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THE RECENT DISTRIBUTION OF BLACK-SHOULDERED KITES IN FLORIDA

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Abstract.—A review of the literature and data collected during recent aerial surveys indicate that the number of Black-shouldered Kites (*Elanus caeruleus majusculus*) has increased in Florida since 1973. Prior to the 1970s, most records of Black-shouldered Kites were in central Florida. Recently, a larger proportion of the sightings are from southern Florida, especially in the east Everglades where nesting has been documented.

The drastic decline of the Black-shouldered Kite (*Elanus caeruleus majusculus*) in North America before 1900 and its recent expansion have been reviewed in detail by Eisenmann (1971), Larson (1980), and Pruett-Jones et al. (1980). Howell (1932) described the Black-shouldered Kite as "a rare and local resident nearly throughout peninsular Florida." According to Kale's (1974) review of the species' status in the state, records were very intermittent up to the early 1960s then became more regular from 1961 to 1973. Since 1973 the number of Black-shouldered Kite sightings has increased dramatically. In this paper we document the increase in Black-shouldered Kite numbers in Florida since 1973. We describe a southward shift in the distribution of the birds in the state and their nesting habitat in southern Florida.

METHODS

We reviewed the *Florida Field Naturalist* and *American Birds* Florida Region reports from 1973 through Summer 1990 for Black-shouldered Kite observations. From December 1986 through August 1990 the locations and activities of kites in the Everglades Water Conservation Areas (WCAs) were noted during frequent aerial surveys of wading birds conducted by Hoffman and several other observers from the National Audubon Society research station in Tavernier. In 1989 and 1990 these surveys were expanded to include the Everglades Agricultural Area (EAA). We also gained timely notice of Black-shouldered

Kite occurrences through a network of interested observers (including, but not limited to, P. W. and Susan Smith, Tim Towles and Liz Lewis).

RESULTS

Occurrences since 1973.—Our review of published records of occurrences from 1973 through Summer 1990 revealed 38 separate observations of Black-shouldered Kites, a rate of 2.1 records per year (Fig. 1). Comparison of the historic and recent distribution of Black-shouldered Kite records in Florida shows a change in their distribution (Fig. 2). Records prior to 1973 are from Howell (1932), Sprunt (1954), and Kale (1974) (open circles). Prior to 1973, 61% (19) of the sightings were in central Florida (Orlando to the southern end of Lake Okeechobee) and 22% (7) were in southern Florida. Since 1972 only 23% (9) of the sightings were in central Florida. In 32 aerial surveys of the WCAs and the EAA, 27 Black-shouldered Kite sightings were recorded (Fig. 3). In fall 1990, an aggregation of Black-shouldered Kites appeared in the east Everglades, west of Kendall and north of Homestead. At least 14 kites gathered in a small area of marsh with scattered wax myrtle (*Myrica cerifera*). Nonbreeding concentrations of these kites are found frequently in California and elsewhere (Palmer 1988). The east Everglades may have hosted a major fraction of the Florida population in 1990.

Recent nesting records.—Since 1986, 13 nesting attempts by Black-shouldered Kites have been recorded in southern Florida. In 1986 three

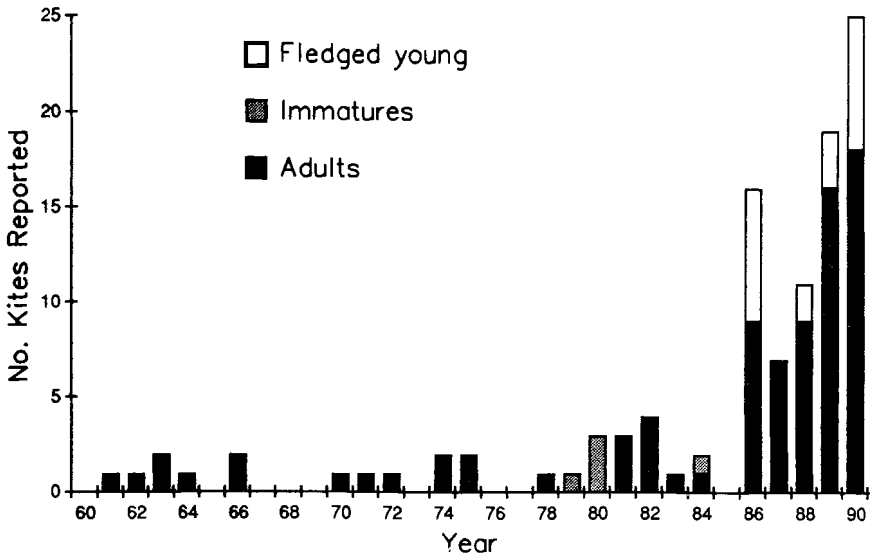


Figure 1. Annual totals of Black-shouldered Kites observed in Florida, 1960-1990.

pairs produced seven fledglings in Broward County (King 1987). In 1988 one pair nested near the Hole-in-the-Donut in Everglades National Park, producing two fledglings (Curnutt 1989). In 1989 four pairs nested in northwestern Broward County; three were apparently unsuccessful (Langridge 1989), and one produced three fledglings (W. Hoffman pers. obs.). Five nesting attempts were discovered in 1990; two pairs in northwestern Broward County produced four fledglings (banded on 3 June 1990, T. Towles and B. Mealy pers. comm.) while another pair was unsuccessful; one pair produced three fledglings in Everglades National Park near the 1988 nest (banded on 21 May 1990 by J. Curnutt, B. Mealy, K. Meyers), and one pair was unsuccessful in Dade County just east of WCA 3B (W. Richter, pers. comm.).

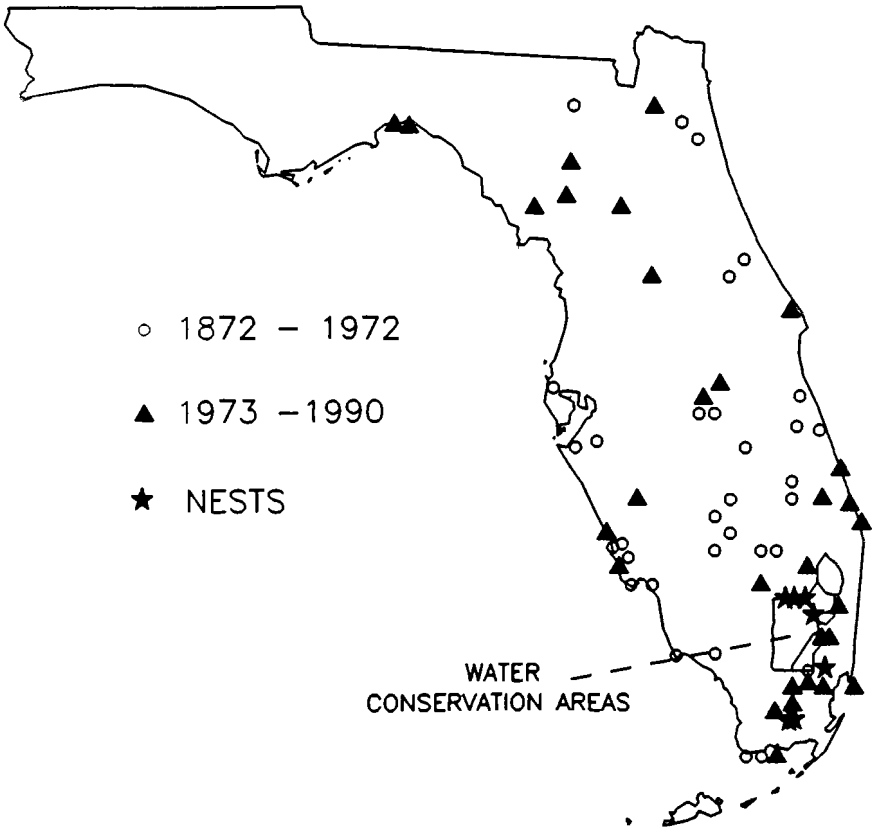


Figure 2. Locations of Black-shouldered Kite observations and recent nests in Florida. The Everglades Water Conservation Areas are outlined; sightings within them are mapped in Fig. 3.

Nest-site habitat.—The recent nests in southern Florida have been in open sawgrass (*Cladium jamaicense*) and *Muhlenbergia* prairies invaded with woody vegetation. The habitat of most recent Black-shouldered Kite nesting activity in northern WCA 3A is a sawgrass marsh heavily invaded by wax myrtle. The two nests in Everglades National Park were less than 3 km apart in a *Muhlenbergia* prairie with scattered bald cypress (*Taxodium distichum*). The Dade County nest and the site

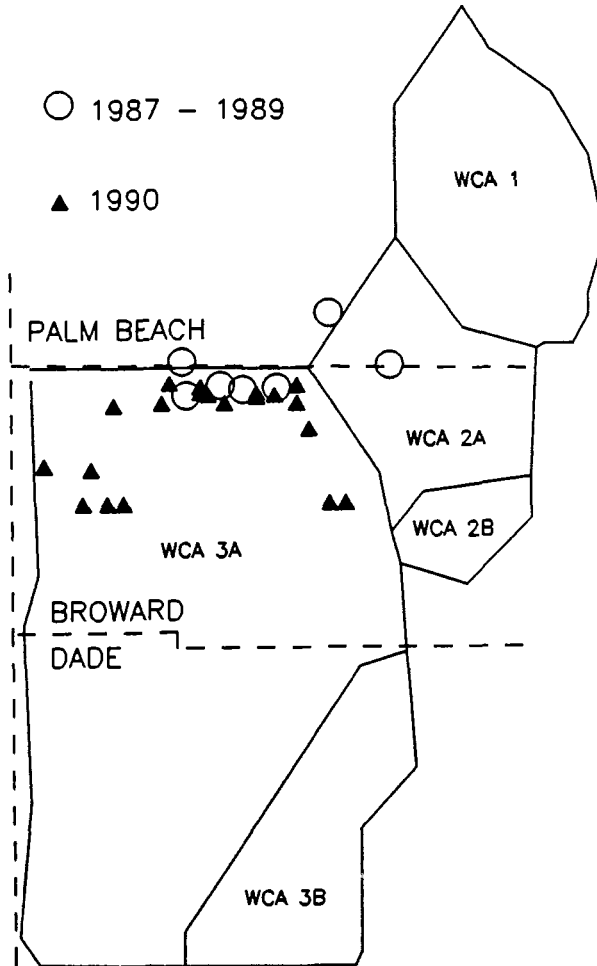


Figure 3. Locations of Black-shouldered Kite observations from aerial surveys in and around the Everglades Water Conservation Areas. The Water conservation areas are outlined in Fig. 2.

in northeastern WCA 3A were in sawgrass marsh invaded with melaleuca (*Melaleuca quinquenervia*). All of these sites are marshy but have very shallow water and short enough hydroperiods so that they should be able to develop large populations of rodents.

DISCUSSION

Although the number of observers active in Florida has increased, the increase in observations of Black-shouldered Kites from 0.26 records per year for the first half of this century to 0.91 per year from 1961 to 1973 (Kale 1974) and 2.1 per year from 1973 through Summer 1990 is so dramatic that a real increase in kite numbers must have occurred. Sightings in the WCAs and EAA showed a major increase in numbers between 1987 and 1990. Prior to 1990 most sightings were in one small area at the northern end of WCA 3A. In 1990 two other areas of concentration were located. One was in northwestern WCA 3A, west of the Miami Canal and north of Alligator Alley. The other was in northeastern WCA 3A, north of Alligator Alley and west of US Highway 27. This area also had a nesting attempt (T. Towles pers. comm.).

Taken together, the historical record portrays a small resident population that declined and perhaps disappeared early in this century, followed by a resurgence (or recolonization) since 1970. Titian Peale collected the first Florida specimen near St. Augustine in 1824 or possibly 1825 (Bonaparte 1825, 1828 in Howell 1932; the date of 1872 on the map in Kale [1974] apparently is in error). Howell (1932) reported two nests with eggs, both prior to 1900. He also reported a nest without eggs found by D. J. Nicholson on 4 February 1910. Kale (1974) and King (1987) describe this as the most recent nesting attempt in Florida (prior to 1986) but given the winter date and the absence of eggs and of further details we consider this inadequate documentation as a nesting attempt. Howell (1932) stated "The species seems to be on the verge of extinction in Florida." Sprunt (1954) listed six records from 1934 through 1949, all between September and early March, apparently outside of the breeding season for Florida. Kale's 13 records from 1954 through 1972 include May records in 1961 and 1966 and an August record in 1972, as well as 10 records between September and March. Of the three spring/summer records, the May 1961 record at Panther Point, Polk County, was one of three records at that location in a 20-month period, so at least one bird may have been resident there for a couple of years. The other two records clearly were of travelling birds.

Before the 1970s Black-shouldered Kites were most often encountered in central Florida. Records tended to cluster in and around the Kissimmee River Valley and on the Gulf Coast in the areas surrounding Charlotte Harbor. Since then a larger proportion of sightings are from

southern Florida. Records north of Lake Okeechobee since 1970 have all been outside the breeding season. In southern Florida, numerous records have occurred in the breeding season (and nests found) annually since 1986. We suggest that the nesting population in southern Florida originated very recently, perhaps in the early 1980s. Given the scarcity of records throughout Florida between 1900 and the 1970s, and the seasonality of the observations that did occur, we feel that these records can be adequately explained by vagrancy from western populations (presumably Texas). The recent increase in records does parallel population expansions in the west (as noted by Kale 1974) and is similar to the colonization of Arizona by Black-shouldered Kites from Mexico and possibly California (Gatz et al. 1985). Post-breeding vagrancy to Florida by southwestern birds breeding in Texas is by no means unprecedented (e.g. Groove-billed Ani, *Crotophaga sulcirostris*; Lesser Nighthawk, *Chordeiles acutipennis*; Buff-bellied Hummingbird, *Amazilia yucatanensis*; Brown-crested Flycatcher, *Myiarchus tyrannulus*; Bronzed Cowbird, *Molothrus aeneus*). We cannot rule out the possibility that a resident population of Black-shouldered Kites persisted in Florida, but we see minimal evidence to support that possibility. Potentially, this question could be answered using biochemical techniques such as DNA fingerprinting or protein electrophoresis (Cooke and Buckley 1987); a surviving Florida population would most likely differ genetically from the western populations.

With the exception of the Everglades National Park site, the recent Black-shouldered Kite nesting habitats in south Florida are products of artificially shortened hydroperiods in sawgrass marshes. On the northern edge of WCA 3A, the marsh is isolated from its historic water supply by the levees and canals forming the boundaries of the Everglades Agricultural Area. Periodic fires have prevented the succession of this area to a dense shrubby forest. The sites in northeastern WCA 3A and in Dade County are in areas of artificially shortened hydroperiods as well. The role of drainage in promoting *Melaleuca* invasion is not entirely clear, but such invasion tends to be most severe in over-drained marshes.

The increase in Black-shouldered Kite nesting attempts in 1989 and 1990 coincided with a major drought in southern Florida, and the drought-shortened hydroperiods may have improved habitat conditions for this species. In this sense, the same forces that are affecting Snail Kites (*Rostrhamas sociabilis*) adversely may be benefiting Black-shouldered Kites. Consequently, future water management practices designed to protect the endangered Snail Kite may reduce available habitat for Black-shouldered Kites.

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