

Dealing with Wildlife Emergencies

STANDARDIZATION OF PROCEDURES REQUIRED FOR DEALING WITH WILDLIFE EMERGENCIES BY TRAINING VETERINARIANS AND FOREST DEPARTMENT PERSONNEL IN STATES WITH HIGH HUMAN-WILDLIFE CONFLICT IN INDIA

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PREFACE

Wildlife emergencies arising due to human-wildlife conflict are being frequently reported from many states across India. In most cases, the species of wild animals involved are endangered and are protected under the Indian Wildlife (Protection) Act, 1972. The Forest Department has to respond promptly, taking assistance from various agencies including the Police department, the Animal Husbandry department, Fire Brigade and volunteers from Non- Governmental Organizations. The response varies to a large extent depending upon the experience, expertise and resources available.

The procedures employed to deal with these emergencies are potentially dangerous and life threatening to the people as well as the animals involved. It is common for the public and the media to hold the Forest Department responsible for the outcome, and due to the lack of training and resources, procedures like tranquilization during an emergency are not carried out which further complicates the situation.

The prime objective of this project was to train and equip the involved parties, especially the forest department personnel and the veterinarians, to deal more effectively with such emergencies in future. Letters were sent by WPSI to the Chief Wildlife Wardens of nine states and workshops were conducted in those states which responded. A total of eleven workshops were conducted across six states from July 2005 to September 2006. A set of blowpipe and jab stick was presented at places where no such equipment was available with the forest department.

RESOURCE PERSONS

The following experts were invited as resource persons to discuss their work and provide scientific recommendations. Interaction with resource persons was encouraged and problems encountered by field personnel were freely discussed during the workshops.

Ashok Captain, Taxonomist (ashokcaptain@hotmail.com)

Co-author of 'Snakes of India: The Field Guide'

Abi Tamim Vanak, Wildlife Researcher (abivanak@gmail.com)

Principal Investigator: Ecology of Indian Fox project

Advait Edgaonkar, Wildlife Researcher (advait@yaho.com)

Principal Investigator: Leopard Ecology Project

Dr. Shomita Mukherji, Wildlife Researcher (shomitam@yaho.com)

Visiting Fellow, National Center for Biological Sciences, Bangalore

M. Ananda Kumar, Wildlife Researcher (0821-2515601)

Nature Conservation Foundation, Mysore

Janaki Lenin, Wildlife Filmmaker (janaki@gmail.com)

Coordinator, Agumbe Rainforest Research Station

Kishor Mungale khm@vsnl.com

Director, Quality Engg & Reclaimers Pvt. Ltd, Pune

Vidya Athreya, Wildlife Biologist (phatrosie@gmail.com)

Research Associate, Kaati Trust, Pune.

COURSE CONTENT

The topics dealt with at the workshops were determined following discussions with local authorities and related to the type of emergencies commonly encountered in the region. Accordingly resource persons from the above list were invited.

The workshop was preceded by an introductory session where the objectives of the workshop were discussed; the participants were informed about the funding agency and the resource persons introduced. The main content of the workshop was as follows:

Basic considerations for Wildlife interventions

- AVB discussed in detail his experiences in handling various wildlife emergencies along with the basics of wildlife interventions or the 'Ten commandments of wildlife interventions'.

- Safety of the people involved in such interventions, including the Forest Department personnel, Veterinarians, Volunteers and other persons assisting in the procedure(s) as well as the unwanted onlookers. Safety of the animal(s) is also to be considered.
- Precautions should be taken to prevent 'show-off' or heroics during such procedures whether it is a snake or a leopard or a gaur. Howsoever desperate the situation, safe procedures have to be adhered to and such rash and irrational attempts should be discouraged.
- Legality of the situation should be considered especially the Wildlife (Protection) Act, 1972. The provisions of the act should be properly considered before trapping, immobilizing, shooting or translocation of a wild animal. The required permissions should be obtained in writing from a competent authority.
- Respect the wild animal. One has to keep in mind that a wild animal will never 'co-operate' and this is due to the survival instinct or the fight or flight mechanism. The animal has to be approached/ handled firmly with confidence and patience, with due respect.
- Prognosis or the outcome of the intervention has to be seriously considered before deciding on the course of action. An 'orphaned' deer fawn is often brought to rescue centres but it dies within a few days or lives the rest of its life in captivity. But most of the times the fawn may not be really orphaned or abandoned as the mother is known to hide the fawn and go in search of food for a few hours. And a weak or unfit fawn may be abandoned and left to die or be food for some predator. Remember that death is an integral part of nature. We are not to go against nature and save these unfit animals and keep them in captivity for the rest of their lives.
- Practicability of the planned intervention is of paramount importance. For example, a professor of surgery (with no wildlife experience) was consulted when a rhinoceros was constipated and had not passed stools for about a month. The professor advised surgical removal of the fecolith! Cutting through the thick skin of the rhino is a Herculean task and stitching the skin back will be a near impossible manoeuvre. The Rhino was later successfully treated using a medication regime used in constipated elephants.
- Planning the intervention to the minutest detail is a must because an apparently simple procedure in case of a wild animal can turn out to be a nightmare. For

example an otherwise successful immobilization episode in a gaur turned out to be a complete failure because the gaur walked to a place that was completely inaccessible to vehicle before it became recumbent. By the time we managed to make road for the transport vehicle to reach the site, the gaur had recovered.

- **Minimize Stress.** Excessive stress and the subsequent exhaustion is responsible for the high mortality in most of the interventions. It is manifested as capture myopathy especially so in herbivores. Chasing the animal before or after chemical immobilization, under dosing, excessive and improper handling, resorting to physical restraint rather than chemical restraint, crowding around the cage, etc leads to excessive stress.
- **Planning an appropriate treatment regime** such as using long acting antibiotics and preparations like Doramectin so the animal has to be restrained only once a week only for treatment can significantly reduce stress.
- **Understand and Accept limitations.** While undertaking interventions like hand rearing of wildlife orphans, treating wildlife casualties or rehabilitating wild animals, one has to come to terms with high mortality and failure rates. Natural mothers are the best mothers and in spite of this fact there is a significantly high neonatal mortality. Mech (1970) reported that there is only a 6-43% survival rate of wolf pups from birth to the ages of 5-10 months. Schaller (1970) has observed that only half the lion cubs born in the Serengeti survive.

Similarly treating wildlife casualties is a challenging task because inadvertently the animal is stressed by our attempts to treat over and above the stress of injury/ disability and the stress of captivity, which worsens the situation by lowering the immunity.

- **Consult/Ask/Refer.** Ignorance might lead to the death of the animal. We have witnessed death of a leopard because a veterinarian used NSAID (Non Steroid Anti Inflammatory Drug) for treating the animal. NSAID's are contraindicated in Felids.
- **Create, update and share database.** This will ensure that the same mistakes will not be repeated.

Human-Wildlife Conflict: Leopard conflict in the Junnar Forest Division, Maharashtra: A case study

Human-Leopard conflict is routinely encountered in most of the states where the workshop was conducted viz. Maharashtra, Goa, Kerala, Uttarakhand, Madhya Pradesh. In many of the workshops, Vidya Athreya presented the case study from Maharashtra, stressing the need to understand the biology of the species before deciding the course of action. The territoriality of the species as well as the homing instinct is to be considered before undertaking translocations. She also explained in detail, with examples, how trapping and release does not ease the conflict and also refers to the paper by Linnell et al 1997 Translocation of carnivores as a method for managing problem animals: a review.

Recommendations to reduce the human-leopard conflict:

- Reduce unnecessary translocations
- Reduce unnecessary trappings
- How to reduce trapping?
- Educate local people
- Remove leopard "attractors" like stray dogs and other feral animals from human dominated areas
- Do not allow releases Human-Wildlife Conflict: Snake situations: Rescue and Release Identification of Snakes: Various techniques used by Taxonomists

Snake emergencies are common in almost all states in India and are handled by volunteers, fire brigade personnel, forest department, etc. Ashok Captain discussed the issue of snake identification based on taxonomic principles and the importance thereof.

Identifying a snake based only on features like colour, shape of the head, types of scales can be misleading and detailed scale counts along with other taxonomic data is essential for correct identification which is turn is necessary for effective pre and post capture management.

It was stressed that the practice of maintaining rescued snakes indefinitely by the rescuers was damaging to the snake and that no rescue is complete until the snake is released back in nature. He demonstrated the use of various equipments used to catch snakes, discussed rescue situations and repeatedly emphasized on safe procedures. He also demonstrated how low cost snake sticks, hooks and bags can be made locally.

Human-Wildlife Conflict: Monkey menace and the proposed guidelines for control of problem monkeys

Categories of primates coming in conflict with humans were discussed along with short term and long term management measures. The proposed guideline by Chaudhury et al (2005) was presented. Janaki Lenin discussed their experiences while documenting the translocation of a troop of macaques.

Human-Wildlife Conflict: Elephant conflict in Valparai, Tamilnadu: A case study

M. Ananda Kumar was invited for this presentation at the workshop in Kerala. He discussed their work on elephant conflict in Valparai, Tamilnadu.

The need for a scientific study to understand and then deal with the problem was stressed. The methods they use at their study site to ease human elephant conflict were also shared with the Forest Department personnel.

The role of science in wildlife management

Wildlife researchers presented their thoughts on the topic especially how techniques like radio telemetry can be effectively used for managing certain wildlife issues.

Chemical restraint of wild animals: Drugs, dosages, equipment, anaesthetic emergencies

A detailed session was imperative to demystify the subject of chemical restraint. The discussions were limited only to the drugs and equipment which are readily available in India. Details on dose formulation for various species, concentration of drugs, filling of darts, considerations before shooting a dart, aiming, cleaning and care of the equipment, anaesthetic emergencies and documentation were presented.

Trap cage design

Kishor Mungale demonstrated the folding trap cage and discussed the issues related to cage design.

Interactive session

The participants were allowed to use the low cost snake catching items, to use the remote drug delivery systems that were provided to the various states Forest Department such as blowpipe, filling darts, jab-stick, and auto release snare

Discussions

The participants were encouraged to share their experiences and problems.

Wildlife Emergency Workshops Conducted Date Place Number of participants

27th July 2005 Jalna, Maharashtra 42

22nd October 2005 Jabalpur, Madhya Pradesh 32

28th December 2005 Sulthan Batheri, Kerala 43

28th January 2006 Van Vihar National Park, Bhopal, M.P. 43

20th March 2006 G.B.Pant Veterinary College, Pantnagar, Uttaranchal

21st March 2006 Chunakhan, Uttaranchal 40

13th April 2006 Hyderabad, Andhra Pradesh 30

30th May 2006 Bondla Zoo, Goa 48

18th July 2006 Shahapur, Maharashtra 30

24th August 2006 Nagpur, Maharashtra 60

12th September 2006 Ratnangiri, Maharashtra 60

Discussion

Wildlife emergencies can be broadly classified in three categories-

- 1) Wild animal(s) seen in or near human habitations: towns, villages, farms, etc
- 2) Wild animal(s) trapped in snares, foothold traps, fallen in wells, etc
- 3) Wild animal(s) injured in road accidents, chased and injured by feral dogs, diseased wild animals.

For example, in regions having high levels of human- leopard conflicts, the following situations are common:

..Leopard fallen in a well

..Leopard trapped in a poacher's snare/ trap.
..Leopard seen in human habitat, with or without livestock predation.

Wildlife emergencies involving other species like snakes, monkeys, elephants and gaur are also common.

It is a daunting task for the Forest Department personnel to respond to such situations with available resources and expertise. Different techniques have to be used for different species. Moreover, individuals of the same species respond differently and hence a technique used successfully in one situation might not work in a similar situation subsequently.

Highlights of workshops conducted at various places:

Jalna, Maharashtra

Resource persons: Vidya Athreya, Aniruddha Belsare

All the participants for this workshop were frontline staff (forest guards) from across the state. Their response is crucial for the outcome of the intervention as they are the first to reach the site and react. Most of them did have firsthand experience of dealing with wildlife emergencies.

One local veterinary officer and one pre veterinary student also attended the workshop.

Jabalpur, Madhya Pradesh

Resource persons: Ashok Captain, Advait Edgaonkar, Aniruddha Belsare

The topics discussed in this workshop included snake rescue and identification, leopard conflict, chemical restraint and the role of radio telemetry in wildlife management. Advait Edgaonkar, doing his research on leopard ecology in Bori wildlife sanctuary in Madhya Pradesh, was invited for the presentation on radio telemetry. Along with other issues, the monkey menace and solutions were discussed in detail in the interactive session.

Sulthan Batheri, Kerala

Resource persons: Ashok Captain, M.Ananda Kumar, Vidya Athreya, Aniruddha Belsare

The state has a history of human- elephant conflict. Therefore along with other topics, a presentation by M.Ananda Kumar based on their study of the elephant conflict in Valparai, Tamilnadu was arranged.

The elephant conflict and leopard conflict issues dominated the discussion during the interactive session. S.Guruvayurappan, WPSI Project Officer for South India coordinated the workshop.

Bhopal, Madhya Pradesh

Resource persons: Ashok Captain, Abi Tamim Vanak, Vidya Athreya, Aniruddha Belsare

As the majority of the participants were veterinarians from various national parks in Madhya Pradesh, the discussions were focused on wildlife treatment, dose regime for various species, anaesthetic emergencies, post mortem examination and forensic investigations. A need for a concise document on the above mentioned topics was felt by many of the participants.

Hyderabad, Andhra Pradesh

Resource persons: Ashok Captain, Kishor Mungale, Aniruddha Belsare

Along with the other topics, cage design was discussed in detail. A practical session of assembling the folding trap cage was followed by detailed discussions. The Chief Wildlife Warden of the state attended the workshop.

Uttaranchal

Resource persons: Ashok Captain, Janaki Lenin, Shomita Mukherji, Aniruddha Belsare

We had two workshops in Uttaranchal: one at the G.B.Pant University Veterinary College and other at Chunakhan for the Forest department personnel. About 50 veterinary students attended the first workshop along with two professors. The discussions after the Forest department workshop were very interesting and were concerning the mystery deaths of tigers in and around Corbett National Park as well as the rhinoceros seen in the area.

Bondla Zoo, Goa

Resource persons: Abi Tamim Vanak, Ashok Captain, Aniruddha Belsare

The Goa Forest Department has to deal with leopard problems frequently. The session on leopard conflict and recommendations was well received. The presentations on snake rescue and chemical restraint were also appreciated. The problems faced by the Forest

department personnel while conducting a rescue operation were discussed during the interactive session.

Shahapur, Maharashtra

Resource persons: Vidya Athreya, Aniruddha Belsare

The leopard issue was discussed in details as most of the participants were from Thane division, where human-leopard conflict is not uncommon. The explanation of the leopard conflict based on our understanding of leopard biology as well as the references from telemetry studies conducted elsewhere completely changes the outlook of the participants.

Nagpur, Maharashtra

Resource persons: Ashok Captain, Vidya Athreya, Aniruddha Belsare

The workshop was attended by the Chief Wildlife Warden of Maharashtra and other senior officials as well. Veterinarians assisting the department during wildlife interventions were also present along with the FD staff. The study of the Human-leopard conflict in Western Maharashtra was presented and was followed by detailed discussions. A practical session followed, wherein two chital (*Axis axis*) were tranquilized and routine procedures like sample collection were demonstrated.

Ratnangiri, Maharashtra

Resource persons: Vidya Athreya, Aniruddha Belsare

The first session of this workshop was only for the forest department staff and they were briefed about various emergency situations and the procedures to be followed in response. The next session was for the representatives from the press, police department and veterinarians. We felt a need to sensitize the press with regards to wildlife emergencies and thus influence the reporting positively.

The practical session on use of blowpipe was appreciated as the region has many cases of leopards trapped in snares/ foothold traps and the training was a step towards better handling of such emergencies.

Recommendations

The procedures and practices discussed in these workshops need to be incorporated in the system officially. This will require sensitization of the senior officials, especially the Chief Wildlife Wardens of the affected states. As a next step to standardize the procedures, I recommend that the contents of these workshops in a concise form be provided to these officials. A common feedback from the participants after all the workshops was a request to provide the information related to various wildlife emergencies in a written form. Therefore procedures to handle wildlife emergencies should be compiled, with inputs from the experts and provided at field officer level.

I also feel that along with the local veterinary officers, final year veterinary students should also be sensitized. Periodical workshops can be conducted in the veterinary colleges.

The aim of these workshops was to expose the participants to the various procedures involved in dealing with wildlife emergencies and initiate the process of standardization of the procedures. In the course of our work on human wildlife conflict in Maharashtra over the last three years, the need to train forest department personnel in the techniques of chemical restraint was felt. But experience indicated that a broader training session, not limited only to chemical restraint is essential. The personnel had to be trained not only in handling wildlife emergencies but also informed of the science related to the conflict issue for optimum conflict management.