

GUIDELINES/ NORMS FOR CONSERVATION BREEDING PROGRAMME OF THE CENTRAL ZOO AUTHORITY

(Approved in the 60th Meeting of the Technical Committee of Central Zoo Authority held on 14th December 2011)

The CZA had already identified 73 species for planned conservation breeding programme. Out of that, CZA has prioritised around 35 species for providing financial assistance to zoos. 18 species have already been taken off for establishing off-display conservation breeding programmes (CBP) in different states.

It was observed that each species identified for conservation breeding (CB) should have a recovery plan for each species and must decide right from the onset of programme as to how many number of founder animals required for the programme. It is observed that there should be continuity of the staff (especially the project manager) and funds for the success of the programme. The prioritization of the species should be based on the field condition and each CBP should have linkage with in-situ conservation programme. Scientific partnership with institution in each programme has to be ensured to provide latest input & finding of research.

The guidelines & norms developed by the CZA for conservation breeding programme of endangered species in zoos are given as below:

(1). Eligibility:

Coordinating zoos which have been identified for species will be eligible for receiving financial assistance for establishing off display conservation breeding centre (CBC) and the participating zoos for improvement in the existing enclosure from the Central Zoo Authority.

(2). Pattern of funding:

The CZA would provide 100 % financial assistance for coordinating zoos and for improving the existing enclosures in participating zoos.

(i). Coordinating zoos:

The Coordinating zoo shall create a housing facility as per the design approved by CZA in off-display area of the conservation breeding centre. It was decided that the CZA shall provide 100% funding for the establishment of the facility. The maintenance of the off display conservation breeding centre shall also be funded subject to the availability of fund with the CZA on that point of time. Following items may be considered by the CZA while providing fund to zoos or state under the CBP:

(A.) Non-recurring:

- (I) Construction of off-display enclosures including feeding/retiring cell, kraal, paddock (herbivores), water facility, approach road or service path, power fencing, animal kitchen, store and enrichment artifacts etc.
- (II) Fencing around the CBC.
- (III) Material for the marking of animals (radio transponders & applicator, receiver, leg bands & applicator, and ear tags & applicator).
- (IV) Construction of Project office if require.

- (V) Animal quarantine or isolation ward (away from zoo/CBC).
- (VI) Squeeze cage and transportation cages or box as per the need.
- (VII) Treatment kits, medicines and tranquilizing equipments.
- (VIII) Kitchen utensils and food storage facility (freezer)
- (IX) Computer, printer and UPS.

(B.) Recurring:

Financial assistance to CBC for the following expenditure will be made in project mode by CZA depending on availability of fund:

- (I) Hiring of a biologist (one number)
- (II) Hiring of a Veterinary assistant (one number)
- (III) Hiring of a keeper (one number)
- (IV) Food (subject to the availability of fund).
- (V) Medicines and tranquilizing drugs.
- (VI) Photos, printing, publication of reports etc.
- (VII) Maintenance, cleaning and sanitation of enclosures and in and around.
- (VIII) Annual maintenance of water, electricity, paints etc.
- (IX) Stationary item.

(ii). Participating zoos:

(A.) Non-recurring:

- (I) Improvement in existing display enclosure including feeding/retiring cell, kraal, feeding shed, water facility, power fencing, kitchen, store and enrichment artifacts etc.
- (II) Material for the marking of animals (radio transponders & applicator, receiver, leg bands & applicator, and ear tags & applicator).
- (III) Improvement in animal quarantine or isolation ward.

(3). Initiation and duration of the project:

The project shall be considered initially for the period of five years for each species with yearly break up of activities. This project should be submitted to CZA through Chief Wildlife Warden of the concerned states.

Note: The zoo where CBC has already been taken off by constructing enclosures etc thus should also initiate the proposal i.e. preparation of project for 5 years.

(4). Processing of project proposal:

- (i). Preliminary screening at the CZA.
- (ii). Field appraisal of the site.
- (iii). Scrutiny of layout plan and design of animal enclosure by Expert Group of Zoo Designing of CZA.
- (iv). Approval for the project by the Technical Committee of the CZA.

- (v). Approval of Conservation Breeding Centre (CBC) from the governing body of CZA i.e. Authority.

(5). Sequence of steps to be adopted for the conservation breeding as per the guidelines ahead issued:

1. Identification of founders
2. Marking of founders (transponders, ear tags or rings)
3. Preparation of animal history sheets and animal observation sheets of the identified founders by the zoos
4. Compilation of Studbook by the National Studbook Keeper.
5. Liaison with the International Studbook Keeper of the species (if any)
6. Possibility of acquiring the founders from foreign zoos (if required) and details of the zoos from where founders can be acquired
7. Physical health check-up of the founders using the veterinary hospital in the Zoo as well as National Referral Centre (Indian Veterinary Research Institute, Bareilly)
8. Genetic health check-up of the founders using blood samples or body parts with help from LaCONES, Hyderabad
9. Engagement of Technical Assistant (Biologist, Veterinary assistant etc) in the coordinating Zoo.

Note: The zoo where CBC has already been launched by constructing enclosures etc, should ensure all these steps are followed & complied.

(6). Staff pattern:

The CZA will provide fund for hiring of a biologist, a veterinarian or veterinary assistant and a keeper. Remaining supervisory or additional staff has to be matched by the concerned zoo or state government.

(7). Release of fund:

Annual release of fund would be made as follows:

- (i) 50% of the approved grant as first installment
- (ii) 30% of the approved grant second installment
- (iii) 20 % of the approved grant last installment

All CBC should submit half yearly progress report to CZA. Further grant of release will be subjected to the appraisal of report and submission of utilization certificate of the release fund. The CZA shall carry out mid-term evaluation of the CBP of the concerned species from time to time.

(8). Collaboration with institution:

Concerned zoo should collaborate with Wildlife Institute of India, Indian Veterinary Research Institute Bareilly, and Laboratory for Conservation of Endangered Species (LaCONES), CCMB and Bombay Natural History Society etc. to carry out the studies efficiently in order to achieve the objectives.

(9). Priority of species for funding the project:

As the CZA has been enduring to provide financial supports to zoos in addition to its main functions i.e. technical and other support to zoos; it will depend on availability of fund. However, to begin with following priority has been decided.

1. 18 species already been funded by the CZA for establishing off display centre.
2. Remaining 21 species from the prioritized list of 35 species + 1 species (Rusty spotted cat).
3. 72 + 1 (Rusty-spotted cat) species identified for the conservation breeding.

List of the endangered wild animal species IDENTIFIED to be taken up for the planned coordinated Conservation Breeding including details of the Coordinating zoos, Participating zoos and the number of animals of the species in captivity in India

Sl. No.	Name of the Species	Name of the coordinating Zoo	Names of the participating Zoos	Number of animals of the species in captivity
1.	Asiatic lion (<i>Panthera leo</i>)	Junagarh	Hyderabad, Bhopal, New Delhi, Rajkot	108
2.	Bengal tiger (<i>Panthera tigris</i>)	Bhopal	New Delhi, Hyderabad, Bhubaneswar, Chhatbir, Chennai	293
3.	Snow leopard (<i>Panthera uncia</i>)	Darjeeling	Leh, Kufri, Nainital, Gangtok	14
4.	Clouded leopard (<i>Panthera nebulosa</i>)	Sepahijala	Guwahati	23
5.	Asiatic cheetah (<i>Acinonyx jubatus venaticus</i>)	Junagarh		0
6.	Golden cat (<i>Catopuma temmincki</i>)	Guwahati		2
7.	Tibetan wolf (<i>Canis himalayensis</i>)	Darjeeling	Gangtok, Nainital, Kufri	23
8.	Grey wolf (<i>Canis lupus</i>)	Junagarh		9
9.	Wild dog (<i>Cuon alpinus</i>)	Visakhapatnam	Chennai	29
10.	Brown bear (<i>Ursus arctos</i>)	Kufri	Leh	5
11.	Sun bear (<i>Helarctos malayanus</i>)	Aizawl	Guwahati	6
12.	Red panda (<i>Ailurus fulgens</i>)	Darjeeling	Gangtok, Yachuli	20
13.	Binturong (<i>Arctictis binturong</i>)	Sepahijala	Guwahati, Aizawl	14
14.	Smooth coated otter (<i>Lutrogale perspicillata</i>)	Ahmedabad		3
15.	Malabar giant squirrel (<i>Ratufa indica</i>)	Pilikula	Chennai, Pune	1
16.	Indian Pangolin (<i>Manis crassicaudata</i>)	Bhubaneswar	--	8
17.	Lion tailed monkey (<i>Macaca silenus</i>)	Chennai	Mysore, Trivandrum	69
18.	Pig-tailed monkey (<i>Macaca nemestrina</i>)	Sepahijala	Guwahati	34
19.	Stump tailed monkey (<i>Macaca radiate</i>)	Aizawl	Guwahati	50
20.	Phayre's leaf monkey (<i>Trachypithecus phayrei</i>)	Sepahijala	--	14
21.	Crab eating monkey (<i>Macaca fascicularis</i>)	Chidiyatapu (Port Blair)	--	11
22.	Nilgiri langur (<i>Semnopithecus johnii</i>)	Chennai	Mysore	22
23.	Golden langur (<i>Trachypithecus geei</i>)	Guwahati	Island near Guwahati	6
24.	Capped langur (<i>Trachypithecus pileatus</i>)	Rangapahar	--	13
25.	Hoolock gibbon (<i>Hoolock leuconedys</i>),	Itanagar	Aizawl, Guwahati, Sepahijala	38
26.	Rhinoceros (<i>Rhinoceros unicornis</i>)	Guwahati	Patna, New Delhi, Kanpur	30

27.	Indian bison (<i>Bos gaurus</i>)	Mysore	Chennai, Bondla	62
28.	Wild buffalo (<i>Buballus bubalis</i>)			1
29.	Wild ass (<i>Equus hemionus khur</i>)	Junagarh	--	14
30.	Himalayan tahr (<i>Hemitragus jemlahicus</i>)	Gangtok	Darjeeling, Kufri, Chopta	3
31.	Nilgiri tahr (<i>Nilgiritragus hylocrius</i>)	Ooty	--	1
32.	Markhor (<i>Capra falconeri</i>)	Pehalgaon	--	0
33.	Blue sheep (<i>Pseudois nayaur</i>)	Gangtok	Darjeeling	0
34.	Serow (<i>Nemorhaedus sumatraensis</i>)	Guwahati	Manipur	5
35.	Swamp deer (<i>Cervus duvauceli</i>)	Lucknow	Jaldapara WLS	147
36.	Swamp deer (<i>Hard surface-C.d. branderi</i>)	Bilaspur	--	0
37.	Thamin deer (<i>Cervus eldii</i>)	Manipur	Guwahati, Kolkata, New Delhi	183
38.	Mouse deer (<i>Tragulus meminna</i>)	Hyderabad	Bhubaneswar	9
39.	Musk deer (<i>Moschus chrysogaster</i>)	Chopta	Gulmarg, Gangtok, Kufri	1
40.	Han'gul (<i>Cervus elaphus hanglu</i>)	Shikargah	--	0
41.	Chiru (<i>Pantholops hodgsonii</i>)	Leh	--	0
42.	Chinkara (<i>Gazella bennettii</i>)	Meham	Junagarh, Gandhinagar, Chhatbir	148
43.	Chosinga (<i>Tetracerus quadricornis</i>)	Junagarh	Tirupati, Ranchi	121
44.	Pygmy hog (<i>Sus salvanius</i>)	Basistha	Guwahati	112
45.	Hispid hare (<i>Caprolagus hispidus</i>)	Basistha	Guwahati	4
46.	Giant squirrel (<i>Ratufa indica</i>)	Ranchi		31
47.	Gangetic Dolphin (<i>Platanista gangetica gangetica</i>)	Patna		0
48.	Himalayan monal (<i>Lophophorus impejanus</i>)	Manali	Darjeeling, Gangtok	23
49.	Blood pheasant (<i>Ithaginis cruentus</i>)	Gangtok	Darjeeling	0
50.	Cheer pheasant (<i>Catreus wallichi</i>)	Chail	Almora	22
51.	Hume's pheasant (<i>Syrnaticus humiae humaie</i>)	Aizawl	--	33
52.	Grey Peacock pheasant (<i>Polyplectron bicalcaratum</i>)	Guwahati	Kolkata, Darjeeling	54
53.	Sclater's (mishmi) monal (<i>Lophophorus sclateri sclateri</i>)	Yachuli	--	0
54.	Tibetan eared pheasant (<i>Crossoptilon harmani</i>)	Yachuli	--	0
55.	Temminck tragopan (<i>Tragopan temminckii</i>)	Yachuli	--	0
56.	Blyth's tragopan (<i>Tragopan blythii</i>)	Kohima	--	12
57.	Western tragopan (<i>Tragopan melanocephalus</i>)	Sarahan	--	23
58.	Styr tragopan (<i>Tragopan satyra</i>)	Darjeeling	Gangtok	6
59.	Grey jungle fowl (<i>Gallus sonnerati</i>)	Tirupati	--	52
60.	Red jungle fowl (<i>Gallus gallus gallus</i>)	Morni	Chail, New Delhi, Aizawl	240
61.	Malabar grey hornbill (<i>Ocyrceros griseus</i>)	Kodanadu (Kerala)	Hyderabad	0
62.	Malabar pied hornbill (<i>Anthracoceros coronatus</i>)	Kodanadu (Kerala)	Hyderabad	0

63.	Long billed Vulture	Pinjore	Hyderabad, Bhopal, Junagarh, Bhubaneswar, Rajabhatkhawa, Guwahati	93
64.	Slender billed vulture	Pinjore	Hyderabad, Bhopal, Junagarh, Bhubaneswar, Rajabhatkhawa, Guwahati	15
65.	White backed vulture	Pinjore	Hyderabad, Bhopal, Junagarh, Bhubaneswar, Rajabhatkhawa, Guwahati	67
66.	Falcons (<i>Falco peregrinus</i>)	Chhatbir	Jaipur	0
67.	Bustards (Great Indian bustard, Lesser florican, Bengal florican, Hubara bustard)	---	---	0
68.	Nicobar pigeon (<i>Caloenas nicobarica</i>)	Chidiyatapu, Port Blair	Ahmedabad, Kolkata	20
69.	King cobra (<i>Ophiophagus Hannah</i>)	Pilikula	Bangalore, Mamallapuram	36
70.	Water monitor (<i>Varanus salvator</i>)	Chidiyatapu, Port Blair	Mamallapuram	38
71.	Painted roof turtle (<i>Kachuga kachuga</i>)	Kukrail	Mamallapuram	2
72.	Himalayan salamander (<i>Tyletrotiton verrucosus</i>)	Darjeeling	--	9
73.	Rusty-spotted cat (<i>Prionailurus rubiginosus</i>)	Sanjay Gandhi NP Zoo	Rajiv Gandhi Zoological Park, Pune	3

Status of the animals as on 30th May 2010.

List of the endangered wild animal species PRIORITIZED for the Coordinated Conservation Breeding including details of the coordinating zoos, participating zoos and the number of animals of the species in captivity in India

Sl. No.	Name of the Species	Name of the coordinating Zoo	Names of the participating zoos	Number of animals of the species in captivity
1.	Asiatic lion (<i>Panthera leo</i>)	Junagarh	Hyderabad, Bhopal, New Delhi, Rajkot	
2.	Snow leopard (<i>Panthera uncia</i>)	Darjeeling	Leh, Kufri, Nainital, Gangtok	
3.	Clouded leopard (<i>Panthera nebulosa</i>)	Sepahijala	Guwahati	
4.	Red panda (<i>Ailurus fulgens</i>)	Darjeeling	Gangtok, Yachuli	
5.	Indian Pangolin (<i>Manis crassicaudata</i>)	Bhubaneswar	--	
6.	Lion tailed monkey (<i>Macaca silenus</i>)	Chennai	Mysore, Trivandrum	
7.	Golden langur (<i>Trachypithecus geei</i>)	Guwahati	Island near Guwahati	
8.	Hoolock gibbon (<i>Hoolock leuconedys</i>),	Itanagar	Aizawl, Guwahati, Sepahijala	
9.	Rhinoceros (<i>Rhinoceros unicornis</i>)	Guwahati	Patna, New Delhi, Kanpur	
10.	Wild buffalo (<i>Buballus bubalis</i>)	Udanti		
11.	Wild ass (<i>Equus hemionus khur</i>)	Junagarh	--	
12.	Nilgiri tahr (<i>Nilgiritragus hylocrius</i>)	Ooty	--	
13.	Swamp deer (<i>Cervus duvauceli</i>)	Lucknow	Jaldapara WLS	
14.	Thamin deer (<i>Cervus eldii</i>)	Manipur	Guwahati, Kolkata, New Delhi	
15.	Mouse deer (<i>Tragulus meminna</i>)	Hyderabad	Bhubaneswar	
16.	Musk deer (<i>Moschus chrysogaster</i>)	Dharamghar, Bageshwar	Gulmarg, Gangtok, Kufri	
17.	Hangul (<i>Cervus elaphus hanglu</i>)	Shikargah	--	
18.	Chinkara (<i>Gazella bennettii</i>)	Meham	Junagarh, Gandhinagar, Chhatbir	
19.	Blue sheep (<i>Pseudois nayaur</i>)	Darjeeling		
20.	Pygmy hog (<i>Sus salvanius</i>)	Basistha	Guwahati	
21.	Himalayan monal (<i>Lophophorus impejanus</i>)	Manali	Darjeeling, Gangtok	
22.	Cheer pheasant (<i>Catreus wallichi</i>)	Chail	Almora	
23.	Hume's pheasant (<i>Syrmaticus humiae humiae</i>)	Aizawl	--	
24.	Blyth's tragopan (<i>Tragopan blythii</i>)	Kohima	--	
25.	Western tragopan (<i>Tragopan melanocephalus</i>)	Sarahan	--	
26.	Grey jungle fowl (<i>Gallus sonnerati</i>)	Tirupati	--	
27.	Red jungle fowl (<i>Gallus gallus gallus</i>)	Morni	Chail, New Delhi, Aizawl	
28.	Long billed Vulture (<i>Gyps indicus</i>)	Pinjore	Hyderabad, Bhopal, Junagarh, Bhubaneswar,	

			Rajabhatkhawa, Guwahati	
29.	Slender billed vulture (<i>Gyps tenuirostris</i>)	Pinjore	Hyderabad, Bhopal, Junagarh, Bhubaneswar, Rajabhatkhawa, Guwahati	
30.	White backed vulture (<i>Gyps benegalensis</i>)	Pinjore	Hyderabad, Bhopal, Junagarh, Bhubaneswar, Rajabhatkhawa, Guwahati	
31.	Shahin falcons (<i>Falco peregrinus</i>)	Chhatbir	Jaipur	
32.	Bustards (Great Indian bustard, Lesser florican, Bengal florican, Hubara bustard)	Jaisalmer	--	
33.	King cobra (<i>Ophiophagus Hannah</i>)	Pilikula	Bangalore, Mamallapuram	
34.	Painted roof turtle (<i>Kachuga kachuga</i>)	Kukrail	Mamallapuram	
35.	Himalayan salamander (<i>Tyletrotiton verrucosus</i>)	Darjeeling	--	

*Status of the animals as on 30th May 2010.

Conservation Breeding Programme funded by CZA

1. Western Tragopan Conservation Breeding Programme- Pheasantry Sarahan, Himachal Pradesh- **Rs. 70.0 lakhs**
2. Himakayan Monal- Nature Park Manali, Himachal Pradesh- **Rs. 44.00 lakhs**
3. Cheer Pheasant Conservation Breeding Programme - Chail Pheasantry with Himalayan Nature Park Kufri, Himachal Pradesh- **Rs. 51. 71 lakhs**
4. Grey Jungle fowl Conservation Breeding Programme - Tirupati zoo, Andhra Pradesh- **Rs. 60.0 lakhs**
5. Indian Pangolin Conservation Breeding Programme - Nadanakanan Zoological Park Bhubaneswar, Orrisa- **Rs.17.70 lakhs**
6. Mouse Deer Conservation Breeding Programme – Nehru Zoological Park Hyderabad Zoo- **Rs. 22.5 lakhs, 2.5 lakhs** to Nehru zoological Park Hyderabad for recurring cost 2010-11
7. Lion Tailed Macaque Conservation Breeding Programme - Arignar Anna Zoological Park, Vandalur, Tamil Nadu- **Rs. 22.23 lakhs**
8. Red Panda Conservation Breeding Programme – Padmaja Naidu Himalayan Zoological Park, Darjeeling, West Bengal- **Rs. 138.0 lakh**
9. Hangul Conservation Breeding Programme - Shikargah, Traal, South Kashmir Wildlife Protection department, Jammu & Kashmir- **Rs. 54.97 lakhs**
10. Shaheen Falcon Conservation Breeding Programme – M.C. Zoological Park, Chatbir, Punjab- **Rs. 56.20 lakhs**
11. Vulture Conservation Breeding- Zoos at Bhopal, Hyderabad, Junagarh, Jharkhand, and Nandankanan- **Rs. 41.0 lakhs** each, total **Rs. 205.0 lakhs, 2.5 lakhs** to Nehru zoological Park Hyderabad for recurring cost 2010-11
12. Hoolock Gibbon Conservation Breeding Programme – Biological Park Itanagar, Arunchal Pradesh- **Rs. 164.0 lakhs.**
13. King Cobra Conservation Breeding at Dr. Shivaram Karan Pilikula Biological Park, Managalore, Karnataka- **Rs. 10.0 lakhs**
14. Brow Antlered Deer Conservation Breeding Programme at Manipur Zoological Park, Imphal, Manipur- **Rs. 54.98 lakhs**
15. Clouded leopard Conservation Breeding Programme at Sepahijala Zoological Park, Agartala- **Rs. 13.37 lakhs**
16. Spectacle langur (Phyre's monkey) Conservation Breeding Programme at Sepahijala Zoological Park, Agartala- **Rs. 13.71 lakhs**
17. Binturong Conservation Breeding Programme at Sepahijala Zoological Park, Agartala- **Rs. 23.19 lakhs**
18. Pig tailed macaque Conservation Breeding Programme at Sepahijala Zoological Park, Agartala- **Rs. 13.76 lakhs**