

Some Precautions to be Used in Banding Studies of Nestling Raptors

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Visiting the nests of some species of raptors when the nests contain eggs, or young less than two weeks of age, may result in nest failure. This has been observed for the Red-tailed Hawk, Red-shouldered Hawk, Cooper's Hawk, Great Horned Owl, and Barn Owl.

Recently I have been engaged in studies of the breeding biology and movements of birds of prey in southern California. In the course of this, nearly 1,500 hawks and owls have been banded since the spring of 1970 and, of this total, approximately one half were banded as nestlings. The gathering of data on various aspects of the breeding biology of these raptors has made it necessary to observe the contents of nests at various times in the reproductive cycle as well as when young are to be banded.

During my four years of banding and also during the many years previous to this that I spent observing raptor nests, I have noted what appeared to be cases of nest desertion. It also appeared that nests which were observed while they still contained eggs or very young nestlings had a higher failure rate than nests checked when the young were more than two weeks old. By nest failure I mean that in most cases all eggs or young, and not just one or two young, were lost. Nests that contained young birds older than two weeks never showed instances of total failure that couldn't be explained by predation or natural causes. This situation seemed to hold true for the following species: Red-tailed Hawk, Red-shouldered Hawk, Cooper's Hawk, Great Horned Owl and Barn Owl. Other species that I observed and for which this did not seem to hold true were Burrowing Owl, Screech Owl, and American Kestrel.

This does not mean that banding of nestling raptors in California should be discontinued. It does, however, indicate that precautions should be taken. In particular, the nests of those species in which I noted possible increases in nest failures should only be approached when nestlings are known to be greater than two weeks old. Careful consideration should be given before studies are undertaken which would entail inspection of nests and contents at an earlier stage.

Great Horned and Barn Owls

Special precautions must also be taken when working with some owls. If a Barn Owl is flushed

from a nest cavity, it does not appear to return for some time and possibly not until darkness sets in. This means that if an adult Barn Owl is disturbed on the nest at 9:00 in the morning it will not return until that evening. Eggs or very young nestlings left unattended for this length of time are extremely vulnerable. The embryo or young chick will frequently succumb to exposure, because of the lack of body heat provided by the adult or from too much heat in those nests receiving direct sunlight.

The problem of nest failure of this sort in Barn Owls is an easy one to prevent. If one needs to conduct a study of mortality throughout the period from egg laying to flying young, instead of just waiting and banding young when they are known to be greater than two weeks old, *approach the nest near dusk* so that the adult owl will only be away a short time. This of course requires that you get in and out as quickly as possible and before it gets too dark to see what you are doing.

Often times it is very easy to capture either one or both adult Barn Owls in the nest cavity. Capturing these birds in this way, and banding or taking measurements during the spring when they are known to be nesting, almost always results in nest failure. If capture of the adults is necessary, either wait and capture them at some other season or trap them outside using a Bal Chatri or Verball trap. I should mention that capture of the adults inside the nest cavity is possible without causing desertion when the young are older than two weeks or when no eggs are present. The period when eggs are in the nest and also when nestlings are less than one week old is a particularly critical period for Barn Owls.

Barn Owls are usually non-aggressive toward human visitors. This is because most people check nests during the daytime and not at night. However, when climbing into a nest cavity after dark, one is then "in the owl's element" and may be at a significant disadvantage when facing the onslaughts of the occasional more aggressive pairs. Under these conditions, they are capable of inflicting painful wounds.

Great Horned Owls react differently from the more common Barn Owl when they are disturbed. Their typical behavior when flushed is to stay in the immediate vicinity until the human intruder has left and then quietly return to the nest. They will do so at any time of the day—unlike the Barn Owl. Even so, the same procedures recommended for the Barn Owl would apply here, because not all Great Horned Owls return immediately.

(I might also mention that the Great Horned Owl is hardly the animal you would want to confront on a limb 50 feet up in a Sycamore tree after dark. It might be a better idea to wait until the young are large enough for banding and can be safely approached in daylight before visiting nests. Then, if the adults attack, at least you'll see it coming.)

Raven Predation

Although the Great Horned Owl usually returns shortly after it is flushed, this is not always true. In some cases, it leaves its 1 to 3 large white eggs exposed in the open, where they are easily spotted by Ravens. Destruction of hawk and owl eggs by Ravens is something I have noted only when the nest has been previously checked by people. Apparently the destruction occurs between the time the observer leaves and the adult bird returns. This type of predation does occur in natural situations, but probably not to the same extent that can result from careless human disturbance.

Red-tailed Hawks also suffer from Raven predation of eggs. This is especially true for pairs that are non-aggressive to the observer. These hawks will fly a considerable distance and not return for some time,—allowing time for a Red-tailed Hawk omelet.

Precautions Recommended

Although all the species of hawks mentioned here normally return to the nest quickly after disturbance, they all seem to share to some degree the same problem of nest failure when nests with eggs or very small young are visited. Admittedly, this is not true in all or in most cases, but it does seem to occur more frequently in those pairs that are disturbed with very small young or eggs, than in those birds observed with older young.

In parts of the country such as southern California, where there are large numbers of falconers and "bird keepers," the number of visits made to



Photo by Pete Bloom

Prairie Falcon

a single nest by various parties interested in "ripping off" one or all of the young can be appreciable—and the resultant repeated disturbance alarming. This disturbance is clearly increasing and may eventually result in as great, or greater, damage to raptor populations than the actual numbers of young that are "harvested."

I believe that anyone doing studies involving those species mentioned should proceed cautiously, keeping the above observations in mind. Much detrimental influence can be avoided by means of the precautions I have noted. Failure to take these precautions will not only endanger the populations being observed but also seriously bias the data obtained in studies of breeding success and egg and nestling mortality.

Acknowledgements

This paper probably would not have come into being had I not encountered these problems while involved in other studies. I wish to thank Dr. Charles T. Collins for his acceptance of me as a sub-permit bander, for his advice concerning this paper, and for reviewing it. No less important, I wish also to thank James Aron and Richard Jackson for their many weekends spent in the field.

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