

ADOPTION OF NESTLINGS BY BREEDING BALD EAGLES

by

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This paper (1) reports an experiment designed to test whether wild-breeding Bald Eagles (*Haliaeetus leucocephalus*) will accept and raise young other than their own, and (2) discusses possibilities open to the management of this declining species.

That breeding raptors will accept and raise nestlings not their own is well known. Postupalsky has moved "runt" Osprey (*Pandion haliaetus*) chicks from large broods to be raised in other active nests of the same species. Holt has done this routinely with Red-tailed Hawks (*Buteo jamaicensis*) and once with the Great Horned Owl (*Bubo virginianus*) in his study area in southwestern Ohio. Olendorff and Stoddart (1974) mention similar fostering of Ferruginous Hawks (*Buteo regalis*) and Golden Eagles (*Aquila chrysaetos*). In Europe, Meyburg (1971) and Meyburg and Heydt (1973) have used this technique to increase nestling survival in the Spanish Imperial Eagle (*Aquila heliaca*) and the Lesser Spotted Eagle (*Aquila pomarina*). Chicks of the latter were raised by foster parents of different species—Black Kites (*Milvus migrans*) and Common Buzzards (*Buteo buteo*). Stohn (1974) reports a successful adoption of a Common Buzzard nestling by a pair of Goshawks (*Accipiter gentilis*) that raised it along with their own single young.

This brief review is by no means exhaustive. In view of experience with other raptors, we did not expect that Bald Eagles would react differently under similar circumstances. However, to our knowledge, no comparable experiments have ever been attempted with this species.

On 16 June 1974 two young Bald Eagles were found on the ground near Loud Dam Pond on the Au Sable River in Iosco County, Michigan, the day after a severe storm had destroyed the nest. These were the eaglets that Holt had banded there on 9 June when they were 7½ to 8 weeks old. The birds were turned over to the Michigan Department of Natural Resources (DNR) and the U. S. Fish and Wildlife Service (USFWS) and were eventually placed in the Kellogg Biological Station and Bird Sanctuary near Battle Creek. They were then about 9 weeks old and would be able to fly in another week or two. As the eaglets were apparently healthy and uninjured, we decided to place them in two nests, each containing a single eaglet of similar size and age. We knew of one such suitable nest in an oak near Fairview in Oscoda County and one of another in a white pine near Atlanta in Montmorency County. Both nest sites are well protected on private hunting clubs, each with a resident caretaker.

In the meantime, Federal agents "repossessed" the two eaglets and brought them to Lansing. Both birds refused to eat at first. We force-fed them a few times, after which they readily accepted food (thawed, beheaded smelt) from our hands.

We departed from Lansing early on 20 June with each eaglet in a large box. The caretakers of both properties readily granted permission to place the young eaglets in the

selected nests. The larger eaglet, a female, was placed in the eyrie near Fairview with a female eaglet already present. A supply of smelt was left near the edge of the nest. One adult was circling overhead during the transfer. Upon returning to the nest about one-half hour later, we noted that both young were standing on the nest, about 2 feet apart, showing no overt signs of aggression. Later the same day we placed the male eaglet and some smelt in the eyrie near Atlanta. One adult was flying overhead when we arrived but disappeared from view later. While Holt was at the nest, the native eaglet, believed to be a female, moved out on a branch. As we left the site, the transplanted eaglet was standing in the nest and the native bird was perched on the limb about 3 feet from the rim of the nest.

Michigan DNR pilot Frank Bennett saw both eaglets on a branch next to the Atlanta nest on 27 June, 1 week after the transfer. On 24 July, while flying a survey of Osprey nests in the area, Postupalsky checked this site again. As the plane approached, two large juvenile eagles flew from the nest tree and headed toward another pine nearby.

At the Fairview site both eaglets were on the nest on 26 June when U.S. Forest Service biologists G. W. Irvine and Craig Orr flew over. On 6 July Orr found both eaglets standing on the edge of the nest, appearing "vocal, very healthy, and vigorous." One finally flew a short distance, while the other remained on the nest. On 14 July Orr saw both young take flight from the eyrie and return to it a short time later. On 16 July he found the nest empty, but both young eagles returned and landed on it while he was watching.

Follow-up observations indicate that the transfer of nestlings was successful. All four young fledged. Breeding Bald Eagles, like many other raptor species, will adopt and raise extra nestlings. It further supports the view that raptors, in contrast to colonial breeders, such as gulls, have not evolved an ability to recognize their own offspring. Under natural conditions nestling raptors do not normally find themselves in "strange" nests; therefore, no selective pressure exists in this group to favor development of parental ability to recognize their own young. Breeding raptors thus respond to any nestling in "their" nests.

The fostering technique has definite potentialities in Bald Eagle management. (1) Nestlings that survive the crash of a nest uninjured can be placed in other active nests and thus remain part of the wild population. Such transfers should be possible where banders are active and familiar with most nests, their contents, and ages of young present. About 90 percent of the known annual production of Bald Eagles in Michigan and Wisconsin are now being banded. (2) The technique opens the possibility of using nestlings from healthy populations to bolster threatened populations, such as those in Maine or near Lake Erie. (3) Banders finding broods of three young could assist in transferring the third nestling to eyries in other areas. Although a high proportion of pairs in the Great Lakes States produce 3-egg clutches, fewer than 5 percent raise broods of three to fledging age (Grewé, 1966; Sprunt *et al.*, 1973; Postupalsky, unpubl.). (4) Nestlings produced in captivity may likewise be fostered in active eyries in the wild.

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Literature Cited

- Grewe, A. H., Jr. 1966. Some aspects in the natural history of the Bald Eagle, *Haliaeetus leucocephalus*, in Minnesota and South Dakota. Ph.D. Thesis. University of South Dakota. Vermillion.
- Meyburg, B.-U. 1971. Versuche zur künstlichen Steigerung der Vermehrungsrate des Schreiadlers (*Aquila pomarina*) zu seinem Schutze. *Beitr. Vogelk.* 17(3):207-227.
- Meyburg, B.-U., and J. Garzon Heydt. 1973. Sobre la proteccion del aguila imperial (*Aquila heliaca adalberti*) aminorando artificialmente la mortandad juvenil. *Ardeola* 19:107-128.
- Olendorff, R. R., and J. W. Stoddart, Jr. 1974. The potential for management of raptor populations in western grasslands. In: F. N. Hamerstrom, Jr., B. E. Harrell, and R. R. Olendorff (eds.). *Management of Raptors. Raptor Res. Rep. No. 2.*, pp. 47-88.
- Sprunt, A., IV, W. B. Robertson, Jr., S. Postupalsky, R. J. Hensel, C. E. Knoder, and F. J. Ligas. 1973. Comparative productivity of six Bald Eagle populations. *Trans. N. Amer. Wildl. and Natur. Res. Conf.* 38:96-106.
- Stohn, H. 1974. Habicht zieht Mäusebussard mit auf. *Falke* 21(11):391.

A PLEA FOR INFORMATION

A study is currently in progress to determine the historical and present status of the Great Gray Owl (*Strix nebulosa*) in North America. Any information regarding sight records or possible breeding occurrences of the Great Gray Owl is urgently required. Your cooperation will be gratefully acknowledged.

Please write to: M. Collins
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NEED INFERTILE EGGS

We are currently studying egg shell characteristics and gas exchange across egg shells of various species of birds. We have found that from these studies we can determine water loss from the egg and approximately calculate incubation times. We can also draw conclusions as to requirements for incubation, including optimal humidity. These studies can be performed with infertile eggs. Accordingly, we would be grateful if those who breed raptors and have infertile eggs would send us these eggs, well wrapped against breakage. We can pick up eggs from raptor breeders located not too far from our laboratories. Please contact Julian L. Ambrus, M.D., Ph.D., Springville Laboratories, Roswell Park Memorial Institute, State of New York Department of Health, 571 East Main Street, Springville, New York 14141 (716-592-2834 or 716-592-3101).