 at the Sarasota Celery Fields 28 Nov (S. Wilson).
- ORCHARD ORIOLE: 1 at St. Petersburg 2 Sep (E. & S. Tess); 1 at Merritt Island NWR 10 Sep (M. Harris); 1 at Lake Lisa Park 19 Sep (K. Tracey); 1 at Paynes Prairie Preserve SP 19 Oct (M. Manetz).
- *BULLOCK'S ORIOLE: 1 adult male at Long Key SP 17 Oct (R. Galvez, +B. Stalnaker [BPA 5010]); 1 adult male at Pensacola 12-30 Nov (+V. Hedrick, BPA 4642a-b).
- HOUSE FINCH: 20 at Fort De Soto Park 9 Nov (E. Plage).
- PINE SISKIN: 1 at Gainesville 7 Nov (G. Kent); 1 at Cedar Key 9 Nov (D. Henderson); 1 at Disney World 13 Nov (J. Thomton); 1 at Old Town (*Dixie*) 14 Nov (S. Fronk); 5 at Alligator Lake 14 Nov (K. Hickman); 6 at Tallahassee 17 Nov (F. Rutkovsky); 4 at Wekiwa Springs SP 20 Nov (G. Williams); 1 at Casselberry (*Seminole*) 23 Nov (A. Vinokur); 1 at Lake Apopka NSRA 23 Nov-2 Dec (H. Robinson); 8 at Bill Baggs Cape Florida SP 28 Nov (R. Diaz).
- AMERICAN GOLDFINCH: 1 male at DeLand (*Volusia*) 12 Aug, and 1 female there 27 Aug (+P. May, BPA 4283, BPA 4284); 1 at Altamonte Springs 3 Sep (P. Hueber); 196 at Bill Baggs Cape Florida SP 28 Nov (R. Diaz).
- ORANGE BISHOP: 1 male in alternate plumage at Spring Hill 27 Aug (F. Fink); 1 male in alternate plumage at C-357 sparrow fields (*Miami-Dade*) 24 Sep (+J. Mangold).
- NUTMEG MANNIKIN: 1 pair at Pensacola added material to their nest 3 Oct (V. Elsten).
- PIN-TAILED WHYDAH: 2 males in alternate plumage, 1 banded and 1 unbanded, at Clewiston 23 Sep (+K. Willis, M. England).

Contributors: Brian Ahern, Bruce Anderson, Steve Backes, Carol Bailey, Peggy Baker, Danny Bales, Andy Bankert, Joan Becker, Ted Below, Mark Berney, Jeff Bouton, David Bowman, John Boyd, Michael Brothers, Mark Burns, Brenda & Jerry Callaway, Rodney Cassidy, Jim Cavanagh, Jennifer Cenker, Roger Clark, Linda Cooper, Cameron Cox, Silvio Crespo, Stan Czaplicki, Kevin Dailey, Stan Damon, Gary Davis, Lloyd Davis, Michelle Davis, Lauren Deaner, Gail Detera, Rangel Diaz [spelled out], Robin Diaz [abbreviated], Fred Dietrich, Jim Dinsmore, Karen Donnelly, Bob & Lucy Duncan, Scot Duncan, Virginia Elsten, Margaret England, Charlie Ewell, Dean & Samuel Ewing, John Fagan, Florence Fink, Charlie Fisher, Jeff Fisher, Joe Fitzgerald, Cole Fredricks, Dave Freeland, Pete Frezza, Anne Friedman, Josh Friers, Sharon Fronk, Dave Gagne, Rebecca Galligan, Rafael Galvez, Murray Gardler, Reinhard Geisler, Colin Gjervold, Amie Giminez, Elizabeth Golden, Larry Goodman, Frank Goodwin, Caleb Gordon, Phil Graham, Judy Green, Jon Greenlaw, Cheryl Ann Griffin, Steve Gross, Jack & Liz Hailman, Erik Haney, Mitchell Harris, Sandy Harris, Randy Harrod, Garl Harrold, David Hartgrove, Vaughan Hedrick, Dale Henderson, Claire Herzog, Sharon Hester, Kyle Hickman, Fred Hileman, John Hintermister, Jeff Hooks, Alice Horst, Paul Hueber, John Hutchison, Laura Johannsen, Mike Judge, Les Kelly, Lillian Kenney, Adam & Gina Kent, Ted Keyel, John Killian, Andy Kratter, Jerry Krummrich, Ed Kwater, Bill & Nancy LaFramboise, Patrick Leary, Craig Litteken, Darcy Love, Mike Manetz, Larry Manfredi, John Mangold, Steve Mann, Don Margeson, John Martin, Tom Mast, Peter May, Jonathan Mays, Lenore McCullagh, Vince McGrath, Mike McMillian, Shelby McNemar, David McRee, Paul Miller, Rich Miller, Trey Mitchell, Jim Morris, Don Morrow, Tina Mossbarger, Deanna Murphy, John Murphy, Gretchen Nareff, Steve Nesbitt, Roger Newell, J. Nickerson, Amy Nulph, Pam Overmyer, Stephanie Parker, Geoff Parks, Gail Parsons, Susan Pepper, James Pfeiffer, Eric Plage, Bonnie Ponwith, Valeri Ponzio, Bill Pranty, Sharon Pratt, Robert Qually, Pete Quincy, Kimberly Ramos, Brian Rapoza, Steve Reardon, Diane Reed, Bryant Roberts, Harry Robinson, Ron Robinson, Thad Roller, Barry Rossheim, Rex Rowan, Lesley Royce, Fran Rutkovsky, Bonnie Samuelson, Dan Sauvageau, Susan Schenk, Ken Schneider, Greg Schrott, Mary Lou Schubert, Andrew Schumann, Elliot Schunke, Nelda Seever, Scott Simmons, David Simpson, Ray Smart,

Charles Smith, Ron Smith, Bob Stalnaker, Dan Stangeland, Joyce Stefancic, Bob Strader, Bob & Leann Streeper, John Strome, Malcolm Swan, Sue Tavaglione, Larry Taylor, Nancy Taylor, Ed & Sue Tess, John Thornton, Bill Tinsman, Flavia Tonioli, Roberto Torres, Ken Tracey, Jerry Ulrikson, Melissa Vetricek, Alex Vinokur, Billi Wagner, Bob Wallace, Ray Webb, Chuck Weber, Jim Wells, Annette Williams, Graham Williams, Kim Willis, Meret Wilson, Stu Wilson, Ed Woodruff, Andy Wraithmell, and Travis Young.

Summer 2012 report not published previously: Cerulean Warbler: 1 at Evergreen Cemetery, Fort Lauderdale (*Broward*) 28 Jul (B. Roberts, M. Berney).

Report prepared by **Bill Pranty**, state compiler (8515 Village Mill Row, Bayonet Point, Florida 34667-2662, <billpranty@hotmail.com>). Regional compilers are **Brian Ahern** (629 Gail Avenue, Temple Terrace, Florida 33617, <brianahern@aol.com>), **Bruce H. Anderson** (2917 Scarlet Road, Winter Park, Florida 32792, <scizortail@aol.com>), **John H. Boyd III** (15291 SW 108th Terrace, Miami, Florida 33196, <boydj@fiu.edu>), **Kevin Dailey** (6661 Beatrix Street, Jacksonville, Florida 32226, <kedailey@yahoo.com>), **Bob and Lucy Duncan** (614 Fairpoint Drive, Gulf Breeze, Florida 32561, <Town_Point@bellsouth.net>), **Charlie Ewell** (115 SW 51st Terrace, Cape Coral, Florida 33991, <anhinga42@comcast.net>), **Bev Hansen** (6573 Pine Meadows Drive, Spring Hill, Florida 34606, <bevalhansen@earthlink.net>), **Paul Miller** (Kissimmee Prairie Preserve State Park, 33104 NW 192nd Avenue, Okeechobee, Florida 34972, <bikerbirder@gmail.com>), and **John Murphy** (766 Alligator Drive, Alligator Point, Florida 32346, <southmoonunder@mchsi.com>).

BE A FRIEND OF FFN

Florida Field Naturalist is the journal of FOS, an important communication vehicle for the Florida scientific and birding community. Increasing costs need to be offset with a combination of member dues and contributions.

Please consider a donation of \$50, \$100, \$200 or more to FRIENDS OF FFN. Your gift will allow FFN to improve its artwork, including four-color photographs of rarities similar to the one of the state's first Varied Bunting, published in the February 2006 issue, and other improvements in the content and appearance of our journal.

Contributions to FRIENDS OF FFN will be added to a special endowment of FOS, the interest of which will be used to improve the journal. Please write a check payable to the Florida Ornithological Society and specify that the gift is for FOS Friends of FFN. Send the check to: John Murphy, Treasurer, Florida Ornithological Society, 766 Alligator Drive, Alligator Point, FL 32346.

We thank the following individuals for donating to FRIENDS OF FFN:

2006

Murray Gardler

2007

David B. Freeland

2008

Jack P. Hailman

Billi Wagner

Charles Ewell & Arlyne B. Salcedo

Robert & Lucy Duncan

John M. Murphy

Richard L. West

2009

Judith C. Bryan

John M. Murphy

Billi Wagner

Peggy Powell

Peter & Victoria Merritt

Jim Cox & Katy NeSmith

Robert Budliger

William Post

David Hartgrove

2010

David Hartgrove

Brian Ahern

Robert Budliger

2011

David Hartgrove

William Post

R. Todd Engstrom

Anthony White

Robert Budliger

John M. Murphy

Vincent McGrath

Michael Brothers

Reed & Myra Noss

2012

James E. Cavanagh, Jr.

Silvio Crespo, Jr.

Robin Diaz

David Hartgrove

Larry Hribar

John M. Murphy

Billi Wagner

William Post

Anthony White

David Budliger

Theodore H. Below

2013

Silvio Crespo, Jr.

Larry Hribar

Mary Landsman

John Murphy

Robin Diaz

**SPECIAL PUBLICATIONS OF THE
FLORIDA ORNITHOLOGICAL SOCIETY**

M. C. Bowman. 1978. **Species Index to Florida Bird Records in *Audubon Field Notes* and *American Birds*, Volumes 1-30, 1947-1967.** Florida Ornithological Society Special Publication No. 1. xii + 43 pages. \$4.

J. A. Cox. 1987. **Status and Distribution of the Florida Scrub Jay.** Florida Ornithological Society Special Publication No. 3. vii + 110 pages. \$8.

R. W. Loftin, G. E. Woolfenden, and J. A. Woolfenden. 1991. **Florida Bird Records in *American Birds* and *Audubon Field Notes* (1947-1989): Species Index and County Gazetteer.** Florida Ornithological Society Special Publication No. 4. xiv + 99 pages. \$8.

R. W. Loftin. 1991. **West Indian Bird Records in *American Birds* and *Audubon Field Notes* (1947-1990): Species Index by Islands.** Florida Ornithological Society Special Publication No. 5. ix + 90 pages. \$8.

W. B. Robertson, Jr. and G. E. Woolfenden. 1992. **Florida Bird Species: An Annotated List.** Florida Ornithological Society Special Publication No. 6. ix + 260 pages. FOS members: \$15 soft cover, \$20 hard cover; Non-members: \$18 soft cover, \$23 hard cover.

G. E. Woolfenden, W. B. Robertson, Jr., and J. Cox. 2006. **The Breeding Birds of Florida.** Florida Ornithological Society Special Publication No. 7. ii + 142 pages. \$12.

To order Special Publications: Please send a check made out to the *Florida Ornithological Society* to the Treasurer:

John Murphy, Treasurer
766 Alligator Drive
Alligator Point, FL 32346

The amount of the check should include the price of the publication(s) plus shipping and sales tax.

Shipping: Add \$2 shipping for 1-5 copies; \$4 for 6-10 copies.

Sales Tax: Florida residents add the sales tax for the county in which the special publications are delivered. Calculate the sales tax based on the total cost of the special publications plus shipping.

Florida Field Naturalist

ISSN 0738-999X

PUBLISHED BY THE FLORIDA ORNITHOLOGICAL SOCIETY

Editor: SCOTT ROBINSON, Florida Museum of Natural History, University of Florida, P.O. Box 117800, Gainesville, FL 32611-7800. E-mail: srobinson@flmnh.ufl.edu

Managing/Copy Editor: TOM WEBBER, Florida Museum of Natural History, University of Florida, P.O. Box 117800, Gainesville, FL 32611-7800. E-mail: twebber@flmnh.ufl.edu

Associate Editor (for bird distribution): BRUCE ANDERSON, 2917 Scarlet Road, Winter Park, FL 32792. E-mail: scizortail@aol.com

Editor of the FOS newsletter, *Snail Kite*: SELENA KISER, 1740 Augustine Place, Tallahassee, FL 32301. E-mail: beenebat@netscape.net

Editor of Special Publications: JEROME A. JACKSON, Florida Gulf Coast University, 10501 FGCU Blvd. South, Ft. Myers, FL 33965. E-mail: jjackson@fgcu.edu

Web Page Editor: EUGENE STOCCARDO, 331 Roswell Ave., Orlando, FL 36803. E-mail: Garberia@hotmail.com

INFORMATION FOR CONTRIBUTORS

The *Florida Field Naturalist* is a fully refereed journal emphasizing biological field studies and observations of vertebrates, especially birds, in or near Florida and the nearby West Indies. We welcome submission of original manuscripts containing new information from these areas. **We encourage electronic submission of manuscripts.** Please consult recent issues of the journal and the FOS website (<http://www.fosbirds.org/FFN/FFN.aspx>) for style, noting especially that manuscripts should:

- (1) be double-spaced throughout, including tables and figure captions;
- (2) include the scientific name at the first mention of each species;
- (3) include capitalized standard English names for all birds, but lower case for English names of other organisms;
- (4) use metric units for all measurements;
- (5) use the form "7 June 2003" for all dates;
- (6) use the 24-hour clock for all indications of time (e.g., 0800, 1400);
- (7) use the following abbreviations: s (second), min (minute), h (hour);
- (8) use active voice where at all possible.

Submit manuscripts, and books for review, to the Editor, Scott Robinson. Monograph-length manuscripts may be submitted for consideration to Jerome A. Jackson, Editor of Special Publications. Field observations should be sent to the Chair of the Field Observations Committee, Bill Pranty (see Field Observations, this issue). Reports of birds for which the FOS Records Committee requires documentation (see <http://fosbirds.org/content/records-committee>) should be sent to the Secretary of the Committee, Jon S. Greenlaw, 10503 Mistflower Lane, Tampa, FL 33647-3544; E-mail: jgreenlaw@earthlink.net



3 9088 01724 8634

Florida Field Naturalist

PUBLISHED BY THE FLORIDA ORNITHOLOGICAL SOCIETY

VOL. 41, No. 2

MAY 2013

PAGES 29-69

CONTENTS

ARTICLES

- Reddish Egret (*Egretta rufescens*) nesting in Clearwater Harbor and St. Joseph Sound, Pinellas County, and Crystal Bay, Citrus County, Florida, from 1991 to 2011
Ann B. Hodgson and Ann F. Paul 29-41
- Nest components of Crested Caracaras (*Caracara cheriway*) breeding in Florida
Jennifer A. Smith and Micah N. Scholer 42-48

NOTES

- Incidental capture of an alternative prey by a dietary specialist, the Snail Kite (*Rostrhamus sociabilis*)
Eric A. Riddell and Daniel P. Cavanaugh 49-50
- Red-shouldered Hawks (*Buteo lineatus*) continue to incubate eggs on ground after nest falls
Christopher W. Eberly 51-53

FIELD OBSERVATIONS

- Fall Report: August-November 2012
Bill Pranty 54-67

ANNOUNCEMENTS

- Friends of FFN 68
- FOS Special Publications 69