

60-65 milling about the point and finally disappearing into the trees near the end of the peninsula. The following morning at 10 minutes after sunrise, I could find only one bird. It is highly unlikely that their presence was obscured by trees. That afternoon, again near sunset, I watched a flock of 70-75 exhibit similar behavior. In order to be certain of ascertaining their location, I watched from the unobscured end of the thinly vegetated point from one half hour before sunrise the following morning until 08 00. I saw not a single Eastern Kingbird. Either they had resumed movement after dusk or begun their flight in the pre-dawn hours. In any case, a total or partial nocturnal movement must have occurred.

My observations suggest that once reaching the coast, the Eastern Kingbird behaves as do other migrants when faced with a long over-water crossing and begins a nocturnal migration.—Robert A. Duncan, 614 Fairpoint Dr., Gulf Breeze, Florida 32561.

Florida Field Naturalist 11: 57-58. 1983.

REVIEW

Cape Sable Sparrow management plan.—James A. Kushlan, Oron L. Bass, Jr., Lloyd L. Loope, William B. Robertson, Jr., Peter C. Rosendahl, and Dale L. Taylor. 1982. South Florida Research Center Report M-660, 37 pp. Available from the authors, SFRC, Everglades National Park, P.O. Box 279, Homestead, FL 33030.—The last decade has seen a resurgence of interest in the Seaside Sparrow (*Ammodramus maritimus*). This seems paradoxical, as the species is a small, dingy songbird with nothing exceptional about its life style other than its habitat. Perhaps the sparrow has gained the attention of researchers because we now realize that estuaries are important to human welfare. But politics has also had something to do with it; several Seaside Sparrow populations are on federal or state endangered species lists. In Florida alone, six subspecies are classified as endangered, threatened, of special concern, or status unknown (Kale 1978). One of them, the Dusky Seaside Sparrow (*A. m. nigrescens*), became functionally extinct by 1980, the first federally-listed endangered form to disappear since the passage of the Endangered Species Act in 1973. The Dusky Seaside and the Cape Sable Seaside Sparrow (*A. m. mirabilis*) occur only in Florida and are geographically separate from the main Seaside Sparrow populations on the Gulf and Atlantic coasts. The Cape Sable Seaside Sparrow is the most isolated population, located about 300 km south of other Seaside Sparrows, which are on the central Florida Gulf coast.

The management plan for the Cape Sable Seaside Sparrow, prepared by biologists of the South Florida Research Center of the Everglades National Park, is scholarly. It should serve as a model for all such government documents. The authors have integrated a lot of information about Seaside Sparrow biology to provide a good background for the management of this population.

Like all Seaside Sparrows, the Cape Sable's life is intimately tied to water. But its waters are fresher than those of other populations. Also unlike other Seaside Sparrows, its habitat is a fire disclimax. The interactions of fire and water make the management of the sparrow interesting but complicated. The preferred habitat (as defined by highest densities of singing males) is grassland that burns periodically. The object of management is to burn the nesting areas about every five years on dense *Muhlenbergia* prairie and about every

8-10 years at less densely vegetated sites. The authors recommend that burning be done in the wet season (August-November) and should not cover more than 8-10% of a given population's habitat each year. This latter procedure assures that displaced residents will have nearby nest sites the next spring.

The management plan overlooks that not enough is known about the biology of the Cape Sable Seaside Sparrow. During 1970-1975 Harold Werner began ecological studies of the sparrow. His work formed the basis of a governmental report (Werner 1975) and a Master's Thesis (Werner 1976). If this work had continued, as Werner had originally planned, our knowledge of the Cape Sable Seaside would be much greater. To fill in the gaps of our knowledge, the authors extrapolate from what is known about other populations of the Seaside Sparrow. However, extrapolation may be dangerous; some facets of the Cape Sable's biology uncovered by Werner suggest that it may be anomalous among the Seaside Sparrows. For example, adult males (and presumably, females) have a very high annual survival, about 90%. At the same time the Cape Sable's nesting success (number of eggs producing fledglings), is about 62%, also high for a ground-nesting species. Why is the population not expanding? Another anomaly is the Cape Sable's clutch size. Seaside Sparrows in northern Florida have a median clutch size of three, while that of the Cape Sable is four, a reversal of the usual southward trend toward clutch reduction. Does the large clutch mean that winter mortality is relatively more important for the Cape Sable Seaside than for other Seaside Sparrow populations (see Ricklefs 1980)? We have no information on the winter ecology of the Cape Sable Seaside.

Our disastrous encounters with the Dusky Seaside Sparrow tell us that we must find out a great deal about rare animals before they reach the critical level of non-replacement. The Dusky Seaside went before anyone had a chance to delve deeply into its life history. Was it just another Seaside Sparrow, and if so, why did it disappear? Like the Cape Sable Seaside, it occupied some non-littoral habitats. Other races of the Seaside Sparrow live exclusively in tidal marshes. This difference should alert biologists to look for departures from rather than similarities to the general Seaside Sparrow pattern. For this reason, I am uneasy about this report's tendency to emphasize similarities with the other races, to the extent that this may obfuscate gaps in our knowledge. These possibly unique aspects of its life history could be critical to proper management.

A final point is that, in spite of its thoroughness, the plan could be a little more innovative. I was surprised that captive rearing was not mentioned as a management tool, especially since Seaside Sparrows are easily bred in confinement (Post and Antonio 1981). A secure captive group would be a hedge against destruction of the wild population by a catastrophe like a hurricane. Also, captive-reared birds could be used to reestablish the sparrows in their former range, such as on Cape Sable itself.

With two large, separate populations of the Cape Sable Seaside (one in southern Big Cypress, with about 2900 birds; the other in Taylor Slough, with about 2350 birds) under the jurisdiction of the National Park Service, the future of this bird seems secure. However, the concern exemplified by this excellent management plan must be continued. Because of human population pressure in south Florida, the habitat of this sparrow is an ecologically embattled frontier.

LITERATURE CITED

- KALE, H. W. II. 1978. Rare and endangered biota of Florida. vol. 2. Birds. Gainesville, Florida, Univ. Florida Presses.
- POST, W., AND F. B. ANTONIO. 1981. Breeding and rearing of Seaside-sparrow *Ammospiza maritima* in captivity. *Int. Zoo Yearbook* 21: 123-128.
- RICKLEFS, R. E. 1980. Geographical variation in clutch size among passerine birds: Ashmole's hypothesis. *Auk* 97: 38-49.
- WERNER, H. W. 1975. The biology of the Cape Sable Sparrow. Report to U. S. Fish Wild. Serv., Homestead, Florida, Everglades National Park.
- WERNER, H. W. 1976. Distribution, habitat and origin of the Cape Sable Seaside Sparrow. M. A. Thesis, Tampa, Florida, Univ. South Florida.
- William Post, the Charleston Museum, 360 Meeting Street, Charleston, South Carolina 29403.

Florida Field Naturalist 11: 58-60. 1983.

REPORTS

Summary of the 1983 spring meeting.—The annual meeting of the Florida Ornithological Society, 15-17 April 1983, coincided with a front bringing birds in abundance to Gulf Breeze, Florida. Lucy and Bob Duncan and the Francis M. Weston Audubon Society were hosts. Jim Kushlan, Editor of the FFN, gave a status report on the journal, including a preview of the next year's issues. He requests that members publish their data, especially that on distribution and rarities, in the FFN. Associate editors Bill Robertson and Oron Bass are available to help authors with the technical details of writing a note or paper. Bill Courser will represent the FOS on the organizational committee of the Breeding Bird Atlas. The following slate, submitted by Herb Kale in the absence of Bob Loftin, Chairman of the nominating committee, was unanimously elected: Barbara C. Kittleson, President; Fred E. Lohrer, Vice President; Caroline H. Coleman, Treasurer; Marsha S. Winegarner, Secretary; and board members Helen Dowling, Annette Stedman, and Sheila Mahoney.

Todd Engstrom, FSU, spoke on "Seasonal patterns of habitat use by bird populations in northern Florida", and Dr. Frances James, FSU, spoke on "The environmental component of geographic variation in size and shape: experiments with Red-winged Blackbirds." Theodore Parker of LSU Museum of Zoology, our dinner speaker, spoke on "Ornithological expeditions in the Andes of Peru." The skin quiz, provided by Mary Clench and Bill Hardy, was won by Wes Biggs. Ted Below, outgoing president, thanked the board and membership saying that an interested and cooperative membership makes the organization a success and encouraging the members to stay in communication with board members.

The fall 1983 meeting will be held in Jacksonville, 14-16 October, with Duval Audubon Society as hosts, Bob Loftin, Local Chairman. St. Petersburg Audubon Society has invited FOS for 20-22 April 1984, with Dave Goodwin as Local Chairman.—**Barbara C. Kittleson**, 5334 Woodhaven Lane, Lakeland, Florida 33803.