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A REVIEW ON WILDLIFE RESCUE ACTIVITIES IN NORTH KERALA, INDIA

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ABSTRACT

Human-wildlife interactions are increasing progressively with decrease in natural habitat. Of which, many of the interactions are detrimental to wildlife which had resulted in formation of Rapid Response Teams (RRT) in each district under the Forest Department. This data explains the present situation of rescue activities in North Kerala. The RRT of each district were visited and data on rescues such as number of rescues, species of animal rescued, date of rescue etc were collected, complied and interpreted. We also discuss on the limitation and include recommendations for better rescue and rehabilitation activities in the area.

Key words: Rescue, rehabilitation, wildlife interactions, awareness.

Introduction

Fragmentation, degradation, and destruction of India's wildlife habitats has reduced the living space for wild animals (Ashraf and Menon, 2005). This has resulted in concentration of too many animal species to coexist in the same area which has led to human-animal interactions and conflicts. Such negative interactions handled to the formation of Rapid Response Team (RRT) under the forest department with the primary aim to rescue and rehabilitate the wild animals which are in threat or found in human habited areas.

The public demands assistance to urban wildlife problems which is an important consideration to wildlife managers and also consumes significant financial resources (Lorence, 1991; McKegg, 1984). In other parts of the world, Rescue and Rehabilitation centers are run by individuals, NGOs, government departments and universities, often as a co-operative venture between these diverse groups (Robinson, 2005). Wildlife rescue and rehabilitation is in its infancy stage in India with only few government rescue centers in Northern region, but lack any such rescue center in Western Ghats region (Holcomb, 1995; Ashraf and Menon, 2005).

Wildlife rescue activities are relevant to conservation biology, and seek further attention from ecologists (Shine and Koenig, 2001). Rescue data may provide valuable information on local abundance and distribution of urban wildlife in an area (Shine and Koenig, 2001). Hence such data can be used further for management and conservation plans. There are more concerns in an ideal rescue and release of any wild animal. Generally after rescue the animals are shifted to another suitable habitat which may lead to many ecological changes like shifts in local abundance and distribution, changes in age and sex structure, transfer of pathogens and genetic material to a new area (Madsen *et al.,* 1999; Berish *et al*., 2000). Lack of involvement and interest from ecologist and gap between ecologist and rescuers are the major reasons why rescue activities are not systematic and scientific. Objective of this study is to understand the present rescue scenario, rescue frequency and commonly rescued species in North Kerala and through this article authors are trying to explain the present situation of rescue activities in North Kerala, discusses on the limitation and include recommendations for better rescue and rehabilitation activities which will lead to the welfare and conservation of wild animals.

Material and Methods

The RRT of each district were visited from September to December 2015 and data on rescues such as number of rescues, species of animal rescued, date of rescue etc. were collected and complied. Analyses were done with Microsoft excel to study the frequency of rescues, species of rescued animal, situations for the rescue etc. The animal rescuers in each district were personally met and problems faced by them and suggestions for better rescue activates were noted. District wise total geographical area, total forest area, human population datawerealso collected and interpretations are made with the data. Since the rescuers

Functional and cooperation system of wildlife protection and conservation can produce good results in reducing human-wildlife conflicts.

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were not able to identify some species of rescued animals the general names were given in such cases.

The study area include four districts of North Kerala mainly Kasaragod, Kannur, Calicut and Wayanad. District wise total geographic area, forest cover and population are given in Table 1.

Result and Discussion

Present situation

Human-animal encounters are more or less same in each district expect with some variation in species. The rescue data of Wayanad (2011 to 2015), Kannur (2012 to 2015), Calicut (2014 to 2015) where complied and analyzed. Poor functioning of RRT were observed in Kasaragod district and no rescue records were available to analyses which lead to the lack of representation to the district in the results. Comparatively Kannur RRT was found to function better (2490 rescues from 2012- 2015). Snakes stand as the major group of rescued animal in each districts followed by mammals and aves (Fig. 1).

Snakes were found near human habitation because of the abundance of its prey species (rodents) and due to the presence of ideal shelter/hideout places. They were rescued from towns, villages, and fringes of forest areas where they dwell and occasionally cause trouble to public by entering into houses, buildings and other human habited areas. Kannur followed by Calicut district were found to have high rate of snake rescues, which could also be due to high population status (Table 1) leading to the greater chance of the encountering of snakes in their daily life. Indian Spectacled Cobra (*Naja naja*) and Indian Rock Python (*Python molurus)* are the two commonest encounters during rescue in each district as their large size and their threatening displaying nature makes them more visible when encountered. Other commonly rescued venomous snakes were Russell's Viper (*Daboia russelii*), Common Krait (*Bungarus caeruleus*), King Cobra (*Ophiophagus hannah*) and few cases of Hump-nosed Pit-Viper (*Hypnale hypnale*), Cat Snake (Boiga sp.) and non-venomous snakes were Wolf snake (*Lycodon* sp;), Sand boa (*Eryx* sp) Rat snake (*Ptyas mucosa*), Trinket snake (*Coelognathus* sp.; Fig. 2).

In snakes, most of the rescues cases arise when they had entered the house or its premises which sometimes may not be in need of a rescue but to prevent being killed, rescuers are forced to translocate them to safe habitat away from human habitations. And it was also noted that the actual needful cases of rescues such as snakes getting trapped/entangled in nets or fallen in pits or wells where comparatively very less. Fear of snakes and lack of awareness and knowledge about snakes in the public are the main reason leading to forceful rescue and translocation of common snakes. High number snakes being encountered and rescued in each districts (eg: average 5 snakes/day in Kannur pers. comm. Riyas Mangad) make it difficult and demand for the need of skillful snake rescuers and temporary snake shelters in each districts. Other rescued reptiles species excluding snakes include Monitor lizard (*Varanus bengalensis*), Sea turtle (mostly Olive ridley; *Lepidochelys olivacea*) and fresh water turtles (*Lissemys punctate, Melanochely strijuga).*

Wayanad district has a large percentage of forest land (Table 1) that encounters human-animal conflict especially with large mammals. In Mammals, Civet species

Table 1: District profiles in Northern Circle.

Districts	Area (km^2)	Population	Population (per km^2)	Total forest	Percentage of forest land (km^2)
Calicut	2345	3089543	1317.50235	305.6251	13.03%
Wayanad	2132	816558	383.000938	517.1712	24.26%
Kannur	2997	2525637	842.721722	187.9075	6.27%
Kasaragod	1961	1302600	664.252932	119.9697	6.12%

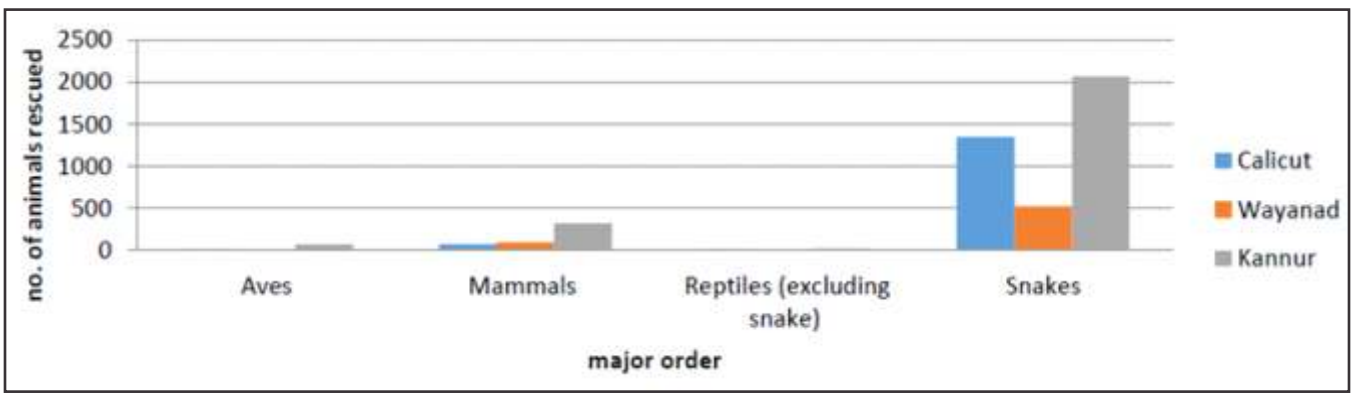

Fig.1: Major order of rescued animals in the North Kerala.

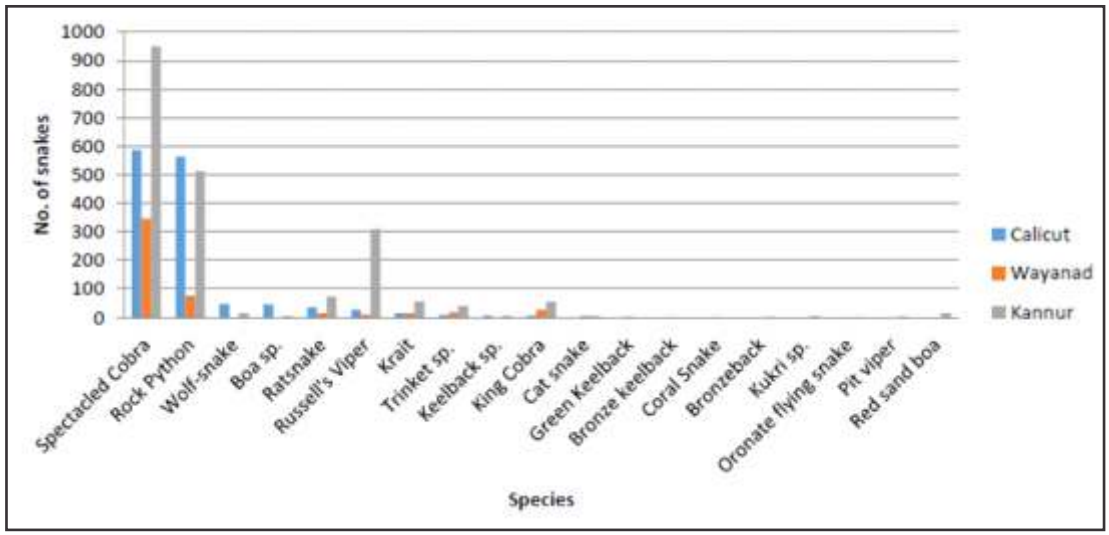

Fig. 2: Species of snakes rescued in North Kerala.

such as Asian palm civet (*Paradoxurus hermaphroditus*) and Small Indian Civet (*Viverricula indica*) are the two most commonly rescued animal in North Kerala (Fig. 3). Bonnet Macaque (*Macaca radiata*) was the common primate rescued in Wayanad and Kannur area. Increased number of these primates had caused much human- animal conflict. RRT and the forest dept. are forced to capture these animals from human settlements. But releasing these animals to new area is always a question of debate. Indian porcupines (*Hystrix indica*) were the other encountered wild animal in urban area as they are found to inhabit all human habitation. Being a nocturnal animal, porcupines were mostly rescued been felled in pits, wells, or accidental entry to houses etc. Other common mammals include, Golden jackal (*Canisaureus*), Jungle cat (*Felischaus*), Scaly anteater (*Manis crassicaudata*), Common grey mongoose (*Herpestes edwardsii*). Rescue of Deer species such as Sambar deer (*Rusa unicolor*), Spotted deer (*Axis axis*), Mouse deer (*Moschiola indica*) where recorded high in Wayanad area. Further, rescue of large carnivorous mammals such as Tiger (*Panthera tigris*) and Leopard (*Panthera pardus*) cases where also reported in the area which were not recorded in rescue register of RRT as whole forest department will be involved in such cases. Three cases of rescuing elephant calf were recorded (2 in Kannur and 1 in Wayanad) which were then transferred to Muthanga Elephant Camp in Wayanad.

Owls are the commonly rescued species of birds (Fig. 4). Being nocturnal, these birds were found to be attacked by crows and other birds during day time which make them common in rescues. Also, these birds (especially Barn Owl) are found to live only near human habitations and breeds in free spaces, under roofs of buildings and cases of chick falling from the nests were common. Also, people with mythological beliefs want to take such birds away from their vicinity. Often

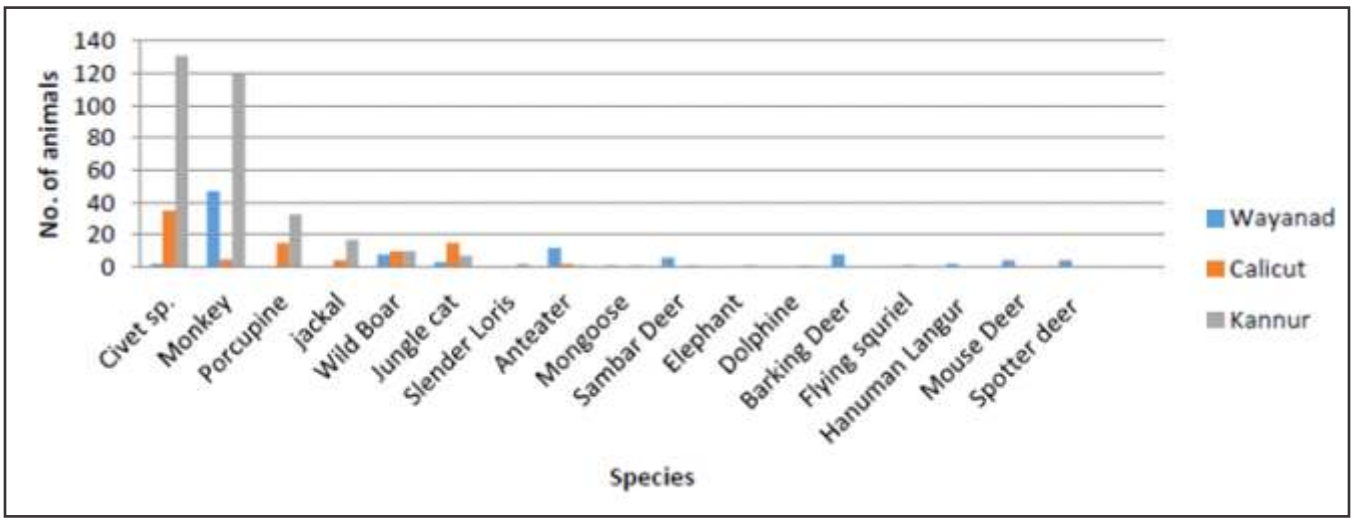

Fig. 3: Species of rescued mammals in North Kerala.

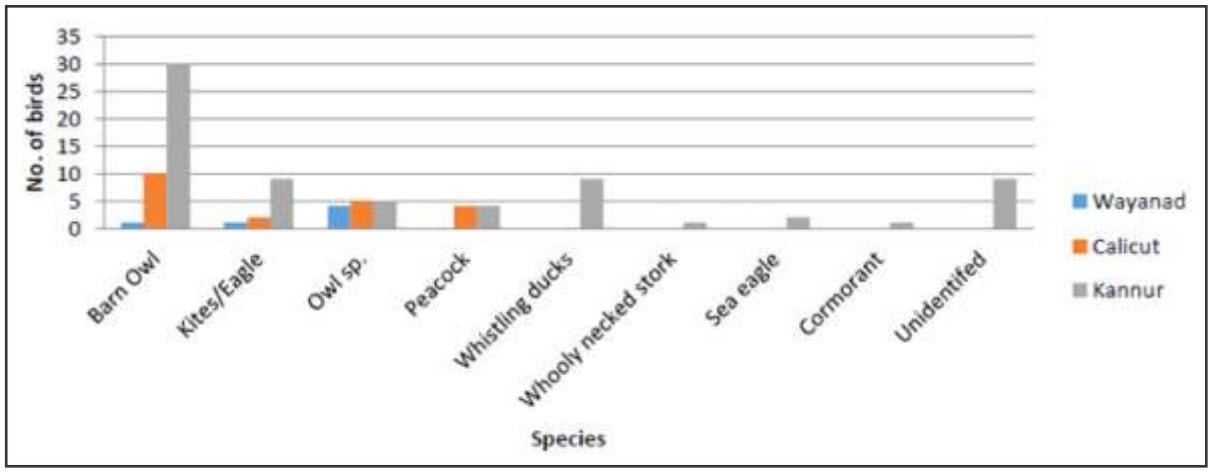

Fig 4: Species of recued birds in North Kerala.

electrocuted and fallen Kite chicks comes in rescue list. There were few cases of rescuing whistling ducks with chicks in Kannur. Thus, these data showed diversity of rescued animals in each districts.

Limitations in rescue

Rescuers even though believed to be doing something worthy for wild animals, due to the lack of facilities and poor knowledge might cause harm to rescued animals sometimes. Generally the rescuers are very keen and hardworking but most of them are unaware of the proper handling techniques, nurturing of rescued animal and are least concerned about survival of the released animal. No post release monitoring were done so far due to many limitations including man power and funds hence the success of the rescues are unknown.

No proper rehabilitation facilities are available for injured and diseased animal in any of the districts. Depending upon the species, rehabilitation facilities are to be customized *eg;* young ones are to be taken care before release, injured and diseased animals are to be kept till they get cured.

Lack of staffs and skilled rescuers are the other limitations for smooth functioning of RRT. A total of 12 staff are proposed for an RRT team which include a Range officer, a Deputy range officer, two Foresters, four guards and watchers each. But in most of the district these posts (guards and watchers) are vacant. Lack of skilled animal rescuers is the other concern. Most of the staff are incapable of rescuing a wild animal and in most cases they take help of other daily wage staff who are skilled in handling snakes and other wild animals. Improper rescue methodology, sheltering and unscientific release of rescued wild animals are alarming the need for attention and proposal for rescue and rehabilitation facilities.

Recommendations

Based on the observation in the present study, a rescue and rehabilitation center in each district is highly recommended with following suggestions.

1. Rescue team: A skilled and well equipped rescue team should be the major consideration. Filling up the vacant position and recruitment of permanent rescue staffs must be considered. Proper guidelines and training should be given to the team for handling wild animals and the situation. As wild animal rescue often creates a crowd and panic among people, the staff and rescuer must handle the situation wisely and behave well with public. Non cooperative behavior from staffs sometimes found to make the situation worse for both the rescuers and the animal that is being rescued.
2. Rehabilitation center and Veterinary clinics: With such a diverse group of animals rescued in each district, the need for a rehabilitation center is urging. Forest department shall initiate the creation of well-planned, scientific and customized centers in each district with the help of local NGOs and other stake holders. If necessary the rescued animals are to be kept in rehabilitation centers before releasing. Since there are cases of injured and diseased rescues, a well-equipped veterinary clinic shall be functional in each rehabilitation center. In recent years veterinary science has played a great role in treatment and rehabilitation of wildlife causalities (Tribe and Brown, 2000; Stocker, 2000; Best *et al.,* 2003; Kirkwood, 2005). Veterinary science has the potential to contribute greatly to the conservation and welfare of wild species (Kirkwood, 2000). Some other recommendation for rehabilitation centers are 1) The rehabilitation center shall be made with the consideration and guidelines of Central Zoo Authority.

2) Since the rescue profile of each district showed snakes as the major rescued animal, more focus should be given to such rescues and skilled snake handlers shall be involved. Also, development of reptile houses for injured and diseased animals shall be considered rather than keeping rescued snakes in bags and containers. 3) As civets were frequently rescued and with the reports as well with the reports of getting civet cubs, injured civets and diseased ones, a customized rehabilitation with dark rooms with enough hideout places could be considered for stress free care and nurturing of these species. 4) As more deer species are rescued in Wayanad areas, while considering rehabilitation center a deer enclosure must ideally be considered. 5) Many of the rescued water birds might require a rehabilitation phase before releasing as they might have injured or diseased. Consideration for aviary in the rescue and rehabilitation center is thus important.

3. Rescue vehicle and equipment: Minimum rescue equipment such as trapping cages, transportation cages, snake hooks and bags etc. are mandatory for better rescuing of wild animals. Also the rescuers should be equipped themselves to handle any wild animals; protective clothing, leather gloves, search lights, first aid kits are recommended. A vehicle which can accommodate rescuers as well as with separate space for keeping cages of rescued animal could help in fast actions and transportation of the animals.
4. Research and documentation: Systematic and scientific documentation shall be carried out during each rescue which later can be used for preparing management and conservation plans. Rehabilitated animals are now seen as a useful scientific resource as well. They can be used as material for the monitoring of the environment health, presence or prevalence of infectious disease and the accumulation of biotoxins such as pesticide residues (Robinson, 2005). With collaborations between the various wildlife rescue centers, research on species distribution, population genetics, seasonal activity, dietary studies, veterinary pathological and parasitic studies could be carried out (Reeve, 2000), which are eventually of high importance to wildlife conservation and management.
5. Release: There are only three options for a rescued wild animal, i.e. to release into wild, rehabilitate (life time care) or Euthanasia, where the latter is not practical in India with its strong wildlife laws and ethics. Rehabilitation has not got its significance in Indian concern, hence only possibility is release into wild (Ashraf and Menon, 2005). There are many consideration while releasing a rescued animal which often are not considered in preset situation. Assessing the suitability of a habitat prior to the release of animals is vital (Cheyne, 2006). Relocating animals within their range, or to parts of their former range, has become a popular tool in wildlife management and conservation (Griffith *et al*., 1989; Kleiman, 1989; Stanley, 1991; Wolf *et al.,* 1996). But studies suggest that many of the relocations are not successful and also involve huge funds (Kleiman *et al.,* 1991; Short *et al*., 1994; Rahbek, 1993).

   It was noted that lack of skilled rescuers and equipment had caused concern in rescuing carnivores like Tiger and Leopard. Release was another big challenge faced in such situations. Aged animals and animals involved in conflict requires rehabilitation which is another important challenge faced by the department. A proposal for rehabilitation cum safari park for those animals would be ideal while considering the animal's welfare and also human-animal conflict mitigation perspective.
6. Involvement: Rescuers with their experience sometimes do not accept scientific advices. Also biologist/ecologist are not appreciating the work done by rescuers and rather point out the technical problems in rescue operations. Hence a gap between rescuers and biologists are observed generally. Interdisciplinary action from rescuers, forest department, biologist, veterinarians, and public shall be involved and the principles of conservation shall be promoted.
7. Awareness: Human-animal conflicts mostly result due to lack of awareness. It is important to know about habitat and habits of an animal so to avoid potential conflict with humans. General awareness classes about common urban wildlife, snakes, its ecological importance etc, has to be carried out where general public can acquire knowledge about wildlife. Awareness program can change the attitude of people towards wildlife which is crucial for conservation.

Conclusion

With the habitat destructions and alterations human-wildlife interaction will only increase with time and with the increase in the number of injured animals, rescues will demand a need for well-equipped rescue team and rehabilitation centers. With the cooperation between Government, Interdisciplinary agencies, NGO's and stakeholders, there should be an action taken on the concept of rescue centers. Thus, a functional and cooperative system for wildlife protection and conservation can be carried out in the area.

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उत्तर केरल, भारत में वन्यजीव बचाव कार्यकलापों का पुनरीक्षण

आर. रोशनाथ एवं डी. जयाप्रसाद

सारांश

मानव–वन्यजीव पारस्परिक क्रियाएं प्राकृतिक आवास में ह्रास के साथ उत्तरोत्तर बढ़ रही हैं। जिसमें से अनेकों पारस्परिक क्रियाएं वन्यजीव के लिए हानिकर हैं, जिसके फलस्वरूप वन विभाग के अन्तर्गत प्रत्येक जिले में त्वरित अनुक्रिया दलों का गठन हुआ। यह आँकड़े उत्तर केरल में बचाव कार्यकलापों की वर्तमान स्थिति को बताते हैं। प्रत्येक जिले के त्वरित अनुक्रिया दलों (आर.आर.टी.) का भ्रमण किया गया और बचावों यथा– बचाओं की संख्या, बचाए गए पशुओं की प्रजातियां तथा बचाव की तारीख आदि पर आँकड़े एकत्रित, संकलित किए और व्याख्या की गई। हमने सीमाओं पर विचार–विमर्श भी किया और क्षेत्र में बेहतर बचाव और पुनर्वास कार्यकलापों के लिए संस्तुतियों को शामिल किया।

References

Ashraf N.V.K. and Menon V. (2005). Problems and Prospects of Rehabilitating Wildlife Displaced due to Man–Wildlife Conflict and the Wildlife Trade in India. In: *Back to the Wild: Studies in Wildlife Rehabilitation*. (V. Menon, N.V.K., Ashraf, P. Panda and K. Mainkar, Eds.), Conservation Reference Series 2. Wildlife Trust of India, New Delhi.

Berish J.E., Wendland L.D. and Gates C.A. (2000). Distribution and prevalence of upper respiratory tract disease in gopher tortoises in Florida. *J. Herpetology,* 34: 5–12.

Best R., Cooper J.E. and Mullineaux E. (2003). *BSAVA Manual of Wildlife Casualties*. British Small Animal Veterinary Association, Quedgeley, Gloucestershire

Cheyne S.M. (2006). Wildlife reintroduction: considerations of habitat quality at the release site. *BMC Ecology*, 6:5.

Griffith B., Scott J.M., Carpenter J.W. and Reed C. (1989). Translocation as a species conservation tool: status and strategy. *Science*, 245: 477–480.

Holcomb J. (1995). The ethics of wildlife rehabilitation. In: *Proceedings of the SASOL Symposium on Wildlife Rehabilitation.* (B.L. Penzhorn, Eds) Wildlife Group: South African Veterinary Association and Animal Rehabilitation Centre. 112-118 pp.

Kirkwood J.K. (2005). *Kindness, Conservation or Keeping Alive*? The Philosophy of Veterinary Treatment and Rehabilitation of Wildlife Casualties.In: *Back to the Wild: Studies in Wildlife Rehabilitation*. (V. Menon, N.V.K., Ashraf, P. Panda and K. Mainkar, Eds.), Conservation Reference Series 2. Wildlife Trust of India, New Delhi.

Kirkwood J.K. (2000). Ethical aspects of interventions for the conservation or welfare of wildlife. In: *Veterinary Ethics - An Introduction*. (G. Legood, Ed). Cassell, London. pp 121-138.

Kleiman D.G. (1989). Reintroduction of captive mammals for conservation. *BioScience*, 39: 152–161.

Kleiman D.G., Beck B.B., Dietz J.M. and Dietz L.A. (1991). Costs of a re-introduction and criteria for success: accounting and accountability in the Golden Lion Tamarin Conservation Program. *Symposia of the Zoological Society of London*, 62: 125-142.

Lorence S. (1991). *The phone-old torment, new opportunity Bur*. Wildl. Newsletter 2:6. N.Y. S. Dep. Environ. Conserv. Albany, N.Y.

Madsen T., Shine R., Olsson M., Wittzell H. (1999). Restoration of an inbred adder population. *Nature*, 402: 34–35.

McKegg J.S. (1984). Maryland's wildlife control cooperator program. *Wildl. Soc. Bull*., 12:414-416.

Rahbek C. (1993). Captive breeding – A useful tool in the preservation of biodiversity. *Biodiversity and Conservation*, 2: 426-437.

Reeve N. (2000). Post-release monitoring: the practicalities. In *Proceedings of the Symposium of the British Wildlife Rehabilitation Council 2000* (R. Best and M. Small, Eds.), British Wildlife Rehabilitation Council.

Robinson I. (2005). Wildlife Rehabilitation as a Conservation and Welfare Prerogative. In: *Back to the Wild: Studies in Wildlife Rehabilitation*. (V. Menon, N.V.K., Ashraf, P. Panda and K. Mainkar, Eds.), Conservation Reference Series 2. Wildlife Trust of India, New Delhi.

Shine R. and Koenig J. (2001). Snakes in the garden: an analysis of reptiles "rescued" by community-based wildlife carers. *Biological Conservation*, 102: 271–283.

Short J. and Smith A. (1994). Mammal decline and recovery in Australia. *J. Mammology*, 75: 288–297.

Stanley–Price M. (1991). A review of mammal reintroductions, and the role of the Re-introduction Specialist Group of IUCN/SSC. In: *Beyond captive breeding: Re-introducing endangered mammals to the wild*. Symposium of the Zoological Society of London: 9–23 (J. H. W. Gipps, Ed.). Oxford University Press, New York, U.S.A.

Stocker L. (2000). *Practical Wildlife Care*. Blackwell Science, Oxford.

Tribe A. and Brown P.R. (2000). The role of wildlife rescue groups in the care and rehabilitation of Australian fauna. Human Dimen. *Wildlife*, 5: 69-85.

Wolf C.M., Griffith B., Reed C. and Temple S.A. (1996). Avian and mammal translocations: update and reanalysis of 1987 survey data. *Conservation Biology*, 10: 1142–1154.