

RAPTOR REHABILITATION AT THE ALEXANDER LINDSAY JUNIOR MUSEUM*

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ABSTRACT. From 1966 to 1973, 365 raptors have been in the Raptor Rehabilitation and Release Program at the Alexander Lindsay Junior Museum. A total of 171 have been released and 55 are in training for eventual release. Twenty-five species of raptors have been in the program including the endangered Peregrine Falcon (*Falco peregrinus tundrius*) and four non-native species. Details on rehabilitation techniques are discussed.

Introduction

Rehabilitation and release of raptors from the Alexander Lindsay Junior Museum in Walnut Creek, Contra Costa County, California, began in 1966. At the time little was known about medical treatment and rehabilitation of injured and orphaned raptors prior to their release. By 1973, 171 raptors had been released; many initially received broken bones or severe wounds. Several other zoos have begun similar programs, including the San Francisco Zoo. A number of private individuals have released birds, most notably Morlan Nelson of Idaho. The reason for such interest in injured raptors is that many raptor populations are declining in numbers. Therefore, any birds successfully released back to the wild will help slow this decline. Hopefully, this paper outlining our methods of rehabilitation of raptors will stimulate a stronger program for preserving birds of prey than exists at present.

The Museum

The Alexander Lindsay Junior Museum is operated by the Leisure Services Department of the City of Walnut Creek. Its charge is to provide a natural history experience for the people of the community. Part of this experience includes displays of live animals, including predatory birds. Perhaps this accounts for the first injured raptors received in 1966. In any event, the public became aware of the Museum's wildlife rehabilitation potential. By 1973, 365 injured or orphaned raptors had been turned over to the Museum (Figure 1) plus just about every species of animal indigenous to the Walnut Creek area (Table 1).

*This paper was presented at the Conference on Raptor Conservation Techniques in Fort Collins, Colorado, 22-24 March, 1973.

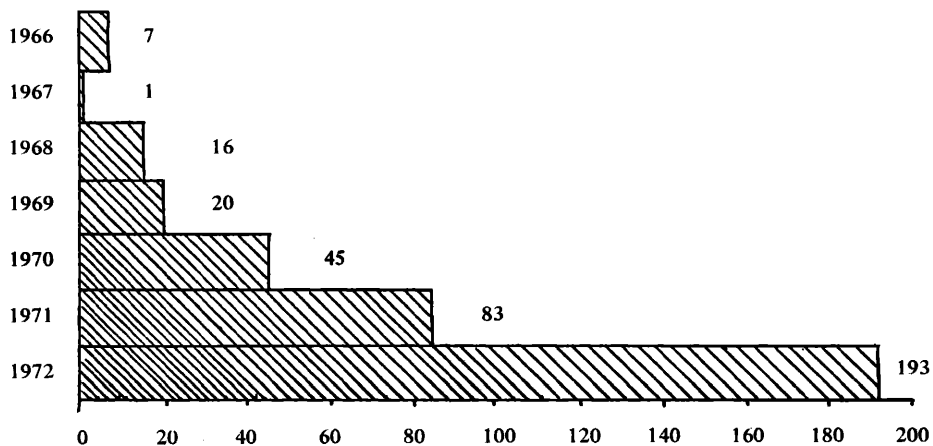


Figure 1. Yearly raptor totals, totaling 365.

The museum staff caring for raptors consists of three salaried staff, a curator and two assistants, and five volunteer trainers. Of the 365 raptors received, 81 percent were brought in by the public. Officials of the California Department of Fish and Game and the U. S. Bureau of Sport Fisheries and Wildlife brought in the other 19 percent. Eighty-five percent of the birds were found within a 15 mile (24 km) radius of the Museum. This figure is significant because, if representative, it suggests that many birds in need of help are lost in similar areas throughout California and perhaps North America. If so, the potential for rehabilitation and releasing injured raptors as a means of halting the decrease in raptor populations has scarcely been touched.

Species Survey

Twenty-five species of raptors have been treated in our program, including four non-native species. Representatives of 13 species have been released (see Table 2). Expired birds include those that died after receipt and those dead prior to receipt. Only birds irreparably damaged and obviously dying are euthanized. Birds incapable of being released due to the loss of a wing or leg are held for placement in zoos or in breeding projects approved by legal authorities.

Table 1. Totals for vertebrate rehabilitation program, 1966 to 1973.

Reptiles	1224	Game birds	291
Passerines	1112	Amphibians	226
Mammals	566	Fishes	162
		Total	4338

Table 2. Total for raptor rehabilitation and release at the Alexander Lindsay Junior Museum, 1966-1973.

	Total	Released	Expired	Euthenized	In training*	Returned to owner	Injured or broken wing	Shot	Car	Stunned or concussion**
American Kestrel	83	58	10	5	9	1	11	3	6	1
Barn Owl	74	42	18	7	7	0	15	3	8	0
Red-tailed Hawk	56	25	8	5	15	3	17	10	1	0
Screech Owl	42	13	23	4	0	2	3	1	8	7
Great Horned Owl	41	16	15	6	4	0	9	4	6	0
Cooper's Hawk	10	1	8	0	0	1	0	0	1	4
Burrowing Owl	9	5	2	0	2	0	2	1	2	1
Golden Eagle	6	3	2	0	1	0	0	0	1	0
Peregrine Falcon	5	0	1	0	3	1	0	0	0	0
Sharp-shinned Hawk	4	0	4	0	0	0	2	1	1	1
White-tailed Kite	4	0	3	0	1	0	1	2	0	0
Short-eared Owl	4	1	0	1	2	0	1	1	0	0
Turkey Vulture	4	3	1	0	0	0	0	1	1	0
Marsh Hawk	3	2	1	0	0	0	1	0	0	0
Long Eared Owl	3	1	2	0	0	0	1	0	0	0
†Crested Serpent Eagle	3	0	1	0	2	0	0	0	0	0
Rough-legged Hawk	2	1	0	0	1	0	0	2	0	0
Red-shouldered Hawk	2	0	1	0	1	0	1	1	1	0
Harris's Hawk	2	0	0	0	2	0	0	0	0	0
Saw Whet Owl	2	0	1	0	1	0	1	0	1	0
Prairie Falcon	2	0	0	0	1	1	0	0	0	0
†Lugger Falcon	1	0	1	0	0	0	0	0	0	0
†Saker Falcon	1	0	0	0	1	0	0	0	0	0
Spotted Owl	1	0	0	0	1	0	0	0	1	0
Goshawk	1	0	0	0	1	0	0	0	0	0
Total	365	171	102	28	55	9	65	30	38	14
Percent		47	28	8	15	2	18	8	10	4

*Also includes birds being held for the California Department of Fish and Game, and birds on display at the Museum.

**Usually a bird flying into a window.

†Non-native species.

Nine birds were returned to their owners. These were falconers' birds that had either escaped or were lost while chasing quarry. Their owners were contacted, and the birds returned. Birds in training include those recovering from injuries, those being trained, those irreparably maimed and incapable of release, and seven confiscated birds being held for the California Department of Fish and Game pending court action.

Injuries Survey

The majority of injuries were man caused, including collisions with cars, windows, and gunshot wounds. Each causes varying degrees of injury. For example, most of the birds shot also had broken wings. Not listed in the injuries survey were six cases of rickets and four cases of blindness, both generally found in young owls. Rickets were caused by improper diets fed by aspiring human parents. If brought in soon enough, these birds can recover when fed a natural diet of rodents. Most, however, were not brought in soon enough. So far, we have been unable to account for the blindness cases.

Medical Care

When an injured bird is brought to the Museum, it is checked for serious injuries such as broken bones and wounds. Each bird is then fed if malnourished, given water by gavage (tubing) to counteract dehydration, and placed in a dark box for several hours to recover from the stress of being handled. Starving birds are fed small amounts of easily digestible food such as baby rats or day-old chicks so as not to tax their strength. Small amounts are fed every few hours until their condition improves. Birds with severe injuries are then taken for veterinary care. Those with simple injuries are cared for by the Museum staff, but all birds are eventually taken to the veterinarian. Our veterinary care is provided by Valley Veterinary Hospital in Walnut Creek. Each bird is given a physical examination and is x-rayed as standard procedure. Fecal samples from all birds are checked for parasites. X-rays reveal broken bones, the location of shotgun pellets, and aid in determining whether broken bones can be set by taping or, if necessary, be pinned. X-rays also can aid in sexing birds provided they are healthy; testes of malnourished birds atrophy. All treated birds are then returned to the Museum for care and rehabilitation. We have found darkened cardboard boxes to be the best housing for injured birds, especially those immobilized by bandages. Wardrobe boxes from moving and storage companies are most desirable. These boxes measure approximately 3 x 3 x 4 feet (90 x 90 x 120 cm). One side is cut to fold down as a top. The bottom is lined with about an inch (2.5 cm) of pine shavings to absorb excrement and to provide a soft surface for the bird to stand or lie on. A darkened box apparently provides the solitude an injured hawk needs to recover quickly; it is also easy to pick up and remove birds from boxes for examination and feeding. All birds that have recovered from injuries and orphaned birds to be trained are fitted with jesses, swivel and leash, and secured to a perch. Wild birds lose their flying strength while recovering from injuries. Their training involves flying them to food at increasing

lengths. In this way they are exercised back to normal or near-normal strength. When the birds are capable of making several 50-yard (45 m) flights before becoming winded, they are ready to be released. We generally try to release them as close to the area in which they were found as possible, except in cases where the likelihood of reinjury is high.

Orphaned birds must be trained differently since, even though they have the innate ability to kill, they must be taught to recognize and subdue living prey. Their training starts with a live rodent leashed to the base of the perch. Most birds in the correct state of hunger will jump down, seize the rodent and eventually kill it, often being bitten in the process. Some will start eating; others lose interest once the prey is dead and jump back up to the perch. Eventually, hunger generally causes these birds to become more interested in eating the next day. Once the young bird looks forward to killing its prey, it is no longer tethered. The bird must then chase and catch its prey. The distance to the prey is increased until the bird will fly about 50 yards (45 m) to kill. In the meantime, the bird has been flown to food for exercise so that it is ready to be released.

Basically, two procedures are used to release orphaned raptors, one for owls and one for all others. Owls seem to be quicker to learn under nocturnal hunting situations.

We use a method called hacking, first used by falconers to return birds to the wild. Training of orphaned owls differs in that not as much time is needed to teach them to kill live food. They are raised in cages and given live mice or rats to kill, but are not taught to fly a distance to kill their food. When the owls are fully grown, the cage door is left open at night and they venture out. Food is left in the cage so that the birds return to their "metal nests" to be fed. Eventually, they fail to return, presumably after learning to hunt on their own. This process takes about a week.

Young hawks are taken to an area with abundant prey for release. They are then perched in the area for a few days in order for them to become accustomed to the area. They are then banded and released. They will venture out for periods of time and then return for food left near the perch or in another spot they have been trained to. Eventually they learn to hunt on their own and do not return for food or return only at increasing intervals.

Banding before release began during the summer of 1971, and as yet no returns have been received. A total of 76 birds have been banded.

Acknowledgments

We would like to thank Dr. James R. Koplín and Dr. David Kitchen for help in preparation of this paper, and Terry Tiernan, Bobbie Meyer, Doug Bell, Jim Barbieri, Steve Weir, Doug O'Neal and Barbara Bogue for assisting in raising, training, and releasing the birds in the program. We would also like to give special thanks to the staff at Valley Veterinary Hospital for the time and materials donated to save birds.