特集：野生動物の救護 —市民(地域)と大学の共働—

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The Value of Wildlife Rehabilitation

—Opportunities for Medical Training, Research, Education, Conservation—

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ABSTRACT. The primary goal of a wildlife rehabilitation (WR) program is the release of injured animals back into the wild. Other important aspects of a WR program must be appreciated. These include advancement of medical knowledge, research, education, and conservation. Birds from a rehabilitation program may provide unique opportunities to learn about surgical techniques, medical treatments, management aspects, nutritional needs, or captive breeding and reintroduction programs as well as the functioning of a healthy environment. Wildlife rehabilitation may be incorporated into educational programs to teach the general public about the value of wildlife and the concepts of interdependence of all life forms. Therefore, the veterinarian (rehabilitator) who participates in WR with a focus on individual animals may also contribute to knowledge which may ultimately benefit whole populations and ensure preservation of a rich and diverse environment.

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Wildlife rehabilitation (WR) is the restoration to full health and function of sick, injured or orphaned wild animals for successful release back into their natural environment. The value of WR is not universally accepted as a worthwhile endeavor and its antagonists use various arguments in support of their reasoning why injured wildlife should not receive attention.

- ① It is wasteful of precious resources (human labor, materials, space, etc.).
- ② It is biologically of no benefit to a given species.
- ③ It presents a potential for introduction of pathogens into the wild animal community.
- ④ It interferes with Nature's process of selection.
- ⑤ It creates a loophole for unlawful possession of wild animals as pets.

Those who realize the value of WR know that it can be a powerful tool to accomplish a variety of important objectives far outweighing the above mentioned objec-

tions. Basically, WR is a commitment from an ever increasing number of people to preserve our wildlife heritage and resources into the future. Survival of diverse species of animals and other life forms will require a co-operative effort of the public, private business, and government agencies. The involvement of private individuals, relying on their own initiative, imagination, and resources has become one of the driving forces to avert the loss of species and natural diversity and, ultimately, the demise of our own species.

Wildlife rehabilitation is a "hands on" - "minds on" conservation experience which can be practiced at all societal levels and allows a broad spectrum of participants to witness what is happening to our wildlife and environment. Anyone involved can contribute to restoring what has been harmed within the resources available to them.

As veterinarians, we can play a key role in WR. We

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are trained to establish the causes of diseases by anamnesis, examination, and various diagnostic procedures. Handling and restraint (anesthesia) are important aspects of the process. We decide on the optimum form of treatment ranging from emergency situations to long-term care; we evaluate the chances of success and determine how an injured/sick/orphaned animal needs to be managed before it can be released. All this is done without remuneration and commonly at no expense to wildlife agencies. The greatest share of the costs of WR are absorbed by veterinarians, numerous specialists from other disciplines, and the enthusiastic involvement of volunteers without whom a successful WR program would not be possible.

While the basic concepts of WR are the same for all animals, the procedures or approaches vary greatly, depending on the species one works with. My particular specialty is birds of prey and I will confine most of my comments to this group of birds for the remainder of the presentation.

The number one objective of our rehabilitation program at Washington State University in Pullman, Washington, is the release of a fully functional, competitive, and healthy bird into the wild.

About 45% of injured or sick raptors presented to our clinic can be released back into the wild. This compares favorably with the national average which is 40-50%.

Can a rehabilitation program be considered successful with this rate of release? If one only looks at numbers of birds released back into the wild, rehabilitation of wild raptors may not be characterized as worthwhile. There are, however, other compelling reasons why raptor rehabilitation is important and these will be the focus of our discussion.

I should point out that the vast majority of birds submitted for rehabilitation are not those rejected by Nature in a natural selection process. Rather many come to us because of human related activities. We have a responsibility to mitigate harm that results from our encroachment on the habitat and natural ecological systems of wild and free living creatures and apply the

available modern medical technology to lessen the negative impacts when called for. Birds injured or handicapped by shooting, flying into wires or windows, being hit by cars, poisoned or starved because of destruction of their environment are not victims of natural selection. Relying on evolutionary adaptation to rectify the situation is not possible and we need to intervene now to minimize and prevent suffering. Injured raptors represent irreplaceable genetic potential and their return to the wild, via our help, is critical. Our help is particularly important when considering long-lived or rare/endangered species. The acquisition of knowledge and skills to handle emergency situations/sensitive species effectively often comes from our day-to-day work with the more common species.

At Washington State University, an injured, sick, or orphaned raptor is both a patient and a valuable teaching case offering unlimited opportunities and exciting possibilities for learning. Clinicians, students, and staff are challenged to apply all conventional and creative medical/surgical skills to assure convalescence of the patient. Further, they are required to practice appropriate feeding, management, housing, and handling of a wild bird patient. Graduate veterinarians who were responsible for a wild raptor patient while still in school will be able to take the knowledge, respect, compassion gained from this experience to other areas of the state or region where they can do similar work treating raptors while educating their clientele about the value of wildlife. The amplifying effect and potential benefits for wildlife by exposure of students (or the public) to a few raptors hospitalized for rehabilitation has been truly remarkable. The same scenario repeated a hundred or more times, every year with new students and new raptor patients and the positive attitudes generated towards raptors is significant in the theater of conservation. The caring for wildlife by veterinarians combined with educational efforts is passed on to the public who respect the commitment made by the more prominent citizens of the community.

From beginning to end, whether rehabilitation is suc-

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successful or not, a wild animal patient presents challenges and opportunities to gaining new knowledge. Even if the learning takes place with a common raptor, it may lead to knowledge which may become critical in attempts to rehabilitate a rare/endangered raptor. Many new techniques which are now widely accepted for successful rehabilitation of wildlife or treatment of pet animals were extensively tested in raptor rehabilitation programs. Of these, surgical procedures, such as fracture repair, fluid therapy and anesthesia protocols, pharmacological and toxicological studies, and blood transfusion efficacy trials in avian species are only a few examples of the benefits derived from raptor rehabilitation programs. In addition, many important federal and state regulations relating to environmental poisons, trapping, and roost site preservation have been implemented after identification via WR programs (examples: lead, mercury, cholinesterase inhibiting pesticides - carbofuran, fenthion, trapping regulations).

Nonclinical research of WR programs has focused on release success of rehabilitated raptors measured as post-release survival in years whenever possible or in comparison to similar birds of the wild population. While these studies have been sparse due to financial constraints and the difficulties of monitoring constantly moving "targets", findings have been encouraging. Survival times of seven or more years as well as successful reproduction of rehabilitated released raptors are not uncommon.

Even those birds which do not "graduate" from the rehabilitation program as releasable and which are not used for research purposes can serve important functions. Some are used in public displays or breeding programs. Many others have proven valuable in education programs. A group of 8 nonreleasable raptors of different species forms the nucleus of very popular and important educational programs at Washington State University. These programs reach all groups of the public from kindergarten to senior citizens and are presented throughout the region about 50 times per year. At these presentations the audience learns about the life history

of the various birds. Seeing these birds from close or touching them, conveys their beauty and nobility, and instills compassion, respect, and a sense of universal ownership. An urgency to protect these birds, an appreciation of their usefulness economically, and value esthetically becomes a reality.

Public presentations with nonreleasable raptors such as these, made possible via rehabilitation programs, add tremendously to an understanding of our wildlife, and hopefully, a desire to become involved not only in the prevention of harm to wild animals but, most importantly, to overall conservation efforts.

In conclusion, it can be stated that :

- ① WR is not wasteful of resources. To the contrary, WR signifies the preservation of the most precious resources of all: our wildlife and environment. No means should be spared and the voluntary contributions of participants must be seen as welcome endorsements towards a worthwhile goal.
- ② WR provides opportunities of immeasurable biological benefits by preserving irreplaceable genetic potential; it offers opportunities of learning and applying new knowledge, and it can be used as a focus to educate the public about the importance and interdependence of all life-forms.
- ③ WR has rarely been documented to introduce new pathogens into wild animal communities. Human encroachment on wildlife habitats carries with it the inherent threat of this occurrence to happen on a much more profound scale.
- ④ WR is the moral and ethical obligation of humankind to mitigate destruction inflicted on wild animals which has nothing to do with natural selection. Natural selection is being violated on a daily basis by the disregard and lack of understanding of the needs of various life-forms on our planet.
- ⑤ WR is not the acquisition of wild animals for pets. WR is release of wild animals back into the wild, research to provide optimum conditions for wild animals to recover from the many insults inflicted by

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humans and reeducation of the public to understand and respect other creatures that rightfully inhabit the planet with us.

Only an informed public can be effective in contributing in a positive way to the betterment of our world. In order to love, and therefore, protect something, you have to know it; to know it you must study it; to study it, it must exist for you, the person - each one of us. Our program attests to the existence of these birds and encourages their study, understanding, and protection. I know that our rehabilitation program has had a much greater impact than merely the release of individual birds. It has created an awareness and opened the eyes of thousands of people to the existence, beauty, needs, and sadly, the suffering of these birds. It has made many people realize that to know and care about Nature's children is ultimately as important as to care for oneself because we all depend on each other.

REFERENCES

Redig PT, Duke GE. 1996. The effect and value of raptor rehabilitation in North America. The Raptor Center, University of Minnesota, St. Paul, MN, U.S.A.

ADDENDUM

The need for WR and associated educational endeavors has recently become as urgent in Argentina as in other parts of the world. Two reports in 1995 and 1996 documented the mass killings of the migratory Swainson's hawk (*Buteo swainsoni*) by the indiscriminate use of the organophosphate insecticide Monocrotophos for the control of grasshoppers ("tucura"). In 1995, a whole flock of 700 Swainson's hawks from a communal roost-site were killed by thoughtless insecticide use. (Woodbridge et al. 1995, *J. Raptor Research* 29 (3) : 202-204). An even greater mortality totalling 3900 hawks involving 4 different roost-sites in La Pampa was documented in 1996. The estimate of total mortality was 15,000-20,000 (ref. Briefing Paper/ Information on Swainson's hawk mortality in Argentina 9 February 1996, by B. Woodbridge, USDA Forest Service, Klamath National Forest, U.S.A.)