

Because disturbed habitats are constantly being manipulated, they might be stable for a long enough period to offer short-term food supplies for kites, but may be disturbed too often to support kites through a four month breeding season.

We would like to thank John Whitworth who alerted us to the presence of kites on his property and graciously granted us access.

LITERATURE CITED

- BEISSINGER, S. R. 1983. Hunting behavior, prey selection, and energetics of Snail Kites in Guyana: consumer choice by a specialist. *Auk* 100: 84-92.
- BEISSINGER, S. R., AND J. E. TAKAWA. 1983. Habitat use by and dispersal of Snail Kites in Florida during drought conditions. *Fla. Field Nat.* 11: 89-106.
- HANNING, G. W. 1978. Aspects of reproduction in *Pomacea paludosa* (Mesogastropoda: Pilidae). M.S. thesis, Tallahassee, Florida, Florida State University.
- HAVERSCHMIDT, F. 1962. Notes on the feeding habits and food of some hawks in Surinam. *Condor* 64: 154-158.
- HOWELL, A. H. 1932. Florida bird life. New York, Coward-McCann, Inc.
- SNYDER, N. F. R., AND H. W. KALE, II. 1983. Mollusk predation by Snail Kites in Columbia. *Auk* 100: 93-97.
- SNYDER, N. F. R., AND H. A. SNYDER. 1969. A comparative study of mollusk predation by Limpkins, Everglade Kites and Boat-tailed Grackles. *Living Bird* 8: 177-223.
- SYKES, P. W., JR., AND H. W. KALE, II. 1974. Everglade Kites feed on nonsnail prey. *Auk* 91: 818-820.
- WOODIN, M. C., AND C. D. WOODIN. 1981. Everglade Kite predation on a soft-shelled turtle. *Fla. Field Nat.* 9: 64.
- Jean E. Takekawa**, Loxahatchee National Wildlife Refuge, Rt. 1, Box 278, Boynton Beach, Florida 33437 and **Steven R. Beissinger**, School of Natural Resources, University of Michigan, Ann Arbor, Michigan 48109.

Florida Field Naturalist 11: 107-108, 1983.

The Snail Kite in the southern Everglades.¹—The Snail Kite (*Rostrhamus sociabilis*) is considered to be a characteristic species of the Florida Everglades, as emphasized by its former common name, the Everglade Kite. Although the Kite occurs commonly in the northern Everglades, especially in Loxahatchee and Conservation Areas 2 and 3 (Sykes 1984), it seems not to be common in the southern Everglades. In this paper, we review the historic and present status of the Snail Kite at the extreme southern part of its Florida range, the southern Everglades in and near Everglades National Park. We find that it has generally been uncommon there and report its first recent nesting in the park.

¹Editorial processing of this manuscript was handled by Associate Editor William B. Robertson, Jr.

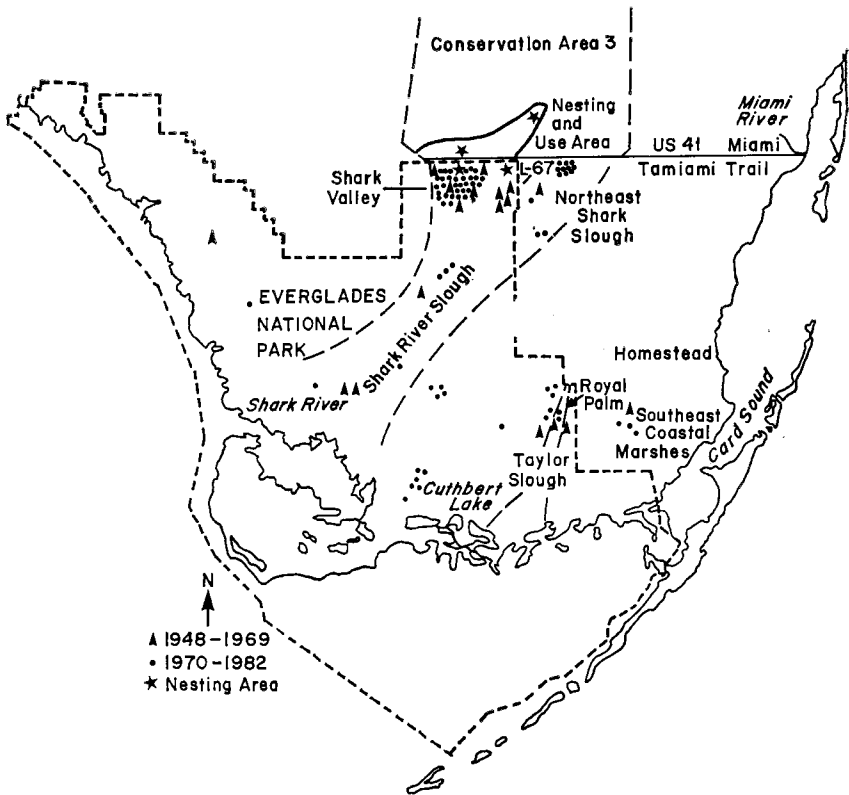


Fig. 1. Location of observations of Snail Kites in the Southern Everglades, 1948-1983.

Our evaluations are based on a review of the literature and on records collected at Everglades National Park since 1948. We also use observations made on annual Kite surveys conducted by P. W. Sykes, Jr., and J. A. Rodgers (pers. comm.) and a helicopter survey made with S. R. Beissinger on 20 February 1981. The area we discuss is south of Tamiami Trail, U.S. 41 (Fig. 1). Sykes (1983, 1984) discussed the overall range of the Kite in Florida.

Many records of Snail Kite nesting in and near the southern Everglades are from the last century. Sykes (1984) made a thorough search of egg collections and found several clutches labeled from extreme south Florida including: five from "southwest of Miami opposite Key Largo" probably in the southeast coastal marshes collected in 1897; two 64 km "southeast of Miami" collected in 1902; seven from "Everglades", not necessarily the southern Everglades, from 1883 to 1916; and one from "Big Sawgrass" in 1907. The usual reference for Kite nesting in the southern Everglades, Bent (1937), ap-

pears tenuous. Bent reported that in 1904 "Everglade Kites were breeding commonly all through the southern Everglades, west of Palm Beach and back of Miami and Homestead; there was *even said* (emphasis added) to be a breeding colony of them near Paradise Key, now Royal Palm State Park", now Royal Palm in Taylor Slough, Everglades National Park. Before and around the turn of the century the Snail Kite did nest near the headwaters of the Miami River (Maynard 1881, Bent 1937, Howell 1932), where it was first discovered in Florida by Harris (1844). It appears that the last definitive records of Kites nesting in the southern Everglades were approximately 70 years ago. By 1918-19, Howell (1921) considered the Snail Kite to be rare in Taylor Slough.

Early records of individual kites in the southern Everglades include birds at Harney River Headwaters in 1897 (Willoughby 1913), Card Sound in 1899 and Big Sawgrass in 1902 (Sykes 1984), Cuthbert Lake in 1903 (Dutcher 1904), Taylor Slough in 1918, 1919, 1928 (Howell 1921, 1932), northeast of West Lake in 1934 and Shark River headwaters in 1935 (Sykes 1984). Observations of Kites in the southern Everglades since 1948, the establishment of Everglades National Park, are shown in Fig. 1. Eighteen sightings through 1969 were in Taylor Slough, the southeast coastal marshes, Shark Valley and Shark Slough, L-67 Canal, the headwaters of coastal streams and northeast Shark Slough. These were the same areas in which Kites were seen between 1970 and 1982, suggesting that use of traditional areas has not changed. From 1977 to 1982, we made specific efforts to document Kite occurrences. Thus most of our observations were from the period of time when the population was increasing (Sykes 1984) and high water conditions prevailed.

High water conditions seem to coincide with increasing use of the southern Everglades in that Kites are not present there during droughts (Beissinger and Takekawa 1983). Although Kites have been reported in the southern Everglades each month, 60% of the records are from winter, November to February, before the nesting season. Kites were most commonly seen at Shark Valley, immediately south of the current nesting areas in Conservation Area 3 (Fig. 1).

In 1983, four nesting attempts were observed in the Shark Valley area by Steven R. Beissinger and Lisa Pakula (pers. comm.). Two of these nests fledged young. This first recent nesting occurred during a period of exceptionally high water. Both successful nests were outliers of the nesting colony located 200 m to the north in Conservation Area 3.

The Snail Kite appears to be an uncommon, primarily winter, resident of the southern Everglades occurring there principally during periods of exceptionally high water and confined mostly to the extreme north, adjacent to its current area of greatest abundance in southern Conservation Area 3.

We thank Steven Beissinger, Lisa Pakula, James Rodgers, and Paul Sykes for supplying information, Paula Frohring for help in data search, and Paul Sykes whose review significantly improved the paper.

LITERATURE CITED

- BENT, A. C. 1937. Life histories of North birds of prey, U.S. Natl. Mus. Bull. 167.
- BEISSINGER, S. R., AND J. E. TAKEKAWA. 1983. Habitat use by and dispersal of Snail Kites in Florida during drought conditions. Fla. Field Nat. 11: 89-106.
- DUTCHER, W. 1904. Report of the A.O.U. Committee on the protection of North American birds for the year 1903. Auk 21: 197-208.
- HARRIS, E. 1844. Meeting of business, May 18, 1844. Proc. Acad. Nat. Sci. Philadelphia 2: 65. (Cited in Sykes 1984).
- HOWELL, A. H. 1921. A list of the birds of Royal Palm Hammock, Florida. Auk 38: 250-263.
- HOWELL, A. H. 1932. Florida bird life. New York, Coward-McCann, Inc.
- MAYNARD, C. J. 1881. The birds of eastern North America. Newtonville, Massachusetts, C. J. Maynard & Co.
- SYKES, P. W., JR. 1983. Snail Kite use of the freshwater marshes of south Florida. Fla. Field Nat. 11: 73-88.
- SYKES, P. W., JR. 1984. The range of the Snail Kite and its history in Florida. Bull. Fla. State Mus. 29. in press.
- WILLOUGHBY, H. L. 1913. Across the Everglades; a canoe journey of exploration. Philadelphia, Pennsylvania, J. B. Lippincott Co.
- James A. Kushlan and Oron L. Bass, Jr., National Park Service, South Florida Research Center, P.O. Box 279, Homestead, Florida 33030.

Florida Field Naturalist 11: 108-111, 1983.

Parasites of the Snail Kite in Florida and summary of those reported for the species.—The Snail Kite (*Rostrhamus sociabilis*) ranges from Florida, Cuba, and southeastern Mexico south to southern South America (Hellmayr and Conover 1949, Friedmann 1950, Sykes 1984). Here we report for the first time the parasites of *R. s. plumbeus* in Florida and list parasites known for the species elsewhere. Our findings were not the result of a detailed study but were an adjunct to a broader research effort on Snail Kite ecology.

Ectoparasites, fresh fecal samples, and blood smears were collected from nests and nestling Snail Kites in Florida, as the opportunity arose, from 1969 through 1975. We collected 38 samples in Conservation Area 2A, Broward County (2 ectoparasite collections), Lake Okeechobee, Glades County (13 blood smears, 10 fecal samples, 1 ectoparasite collection), and headwaters of the St. Johns River, Indian River and St. Lucie counties (6 blood smears, 1 fecal sample, 5 ectoparasite collections). Techniques of preparing, culturing, and examining samples followed Forrester et al. (1974). No necropsies were performed for endoparasites. No material was obtained from birds capable of flight because we felt that the stress of capture was too great a risk in the relatively small population in the 1969-1975 period.

R. sociabilis is a known host for 11 species of ectoparasites (9 biting lice, 1 mite, and 1 beetle) and 6 endoparasites (5 flukes and 1 protozoan) (Table 1). All blood smears were negative for blood protozoans. Two fecal samples from nests at Lake Okeechobee, Glades County, in 1974 and 1975 contained oocysts