



Manipur's Jewel Box



MANIPUR Zoological **Garden** Iroisemba

Annual Report **2018-19**

WILDLIFE WING, FOREST DEPARTMENT
GOVERNMENT OF MANIPUR

MASTER LAYOUT PLAN MANIPUR ZOOLOGICAL GARDEN, IROISEMBA



AREA :- 8.17 Ha.

Sl. No.	STRUCTURE	DIMENSION
1	MIXED WATER BIRD AVIARY	70m x 15m
2	CHEETAL ENCLOSURE	93m x 45m
3	SAMBAR ENCLOSURE	73m x 41m
4	HOG DEER ENCLOSURE	76m x 50m
5	GORAL ENCLOSURE	81m x 41m
6	CROCODILE ENCLOSURE	80m x 21m
7	GHARIAL ENCLOSURE	80m x 21m
8	IRIS BAKERII CONS PLOT	61m x 18m
9	WILD BOAR ENCLOSURE	45m x 25 m
10	OPEN WATER BIRD HABITAT	98m x 17m
11	BARKING DEER ENCLOSURE	85m x 52m
12	SANGAI ENCLOSURE	77m x 55m
13	AVIARY	70m x 15m
14	BURMESE GREEN PEAFOWL ENCLOSURE	36m x 12m
15	INDIAN PEAFOWL ENCLOSURE	36m x 12m
16	HUMES PHEASANT ENCLOSURE	36m x 12m
17	KALJJ PHEASANT ENCLOSURE	36m x 12m
18	HORNBILL ENCLOSURE	36m x 12m
19	PRIMATE ENCLOSURE	18m x 18m
20	INTERPRETATION CUM MUSEUM	30m x 12m
21	NOCTURNAL ANIMAL ENCLOSURE	30m x 12m
22	SMALL CARNIVORE ENCLOSURE	50m x 15m
23	TOILET COMPLEX	
24	REPTILE HOUSE	25m x 5m
25	PORCUPINE ENCLOSURE	12m x 4m
26	BEAR ENCLOSURE	44m x 28m
27	LEOPARD ENCLOSURE	25m x 25
28	LEOPARD CAT ENCLOSURE	27m x 11m
29	JACKAL ENCLOSURE	27m x 10m
30	LAND BIRD ENCLOSURE	35m x 15m
31	VULTURE ENCLOSURE	26m x 15m
32	EMU ENCLOSURE	20m x 10m
33	SOAK PIT	
34	GARDEN	
35	TICKET COUNTER	
36	INPATIENT HOUSE	
37	VETERINARY HOSPITAL	
38	GROUND SUMP WITH OVERHEAD TANK	
39	STORE CUM GUARD HOUSE	
40	FOOD DISTRIBUTION CENTRE	
41	DIRECTOR OFFICE	
42	TOILET	
43	STAFF QUARTER	
44	FEED GODDOWN	
45	SANITRI POST	
46	SEPTIC TANK	

Legend

- CONTOUR (780 MSL)
- VISITOR SEAT
- ▢ VISITOR SHED
- ▢ EXIT GATE
- ▢ MAIN GATE
- ▢ OFFICE GATE
- ▢ ANIMAL SHED
- ▢ INCINERATOR
- ▢ PARKING
- ▢ PROPOSED CONTROL GATE
- ▢ PROPOSED VISITOR SHED
- ▢ EXISTING CONTROL GATE
- ▢ OVERHEAD TANK
- ▢ TRANSFORMER
- ▢ DRINKING WATER POINT
- ▢ KIOSK
- ▢ WATCH TOWER
- ▢ TOILET
- ▢ VISITOR FOOT PATH
- ▢ SERVICE FOOT PATH
- ▢ INSPECTION FOOT PATH
- ▢ APPROACH ROAD
- ▢ DRAINAGE
- ▢ FENCING WALL
- ▢ ENCLOSURES
- ▢ WATER BODY
- ▢ GREEN BELT

Black Colour indicates Existing structure
 Green Colour indicates Existing structure to be modified
 Blue Colour indicates New Construction
 *Water Supply from P.H.E.D. is dependable

The difference between maximum and minimum elevation inside the zoo is less than 1 (one) meter, hence no contour can be drawn.

Approved
 Member Secretary
 Central Zoo Authority, New Delhi
 (66/2004/11.6/5)

Chief Wildlife Warden
 Manipur
 Director
 Manipur Zoological Garden, Iroiseмба

B.S. BONGAL
 Member Secretary
 Central Zoo Authority, New Delhi
 (66/2004/11.6/5)

INDEX

Sl. No.	Particulars	Page
1	MANIPUR ZOOLOGICAL GARDEN	
1.1	About Manipur Zoological Garden	1
1.2	Objectives	1
1.3	Animal Enclosures and Upkeep	1
1.4	Animal Healthcare	2
1.5	Birth, Death and Rescue of endangered and important animals	3
1.6	Annual Inventory Report 2018-19	5
1.7	Details of sanction for Manipur Zoological Garden during 2018-19	6
1.8	Number of Visitors & Revenue for 2018-19	7
2	ACTIVITIES DURING 2018-19	
2.1	Rehabilitation of Rescued Wild Animals	8
2.2	Medical Check-up of staffs of MZG	8
2.3	Major Development Works	9
2.4	Cleanliness Drive	13
2.5	Vaccination Program for domestic animals around MZG	13
2.6	Feeding of Animals	14
2.7	Treatment of Animals	15
2.8	43 rd Foundation Day of Zoo 2018	16
2.9	World Environment Day 2018 Visitor Interaction	18
2.10	Observance of Vigilance Week 2018	19
2.11	Visitor Interaction	19
3	TRAINING & CAPACITY BUILDING PROGRAMMES	
3.1	Exposure visit of newly recruited Range Forest Officers	21
3.2	North-East Zoo Keepers' Training	21
3.3	Awareness on Rescue/Handling of Wild Animals under State Plan	24
3.4	Awareness on Rescue/Handling of Wild Animals under CAMPA	25
4	SPECIAL REPORTS	
4.1	Successful Captive Breeding of <i>Nongin</i>	26
4.2	Observation of <i>Sangai</i> for Translocation	28

REPORT OF THE DIRECTOR, MANIPUR ZOOLOGICAL GARDEN

Manipur Zoological Garden has given a special attention to Conservation Breeding Programme of Brow Antlered Deer (State animal) and Mrs. Hume's Pheasant (State bird) with an aim to breed genetically, physically and behaviorally healthy individuals for proper display and as insurance for future exigencies and ultimate release back into their natural habitat. We witnessed the hatching of a male and a female Mrs. Hume's Pheasant which is a success stories for a consecutive year. Behavioral Observation of Sangai has begun with coordination of Wildlife Institute of India, Dehradun for translocation/ relocation of 2 (two) pairs of Sangai from Conservation Breeding Centre, Langol to Manipur Zoological Garden, Iroisemba for the purpose of exhibition and education to the public about the rare and endangered State animal of Manipur.

The Zoo continued its sincere efforts to generate as well as improve awareness about Cleanliness of Zoo as a standard management practice amongst the Zoo officials/ staffs/visitors/locals and other stakeholders and reducing one time use plastics in and around zoo campus.

This year Manipur Zoological Garden organised North East Zoo Keeper's Training Programme sponsored by the Central Zoo Authority from 4th to 8th Feb 2019 with participants from different Zoos from the 8 (eight) Northeastern States. Other various training programmes/ workshop were conducted with special reference to rescue/ handling of recued animals. to upgrade their skill in zoo management.

Many developmental works as per the guidelines of Central Zoo Authority, Delhi were taken up to modernise the Zoo. Construction of Slow Loris and Veterinary Hospital enclosure funded by Central Zoo Authority has been completed. Drainage System along the northern side of MZG, Boundary fencing at Conservation breeding Centre, Langol and Rescue centre, Langol under CAMPA.

This financial year as well many good works could be achieved with lots of support from animal attendants and other zoo personnel, animal activists, NGOs, public and senior officer's guidance and blessings. We believe in continuing the good works with support and blessing for all stakeholders.

Gaithaolu Thaimei
Director, Manipur Zoological Garden
Government of Manipur

1. MANIPUR ZOOLOGICAL GARDEN

1.1 ABOUT:

Manipur Zoological Garden was established on 2nd October, 1976 on the advice of the then State Wildlife Advisory Board. It covers an area of 8.17 Ha at Iroisemba, Imphal which is about 8km from Imphal city. Manipur Zoo is home to a number of rare and endangered species which are endemic to this region, many of which are included in Schedule I and Schedule II of the Wildlife (Protection) Act, 1972. Manipur Zoological Garden was categorized as a “Medium Zoo” by the Central Zoo Authority (CZA) on 02.02.2009. It was further identified to be developed as a “Model Zoo” by CZA in November, 2014.

Manipur Zoological Garden maintains a Captive Breeding Centre (CBC) at the Langol Reserve Forest which extends to an area of 6.007 ha for three important species: (i) Brow-Antlered Deer (The State Animal of Manipur), (ii) Mrs Hume’s Bar Pheasant (The State Bird of Manipur and (iii) Kalij Pheasant.

1.2 OBJECTIVES:

- i. Conservation of Wildlife – sustain population of physically, genetically and behaviorally healthy animals.
- ii. Captive breeding –e.g. *Sangai*, Hume’s pheasant.
- iii. Ex-situ conservation of endangered species – appropriate to provide stock for recovery programme.
- iv. Resource of natural gene pool.
- v. Source of scientific data – behaviour, nutrition, pathology, breeding.
- vi. Education and awareness.
- vii. Recreation.

1.3 ANIMAL ENCLOSURES AND UPKEEP:

The following activities are taken up as a part of improving upon the existing enclosures, and enhancing the enrichment activities to improve the condition of animal enclosures:

- a) Daily cleaning of enclosures is done before feeding by the respective zoo keepers/ animal attendants.

- b) Sweeping and cleaning the visitor areas are done by sweepers.
- c) Social service or basic cleanliness of the Zoo campus is done every Monday which is a holiday for the Zoo and closed to visitors.
- d) The Veterinary Doctor also takes important role in maintaining sanitation of the zoo, particularly for the enclosures and the waste disposal sites. He is the custodian of all cleaning involving chemicals.
- e) In all, proper functioning of drainage system of the campus, cleanliness of the animal enclosures/cages and houses, maintenance of lawns, visitor amenities and general cleanliness of the zoo campus is taken care of.

The routine work for upkeep of Zoo including maintenance of enclosures, visitor amenities, infrastructures including boundary wall, office buildings, veterinary set-up, visitor roads, external approach-road to zoo, museum, ticket counter, staff quarter, drainage, water supply, electric and other facilities are done by a team consisting of 2 Range Officers and assisted by Deputy Rangers, Foresters and Forest Guards under the overall supervision of the Director as per the recommendation.

1.4 ANIMAL HEALTH CARE:

Veterinary section is headed by a Veterinary Officer assisted by Animal Attendants. At present, the zoo has no Veterinary Field Assistant for assisting the Veterinary Officer. Nevertheless, facilities for drugs, medicines, feed supplements and sanitation are available for the animals with utmost care. Representatives from Directorate of Vety. & Animal Husbandry Services, Govt. Of Manipur visit zoo at regular basis for examining the zoo animals and give technical information on the health of the animals.

ACTIVITIES FOR ANIMAL HEALTHCARE:

- a. Precaution and preventive measures against any outbreak of disease is maintained by regular spraying of Kohrsolin solution and lime-bleach around all the animal enclosures throughout the year.
- b. Daily supply of supplements such as Mineral mixture, Calcium, B-Complex, etc. are given to the Zoo inmates.
- c. De-worming of Zoo inmates is done every 3 months.
- d. The Veterinary Officer and his team regularly keep check of the injuries and illnesses of Zoo inmates.

- e. Vaccination programme for domesticated animals around the Zoo areas is done on regular basis against Food and Mouth diseases, Rabies, etc.
- f. Manipur Zoological Garden receives technical expertise from Directorate of Vety. & A.H. Services, Govt. of Manipur on monthly basis for better management of zoo in the health care sector.

1.5 BIRTH, DEATH AND RESCUE OF ENDANGERED AND IMPORTANT ANIMALS

BIRTHS

Sl. No.	Name of Species	Date of birth	Sex				Remarks
			M	F	U	T	
1	Spotted deer	23-04-2018	-	-	1	1	
2	<i>Nongin</i>	14-05-2018	-	-	1	1	Hatching
3	Hog deer	27-05-2018	-	-	1	1	
4	<i>Nongin</i>	13-06-2018	-	-	1	1	Hatching
5	Sambar	23-06-2018	-	-	1	1	
6	Leopard cat	28-06-2018	-	-	2	2	
7	Hog deer	01-07-2018	-	-	1	1	
8	Hog deer	05-07-2018	-	-	1	1	
9	Spotted deer	29-07-2018	-	-	1	1	
10	Sambar	29-08-2018	-	-	2	2	
11	Leopard cat	08-09-2018	-	-	2	2	
12	Hog deer	26-09-2018	-	-	1	1	
13	Spotted deer	02-10-2018	-	-	1	1	
14	Sambar	08-11-2018	-	-	1	1	
15	Hog deer	01-12-2018	-	-	1	1	
16	Sambar	02-12-2018	-	-	1	1	
17	Spotted deer	27-12-2018	-	-	1	1	
18	Hog deer	21-01-2019	-	-	1	1	
19	Hog deer	16-03-2019	-	-	1	1	
20	Hog deer	27-03-2019	-	-	1	1	
	Total		-	-	23	23	

DEATHS

Sl. No.	Name of Species	Date of death	Sex				Remarks
			M	F	U	Total	
1	Himalayan griffon	23-04-2018	-	-	1	1	Asphyxia
2	Malayan Porcupine	03-05-2018	-	-	1	1	Old age
3	Himalayan black bear	14-05-2018	1	-	-	1	Acute pneumonia
4	Ferret badger	06-07-2018	1	-	-	1	Acute yellow atrophy
5	White eyed pochard	07-08-2018	-	-	2	2	

6	Leopard cat	16-09-2018	-	1	-	1	
7	Leopard cat	22-09-2018	-	-	2	2	
8	Kalij pheasant	26-09-2018	1	-	-	1	Head injury
9	Spotted deer	27-09-2018	1	-	-	1	Old age
10	Spotted deer	21-10-2018	-	1	-	1	
11	Kalij pheasant	01-12-2018	1	-	-	1	Indigestion
12	Himalayan black bear	15-12-2018	-	1	-	1	
13	Jungle cat	18-03-2019	1	-	-	1	Old age
Total:			6	3	6	15	

RESCUES

Sl. No.	Name of Species	Date of rescue	Sex				Remarks
			M	F	U	Total	
1	Turtle	01-04-2018	-	-	1	1	
2	Barn owl	03-04-2018	-	-	1	1	Moirang Kampu
3	Leopard cat	06-04-2018	-	-	1	1	Lamlai, Imphal East
4	Barking deer	07-04-2018	-	-	1	1	New keithelmanbi
5	Civet cat	08-05-2018	-	-	1	1	Sagolband, Imphal
6	Turtle	18-05-2018	-	-	1	1	Lamdeng
7	Monitor Lizard	18-05-2018	-	-	1	1	Khurai, Imphal
8	Turtle	20-05-2018	-	-	1	1	Sagolband, Imphal
9	Parakeet	27-05-2018	-	-	1	1	Singjamei, Imphal
10	Slow loris	30-05-2018	1	1	-	2	Langol, Imphal
11	Barking deer	31-05-2018	-	1	-	1	Sadar East
12	Roller corocidal	23-06-2018	-	-	1	1	Heingang
13	Barking deer	15-07-2018	-	-	1	1	Tandongyan
14	Slow loris	29-07-2018	-	-	1	1	Imphal East
15	<i>Nongin</i>	31-07-2018	1	-	-	1	Ukhrul
16	Turtle	24-08-2018	-	-	1	1	Yaiskul, Imphal
17	Turtle	29-08-2018	-	-	2	2	Singjamei, Imphal
18	Monitor lizard	29-08-2018	-	-	1	1	Phayeng
19	Eagle	29-08-2018	-	-	1	1	Senapati
20	Monitor lizard	29-08-2018	-	-	1	1	Imphal
21	Leopard cat	07-10-2018	-	-	1	1	Thoubal
22	Slow loris	09-10-2018	-	-	1	1	Thoubal
23	Purple swamphen	11-10-2018	-	-	1	1	Imphal
24	Ferret badger	14-10-2018	-	-	1	1	Sagolmang
25	Turtle	15-10-2018	-	-	1	1	Uripok
26	Tortoise	09-12-2018	-	1	-	1	Nambol
27	Leopard cat	10-12-2018	-	-	1	1	Thoubal
28	Owl	10-12-2018	-	-	5	5	Moirang
29	Kalij pheasant	28-01-2019	1	-	-	1	Tegnoupal
30	Python	14-02-2019	-	-	1	1	Phubala, Bishnupur
31	Ferret badger	27-02-2019	-	-	1	1	Kanglatombi

32	Bear	11-03-2019	1	-	-	1	Chandel
33	Barking deer	12-03-2019	-	1	-	1	Thoubal
34	Barking deer	15-03-2019	1	-	-	1	Irang
35	Turtle	15-03-2019	-	-	1	1	Meiphou
36	Owl	24-03-2019	-	-	3	3	Heingang
37	Owl	27-03-2019	-	-	1	1	Imphal
	Total		5	4	36	45	

1.6 ANNUAL INVENTORY 2018-19

ANNUAL INVENTORY REPORT FOR THE YEAR 2018-19
MANIPUR ZOOLOGICAL GARDEN

Sl No	SPECIES NAME	ANIMAL NAME	SCIENTIFIC NAME	OPENING STOCK				BIRTH			ACQUISITIONS			DISPOSALS			DEATHS			CLOSING STOCK					
				M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	T					
Endangered Species (Schedule I and II)																									
1	Bird	Hornbill Indian Pied	<i>Antracoceros malabaricus</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
2	Bird	Pheasant Humes Bar-backed	<i>Syrnaticus humiae</i>	3	2	0	5	1	1		0	0	0	0	0	0	0	0	0	0	4	3	0	7	
3	Bird	Pheasant Kalij	<i>Lophora leucomelanos</i>	3	5	0	8	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	5	0	7
4	Bird	Vulture Himalayan	<i>Gyps himalayensis</i>	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	6	6
5	Mammal	Badger Ferret	<i>Melogale moschata</i>	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Mammal	Bear Himalayan Black	<i>Ursus thibetanus</i>	5	8	0	13	0	0	0	0	0	0	0	0	0	0	0	1	0	4	7	0	11	
7	Mammal	Cat Jungle	<i>Felis chaus</i>	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8	Mammal	Cat Leopard	<i>Prionailurus bengalensis</i>	8	6	0	14	0	0	2		0	0	0	0	0	0	0	1	0	8	5	2	15	
9	Mammal	Civet common Palm - Cat toddy	<i>Paradoxurus hermaphroditus</i>	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
10	Mammal	Deer Brow-antlered (Sangai)	<i>Rucervus eldii eldii</i>	7	6	1	14	0	0	0	0	0	0	0	0	0	0	0	1	0	7	7	0	14	
11	Mammal	Deer Hog	<i>Axis porcinus</i>	10	29	5	44	0	0	10		0	0	0	0	0	0	0	0	0	10	29	15	54	
11	Mammal	Gibbon Hoolock	<i>Hoolock hoolock</i>	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
12	Mammal	Jackal	<i>Canis aureus</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
13	Mammal	Leopard Panther	<i>Panthera pardus</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
14	Mammal	Slow Loris	<i>Nycticebus bengalensis</i>	6	7	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	6	7	0	13	
15	Mammal	Macaque Rhesus	<i>Macaca mulatta</i>	25	15	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	25	15	0	40	
16	Mammal	Porcupine Malayan	<i>Hystrix brachyura</i>	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	2	
17	Reptile	Monitor Lizard/ Common Indian	<i>Varanus bengalensis</i>	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	
18	Reptile	Python Indian - Rock	<i>Python molurus</i>	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
Total Endangered Species				75	83	16	174	1	1	12	0	0	0	0	0	0	0	0	4	3	1	71	83	26	180
Species (Schedule III and IV)																									
20	Bird	Cock Water	<i>Gallinix cinerea</i>	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	
21	Bird	Coot Common	<i>Fulica atra</i>	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	
23	Bird	Duck Brahminy - Ruddy Shelduck	<i>Tadorna ferruginea</i>	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	

[Signature]
10/5/19
Dr. L. Saratchandra Singh
Veterinary Officer
Manipur Zoological Garden

[Signature]
10/5/19
Director
Manipur Zoological Garden
Government of Manipur

Sl No	SPECIES NAME	ANIMAL NAME	SCIENTIFIC NAME	OPENING STOCK				BIRTH			ACQUISITIONS			DISPOSALS			DEATHS			CLOSING STOCK							
				M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T				
24	Bird	Duck Spotbill	<i>Anas poecilorhyncha</i>	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	
25	Bird	Eagle Crested Serpent	<i>Spilornis cheela</i>	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	
26	Bird	Egret Cattle	<i>Bubulcus ibis</i>	0	0	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10	
27	Bird	Hen Moorhen purple	<i>Porphyrio porphyrio</i>	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	
28	Bird	Heron Night	<i>Nycticorax nycticorax</i>	0	0	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	
29	Bird	Heron Pond	<i>Ardeola grayii</i>	0	0	15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15	
30	Bird	Heron Purple	<i>Ardea purpurea</i>	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	
32	Bird	Moorhen	<i>Gallinula chloropus</i>	0	0	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	20	
33	Bird	Parakeet (unidentified)	<i>Psittacula</i>	4	4	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	8	
34	Bird	Peafowl Green/ Burmese	<i>Pavo muticus</i>	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	
35	Bird	Pelican Rosy/ White	<i>Pelecanus onocrotalus</i>	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
36	Bird	Pochard White Eyed	<i>Aythya nyroca</i>	0	0	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	9	9	
37	Bird	Stork Adjutant	<i>Leptoptilos dubius</i>	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	
38	Bird	Teal Common	<i>Anas crecca</i>	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	
39	Bird	Teal Lesser Whistling	<i>Dendrocygna javanica</i>	0	0	17	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	
40	Mammal	Deer Barking	<i>Muntiacus muntjak</i>	4	2	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	1	7	
41	Mammal	Deer Sambar	<i>Rusa unicolor</i>	3	17	4	24	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	3	17	9	29	
42	Mammal	Deer Spotted (Chital)	<i>Axis axis</i>	10	12	2	24	0	0	3	0	0	0	0	0	0	0	0	0	1	1	0	9	11	5	25	
43	Mammal	Goral	<i>Naemorhedus goral</i>	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
44	Mammal	Pig Wild - Wild Boar	<i>Sus scrofa</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
45	Reptile	Tortoise elongated	<i>Indotestuda elongata</i>	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
46	Reptile	Assam leaf turtle	<i>Cyclemys gemellii</i>	4	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	
47	Reptile	Turtle Malayan Box	<i>Cuora amboinensis kamaroma</i>	0	0	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	
Total Species Sch III and IV				29	37	134	200	0	0	8	0	0	0	0	0	0	0	0	0	2	1	4	27	36	138	201	
Exotic Species																											
49	Reptile	Tortoise Asian Brown	<i>Manouria emys</i>	4	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	
Total exotic species				4	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	
Total Total				108	121	150	379	1	1	20	0	0	0	0	0	0	0	0	0	6	4	5	102	120	164	386	

Dr. L. Saratchandra Singh
Veterinary Officer
Manipur Zoological Garden

Director
Manipur Zoological Garden

1.7 DETAILS OF SANCTION FOR MANIPUR ZOOLOGICAL GARDEN DURING 2018-19:

Major works during the financial year 2018-19 for the development and up-keeping of Manipur Zoological Garden funded by CZA, CAMPA and State Plan are as follows:

Sl. No.	Particulars of work	Amount (in Rs)		
		CZA share (90%)	State Share (10%)	Total
1	Construction of Veterinary Hospital	1,55,89,000.00	17,32,000.00	1,73,21,400.00
2	Construction of enclosure for Slow Loris	60,28,700.00	6,69,800.00	66,98,600.00
	Total:	2,16,17,700.00	24,01,800.00	2,40,20,000.00
CAMPA Fund				
1	Drainage system of Northern side of MZG			41,58,000.00
2	Animal Rescue Centre, Langol			41,50,000.00
3	Boundary Fencing of Sangai Second Home, CBC, Langol			11,99,000.00
	Total			95,07,000.00

STATE PLAN Fund		
1	Construction of visitor footpath from Office to Ticket Counter at MZG	2,49,730.00
2	Renovation of feed mixing shed, flooring & tiling wall at MZG	99,500.00
3	Construction of pucca boundary wall eastern side behind Bear enclosure	1,19,100.00
4	Construction of pucca boundary wall at northeast side of CBC, Langol	2,26,870.00
5	Construction of rescue cage	99,700.00
6	Construction of rest shed for Hog Deer enclosure at MZG	97,700.00
7	Construction of rest shed for Barking Deer enclosure at MZG	97,700.00
8	Construction of rest shed for <i>Sangai</i> Deer enclosure at MZG	97,700.00
9	Construction of visitor footpath from main gate to Goral enclosure at MZG	2,46,100.00
10	Construction of visitor footpath from <i>Nongin</i> enclosure to Rosy Pelican enclosure at MZG	2,46,100.00
Total:		15,80,200.00

1.8 NUMBER OF VISITORS & REVENUE FOR 2018-19

MONTH	NO. OF ADULT VISITORS	NO. OF CHILD VISITORS	NO OF STUDENT VISITORS	NO OF STUDENT TOUR VISITORS	TOTAL NO OF VISITORS	TOTAL REVENUE (IN RS)
April, 2018	9366	1539	2322	305	13532	1,18,401
May, 2018	8982	3541	7550	1650	21723	1,62,716
June, 2018	7256	2346	4044	638	14284	1,13,900
July, 2018	6000	1881	1480	210	9571	81266
August, 2018	5112	1264	1050	250	7676	66,004
September, 2018	5639	1159	1216	0	8014	71265
October, 2018	3872	1321	1874	90	7157	59115
November, 2018	3400	1508	1480	237	6625	53178
December, 2018	4094	1349	1144	0	6587	56648
January, 2019	6148	1202	947	0	8297	75299
February, 2019	3414	570	485	0	4469	40970
March, 2019	3356	475	518	0	4349	40,043
Total	66639	18155	24110	3380	112284	938805

2. ACTIVITIES DURING 2018-19

2.1 REHABILITATION OF RESCUED WILDLIFE

A team of staffs of Manipur Zoological Garden led by Shri S.W. Suisa, Asst. Conservator of Forests, carried out rehabilitation of one rescued Himalayan Black Bear on 06/12/2018 into its natural habitat at Yangoupokpi Lokchao Wildlife Sanctuary. It may be mentioned that after identification of suitable spot, the animal was released into the wild in the presence of staffs of Yangoupokpi Lokchao Wildlife Sanctuary.



2.2 MEDICAL CHECK-UP FOR STAFFS OF MZG

A Medical Check-up Camp was organized for staffs of the Zoo with the collaboration of Raj Medicity, Imphal. This is an annual feature which was funded under State Plan.



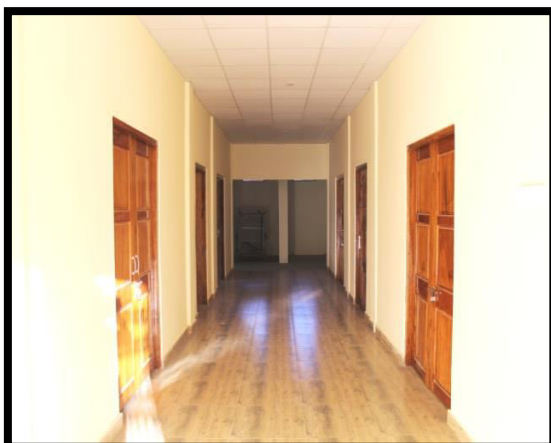
2.3 MAJOR DEVELOPMENT WORKS

2.3.1 VETERINARY HOSPITAL

During initial stages

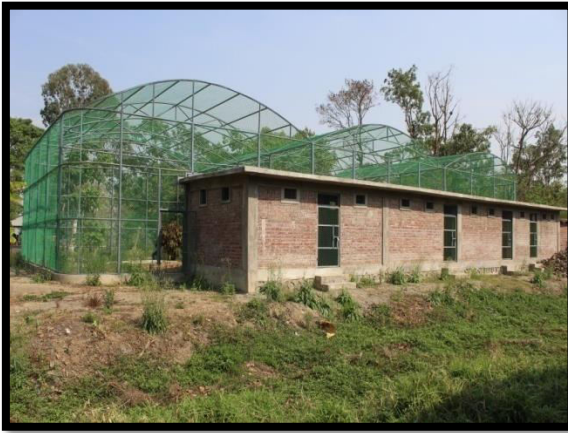


Inspection by Shri K. Angami, PCCF & HoFF & Shri D.J.N. Anand, PCCF (Wildlife)



2.3.2 SLOW LORIS ENCLOSURE

Stage during nearing completion



Inspection by Shri K. Angami, PCCF&HoFF & Shri D.J.N. Anand, PCCF (Wildlife)



2.3.3. DRAINAGE SYSTEM (ALONG NORTHERN SIDE OF MZG) UNDER CAMPA

Manipur Zoological Garden being on a low-lying area faces water-logging and displacement of property and most importantly raises concerns about the wellbeing of the many important species of flora & fauna housed under the Zoo. This, leads to closure of the zoo to visitors for months. Therefore, the drainage system was the need of the hour. As an initial attempt in order to mitigate the effects of flooding at MZG, a drainage system along the Northern side of MZG was constructed under CAMPA.

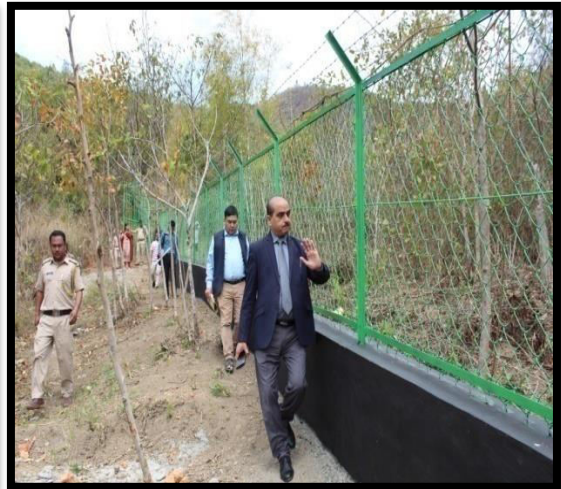
Inspection by Shri Anurag Bajpai, CCF (Wildlife)



2.3.4. BOUNDARY FENCING AT 2ND HOME OF SANGAI/ CONSERVATION BREEDING CENTRE, LANGOL (ALONG WESTERN SIDE 55 RM) UNDER CAMPA

Considering the need for safety of the limited population of *Sangai* maintained at Conservation Breeding Centre, Langol, the boundary fencing at the Centre was funded under CAMPA.

Inspection by Shri Anurag Bajpai, CCF (Wildlife)



2.4 CLEANLINESS DRIVE

Every week, Monday, which is closed to visitors, is observed as Cleanliness Day where staffs of MZG along with shopkeepers and locality of Iroisemba gather together for all round cleanliness of the office and surroundings of the Zoo. This is also observed to create awareness about the social responsibility as citizens of the country towards sanitation and waste disposal under Swachh Bharat Mission.

Cleaning & liming in and around premises of MZG



2.5 VACCINATION PROGRAMME FOR DOMESTICATED ANIMALS

As an annual event, the vaccination program for domestic animals within 5km radius of MZG was conducted in order to ensure they are disease free and most importantly, do not become vectors for contagious diseases which can affect inmates of the Zoo.



2.6 FEEDING OF ANIMALS- 'BONDING' MOMENTS

Rescued Himalayan Black Bear cub



Sangai at CBC, Langol

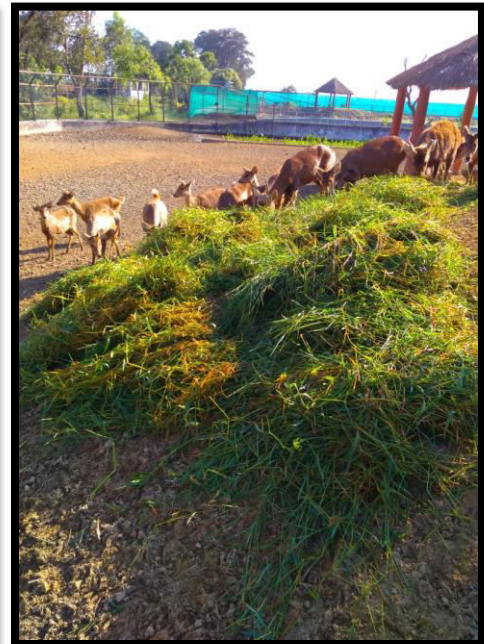


Time for Fodder!

Spotted Deer



Hog Deer



2.7 TREATMENT OF SOME INJURED MEMBERS-A HEALING TOUCH

TREATMENT BY DR. UPENDRO SINGH & DR. BINOKUMARI DEVI OF DIRECTORATE OF VETY.
& A. H. SERVICES, GOVT. OF MANIPUR-
THEIR DEDICATION IS MUCH APPRECIATED

Vulture being treated for Bumblefoot



Himalayan Black Bear treated for injury
(due to infighting)



TREATMENT BY OUR OWN VETERINARY OFFICER, DR. L. SARATCHANDRA SINGH

Slow-Loris (injury)



Kite eye (infection)



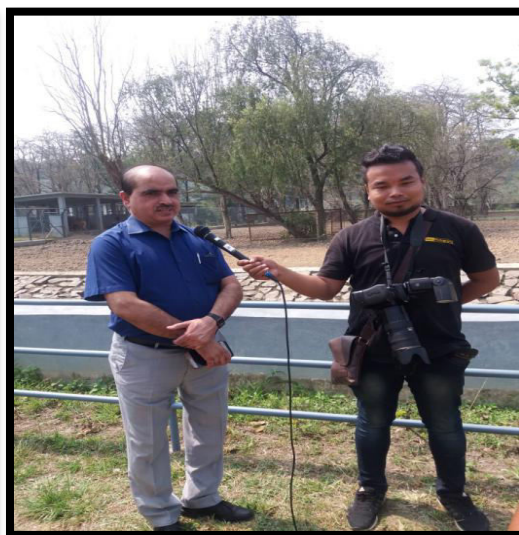
2.8 ZOO FOUNDATION DAY CELEBRATION 2018

Manipur Zoological Garden celebrated its Foundation Day dated 2nd October, 2018 involving students and children from all the districts on the theme “Celebrate Rights of Wildlife” to start the celebration of Wildlife Week 2018 across the State of Manipur. The students/ children were facilitated to watch animals, enjoy and learn. The Media houses such as ISTV, DDK imphal interview the students/ children about their experience at Zoo. Interaction programs with the officials by DDK imphal, AIR imphal on conservation of Forests and wildlife. A panel discussion was also conducted with NGOs namely People For Animals, Yenning Animal Foundation, along with officials of Veterinary & Animal Husbandry Services, Government of Manipur & officials of Wildlife Wing, Forest Department, Government of Manipur on the topic of “Management of Zoo and Protection & Conservation of Wildlife in general”.

Smt. Gaithaolu Thaimai, Director/MZG
giving the welcome address



Shri Anurag Bajpai, CCF (Wildlife)
being interviewed by ISTV



Slogan-writing on Protection & Conservation of Wildlife



ISTV Coverage Team interviewing Animal Attendant



MOMENTS FROM THE NAMING CEREMONY OF NEW-BORNS..



2.9 WORLD ENVIRONMENT DAY CELEBRATION

Environment Day for the year 2018 was observed on 5th June with the staffs of MZG led by the Director and local citizens with the theme of beating Plastic Pollution. Biodegradable bags made of recyclable material were distributed to local shop owners after they were explained about the harmful effects of plastics in a small function organized by Manipur Zoological Garden. Further, visitors to the Zoo were gifted seedlings to help conserve & protect the environment.

SOME MOMENTS FROM THE DAY..



2.10 OBSERVATION OF VIGILANCE WEEK

Manipur Zoological Garden, Imphal observed Vigilance Awareness Week from 29th October to 3rd November, 2018 on the theme 'Eradicate Corruption – Build a New India' of Central Vigilance Commission and emphasis was made to promote integrity, transparency and accountability in public life.

ZOO STAFFS TAKING OATH AGAINST CORRUPTION



2.11 VISITOR INTERACTION

Shri DJN Anand, PCCF (Wildlife) interacting with school students



Director/MZG interacting with students and teachers



Our Forest Guards guiding visitors!



Our staffs getting ready for 'People's Day'



IGP Muivah with family visiting zoo



3. TRAINING & CAPACITY BUILDING PROGRAMMES

3.1 EXPOSURE VISIT OF NEWLY RECRUITED RFOS

A training program was held at Manipur Zoological Garden, Iroisemba for the newly recruited Range Forest Officers of the Department. They were briefed about the management of the Zoo and various programs undertaken by MZG.



3.2 NORTH EAST ZOO KEEPERS TRAINING

North East Regional Zoo Keeper's Training Programme, 4th – 8th February, 2019 conducted by Manipur Zoological Garden, Govt. of Manipur sponsored by Central Zoo Authority, MoEF&CC, Govt. of India. 27 (twenty) Zookeepers from different Zoos/Centers from the 8(eight) Northeastern States including Sikkim took part.

The program started with the Inaugural function in the presence of Dr. A. K. Nayak, Member Secretary, CZA, MoEF&CC, Govt. of India and Shri D.J.N. Anand, PCCF (Wildlife) cum Chief Wildlife Warden, Govt. of Manipur as the Chief Guest and President respectively with senior officers of the Department.

The training activities include Class room session with topics including Management of Zoo as per CZA guidelines, Overview of Manipur Zoological Garden, Role of a Zoo Keeper, Enrichment Activities, Rescue and Rehabilitation Operations, Record Keeping, Health care sector of the zoo, Treatment of animals, Conservation Breeding. Field visits to Manipur Zoological Garden, Keibul Lamjao National Park, Bishnupur District and Captive Breeding Centre, Imphal.



FIELD VISITS

Visitor guides of KLNP explaining the trainees on various activities





Trainees visiting CBC and MZG



INDOOR SESSION



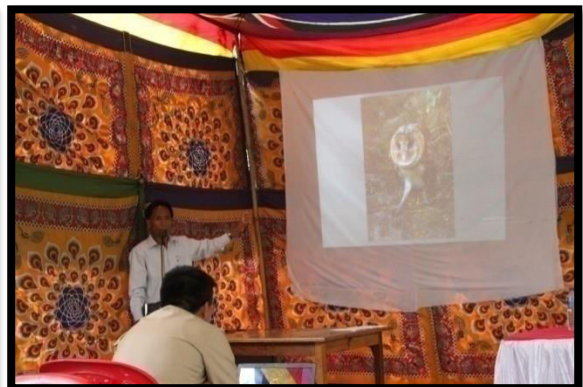
3.3 AWARENESS ON RESCUE OPERATION/ HANDLING OF RESCUED WILDLIFE UNDER STATE PLAN

Rescue operations are a common phenomenon these days. In order to make our staffs ready for any such operations and to make the general public aware about the need for conservation & protection of wildlife, a One-Day awareness was held at the garden of the Zoo in the topic on the safe handling of Wildlife. Trainers include Dr. L. Sarat, VO/MZG (Turtle & Tortoise); Animal Attendants Shri K. Angam (Birds), Shri L. Deben (Carnivores), Shri K. Durgacharan (Slow Loris & Monkey), Shri S. Ninghor (Deer), Shri L. Bhagwan (Bear) ; WII Project Scientist Dr. M. Vikramjit Sharma (Tranquilizer Equipments). Visitors of the Zoo raised various interesting questions to which the Director/MZG responded.



3.4 ONE DAY AWARENESS PROGRAM ON RESCUE OPERATION/ HANDLING OF RESCUED WILDLIFE ANIMALS FOR FIELD STAFFS & NGOS UNDER CAMPA

The program witnessed participation of staffs from all 14 divisions of the Department as well as NGOs like Yenning Animal Foundation, People For Animals, etc. Special invitees included Shri Jugeshor, Principal, Kumbi College and Smt. Sadhana Laishram, Asst. Curator, Manipur State Museum. Also, Dr. L. Saratchandra, Veterinary Officer/MZG explained on rescue of Tortoise & Turtle while Dr. M. Vikramjit Sharma, Wildlife Institute of India briefed on Restraining Methods & Tools and an interesting session of a live rescue/handling of King Cobra by Shri L. Biswajit, PFA were held. Further, the Animal Attendants of MZG shared their experiences and techniques/tools employed in rescue/handling of Carnivores, Nongin, Deer group, Slow loris, Monkey, Himalayan Black Bear.



4. SPECIAL REPORTS

4.1 CAPTIVE BREEDING OF MRS. HUME'S BAR-BACKED PHEASANT OR *NONGIN*: THE STATE BIRD OF MANIPUR DURING 2018-19 AT MANIPUR ZOOLOGICAL GARDEN, IROISEMBA – A SUCCESS STORY

The male bird is large, up to 90cm long, forest pheasant with a greyish brown head, bare red facial skin, deep chestnut brown plumage, yellowish bill, brownish orange iris, white wing-bars and metallic blue neck feathers; a long greyish white, barred black and brown tail. The female is duller and shorter; up to 60cm long; chestnut brown bird with whitish throat, buff color belly and white-tipped tail. The weight of adult male is between 900 to 1080 gm and that of female is 650 to 850 gm.

This rare and little known pheasant is found throughout forested habitats in China, India, Burma and Thailand. In India, it occurs in Manipur, Mizoram, Nagaland and Arunachal Pradesh. They feed on fruits, seeds, leaves buds and roots, worms and insects.

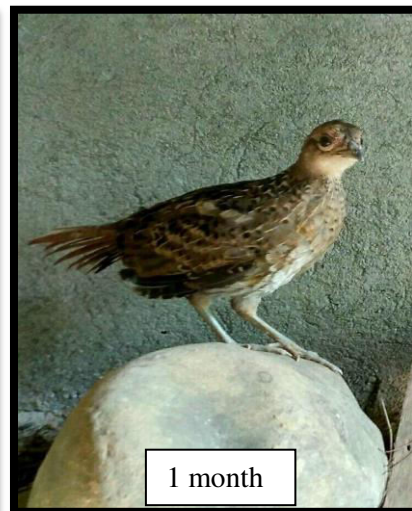
Housing: They are housed in a large, well planted aviary with including display area, porch, night shelter and feeding chamber. Breeder birds are housed under intensive care. After the breeding season, the male pheasants are separated as they attack female and cause casualty.

Upkeep: Diet – pheasant are naturally omnivorous; a mixture of paddy, bajra, wheat, gram, sorghum grains, poultry feed, leafy vegetable is ideal. A constant supply of clean water is required.

Breeding: They are seasonal breeders. Hens begin laying eggs about the beginning of April and continue into June. Pheasant hens are quite capable of incubating, brooding and raising young pheasants.

In *Nongin* Enclosure-I under MZG, one male chick was hatched on 14/05/2018 (shown). Another female chick was hatched on 13/06/2018 at Conservation Breeding Centre, Langol under MZG (shown).

NONGIN DURING VARIOUS STAGES OF DEVELOPMENT:



4.2 OBSERVATION OF *SANGAI* AT SECOND HOME FOR TRANSLOCATION TO MZG-AN INITIATIVE

A need has been felt to shift *Sangai* from the existing small population of 14 (fourteen) nos. at Conservation Breeding Centre, Langol to Manipur Zoological Garden for the purpose of exhibit and education to the public about the rare and endangered species.

LEGAL PROVISIONS: The capture and restraint of this critically endangered species would require permissions from the Director, Wildlife Preservation, Govt. of India and the Chief Wildlife Warden, Govt. of Manipur as per provisions of the Wildlife (Protection) Act, 1972 as amended in 2013.

SPECIES ATTRIBUTES:

Body length (adult stags)	170cm
Shoulder height (adult stags)	130cm
Body weight	90-125kg (male) & 60-80kg (female)
Age of sexual maturity	4 years for female
Gestation period	245-273 days
Litter size	1
Age at weaning	70-90 days
Breeding season	March –May
Lifespan	20 years
Inter-birth interval	1 year
Gestation period	245-273 days (majority of births between November to January)
Weight at birth	4.7-6kg
Mating system	Polygynous

DURATION/TIMING: Observation started from March 2018 to see the behavior and relationship between male and female hinds and their offspring daily between 6:30 am to 10:30 am in the morning and 2:30pm to 5:00pm in the afternoon, and is still under continuous observation to select the best male and female individuals.

SELECTION MODE: Two pairs will be selected for shifting. Rapid health assessment prior to actual operation would be carried out by the combined team of Wildlife Institute of India and Manipur Zoological Garden, Iroisemba.

This would include evaluation of body condition based on visibility of bony prominences and providing individual scores to animals as shown in the following table.

TRANSLOCATION: It will be carried out after getting approval from the concerned authorities.

BODY CONDITION EVALUATION FORM:

BODY PART	POINT=0	POINT-1	POINT-2	SCORE
FLANK AREA	Depression barely visible. Flank area outline is indistinct	Flank area slightly concave & outline visible	Depression concave and tucked in	
RIBS	Thoracic surface is smooth and ribs are difficult to see	Ribs are visible but not all can be counted with ease	Ribs prominent with distance inter-costal depression	
PELVIC GIRDLE	Bony projections of pelvic girdle are barely visible	Pelvic girdle outline slightly visible	Bony projections of pelvic girdle are clearly visible	
VERTEBRAL COLUMN	When seen laterally, it runs smooth without any breaks. Lumbar process visible	Lateral processes of lumbar vertebrae are visible but not prominent	Lateral processes of lumbar vertebrae very prominent. Dorsal processes of vertebrae seen	
LUMBAR SHELF	No depression in shelf. Appears almost round from behind	Slight depression on either side	Depression deep and concave	
Skin and coat	Smooth and shiny	Skin dry and rough	Haggard appearance, rough and dry	
BCI=				

Interpretation: 0-4= 'Good'; 5-7= 'Fair'; 8-10= 'Poor'

Body Condition Evaluation form
 Location _____ Species _____

Date	Age class	Sex	Scores for different body parts						BCI	Remarks
			1	2	3	4	5	6		

1-FLANK 2-RIBS 3-PELVIC GIRDLE 4-VERTEBRAL COLUMN
 5-LUMBAR SHELF 6-SKIN & COAT

Investigator/Signature _____

OBSERVATION BY WII SCIENTISTS LED BY DR. S.A. HUSSAIN



OBSERVATION BY DR. M. VIKRAMJIT SHARMA, WII SCIENTIST AND STAFFS OF MZG



