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OBSERVATIONS OF THE BARRED OWL IN SOUTHEASTERN NEBRASKA

The status of the Barred Owl (*Strix varia*) in Nebraska has been questioned for several years. The concern rests mainly with the continued depletion of deep forest habitat which has threatened the very existence of this magnificent raptor. During a three-year study of the Great Horned Owl (*Bubo virginianus*) and Red-tailed Hawk (*Buteo jamaicensis*), Barred Owls were encountered at various times. It seemed appropriate to accumulate some data on the birds; however, because of their precarious status only limited ecological information was collected.

In 1983 seven nest sites were located within the study area (approximately 76 square miles of northeastern Nemaha Co.). Of these, four were in snags (trees broken off to form hollows) and three were in old Red-tail nests. The following year six nests were located; five in snags and one in a Red-tail nest. Three of the 1983 snags were used again in 1984, presumably by the same mated pairs.

The ecological data gathered included nest height, which averaged 31'9". The snag nests averaged 21'3" and all were located in dead trees with at least a portion of the bark removed. The Red-tail nest sites averaged 47'5" and were located in a linden, a red oak, and two bur oaks.

Not only do these Owls seem to prefer heavily forested areas but they also tend to be found near water. In the sites studied the birds nested an average of 74 yards from a static or flowing waterway. This figure is somewhat distorted by one site that was more than 440 yards from a water source.

In other measurements, the nearest forest edge averaged 76 yards, which is not a reflection of Owl choice but an indication of the poor depth of our forested areas. None of the remaining habitat in this area could be considered to be deep woodland. Therefore, there may be some adaptation to the changing environment on the part of certain individuals.

The birds nested an average of 687 yards from active human dwellings, indicating the species' desire to avoid human activity.

The dynamics of nest life were not studied, due to the possibility of disturbing incubation or placing undue stress upon the young. However, regurgitated pellets were collected to aid in the determination of prey species. The pellets were collected at the nest site or under a nearby roost and dissected to determine prey taken. In general, these include mice, rats, small birds, crayfish, snakes, and rabbits. These Owls serve an important role in controlling the populations of many of the above species. They usually take the ill, aged, or less adapted individuals of a species, thus aiding in the maintenance of a strong prey base.

Barred Owls have few natural predators, but some do fall prey to Great Horned Owls and Red-tailed Hawks. In addition, their eggs and young may succumb to such mammals as the raccoon and opossum. During the two years of data gathering three Barred Owls were found dead. Two appeared to have been killed by collision with vehicles. The other carcass was found directly beneath an active Red-tail nest which contained two nestlings. The bird was in an advanced stage of decomposition, therefore the cause of death could not be determined.

The main problem confronting these Owls is habitat loss. This loss has several origins, but agriculture is responsible for the majority of the damage. In the area of this study 35% of the forested area was denuded by agricultural activities in the 25 years from 1956 to 1981 (Pappas, L., et al, 1982. Loss of Trees in Nemaha County, NE since 1865 due to Agricultural Expansion. *Trans. of the Neb. Acad. of Science*, 107-11.) I wouldn't hesitate to estimate that the loss has now reached or exceeded 50%.

As the available habitat decreases, the interactions between the Barred Owl and the Great Horned Owl will increase. This confrontation will undoubtedly further deplete the Barred Owl numbers.

Increasing use of standing dead trees for firewood is another problem of minor but accelerating importance. This activity eliminates potential nesting sites. Also, increasing levels of pollutants in the environment are a potential threat. The latter will soon have an adverse effect on the adults and/or the offspring as toxins accumulate in the food chain.

To conclude, if current habitat trends continue, I would expect these raptors to be extirpated from southeastern Nebraska within the foreseeable future.

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