

BALD EAGLE REHABILITATION TECHNIQUES IN WESTERN WASHINGTON

by

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Abstract

A technique is described for returning injured Bald Eagles (*Haliaeetus leucocephalus*) to the wild. Criteria for judging whether an eagle is capable of release are discussed. The movements of several successfully released eagles are described, together with the advantages of winter release. A survey of zoos and government facilities in the United States shows that at least 44.4 percent of all captive Bald Eagles suffer from man-caused injuries.

Introduction

In many areas of the United States and Canada the Bald Eagle (*Haliaeetus leucocephalus*) population has undergone a decline since the 1940s (Broley 1951, 1958; Sprunt 1969; Sprunt et al. 1973, Grier 1974; Weekes 1974). This decline has been attributed to several factors, including the destruction and elimination of habitat, the effects of pesticides, and the continued shooting of eagles by irresponsible persons.

Many eagles that have been shot are not initially killed and are brought to zoos and other facilities for care and treatment. In 1975 we surveyed 52 zoos and government facilities concerning the number of Bald Eagles in captivity and the injuries and origin of each eagle (table 1). The 27 replies indicated that at least 92 Bald Eagles were in captivity in the United States. Of these, at least 41 (44.4 percent) were in captivity on account of man-caused injuries, and at least 31 (36.0 percent) had been shot.

There is a need to return to the wild eagles that have recovered and are capable of surviving. This paper deals with the techniques developed and used successfully to release rehabilitated Bald Eagles in western Washington.

Methods

Of the twelve injured Bald Eagles received from 1972 to 1975 at the Seattle Woodland Park Zoo, six have been returned to the wild. Eagles were judged releasable according to (1) proper wing condition and use, (2) flight and tail feather regrowth or potential regrowth, and (3) proper foot and leg condition and use. The possible cumulative effect of several small injuries on the potential survival of the eagle was considered in each case.

Feather damage was often present and was usually due to improper handling prior to arrival at the zoo and/or as a direct result of the injury. When flight feathers were broken or damaged, they were repaired by imping. If the feather follicle or blood supply was damaged, the eagle was held through one molt. Then, if follicle damage was permanent in the large flight feathers and would inhibit flight, the eagle was not released.

Eagles with broken legs were released if the leg was usable after healing and there was no tendon damage. Criteria used to judge leg function were the ability to place full body weight on the leg and the ability to grasp effectively with the foot of the injured leg. Missing toes were not cause for permanent captivity unless more than two toes were missing on one foot.

All eagles were released on the Skagit River near Rockport, Washington, a traditional wintering area for Bald Eagles. About 100 to 180 Bald Eagles winter there each year, and the area is now protected as an eagle sanctuary by the Nature Conservancy and the Washington Game Department. Bald Eagles are attracted there by large numbers of salmon that spawn and then die in the river each year (Servheen 1975). Rehabilitated eagles are usually released in December and January when salmon carcasses are most abundant.

Eagles are fed salmon for at least 2 weeks prior to release to condition them to their coming food source. At the Seattle Zoo, eagles are held in flight cages in groups of up to five. Every effort is made to keep the released eagles as wild as possible. Handling is minimized to prevent trauma, and eagles are not trained through falconry techniques. The flight cages are shielded from public view except for small viewing ports. Thus, contact with humans is reduced.

Just prior to release orange patagial tags, radio transmitters, and Fish and Wildlife Service riveted aluminum bands are placed on each eagle. Radios are mounted either as backpacks or as tail-feather mounts. When an abundant supply of salmon carcasses is available in the release area, as verified by field checks, the eagles are hooded and wrapped to prevent injury and are transported to the Skagit site. They are released on a gravel bar where food is plentiful and human disturbance is minimal. The eagles are actually released on a bar away from open water so that there is a reduced possibility that they will attempt their initial flight over water.

They are monitored closely for several weeks to observe their adaptation to the wild and their movements in the area. Food availability is also monitored during this initial period, and, if it becomes low, salmon carcasses from the state salmon hatchery are distributed. Notices are sent throughout western Washington and British Columbia describing the project and encouraging the public to become involved by reporting sightings of the released eagles.

Results

Six Bald Eagles have been released in the past 2 years using these rehabilitation methods. All have apparently returned to the wild successfully and have left the release area. Long-term followups have not been possible, but the data obtained represent a large measure of success.

The first eagle, released 3 January 1975, stayed in the immediate release area until 19 January, when it moved 2 miles upriver. It was next seen on 26 February 1975, 14 miles from the release site. It was last seen on 5 March 1976 south of Bellingham, Washington, approximately 45 air miles west of the release site.

The second eagle released was initially found in the Skagit area suffering from a gunshot wound in the right pectoral muscle area. The bullet had not broken any bones and had exited without entering the body cavity. This eagle was released on 25 February 1975, just 2 weeks after it was shot. It lost 24 ounces in the 2 weeks of captivity even though it ate salmon during that time. This eagle remained in the release area for 6 days, left abruptly, and was not seen again.

On 5 January 1976, four eagles were released. Some of them were regularly seen within twelve miles of the release site until 12 March. On 18 March one was seen on San Juan Island, approximately 65 air miles west of the release site. This eagle was seen regularly on San Juan until 25 March. On 18 May one of the four was seen on Orcas Island, approximately 18 miles northeast of the San Juan sightings. It is possible that it was the bird seen on San Juan. All these eagles appeared healthy and were able to fly proficiently as evidenced by their movements over large areas of open water on Puget Sound. The last eagle of this group seen in the release area was observed on 29 March several miles east of the release site.

Because wintering Bald Eagles on the Skagit are gregarious at feeding and roosting sites (Servheen 1975), we were concerned with the potential effects of brightly colored patagial markers on the behavior and acceptance of the released eagles by the wild population. Special attention was given to observing the behavior of wild eagles that came in contact with the marked birds. No behavioral abnormalities were noted among either the marked or the wild eagles as a result of the patagial markers. Marked eagles interacted normally with wild eagles at feeding areas, and marked and wild eagles perched and roosted side by side.

The released eagles differed in their ability to adjust to freedom. The difference was probably due to individual variation and the amount of time the bird had been in captivity. Most of the eagles fed on salmon soon after release, in some cases within 1-2 hours. All eagles bathed soon after release. Some birds attempted to fly immediately, and others did not move for several days from the gravel bar where they were released.

All eagles displayed a marked reduction in flight ability upon release, mainly due to loss of muscle tone in captivity. The eagles usually misjudged the distance and height they could fly on initial flights and landed in the river or in the brush below or short of intended perches. No injuries resulted, however. Human activity and interference was minimal in the release area, so the eagles were not in danger while they were there. Flight ability rapidly improved with exercise, and usually within 3-4 days the eagles were perching in trees 10 to 15 meters above the ground.

Conclusions

Success of this rehabilitation technique depends on the availability of abundant, easily obtained food in the release area and a minimum of human disturbance when the eagles are regaining their powers of flight, allowing them to develop muscle strength at their own pace.

Release in a wintering area eliminates dangers of territorial aggression from resident adults and allows the rehabilitated birds to learn secure feeding and roosting sites by following the wild population. Since the rehabilitated eagles are released several months before the abundant food supply dwindles, they have sufficient time to develop the strength and skill to compete in the wild state once again.

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Table 1

A sampling of Bald Eagles in captivity in the United States
classified by injury and cause of injury ¹

Injury	Cause of Injury	Number
Broken wing	Shot	33
Flesh wound	Shot	1
Broken wing	Hit by car	1
Broken wing	Fell from nest	1
Broken wing	Unknown	14
Injured wing	Powerline	1
Broken leg	Fell from nest	1
Puncture wound	Unknown	1
Injured body	Hit by airplane	1
Poisoned	Unknown	2
Injured leg or foot	Animal trap	3
Blind in one eye	Unknown	1
Infection	Unknown	1
No injury	----	23
Captive raised	----	8
Total number of birds		92

¹Of the 52 zoos and facilities questioned, 27 replied.