

Vol 2 | Issue 3
(July - September 2021)



ex-situ



Central Zoo Authority
केन्द्रीय विज्ञानाध्यक्ष प्राधिकरण



Ministry of Environment, Forest
and Climate Change

The Quarterly newsletter of
The Central Zoo Authority, New Delhi

UPDATES

75
Azadi Ka
Amrit Mahotsav



RESCUE & REHABILITATION

ZOO ZURICH | RAJKOT ZOOLOGICAL PARK

AZADI KA AMRIT MAHOTSAV

MUMBAIKARS FOR SGNP | THE RESCUE NARRATIVE

Contents

From the desk of the
Member Secretary

Tribute
Dr. V Krishnamurthy

Map
Rescue & Rehabilitation Centres

News & Events

Azadi Ka Amrit Mahotsav

Rescue & Rehabilitation - an Overview

Talking Heads
Mumbaikars for SGNP

The Rescue Narrative

CWRC - Kaziranga

Agra Bear Rescue Centre

People For Animals - Bengaluru

CBRC - Pakke

Leopard Rescue Centre - Manikdoh

Zoo in Focus - International
Zoo Zurich

Zoo in Focus - Indian
**Balasaheb Thackeray Gorewada
International Zoological Park, Nagpur**

Zoo in History
Rajkot Zoological Park

i

1

2

3

5

7

11

13

15

17

19

21

23

25

29



Vol. 1 | Issue 1



Vol. 1 | Issue 2



Vol. 1 | Issue 3



Double Edition
Oct 2020 - March 2021
Vol 1 | Issue 4
Vol 2 | Issue 1

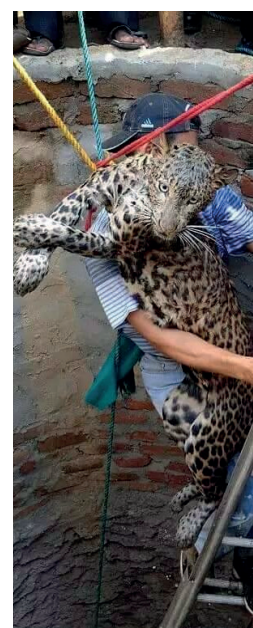


Vol. 2 | Issue 2

Cover Credit:

A Leopard rescue
at Guwahati,
Assam in 2009.

© Anupam Nath



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From the desk of the **Member Secretary**

An overly simplified description of the term Rescue is 'an act of saving or being saved from danger or difficulty'. When one considers this in the context of wild animals (and often people who are closely linked) the complexities are many. The growing anthropogenic pressures and demands on limited resources over the last decade or so have resulted in shrinking of available spaces invariably leading to human and wildlife interactions.

Zoos and state departments have taken on the challenges of this rapidly growing human animal interaction scenario and stepped in to play a small albeit significant role in the mitigation of the problem.

The first thought of any wildlife professional post a rescue is the rehabilitation (where needed) and the release of the animal back into its natural habitat. But as we go along, we see that this situation is now sometimes a pipe dream. Rescue centres have become a beacon of hope for a section of the animals

that are now living around human landscapes and thus often find themselves in a situation of "conflict". It is not only important for rescue and rehabilitation to go hand in hand but also for continued engagement with various stakeholders that have a strong interest in the welfare of the animals, people around and the society at large. Initiatives like the Azadi Ka Amrit Mahotsav thus take on a role of not just providing authentic information but also creating a bridge between the people and animals.

Albert Einstein once said "Our task must be to free ourselves by widening our circle of compassion to embrace all living creatures and the whole of nature and its beauty." We have some way to go.... But it is not without hope.

Dr. S. P. Yadav
Member Secretary



Tribute

Dr Vaidyanathan Krishnamurthy (1929-2002)

Text

Dr A J T Johnsingh,
Former Dean,
Wildlife Institute of India.

The most memorable time I had with the Elephant Doctor (As Dr V. Krishnamurthy was popularly known) was in 1991 when we were radio-collaring elephants in Rajaji National Park. Invited by Shri. H.S. Panwar, the then Director of Wildlife Institute of India, the Elephant Doctor, had come to Dehradun to help us with the radio-collaring program.

One fine morning in Shyampur Range, which is just outside the National Park, we located a large tusker peacefully feeding on the hill bamboo (*Dendrocalamus strictus*) and we decided to radio-collar it. According to the Doctor, whose experience with elephants was enormous, the bull was little over 10 feet and weighed little above 5 tons. The doctor prepared a dart with 3ml of IMMOBILON (Etorphine Hydrochloride) and assigned me the task of darting the bull.

I readily accepted the job as the breeze was from the bull and the morning sun was behind us. As a result, there was very little chance for the bull to detect me if my approach in the cover of a bush was silent.



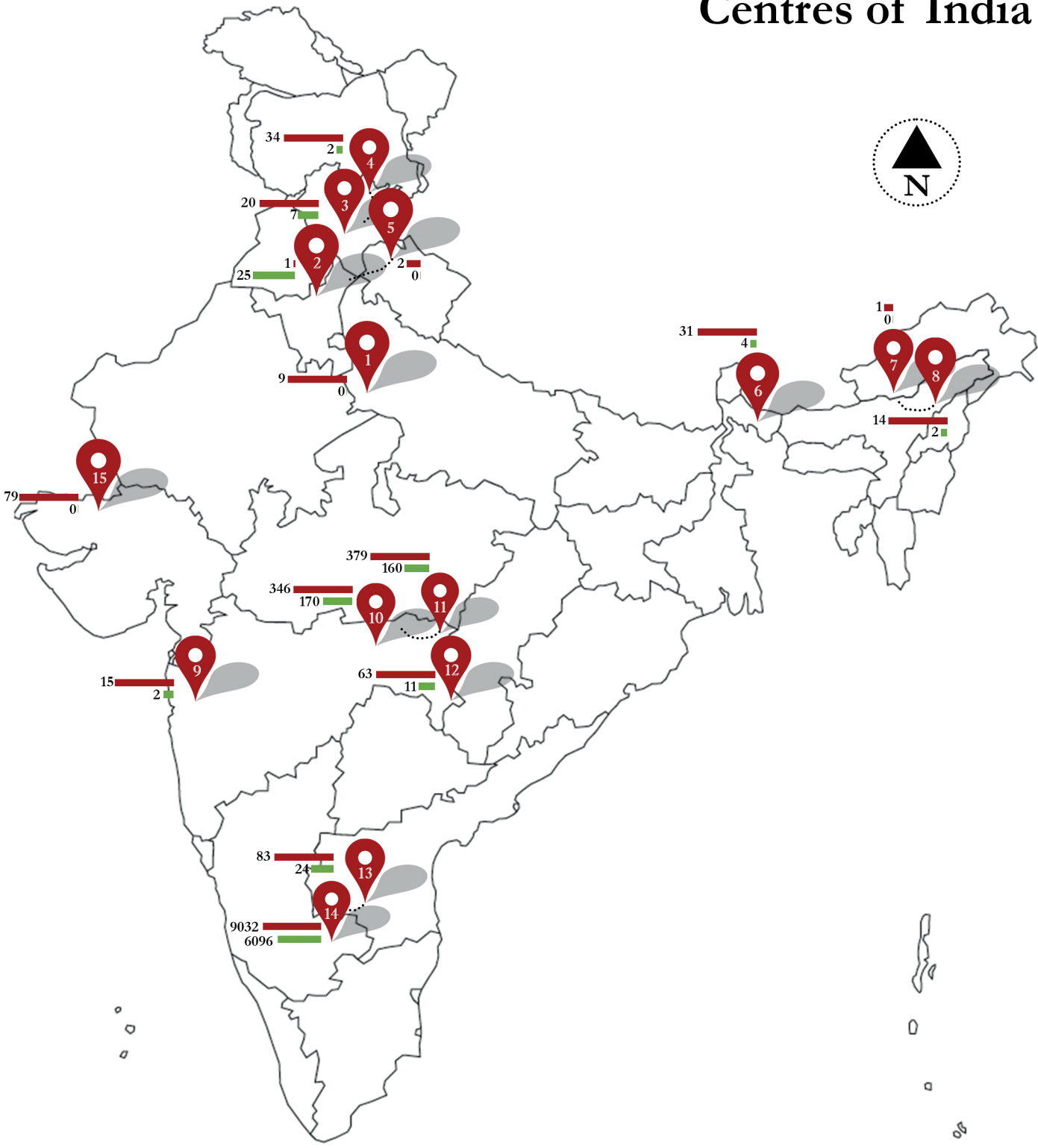
Dr V. Krishnamurthy radiocollaring "Big Boss".

Accompanied by an armed guard, who carried a double-barrel breech-loading gun loaded with two India made cartridges (later on another occasion we found that the cartridges did not fire !!!) I approached the bull and aimed at his massive rump as I fired the gun. Interestingly the dart left the gun like a rocket, made a buzz... buzz sound and landed between the two hind legs of the bull. The buzz.... buzz... sound attracted the bull's attention and made it turn around which was expected! prompted us to flee. But to our surprise, the bull was calm and continued to stay there and feed.

Finally in the second shot, we could tranquilise and collar the Bull which gave us some valuable information on his dispersal for the next 2 years. In all this, the Elephant doctor remained cheerful even though he had undergone a major surgery a few months ago.

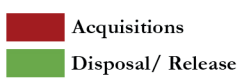
Although his parent department was Animal Husbandry, his name and fame blossomed with his posting at Mudumalai National Park's Elephant camp. Known for introducing 'humane' methods to capture, treat elephants he was the first to suggest 'elephant rejuvenation camps' for temple elephants which are followed to date. His writings and publications are a treasure house of information for the upkeep of the Gentle Giants.

Recognized Rescue Centres of India



- 1 Agra Bear Rescue Facility, Uttar Pradesh
- 2 Vulture Conservation Breeding Center, Pinjore, Haryana
- 3 Rescue And Rehabilitation Center, Tutikandi, Shimla, Himachal Pradesh
- 4 Nehru Pheasantry, Manali
- 5 CH. Surinder Singh Elephant Rescue Centre, Bansantour, Haryana
- 6 South Khairbari Rescue Centre, Madarihat, West Bengal
- 7 Centre for Bear Rehabilitation & Conservation, Pakke, Arunachal Pradesh
- 8 Centre For Wildlife Rehabilitation And Conservation, Golaghat District, Assam
- 9 Manikdoh Leopard Rescue Centre, Junnar, Pune
- 10 People for Animal Shelter House, Wardha
- 11 Gorewada Zoo And Wildlife Rescue Center, Nagpur
- 12 Amtes Animal Ark, Gadchiroli, Maharashtra
- 13 Karuna Wildlife Rescue and Rehabilitation Centre - Rayalseema
- 14 People For Animals, Bengaluru
- 15 Greens Zoological, Rescue & Rehabilitation Centre, Jamnagar, Gujarat

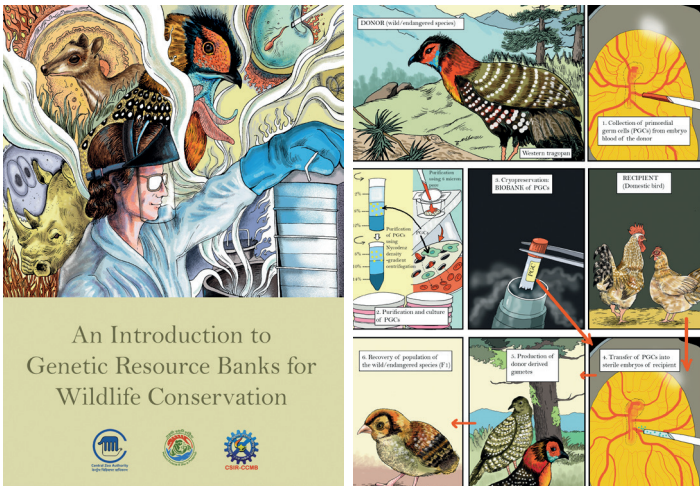
*Data from inventory submitted to CZA by the Rescue Centres (2015 - 2020)



News & Events

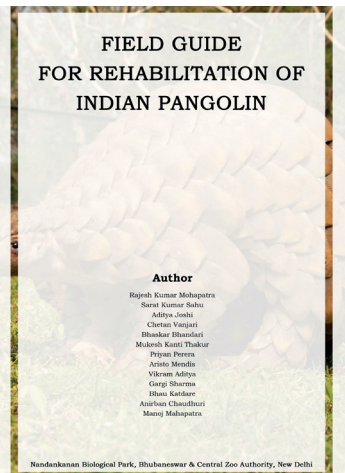
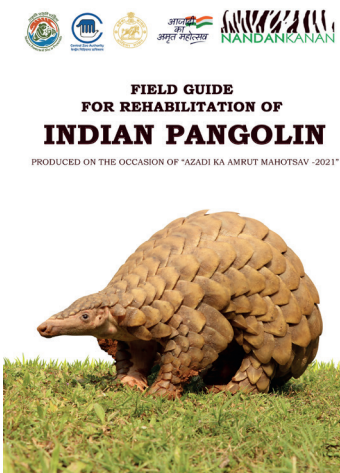
July 2, 2021

The Hon'ble Vice President of India visited the CCCMB-LaCONES, Hyderabad and released a book titled "Introduction to Genetic Resource Banks for Wildlife Conservation". The book is developed to handhold zoos on the adoption of efforts to cryopreserve tissues from animals in their zoos.



July 12, 2021

A 'Field guide for rehabilitation of Indian Pangolin' was released during the Azadi Ka Amrit Mahotsav function at Nandankan Zoological Park, Odisha.



July 25, 2021

The zookeepers at The Mumbai Zoo (V.J.B. Udyan and Zoo) underwent extensive training to better understand the finer aspects of working with animals. They were given insights into the safe and efficient restraining of crocodiles.

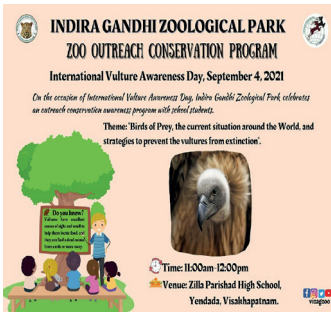
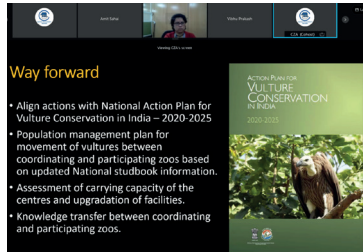


August 12, 2021
World Elephant day



September 4, 2021 International Vulture Awareness Day

On International Vulture Awareness Day 2021, the vulture breeding status, ex-situ & strategies to achieve mandates as per the Actionplan for its conservation in India were discussed by experts from IVRI, BNHS and Wildlife Institute of India.



The zoos celebrated World Elephant day, International Red Panda day, International Vulture Awareness Day, and World Rhino Day by means of conducting awareness programmes among public, especially school students.

September 20 - 21, 2021 Vulture Conservation Program

TECHNICAL WORKSHOP TO REVIEW THE CONSERVATION BREEDING PROGRAMME FOR VULTURES (*Gyps spp.*)

Date: September 20-21, 2021
Venue: VCBC Pinjore and UT State Guest House, Chandigarh, 160019, India

Day 1 **Day 2**

Registration

Session I - On site visit
Observations of the Aviaries and operation protocol

Plenary Session (Hybrid Mode)
Conservation of Vultures in India: Issues and Strategies
Action Plan for Vulture Conservation (APVC) in India, 2020-2025 and preparedness.

Session- II

- Presentation by coordinating and participating zoos and discussion
- Studbook management for Vultures

Session- III (onsite)
Animal Husbandry basics (with hands on demo on site)

- Husbandry and Care of Vultures at VCBC
- Artificial Incubation of Gyps vulture Eggs
- Practical demonstration of Artificial incubation using dummy eggs
- Veterinary Care of vultures at Vulture Conservation Breeding Centre

Session-III

- Capture, handling and marking techniques of vultures
- Enrichment techniques
- Health assessment

Session- IV (Hybrid mode)

- Vulture conservation- essential links between in-situ and ex-situ initiatives
- SWOT Exercise and planning for next steps

Valedictory ceremony



The technical workshop on CZA coordinated vulture conservation breeding program conducted a hands on training of vulture health assessment checkup, discussed the artificial incubation and husbandry techniques & practices undertaken at the Pinjore Vulture conservation breeding centre and concluded with a SWOT analysis for participating zoos & a plenary discussion on the way forward with Mr. Jagdish Chander, Dr Sonali Ghosh, Dr Bivash Pandav & Dr Vibhu Mathur.

September 22, 2021 World Rhino Day



Azadi Ka Amrit Mahotsav

Conservation to co-existence: The People Connect

March 15th 2021 - September 26th 2021

The Azadi ka Amrit Mahotsav conservation to co-existence: the people connect, the campaign to generate awareness on 75 species of conservation priority and 75 zoos has completed 29 weeks since its commencement on 12th March 2021 from the Veermata Jijabai Bhonsale Udyan and Zoo. The 29 zoos that have been highlighted so far have taken up community outreach and engagement through a variety of activities such as expert talks, competitions, guided tours of the zoo, cycle rallies, and awareness drives. We have clocked over 1300 hours of outreach activity till September 2021, covering 29 zoos and four biogeographic zones.



Dr. Bivash Pandav, Director, BNHS.

Dr. Sanjay Tripathi, Director, VJB Udyan & Zoo, Mumbai.

The talk discussed the future of elephants in the changing world in terms of adaptability and survival index and the transition of the zoo infrastructure for the betterment of animal welfare and management.



Dr. Shomita Mukherjee, Senior Principal Scientist, SACON.

Mr. Sunil Limaye & Mr. Mallikarjuna, SGNP & Zoo, Mumbai.

The talk discussed the elusiveness of the species in focus with observations being predominantly through camera traps and indirect signs and the future plan of expansion of the zoo from its existing infrastructure.



Dr. Nandini Rajamani, Assistant Professor, IISER Tirupati.

Dr. Rajkumar Jadhav, Director, RGZP & Wildlife Research Center.

The talk discussed phylogenetic classification of the species and the behavioral studies being undertaken on the squirrel and other sympatric species and a virtual tour of the conservation breeding facility and the zoo.



Dr. Manas Manjrekar, Deputy Director, Mangrove foundation.

Mr. Padesh Porob, Range officer, Bondla Zoo.

The talk was on the importance of habitat connectivity for the presence of Gaur and the translocation that was undertaken for its reintroduction in Bandhavgarh Tiger Reserve and the standard operating guidelines in development for mitigating human-gaur conflict.



Mr. C.K Vishnudas, Director,

Hume Centre for Ecology and Wildlife Biology.

Ms. Manjusha. S., Curator, State Museum and Zoo, Thrissur.

The talk discussed the origin of birds and species biology, and the conservation challenges and the history and current infrastructure of the zoo.

Compiled by

Arundhati Mohanty,
Senior Research Fellow,
Central Zoo Authority.



The Central Zoo Authority has been actively involved with the zoos in organizing expert talks every Wednesday from 04:00 to 05:00 pm since inception, and has hosted a total of 58 speakers for the species and the associated zoos clocking about 60 hours of knowledge sharing from March 2021 to September 2021.



Dr. Koustubh Sharma, International Co-ordinator and Scientist, Snow Leopard Trust.

Ms. Aparna Syal, Officer in charge, Kakatiya Zoological Park, Warangal.

The expert listed out research insights on the species biology and behavior from his work in Central India and an overview of the infrastructure, amenities, and management structure at the zoo.



Dr. Ajith Kumar, Primatologist.

Dr. Debasish Jana, Director, AAZP, Vandalur.

The talk discussed the leading factors that have led to declining species populations and the measures that need to be put in place to ensure stable population trends and the conservation breeding program for the species undertaken by the zoo.



Dr. Gigi Joseph, Assistant Professor, Nirmala College.

Mr. Abu Sivas, Director, Zoological Garden, Thiruvananthapuram.

The talk discussed the unique biology of the species and the management strategies in place for its conservation and the education activities being conducted with the schools and capacity-building training being held.



Dr. A.J.T. Johnsingh, Wildlife Conservationist

Ms. V.V.L Subhadra Devi, Curator, NZP Hyderabad.

The expert spoke on the elusive and shy mouse deer, the conservation challenges encountered in safeguarding the species, and the way forward.



Dr. Kaberi Kar Gupta, Founder-Director of the Urban slender loris project

Mr. Ajit Kulkarni, Executive Director, SCZG Mysuru.

The expert discussed the biology of the species and the conservation practices taken up for the species in urbanscapes through citizen science initiatives.



Mr. P. Gowrishankar, Founder-Director, KCRE

Mr. H.S Bhandary, Director, Pilikula Biological Park.

The experts spoke on the biology of the species, its ethogram, and the good practice guide for rescue and rehabilitation of the species, and the conservation breeding program of the King Cobras being managed in the zoo and the challenges faced therein.



Dr. Rajesh Gopal IFS, Secretary General, Global Tiger Forum.
Mr. Pramod Panchbhai, Divisional Manager, Gorewada Project.
 The experts discussed the dynamics of tiger conservation and the necessitation of Project Tiger implementation for conservation efforts and the inception of the zoo, the current setup, and the future plans in terms of layout and welfare.



Dr. Merwyn Fernandes, Program Coordinator, TRAFFIC-India.
Ms. Himasailaja, Curator, Sri Venkateswara Zoological Park.
 The experts discussed the distribution and resource partitioning of the species and the conservation threats it faces, and the status of the conservation breeding of the species in focus being undertaken at the zoo.



Dr. Bhaskar Acharya, Wildlife Consultant.
Dr. Nandani Salaria, Curator, Indira Gandhi Zoological Park.
 The expert discussed the level of interaction with humans and the conservation challenges afflicting the species and initiatives taken up by the different government and non-government organizations for species survival.



Dr. Anwarudin Choudhury IAS, The Rhino Foundation for Nature in the North East India.
Ms. Mercy Bella, Officer in charge, Nandanvan Jungle Safari.
 The experts discussed the current population status of the species, the recommendations for its conservation in the wild, and the conservation breeding program of the species undertaken at the zoo.



Prof. Krushnamegh Kunte, Associate Professor, NCBS Tata Institute of Fundamental Research.
Ms. Vanashree Vipin Singh, CCF & Executive Director, Bannerghatta Biological Park.
 The expert spoke on species distribution and biology, highlighting its endemism and habitat preferences. The website ifoundbutterflies.org, an online citizen science initiative to document butterflies in India was also explained during the talk.



Mr. Shrutarshi Paul, Wildlife Biologist, WII
Mr. Ajay Yadav, Director, Van Vihar National Park Zoo.
 The experts discussed the on-ground conservation and research work being done on the species and the infrastructure and the conservation breeding program at the zoo.



Dr. Manoj Nair, Senior Dy. Director, Lal Bahadur Shastri National Academy of Administration, Mussourie.
Mr. Manoj Mahapatra, Director, Nandankanan Biological Park.
 The experts discussed the natural history of the species and threats to its conservation and the uniqueness of the zoo and the conservation breeding programs undertaken by the zoo.



Dr. Harendra Bargali, Deputy Director, The Corbett Foundation
Mr. Y.K Das, Director, Bhagwan Birsa Biological Park.
 The experts discussed the on-ground conservation and research work being done on the species and the infrastructure and the conservation breeding program at the zoo.



Dr. M.K Ranjitsinh IAS (Retired), Government of India.
Mr. Bipul Chakravarty, Director, Tata Steel Zoological Park.
 The experts discussed the natural history of the species emphasizing the historical and prevalent status.



Dr. Shomen Mukherjee, Faculty, Azim Premji University.
Mr. Vijay Borana, Officer in Charge, and **Dr. Gyan Prakash**, Veterinary officer, Machia Biological Park.
 The expert spoke on the ecology and the research that has been done to further conservation.



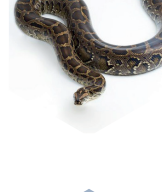
Dr. Bilal Habib, Scientist, Wildlife Institute of India.
Mr. Ajay Chittora, Officer in charge, Nahargarh Biological Park, Jaipur.
 The experts discussed the phylogeny of the species and the research being done to aid better management practices for conservation.



Dr. Diwakar Sharma, Director, National Conservation program, WWF-India
Dr. Ajit Uchoi, Officer in charge, Sajjangarh Biological Park.
 The experts spoke on the biology of the species and its resource utilization of habitat and the infrastructure and the enrichment that is being done for the animals housed whilst showcasing a few glimpses of the zoo.



Dr. I.P Bopanna, Landscape Coordinator, WWF-India.
Dr. Alok Nath Gupta, Officer in charge, Kota Zoo
 The experts spoke on the ecological and social research done to understand species biology and peoples interaction status.



Dr. C. Ramesh, Faculty, Wildlife Institute of India.
Dr. R.K Hirpara, Zoo Superintendent, Rajkot Zoological Park
 The experts discussed the research conducted to understand the biology of the species and the habitat utilization patterns.



Mr. Jose Louies, Deputy Director, Wildlife Trust of India.
Dr. R.K Sahu, Director, Kamla Nehru Zoological Garden.
 The experts spoke on the trade network surrounding the species and how the wildlife crime control department is safeguarding and rehabilitating the individuals seized.



Dr. Kausik Banerjee, Scientist, NTCA.
Dr. Abhishek Kumar, Director, Sakkarbaug Zoo.
 The experts discussed predominantly the habitat use and research technique employed in understanding the ecology of the species in the Gir landscape.



Dr. S.A. Hussain, Former Scientist, Wildlife Institute of India.
Dr. Rajesh Patel, Zoo Superintendent, Dr. Shyamaprasad Mukherjee Zoological Park.
 The experts discussed the long-drawn research that has been done on the species giving insights into behavior, ranging, and recommendations for conservation.



Dr. Nita Shah, Conservation Ecologist, BNHS.
Dr. Ram Ratan Nala, Director, Sardar Patel Zoological Park.
 The experts shared insights from the three-decade-long research work undertaken by her for understanding the biology and ecology of the species.

Rescue and Rehabilitation

An Overview

The Emerging Paradigm

Text & Photos

Dr Parag Nigam & Dr Anupam Srivastav,
 Department of Wildlife Health Management,
 Wildlife Institute of India.

Introduction

Rescue in the English term implies “to free or deliver from any confinement, violence, danger, or evil; to liberate from actual restraint; to remove or withdraw from a state of exposure to evil; as, to rescue a prisoner from the enemy”. Wildlife rescue however refers to operations that usually involve saving the life of the animal, or prevention of additional injury to the animal i.e. extricating the wild animal from an undesirable state. Wildlife rehabilitation on the other hand includes restoring wild animals back to their natural state. According to National Wildlife rehabilitator’s Association, USA, rehabilitation is referred as “treatment and temporary care of injured, diseased, and displaced animals, and the subsequent release of healthy animals to appropriate habitats in the wild” .

Frequently occurring situations that require human interventions are stated below:



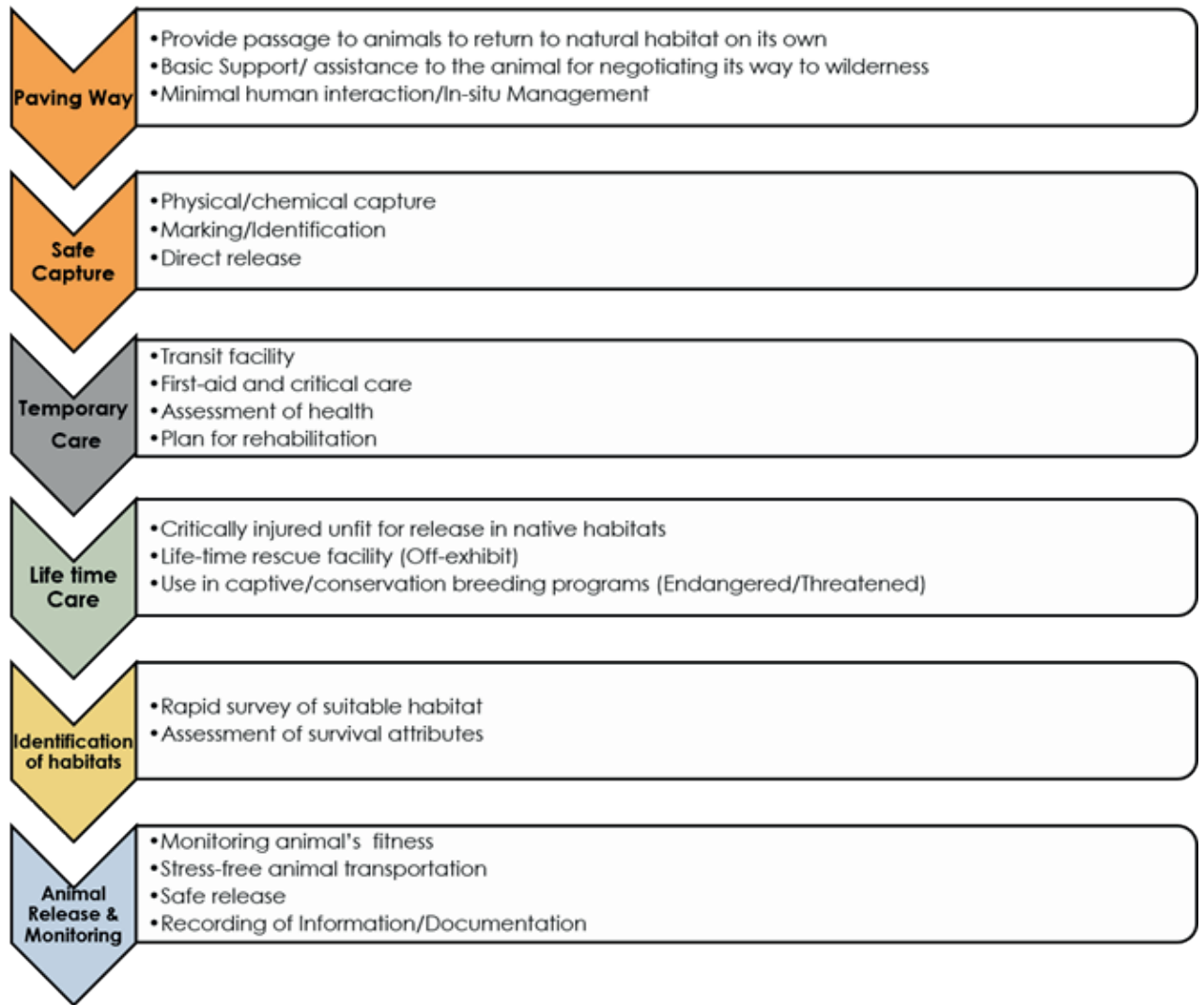
Dr Parag Nigam monitoring vitals of an immobilised Bengal Tiger



Dr Bijoy Gogoi rescuing a leopard cat from a well in Guwahati, Assam
 Source : Rituraj Konwar

| Rescue Situations | Description |
|----------------------------------|--|
| Displacement of animals | Wild animals often stray into human dominated landscapes and pose a threat to human life or property. These may occur as an outcome of anthropogenic activities. |
| Orphaned/ Displaced neonates | Animals that normally provide parental care to their young may get killed due to predation, disease or occasionally as an outcome of poaching. Additionally, natural calamities such as floods and thunderstorms may cause the separation of the neonates from their parents. Such orphaned/ displaced young animals often require human care specially in conservation-dependent species. |
| Sick Diseased or Injured Animals | Animals often get injured as a result of vehicular collisions, entrapment in traps and nooses, such animals require interventions in the form of rescue and long-term rehabilitation. |
| Confiscated animals | Live animals that are confiscated often are in a compromised state of welfare and may be encountered in areas outside their natural distributional range hence necessitating suitable rehabilitation. |

R&R Essentials



Rescuing wild animals and rehabilitating them back into the wild is both an art and science. The rescue effort requires a multidisciplinary team that is prepared with standardized procedures and plans for situations encountered routinely in their area of operations. The success of efforts is dependent on their skills, knowledge of the species to be handled, and availability of adequate infrastructure. This would ensure an informed decision-making process for deciding the fate of the animal and its placement in a suitable facility for rehabilitation or lifetime care. A multi-disciplinary approach integrating knowledge and experiences from various disciplines can greatly enhance the efficacy of the interventions being made and facilitate proper planning and preparedness for the successful management of animals in distress.

Globally, the rescue and rehabilitation of wild animals is largely supported by individuals, civil society organizations and specialized emergency response agencies. In India, we have added dimension of

government supported long term rehabilitation centres which are possibly unique and at the same provide examples of our country's conservation paradigm. Until new approaches evolve, one must try and strive towards maximizing animal welfare in captivity.



Transport cages for animals



Animals in distress that needed rescue



Credit: P R Masurkar

Talking Heads

Mumbaikars for SGNP

Text & Photos

**G Mallikarjuna¹, Dr Shailesh Pethe²,
Sunetro Ghosal³, Snowy Baptisa⁴,**
Sanjay Gandhi National Park, Maharashtra.



1. Conservator of Forests and Director. SGNP, Mumbai
2. Assistant Commissioner AH (Wildlife). SGNP, Mumbai.
3. Principal Investigator, MfSGNP Project. SGNP, Mumbai
4. Coordinator, MfSGNP Project. SGNP, Mumbai

Q: Please tell us about the Mumbaikars for SGNP concept. (e.g. When was it started, who are its members and what is the objective)

The Mumbaikars for SGNP project was initiated by Maharashtra Forest Department in 2011 mainly, to facilitate coexistence between humans and wildlife in and around Sanjay Gandhi National Park and enable humans to become more environment-conscious through participation in conservation initiatives. Sanjay Gandhi National Park is a unique, urban, Protected Area that is home to leopards (*Panthera pardus*) and many more protected species. This unique landscape has its own

challenges and lessons. Human-wildlife coexistence is an active process of living together and sharing resources rather than a passive resignation to each other's presence.

The project was visualised as a 'Citizen science' initiative to understand human-leopard interactions and proactively mitigate conflict. The project is designed around conducting research to understand human-wildlife interactions in the area and the application of resulting insights and evidence-based mitigation measures to manage such interactions. This has helped build capacity within the Forest Department by honing

their experience and creating new skill-sets to deal with various conservation challenges in the area. In addition, it has enabled various stakeholders such as residents living around Sanjay Gandhi National Park, personnel of the Police and Fire Department, municipal corporations, educational institutions, media establishments and various civil society organisations to participate in the conservation of wildlife in the area and support the efforts of Forest Department to manage human-wildlife interactions.

Q: What is your opinion was the turnaround moment in the conservation of leopards in the Borivali region of Mumbai (e.g. What attitudinal change has “Mumbaikars for SGNP” brought about)?

We consider wildlife conservation to be a constant process. The main success of the Mumbaikars for SGNP project has been the creation of synergy between the Forest Department and all stakeholders to facilitate human-wildlife co-existence in this area. This has allowed for a marked shift from confrontation, disagreements and conflicts to the coexistence of humans and wildlife. In the past, people would respond with panic, rooted in fear about wildlife species that live in this area, especially the leopard. In addition, there were public discourses of conflict fuelled by narratives of leopards as aggressive and ‘bloodthirsty beasts’. These discourses have now transformed to those of environmental consciousness and positive action. In addition, the project has also generated new knowledge on leopards and their interactions with humans, which in turn has helped improve conservation management interventions in the region.

Q: What are the current activities being undertaken? (e.g., can you share some data and statistics on the rescue and rehabilitation being done for leopards).

Currently, the project is in its second phase. The main focus is on implementing the research findings from phase 1 and meeting the overall objectives of the project. This includes building capacity with the Forest Department and internal coordination between different

sections of the department along with proactive coordination with various stakeholders such as local residents, municipal corporations, the Police Department, the Fire Department, educational institutions, corporate entities etc.

Q: What continues to drive the program and what are the processes in place for its evaluation and change?

There are several factors that have sustained this project. First and foremost is the sense of ownership that various stakeholders have over the project. This is especially true of local residents and the Forest Department. Secondly, the tangible outcome of the project is evident to all the stakeholders in terms of reduced conflict between humans and leopards. Thirdly, new knowledge is constantly being generated through this project, which allows it to evolve. Fourthly, many other agencies in India and overseas have shown keen interest in learning from this project and replicating it in their area to manage human-wildlife interactions and facilitate coexistence. Finally, this is a work in progress, which ensures that all stakeholders are engaging with each other to achieve the shared objective of conserving wildlife while also ensuring that people are safe.





Q: How does “Mumbaikars for SGNP” work with the department during rescue operations?

The Mumbaikar for SGNP volunteers is not directly involved in rescue operations. The SGNP Rescue Team carries out the actual rescue operations which include rescues of leopards, ungulates, reptiles and primates. The Mumbaikar for SGNP volunteers supports these interventions by facilitating coordination with Police and Fire Departments that provide support during such rescue operations. In addition, the project team also engages in dialogues with relevant stakeholders such as residents, media, and educational institutions in the wake of rescue operations to ensure that everyone understands the importance of taking precautions to ensure safety in this area.


Q: How would “Mumbaikars for SGNP” showcase the conservation to co-existence paradigm?

A stakeholder in this project is anyone who is involved or has interests in the Sanjay Gandhi National Park landscape, which includes the protected area as well as areas around it. The Forest Department, Police Department, Fire Department and the municipal corporations have a direct role to play in facilitating coexistence through their work in spreading awareness, rescuing animals, controlling crowds, managing waste and feral animal populations, providing street lights, building toilets etc. In addition, residents, builders, educational institutions, commercial establishments etc in this landscape also have a role in following precautions and working with various agencies to ensure that humans and leopards are able to share this landscape and its resources without causing any harm.



Credit: @MSgnp

What you MUST NOT DO:

| | |
|--|--|
|  <p>Crowd around the animal.</p> |  <p>Run away—this is a provocative sudden movement.</p> |
|  <p>Try to get close to the animal to take photographs, including selfies.</p> |  <p>Throw objects at the leopard.</p> |
|  <p>Shine light directly at the leopard.</p> |  <p>Crouch or kneel down—it may make you appear smaller</p> |



Q: What is the future of the rescued leopards, especially those which have been rescued young /unfit to release back into the wild?

If rescued animals are not fit for release, they will spend their lives in captivity. We are responsible for ensuring that they have a high quality of life with physical and behavioural stimulation. The SGNP Rescue centre for leopards is one of the better-managed centres of the country.

Q: What advice would you give to states who would want to replicate this model?

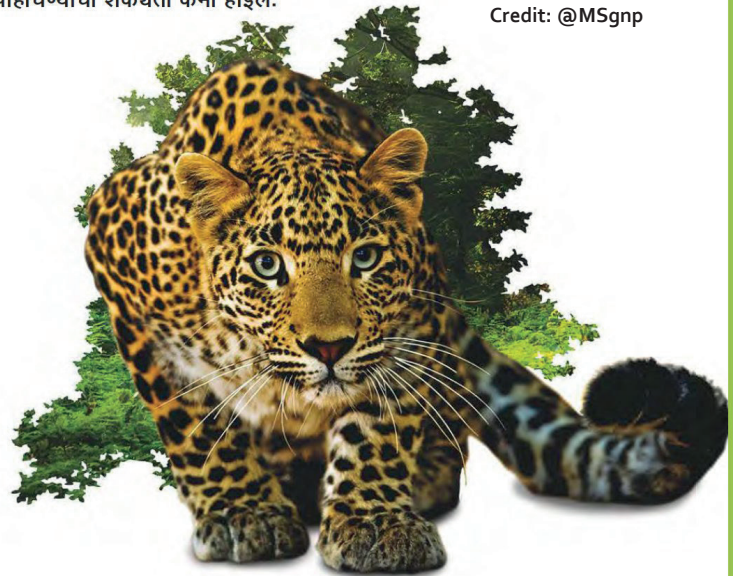
There is no easy formula for human-wildlife coexistence. Firstly, we need to understand the context in which humans are interacting including history, ecology, politics, and socio-cultural processes. These processes sustain a diversity of human-wildlife interactions ranging from conflict to coexistence. Secondly, there is a need for collaboration between different stakeholder groups as their interests are intertwined and interdependent. Dialogue is also important to resolve differences while maintaining a plurality of roles and perspectives. Lastly, critical research is important to generate relevant knowledge, identify shortcomings, catalyse innovations and implement mitigation measures.

बिबट्यांच्या सहवासात

बिबट्या हा संजय गांधी राष्ट्रीय उद्यानाचा व त्या सभोवतालच्या परिसराचा नैसर्गिक भाग आहे. तो अत्यंत लाजाळू असून, मानवांशी मुख्यतः संपर्क टाळणारा व अंधारात कार्यरत असणारा प्राणी आहे.

या परिसरात वावरताना, बिबट्याशी तुमचा सामना होण्याची शक्यता आहे. अश्यावेळी, हे काही सोपे उपाय पाळल्यास, तुम्हाला व बिबट्याला जोखिम पोहोचण्याची शक्यता कमी होईल.

Credit: @MSgnp





British Royal Visit to CWRC_2016. Credits: Idris Ahmed



Rhino calf rescued during a flood in 2016. Credits: Subhamoy Bhattacharjee

Centre for Wildlife Rehabilitation and Conservation (CWRC), Kaziranga

A second chance

Text & Photos

Dr. Rathin Barman,

Joint Director,

Wildlife Trust of India.

From stranded rhino calves in flood waters of Brahmaputra to accidentally electrocuted lorises, the Centre for Wildlife Rehabilitation and Conservation (CWRC) has handled it all. A facility located strategically in the buffer area of the Kaziranga National Park, CWRC entered its 20th year of wildlife rescue and rehabilitation on 28th August 2021. Over the years it has attended 6772 cases while presenting a success rate of 63.73% (animals released back in the wild). Behind the numbers is a highly dedicated team (supported by Assam Forest Department, Wildlife Trust of India and the International Fund for Animal Welfare) that is constantly in pursuit of excellence in wildlife care and rehabilitation.

The start of the journey

The wildlife rescue centre CWRC was envisioned to tackle one of the most serious wildlife calamities, recurring almost every year in the state of Assam, flooding. Home to over 38 species of mammals, including the iconic greater one-horned rhinoceros (*Rhinoceros unicornis*), Assam faces widespread floods almost annually, costing

hundreds of animals their lives. Back in 1998, there are records of about 40 rhinos and 1200 hog deer lost to floods. When Doordarshan, the national news channel, hosted a talk show about this, no one would have thought that the show would actually give birth to a concrete solution. But such is the power of the media and the bonding together of people from various walks of life for wildlife conservation.

About the centre

What started off as a temporary structure in the western range of Kaziranga has now grown to be the biggest centre for top-notch animal care in the whole country.

The current facility includes dedicated nurseries for large and small mammals and birds, big cat enclosures, an operating room (equipped with digital X-Ray and inhalation anaesthesia), a clinic, a necropsy room, paddocks and enclosures for large mammals, duty rooms and an office. Further, the centre is equipped with

transport crates for animals, birds and reptiles alongside a fully equipped all-terrain transport vehicle. All of this is managed by a highly dedicated team including two veterinarians.

During monsoons, and the resultant flooding of the Brahmaputra River, CWRC rescue team regularly attend to cases of greater one-horned rhinos, hog deer, leopards, tigers and elephant calves, among other species that have been displaced or injured. In the year 2019, the admissions during the floods were the highest and amounted to 5600 cases, including 57 mammal species, 142 bird species and 56 reptile species. When the centre is not treating animals admitted due to flood displacement, it is handling cases of injuries and serious medical conditions resulting from injuries from human-animal conflict (especially elephants), electrocution, stranding) chicks falling from nests accidentally or toxicity (particularly in case of vultures).

Apart from the routine jobs, CWRC also provides regular training to forest staff, wildlife veterinarians, students and volunteers. Hands-on training at CWRC, under the watchful guidance of the experienced vets and keepers, have imparted skill development training to more than 300 rehabilitators and 200 volunteers.

It's not just about Kaziranga

Though located in the Kaziranga National Park, CWRC attends to cases across Assam and beyond. To be able to serve the region, CWRC has established satellite Mobile Veterinary Service (MVS) units in different parts of the state. These units offer emergency response for rescue needs and assist in preliminary animal care. CWRC's Eastern Assam unit is situated at Dibru Saikhowa National Park and handles a high incidence of leopard interaction cases while the Western Assam unit, situated at Kokrajhar, caters to frequent cases of displaced small cats.

Some of the major achievements of CWRC has been rehabilitation of elephant calves in Manas National Park,

hand rearing clouded leopards and rehabilitating them in Ripu Reserve Forest (now notified as Raimona National Park), rehabilitation and release of Himalayan black bear at the Indo-Bhutan border and rescue and release of a male tiger in Manas (which was monitored through camera traps for six years). Today, about half of the rhinos (44 nos.) in Manas NP are linked to animals that have been rescued, nursed and rehabilitated from CWRC. The veterinarians from CWRC have travelled to countries like Cambodia to help with immobilising elephants. CWRC also oversaw a first-of-its-kind translocation of wild water buffalo from Manas NP to Barnawapara NP in Chhattisgarh to help the animal's dwindling sub-population in Central India. Another worthy achievement has been the mass translocation and reintroduction of Eastern Swamp Deer from Kaziranga NP to Manas NP with zero mortality.

An inspiration for wildlife rehabilitation in India

WTI's CWRC is one of the few centres equipped for life-time care of wild fauna. Its uniqueness has led it to be endorsed by the global conservation fraternity, political leaders, bureaucrats, eco-aware businesses, artists and celebrities. Through courses, workshops, and seminars under various disciplines linking to wildlife conservation, CWRC has been able to establish global support.. Madhumay Mallik, Wildlife Trust of India.

Morphometric measurements (canine). Credits: Subhamoy Bhattacharjee





Sloth bear (Elvis) on a tree at Agra Bear Rescue Facility
Credits: Shresatha

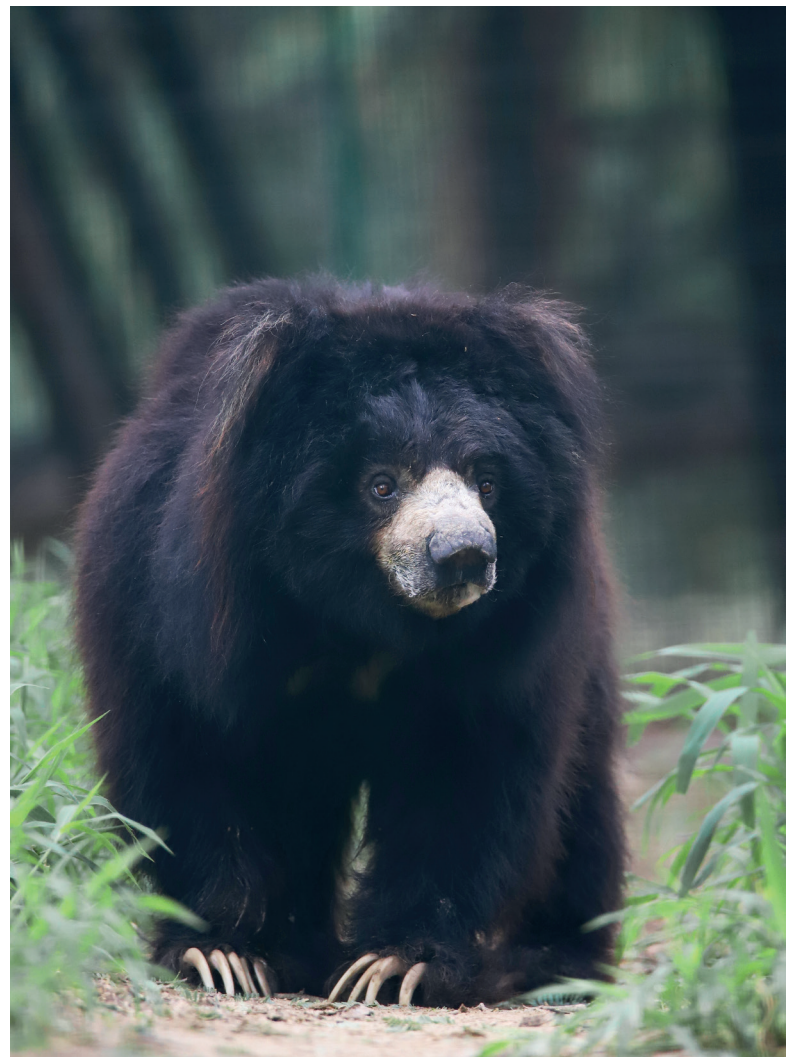
Agra Bear Rescue Facility

Text & Photos

Dr Baijuraj M V,

Director Conservation Projects,
Wildlife SOS

The Agra Bear Rescue Facility (ABRF) was established in the year 1999 by Uttar Pradesh Forest Department in collaboration with Wildlife SOS. The aim of this facility was to work holistically with the Kalandar tribal community and wean them away from the barbaric trade and cultural practice of 'dancing bears' that was prevalent until then in parts of the Indian Sub continent. While the families practising this trade were successfully rehabilitated through education and alternative livelihood programs, the 600 odd bears (largely Sloth Bear *Melursus ursinus*) rescued needed to be provided a safe and peaceful retirement home. This was necessitated as almost all of them were unfit for release into the wild due to past mutilations, physical and psychological trauma, and chronic illnesses. By the end of 2010, Wildlife SOS with support from CZA and State Forest Departments was able to successfully rehabilitate more than 600 bears



Sloth bear at Agra Bear Rescue Facility
Credits: Shresatha

from the streets to different rescue centers across the country.

ABRF, is nestled within the safe environs of Soor Sarovar Bird Sanctuary, and it is now home to about 115 sloth bears surviving into peaceful old age making it one of the largest such facility in the world. These bears are housed in large forested enclosures where they receive long-term medical treatment and care. At the center each bear is vaccinated against Rabies, Leptospirosis, and Infectious Canine Hepatitis. After the quarantine period, the bears have access to large socialization enclosures where the behavior & personality of each bear is closely monitored. Based on each bear's personality, he/she is matched to a group and then moved to a larger free-range area.

Equipped with a full-time team of wildlife veterinary doctors and a dedicated team of staff to care for the rescued bears, ABRF also undertakes advanced research, disease management and provides specialized veterinary care as well as geriatric care for sloth bears. The bear hospital is equipped with a pathology laboratory in addition to essential equipment like Thermal Imaging Camera, Digital X-ray, Ultrasound, Dental suite, Operation Theatre, and other equipment needed to meet any bear care needs that may arise. A special cub weaning area of the bear sanctuary is dedicated to foster bears cubs that may get orphaned or separated from their mother due to conflict or poaching. As the cubs require a lot of careful attention during the early months. The care continues while upholding the highest standards of animal welfare for the bears.

Agra Bear Rescue Facility
Credits: Wildlife SOS



Use of enrichment tools by a sloth bear at Agra Bear Rescue Facility
Credits: Shresatha

Agra Bear Rescue Facility
Credits: Wildlife SOS





Oral fluid administration in a rescued black kite

People for Animals, Bangalore

Urban Wildlife's Safe Space

Text & Photos

Colonel Dr. Navaz Shariff,

Chief Veterinarian & General Manager

People for Animals, Bangalore

Founded by four women in 1996, People for Animals, Bangalore (PfA, Bangalore) is a non-profit organisation and is Bangalore's oldest Wildlife Hospital.

In the initial years, though the purview was to serve all kinds of animals, PFA soon realized the necessity to look after the much-disregarded category of urban wildlife in the city. Campaigns were conducted against the exploitation of animals for circuses, ritual hunting in the neighbouring villages of Bangalore, and illegal camel slaughters caught the eye of the authorities and public alike and bore fruitful results.

Situated near Turahalli Forest, Karnataka, PFA's campus boasts a variety of wild plant and animal life. This is the optimal habitat for animal rehabilitation. Within this enriching environment, PFA operates 24/7, 365 days a year, to protect all kinds of urban wildlife.

The centre has multiple enclosures for different species of birds, reptiles, and mammals, all designed to provide its residents with a habitat where they can interact with their environment as they would in the wild.

From conducting awareness drives in schools, colleges, offices, and communities, to initiating special programmes, such as replenishing the water sources in fringe forests, PfA has been proactive in the conservation of the environment and wildlife in and around Bangalore over the years. To date, the centre has rescued over 29,000 urban wild animals, of over 200 species.

At the heart of PfA Bangalore is a team of veterinarians, rescue and rehab specialists who work round the clock to save, and care for, the urban wildlife of Bangalore.

The Hospital has a 4-step process - Rescue, Recovery,

Rehabilitation & Release. We have four rescue helplines and eight rescue ambulances that are active 24/7. Upon receiving a call on the helpline number, the rescue coordinator records the details such as nature of the incident, type of the animal and location of the caller.

One among the 6 trained rescuers is then dispatched to the specified location covering up to 50 km radius of the city. We also have a specialised ambulance designed to carry out rescues at a great height; this is imperative especially while rescuing birds stuck in Manja threads. Equipment like telescopic poles that can reach up to 80 feet, telescopic ladders, climbing kits ensures the team can access the animal at any height or depth. The rescuer then retrieves the animal and analyses whether it requires treatment, if so, it is immediately transported back to our hospital. If treatment is not required, animals are released back into a suitable habitat surrounding the location of retrieval. Once an animal is brought in for treatment it is taken to our ICU where a trained veterinarian is assigned. Said veterinarian, upon observation of the injuries, treats the animal and sets it to rest in an enclosed, sanitary space.

As the animal recovers, it is moved to an enclosure closer to its natural habitat so that it may acclimatise to the environment. This process allows the animal to regain the skills it requires to survive in its natural habitat. Through the period of recovery and rehabilitation animals are closely monitored and taken care of by the staff and doctors. Once deemed fit, it is transported back to its natural habitat and released. Animals with permanent injuries or disabilities are cared for at the centre for the rest of their life.



Radiology exam (xray) in a bird



Feeding of squirrel pup



Subcutaneous fluid administration in a snake



Turtle shell fracture repair

Hand feeding a Mynah





Orphaned bear cub at CBRC. Credits: Madhumay Malik

Centre for Bear Rehabilitation and Conservation (CBRC), Pakke

New Strides in Bear Rehab

Text & Photos

Madhumay Malik,

Wildlife Trust of India.

A unit of the Centre for Bear Rehabilitation and Conservation (CBRC), dedicated to the rescue and rehabilitation of Asiatic black bears, has successfully released 44 animals back in the wild. The facility was established back in 2003, in partnership with the Arunachal Pradesh Forest Department and the International Fund for Animal Welfare (IFAW). The goal was to rehabilitate the orphaned bear cubs to ensure their safe return, back to the wild.

The reason for CBRC

The Asiatic Black Bear (*Ursus thibetanus*), currently listed as vulnerable by the IUCN Red List of Species, is threatened by poaching and increasing anthropogenic pressure on its habitat. Its body parts, especially bile and

pelt, are used in traditional Chinese medicine. Arunachal Pradesh, being the easternmost state bordering China and also hosting a sizable population of these bears, consequently reports a high number of such incidents. In all poaching cases, the mother bear is killed, leaving the dependent cubs orphaned. Up until the establishment of a facility like CBRC, these bear cubs would end up in lifetime care.

Growing up at CBRC

CBRC's 1.244-hectare facility has been designed as per the guidelines of the Central Zoo Authority and is a recognised "Rescue Centre". Already a habitat for Asiatic black bears, Pakke offers the perfect environment for acclimatization of rescued bear cubs. Apart from the main

holding facility for young cubs, CBRC also establishes temporary field camps in suitable release sites within Pakke Tiger Reserve for ease of final acclimatization and soft release.

Usually, it takes between 12 and 16 months for a rescued neonate to be deemed fit for wild release. During this period, bear cubs (depending on the age at admission) are hand-reared by a trained and dedicated staff, consisting of animal keepers, biologists and a veterinarian. The animals are frequently screened for diseases and physical as well as behavioural problems (that might affect their impact potential survival in the wild. As they grow up, the young bears are moved to the forest and allowed to acclimate to the natural environment so that they can hone their skills. The acclimatization follows a simple natural logic: Instead of the mother taking them for walks in the forest and introducing them to life in the wild, a dedicated animal keeper walks the cubs for 5-8 months. They are deemed fit for release when they prefer surviving on their own in the wild rather than coming back to the temporary holding facility at the release site. Each of the released bears is marked with a micro-chip and tracked and monitored for range utilization and survival data using radio collars.

It's not just about bears though

Alongside specialized bear rehabilitation, CBRC also frequently assists the local forest department in attending to wildlife emergencies reported from the region. The veterinarian conducts diseases investigation activities, necropsy, treatment and eventual release of any animal.



Bear cub at bear walk. Credits: Panjit Basumatary

CBRC also conducts workshops for forest staff, local youths, students and interested volunteers to teach the intricacies of wildlife conservation and how they can be a part of the same. Lastly, the centre also supports community awareness programs from time to time.

The learning and way ahead

CBRC has been able to successfully hand raise and releases 44 bear cubs in the wild. The success also encourages the easy and swift transfer of rescued orphaned cubs from other areas including the neighbouring states of Assam, Tripura and Meghalaya to be inducted into rehabilitation programs at CBRC or elsewhere. Working with the communities alongside is also a way to encourage local protection to species. Until the threat to Bears from human greed is completely curbed using legal measures and awareness programmes, CBRC hopes to continue to play an important role in giving orphaned bear cubs a second chance in the wilderness.



Bear cub at bear walk. Credits: Panjit Basumatary



Bear Walk at Pakke TR. Credits: Amrit Menon



Manikdoh Leopard Rescue Centre, Junnar

LOST AND FOUND - Successful Reunion for Sixteen Leopard Cubs

Text & Photos

Dr Nikhil Bangar,
Veterinary Officer,
Wildlife SOS.

Leopards have always been the main carnivorous species in and around the area of Junnar. Junnar Forest division of Maharashtra Forest Department has witnessed quite a surge in leopard population in the last couple of decades; For this reason, Maharashtra Forest Department commenced a Leopard Rescue Centre at Manikdoh, Junnar in the year 2002. Since 2007, the center has been scientifically managed and improvised by Wildlife SOS and big cat experts, under the guidance and collaboration with Maharashtra Forest Department.

One of the major contributing factors being, the increased sugarcane crop cultivation. The land availability, with recent advances in irrigation techniques and construction of dams, has allowed the smoothening of this transitional curve of cropping pattern from food crops to cash crops (sugarcane cultivation). Exploiting survival opportunities in this unnatural alternative ecosystem,

the local leopards have adapted well to these dense sugarcane fields, without any interference from human sources; until the time of harvest.

However, harvesting periods typically coincide with the time when female leopards nurse their neonatal cubs. Encountering such unguarded litter; can be identified as the new face of Human-Leopard Conflict; unlike the classical incidences of livestock depredation or leopard attacks on localities. Such cubs are generally not more than a few months old, vulnerable, and completely at the mercy of their mother's protective instincts. This is where the "reunion of neonates" protocols essentially come into play; which involves integrated efforts from the Maharashtra Forest Department Officials, Wildlife SOS an Indian NGO, and the sighting alerts generated by the local population or Villagers Rescue Team. A commendable initiative of team and Maharashtra Forest Department,

Wildlife SOS, MLRC, and the Villagers Rescue Team (VRT) which is a one-of-a-kind volunteer's group. VRT is working for the welfare of animals in and around Junnar Forest Division is one of its kind of volunteer's groups all across the country. The following details from the year 2021 briefly describe the increasing incidences of leopard cub sightings, as well as timely interventional rescue and rehabilitation details that aid a successful mother-cub reunion.

When cubs were found during harvesting season, two teams JFD-MFD and WSOS-MLRC are dispatched from their location, who try to reach the spot as early as possible. Then, cubs are placed in a safe, ventilated cat carrier and the team departs from the location for further procedures such as a thorough physical examination and age estimation by the wildlife veterinary officer of the leopard rescue center.

Once the health status of cubs is found optimum, they are confirmed as "fit for reunion" to release and the team would proceed for reunion attempts with the mother. As the dusk falls, they are taken back to the exact location from where they were reported/found and carefully monitored using an IR camera trap. Early in the morning, with the first light, rescue team members visit the spot and confirm if the reunion is a success or not. In addition, the same is also confirmed by visual evidence from the IR camera traps.

All reunion events are documented using a specially designed datasheet which includes, time and location details of the rescue. It is hoped that scientific management will help humans and leopards cohabit in the landscape.

Female leopard investigating the cub during the reunion attempt



Physical examination of a leopard cub



Microchipping cub prior to release



Preparation for reintroduction with mother





Grevy's zebra at the Lewa Savanna exhibit. The bottle-shaped tree is a replica of the African Baobab tree, a typical element of the East African savanna vegetation. Credits: Zoo Zurich, Martin Bauert

The indoor enclosure of the Kaeng Krachan Elephant Park is roofed by a wooden construction. A group of three asian elephants is taking an afternoon nap. They are not disturbed by the visitors. Credits: Zoo Zurich, Cordula Galeffi.

Zoo in Focus - International

Zoo Zurich

Text & Photos

Dr. Martin R. Bauert and Dr. Pascal Marty,
Head of Conservation and Communication Curator
Zoo Zurich, Switzerland.

Above the city of Zurich, comprising an area of approx. 27 hectares, lies Switzerland's largest and most frequently visited cultural and educational institution, the Zoo Zurich. This popular destination aims to connect people and animals, thus encouraging the visitors to play an active role in conservation and the protection of species.

At its opening in 1929, the Zoo Zurich was a classical «living museum», exhibiting as many exotic animals as possible. Today, the Zoo has transformed into a centre for the conservation and preservation of species and welcomes around 1,2 million visitors a year. The Zoo Zurich strives to inform and educate visitors, encouraging them to get involved in conservation. According to its motto, «only people who know animals will protect them», the Zoo aims to act as an intermediary, creating a relationship between the visitors and the animals.

Since 1990, the Zoo Zurich has changed substantially. Spacious, naturalistic enclosures gradually replaced the traditional animal cages. Visitors nowadays experience animals in a unique manner in enclosures resembling



Goran Basic _Lewa Savanna White rhinos
Credits: Zoo Zurich, Cordula Galeffi.

the animals' natural habitat. Therefore, exhibitions representing habitats such as Madagascar, the Himalayas, Australia, South America, or, since last year, East Africa, represent some of the highlights of the Zoo. Following, three outstanding exhibitions are presented, all closely linked to a significant in-situ conservation project.

The Zoo Zurich committed to global conservation

As a conservation centre, the Zoo Zurich engages in eight core conservation partnerships for the in-situ protection of species and their habitat. These partnerships are linked to the most important animal exhibitions and are focused on globally important regions for the preservation of biodiversity. The Zoo Zurich contributes around 2 million US\$ a year towards in-situ conservation projects.

The Masoala Rainforest exhibit, for example, is

internationally recognised as an outstanding and innovative conservation partnership between the Zoo Zurich and the Masoala National Park to preserve Madagascar's dwindling rainforests. The Zoo Zurich's engagement in the long-term conservation of the Masoala National Park was awarded the prestigious conservation award by the World Association of Zoos and Aquariums in 2019.

Worldwide networking for the preservation of species

To contribute to the preservation of species, the Zoo Zurich is involved in international breeding programmes such as the EAZA Ex-situ Programmes (EEP). Amongst other species, the Zoo Zürich manages the European breeding program of the galapagos giant tortoises. Thanks to its membership in the World Association of Zoos and Aquariums WAZA and its European counterpart EAZA, the Zoo Zurich has built up an international network to strengthen its conservation efforts.

Asian elephant swimming in the indoor pool of the Kaeng Krachan Elephant Park. Visitors can observe the elephants through a panoramic window.
Credit: Zoo Zurich, Enzo Franchini.



Figure 1: The Masoala Rainforest exhibit is spanned by a 30 meter tall and 90 meter wide, highly translucent ETFE roof construction. Credits: Zoo Zurich, Martin Bauert.



Figure 2: Canopy walk within Masoala Rainforest exhibit. Visitors can reach the canopy to observe lemurs, birds and fruit bat on treetop level. Credits: Zoo Zürich, Corinne Invernizzi.





Hospital facility

Zoo in Focus - Indian

Balasaheb Thackeray Gorewada International Zoological Park, Nagpur

The 7R's of Wildlife Conservation: Beyond Rescue and Rehabilitation

Text & Photos

Kolangath S.M¹ & Panchbhai P.B.²

Subject Matter Specialist (BTY), Wildlife Research & Training Centre, Gorewada, Nagpur¹
Divisional Manager, Wildlife Rescue Centre, Gorewada Project, Nagpur²

Rescue centres are institutions that have contributed to the conservation of wildlife through veterinary intervention, treatment, rehabilitation and research. Though the history of wildlife rescue centres in India is only a couple of decades old, the last decade has seen rapid growth in the number of rescue centres across the country. Maharashtra has been at the forefront in adopting and erecting infrastructure dedicated to wildlife rescue. In 2011, the government of Maharashtra decided to establish an International Zoo at Nagpur, the project also proposed the establishment of a Wildlife

Aerial view of the facility



Times of India



@vijaypTOI

Bengal Tiger (Sahebrao) resting on a raised platform at the rescue centre

Rescue Centre (WRC) under the project. To cater to the needs of the ailing and sick animals, Wildlife Research & Training Centre (WRTC), Nagpur was established with an MoU between Maharashtra Animal & Fishery Sciences University, Nagpur and Forest Development Corporation of Maharashtra Ltd., Nagpur. To sum up the role and activity of a Wildlife Rescue Centre, Gorewada, Nagpur; a concept of 7R's has been proposed.

Rescue: Wildlife in all parts of the country are experiencing increasing anthropogenic pressure. A recent survey in Maharashtra state alone reported 88 human deaths due to human-wild conflict. In such a situation, incidents of wildlife entering human habitation, automobile accidents, incidents related to snaring, etc may warrant a rescue. The Wildlife Rescue Centre through WRTC channels training for field veterinarians and rescue staff on a regular basis. Basic training on tranquilization, management of emergencies, transportation of wildlife etc. is provided to the trainees.

Remedy (Treatment):

There are numerous challenges in the treatment of wildlife including capture stress (eg. cervids),

availability of drugs in required dosages (eg. elephants vs mouse deer), availability of compatible feed during hospitalization (eg. pangolin and insect-based feed), the feasibility of veterinary intervention (fracture of limbs in megaherbivores) and availability of specialised facilities for treatment of wildlife. At the Wildlife Rescue Centre, the need for invasive intervention is weighed against the benefits of the intervention. In recent years, through experience and trial and error, the centre has recognised the fact that minimum intervention can at times be the best way to treat wildlife.

Restraint in a squeeze cage for a blood draw in a Bengal tiger



Rehabilitate:

Many of the rescued wildlife that is brought to the rescue centre is compromised and will not survive in the wild due to disabilities arising from trauma. Such animals need support and care for life. A rescue centre is a place where injured wildlife is treated and supported to lead a normal life through rehabilitation. Rehabilitation may take weeks to months. Dedicated efforts to improve the quality of life are key to successful rehabilitation. In many cases eg electrocution in monkeys, a part of the body like a forearm is lost, these animals need life care. The centre caters to the needs of such animals.

Release:

'No rescue of wildlife is complete without its successful release in its natural habitat'. There are numerous factors that determine this. The prime factors that influence the suitability of the wildlife to return to its natural habitat are age of the animal, nature of injuries, any resulting incapacity, duration of captivity (habituation/imprinting) an An unsuitable release can not only jeopardize the survival, but also can flare up human-wildlife conflict owing to the aberrant behaviour. Despite the above factors, the centre has managed to contribute to the release of many wild animals in their natural habitat.

Rearing:

The most critical responsibility is the hand-rearing of neonates that are separated from their mothers. Every year an array of neonates ranging from large carnivores to herbivores are received at the Wildlife Rescue Centre for

care and rehabilitation. The majority of these neonates are received during their first month of life. Hand rearing is a critical operation as it involves diligent supervision and dedicated efforts to minimize infection. Feeding is a challenge; appropriate nutritional supplementation compatible with the species is crucial to ensure weight gain and health. The rescue centre has reared more than 100 neonates since its inception in 2018. The Centre has managed to develop protocols for hand-rearing opraah leopards, sloth bear, blue bull spotted deer, blackbuck, monkeys and tigers.

Reach (Extension / Outreach):

Conventionally, wildlife rescue centres are closed to visitors and the general public; however, the Wildlife Rescue Centre, Gorewada has found an innovative means of interaction with the general public through the digital platform. The Wildlife Rescue Centre has initiated school level debates on environmental issues, expert panel discussions, etc to sensitize the general public on the importance of wildlife conservation. In 2020-2021 alone the wildlife rescue centre and wildlife research & training Centre has organised more than 12 international & national webinars for the stakeholders. The centre also co-organised the International Conference WILDCON 2020 under the theme 'Insights into Wildlife Conflict, Rescue and Rehabilitation: Challenges and Opportunities for Conservation that saw a participation of over 588 participants from India and abroad. School visits and engagement help in communicating the message to young minds that are inspired and sensitized through such interactions. Various competitions like drawing, essay and story writing are organized to encourage the involvement of youngsters in the conservation efforts.

Reveal (Educate/ Train):

A Wildlife Rescue Centre can be a place for learning many disciplines of science including zoology, biology, biotechnology, veterinary science and forestry. The Wildlife Rescue Centre and Wildlife Research & Training Centre, Nagpur have been involved with the capacity



building of the field staff of the Maharashtra forest department through exposure visits and training. The centre also hosts interns from backgrounds of zoology, biotechnology and veterinary science. The faculty of WRTC trains interns through lectures, field visits, practicals and demonstrations. The centre provides first-hand exposure to wildlife health management to veterinary graduates and postgraduates, thereby strengthening and elevating the standards of veterinary education in Maharashtra. The collaboration of the Maharashtra Animal And Fisheries Sciences University and Wildlife Rescue Centre has been a win-win situation for all.

Research:

As per a report published by the Wildlife Institute of India, 16% of deaths in tigers are due to infectious causes. However, with the expertise and facilities available in the forest and zoos, aetiology or cause of death can be estimated only to the systemic level. The need for a pinpoint diagnosis is the need of the hour. Research in a setting like a rescue centre is critical as this can become a connecting link between wild and captive animals. Thus, rescue centres with robust technical capabilities can provide critical inputs that can be crucial to wildlife conservation. The Wildlife Rescue Centre along with the Wildlife Research & Training Centre has been able to detect important pathogens of concern in various wildlife.

Rescue centres are uniquely placed institutions that can contribute not only to the care and treatment of wildlife in distress but also can be a guiding light for research and extension in wildlife conservation. Considering the current scenario of wildlife conservation in India, rescue centres can make a wholesome contribution to the cause of wildlife conservation.



Shifting an immobilised tiger



Surgical intervention at the rescue centre hospital





Kanak Circle



Inauguration of the Zoo



Visitors at the Old Aji Dam Zoo in 1987

From the pages of History

Rajkot Zoological Park, Rajkot

| | |
|---|---|
| Text | Photos |
| Dr. R.K.Hirpara, Zoo Superintendent, Rajkot Zoological Park. | Ravi C Chauhan, Zoo Biologist, Rajkot Zoological Park. |

Rajkot Zoo has an unusual history linked to a dam built on Aji river in the year 1987. To provide recreation to the local public a small deer enclosure was constructed. By end of February 1992, Asiatic Lion, Bengal Tiger, Leopard, Himalayan Black Bear, Blackbuck & Crocodile were housed in the old fashioned enclosures. The Mini zoo did not match standards set by CZA, hence its closure was recommended by CZA after its evaluation in 1997.

Instead of Closing the old Zoo, Rajkot Municipal Corporation then decided to create a state of an art new zoo at the new location. With that vision, a new modern zoological park in an extensive area known as "Pradyuman Park" situated about two kilometres away from the existing old Mini zoo was conceptualized. Inaugurated in 2010 by the then Chief Minister of Gujarat and now the Prime Minister of India, Shri Narendra Modi, the zoo now covers a scenic area of 55.37 hectares



area which is undulating with ridges and valleys and surrounded by two big lakes - Lalpari and Randarda. Since then, he has been very keen on the Zoo and its importance for Conservation and Education. At present, the zoo is developing its infrastructure and environment-friendly ecosystem for visitors. The zoo houses 55 species of Mammals, Birds and Reptiles with 446 individuals. It is also a participating zoo for the Asiatic Lion Conservation Breeding Program of CZA and has successfully bred 49 Asiatic Lion cubs to date.



Central Zoo Authority

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