

nestlings. I have no proof that inexperience caused the lower reproductive success of first-year male Northern Orioles, but it remains a likely possibility.

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**Nesting by injured Common Eiders.**—The ability to recover from broken bones and other injuries is well documented for many species of birds, particularly waterfowl (Kirby, Riechman, and Schoenfelder, *Wildl. Soc. Bull.* 9:150–153, 1981). Tiemeier (*Auk* 58:350–359, 1941) found evidence of healed bones in 4.5% of more than 6000 museum specimens examined. The highest incidence of healed injuries, 12.6%, was in the family Anatidae. The majority of those injuries were breaks in the humeri, radii or ulnae and most were judged severe enough to have prevented flight during the healing process. Similarly, Whitlock and Miller (*J. Wildl. Manage.* 11:279–281, 1947), after fluoroscopic examination of more than 900 ducks, found 2% had sustained wing injuries yet had recovered to fly again. Our article presents data on wild, injured ducks that did not regain the ability to fly, yet survived and appeared to behave normally in all other regards.

During nesting studies of Common Eiders (*Somateria mollissima dresseri*) on 75 coastal islands in Maine in 1981, 411 nesting females were handled. Seven had wing injuries severe enough to preclude flight. The first injured eider was found 14 May in the nesting cover of Little Birch Island, Harpswell, Cumberland Co. The distal ends of her right radius and ulna had been previously broken but were now healed, although at an angle preventing flight. On 19 May, another injured female eider was flushed from her nest and captured on Grass Ledge (West), Deer Isle, Hancock Co. The right humerus was broken and the flight feathers badly worn. She appeared healthy in all other regards.

On 3 June at Fisherman Island, Muscle Ridge, Knox Co., a female with a broken left humerus was found incubating four eggs, the average clutch-size in Maine (Choate, M.S. thesis, Univ. Maine, Orono, Maine, 1966). The wing feathers were badly worn and faded and several primaries were reduced to stubby shafts. A check of the nest on 13 June indicated a successful hatch. Also on 3 June, two nesting females, unable to fly due to wing injuries, were found on Damariscove Island, Boothbay Harbor, Lincoln Co. One was captured and had a broken left humerus and severely worn flight feathers but otherwise was in good physical condition.

On Hart Island, Port Clyde, Knox Co., a female eider with a broken left humerus was found nesting 6 June. The last injured eider was found nesting 13 June, again on Fisherman Island. Her right ulna and radius were broken. The feathers of that wing were faded and worn; several were broken. Otherwise the bird was in excellent condition, weighing 1.4 kg, which is near the Maine average at the mid-point of incubation (Korschgen, *J. Wildl. Manage.* 41:360–373, 1977). A subsequent nest inspection proved a successful hatch.

The extent of bone healing, the degree of feather wear, the retention of feathers on at least three injured wings through the previous annual molt, and the similarity of these injuries to wounds expected from the hunting season indicated all seven birds had been unable to

fly since well before nesting. For at least three, the injuries were old enough to have prevented migration that spring and probably the previous autumn. From the standpoint of avian physiology and behavior, it is noteworthy that the injured eiders fed, courted, nested, and survived without the ability to fly or migrate.

While feeding, the wings aid in diving but are not used while on the bottom (Palmer, Handbook of North American Birds, Vol. 3:49, Yale Univ. Press, New Haven, Connecticut, 1975). Foraging efficiency could then be reduced in crippled birds. However, the eiders we encountered had been able to deposit the large fat and protein stores needed for egg production and as an energy source throughout incubation (Korschgen 1977). During courtship the female has a rather passive role (Palmer 1975), thus, the loss of flight should not hinder pairing and mating. The inability to migrate would likely be little problem to Maine eiders, since suitable feeding areas, for all seasons, occur nearby the nesting islands. Furthermore, banding analysis of *S. m. dresseri* (Wakely, M.S. thesis, Univ. Maine, Orono, Maine, 1973) suggests a portion of Maine's breeding eider population is essentially non-migratory.

Our 1981 observations then indicate that eiders in Maine may be better adapted than other North American waterfowl to function in the wild, in a nearly normal manner, in spite of sustaining flight-impairing injuries. The many similarities between the eider and the two flightless species of South American Steamer Ducks (*Tachyeres pteneres* and *T. brachypterus*) add strength to this conclusion.

Possible sources of these injuries include gunshot wounds, encounters with predators, battering against ledges during severe storms, or collisions with branches or ledges while landing on or leaving nesting islands. During the handling of several thousand nesting eiders in Maine since 1964 injuries have been observed, although infrequently (Mendall and Hutchinson, unpubl.). For example, on Fisherman Island, of 833 nesting birds caught prior to 1981, only two had injuries precluding flight. We have no explanation, other than normal, random variation, as to why more injured birds were found in 1981.

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**Distribution and phenology of nesting Forster's Terns in eastern Lake Huron and Lake St. Clair.**—Forster's Terns (*Sterna forsteri*) are considered to be a prairie, East Coast (Erwin, Coastal Waterbird Colonies: Cape Elizabeth, Maine to Virginia, FWS/OBS-79/10, 1979) and Gulf Coast (Portnoy, Proc. Colonial Waterbird Group 1:38–43, 1977) nesting species. A concentration of more than 200 nests has been known from four sites in Lake Michigan near Brown and Oconto Counties, Green Bay, Wisconsin (Scharf et al., Nesting and Migration Areas of Birds of the U.S. Great Lakes, Fish and Wildlife Service, OBS-77/2, 1979). Kenaga (Jack-Pine Warbler 35:68–70, 1957) found at least two pairs of nesting Forster's Terns in the Saginaw Bay area of Michigan in 1956 and historically the species was considered to breed commonly at Lake St. Clair (Morden and Saunders, Canadian Sportsman and Naturalist, 1882:194). Several other accounts are given from the late 1800 to early 1900 period by Campbell and Trautman (Auk 53:213–214, 1936). Sightings of up to 25 nesting pairs of Forster's Terns have been noted on the Canadian portion of Lake St. Clair (James et al., An Annotated Checklist of the Birds of Ontario, Life Sci. Misc. Publ., Royal Ont.