

ANNUAL REPORT 2019 - 2020



Padmaja Naidu Himalayan Zoological Park
Darjeeling • India

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**PADMAJA NAIDU
HIMALAYAN ZOOLOGICAL PARK**



1. Report of the Officer-in-Charge

The great majority of modern Zoos focus heavily on Conservation work and Education. Padmaja Naidu Himalayan Zoological Park has developed an international reputation for its Conservation work, in particular its breeding for release programmes for endangered and threatened native species. Padmaja Naidu Himalayan Zoological Park also has a strong commitment to its Community Education Programme about Conservation, Environmental Management, and the need to ensure Biodiversity.

This year the park welcomed the birth of cubs of 2 (2:0) Red Panda further strengthening the conservation breeding program for this animal. Unfortunately, a male Red Panda named Pokhraj died on 17.03.2020 who lived for 18 years-9 months, the oldest Red Panda in captivity in India and probably longest surviving Red Panda in the world according to ZIMS data. Similarly, a male Snow Leopard named Subash born on 08.07.2002 of 17 years old housed at PNHZ Park died on 01.11.2019.

Padmaja Naidu Himalayan Zoological Park exported two numbers (1:1) of Red Pandas (*Ailurus fulgens fulgens*) to Tierpark Berlin Zoo, Germany on 04.02.2020 under the animal exchange program.

The Park hosted the Second Red Panda Global Species Management Plan workshop organised by Red Panda Global Species Management Plan and West Bengal Zoo Authority, Government of West Bengal from 24.04.2019 - 27.04.2019. Invitations to all the foreign participants were sent out by Dr Angela Glatston. Invitations to the Indian participants were sent out by West Bengal Zoo Authority and Padmaja Naidu Himalayan Zoological Park. A total of forty-eight (48) participants, eleven (11) delegates from foreign regions and thirty-seven (37) Indian participants including six (6) participants from Padmaja Naidu Himalayan Zoological Park were invited. The main objective of the Second Red Panda GSMP Workshop was to review the roles of the global ex situ population and ex situ community in conservation. The meeting covered a revision of the previously accomplished goals along with analyses of current population status, global as well as regional challenges, successes, developments and future goals.

The park conducts the outreach programmes as mentioned in the Zoo calendar every year. This year the park celebrated the International Day of Biodiversity on 22nd May 2019 to increase understanding and awareness of biodiversity issues. World Environment Day was celebrated on 5th June 2019 with the theme "Air Pollution". This year, Van Mahotsav week was celebrated from 14th July 2019 to 20th July 2019. Padmaja Naidu Himalayan Zoological Park celebrated the event on 18th July 2019. Every year the park organises

sapling plantation in and around the park, involving all the staff of the park. The park celebrated its 61st foundation day this year. International Red Panda day was celebrated on 21st September 2019 to further support the breeding program by raising awareness among the visiting tourists, locals and students on the Red Panda, the threats faced by the species and the conservation efforts to save the species worldwide and by the park. The park in association with Hayden Hall Community Development Centre, Darjeeling celebrated Childrens' Day involving children from remote areas of Darjeeling. We also observed Child's Right Week in association with the District Child Protection Unit, Darjeeling by organizing an outreach program for local students and teachers. This year the park hosted 2271 students and 261 faculties from 53 institutes for educational tours of the park.

The Park undertook several important development and maintenance works. Erection of internal fencing to prevent intrusion of free ranging wild animals into display area, development of a drop and pick up facility for visitors, development of rain water harvesting facilities, installation of squeezing cage in Snow Leopard and tiger night shelters, replacement of polycarbonate sheets by toughened glass, improvement of Zoo workshop and development of office space are few important works executed during the financial year.

Darjeeling Zoo undertook four research projects titled "Status Survey of Himalayan Goral (*Nemorhaedus goral*) at Singalila National Park, Neora Valley National Park, Mahananda Wildlife Sanctuary, Senchal Wildlife Sanctuary and Kurseong Division", "Analysis Of Scat/ Dung/Pellets/Excreta of Various Animals and Birds In PNHZP, CBC Dowhill, CBC Topkeydara for presence of various parasites", "Haematological and Biochemical values of Captive animals at PNHZ Park" and "Red Panda Augmentation in Singalila National Park and Neora Valley National Park" The projects are at different stages.

Capacity building of the staffs was among the major activities that the park got involved into, the Director attended the Interactive Session at Central Zoo Authority, New Delhi on 22.05.2019. Dr Joy Dey, the veterinary officer of the Park attended the ZIMS training session from 12.06.2019-13.06.2019 at Zoological Garden, Alipore, Kolkata. CZA and Nandankanan Biological Park, Bhubaneswar organised the Middle level Official Training Programme from 16.07.2019-18.07.2019 which was attend by the Park's Estate Officer, Shri Shiroman Syangdan. Shri Badal Debnath, WBFS, Deputy Director of the park was invited as resource person to the workshop on use of chemical immobilization as a means to mitigate human-elephant conflict at Kochin, Kerala from 01.11.2019-02.11.2019. Similarly, the zoo keepers were sent to North Bengal Wild Animal Park, Siliguri from 22.02.2020-23.02.2020 for Training workshop on capture and tranquilization of animals.

2. History of the Zoo

The Padmaja Naidu Himalayan Zoological Park Darjeeling formerly known as Himalayan Zoological Park; Darjeeling was established on 14th August, 1958. In 1975 Late Smt. Indira Gandhi, then the Prime Minister of India, dedicated the Himalayan Zoological Park in memory of Late Smt. Padmaja Naidu, Ex-Governor of West Bengal and the Park was renamed Padmaja Naidu Himalayan Zoological Park. The land on which the Zoological Park is standing was acquired by the British Govt. in the late 19th Century and developed as a Public Park known as Birch Hill Park. After Independence the Govt. of India and the Govt. of West Bengal decided to develop the Birch Hill Park as Zoological Park for Conservation of Eastern Himalayan ecosystem.

Five (5) hectares of land in Topkeydara block under Senchal Wildlife Sanctuary was handed over to Padmaja Naidu Himalayan Zoological Park for construction of a Conservation Breeding Centre for Snow Leopard and Red Panda. The Conservation Breeding Centre for Snow Leopard (*Uncia uncia*) and Red Panda (*Ailurus fulgens*) at Topkeydara was funded by the Govt. of West Bengal and Central Zoo Authority. The centre was inaugurated on 08.10.2013 by the Honourable Minister-in-Charge (Forest) Shri Hiten Barman and North Bengal Development Minister Shri Gautam Deb, followed by the release of a pair of Snow Leopard by the two ministers.

The breeding centre currently houses 4:6 Red Pandas and 3:5 Snow Leopards. The breeding centre is currently staffed with two-night guards and three zoo keepers being supervised by the Estate Supervisor, PNHZP. The breeding facility is not open to visitors. The Veterinary officer and Zoo Biologist from PNHZ Park visit the facility once a week.

An area of 4.65 hectares and 1.28 hectares of forest land under Kurseong Forest Division was handed over to Padmaja Naidu Himalayan Zoological Park for construction of Satellite Zoo and staff quarters respectively. The existing infrastructure of erstwhile Deer Park was renovated and new infrastructure was created to take up conservation breeding of different herbivore and Pheasants. The breeding centre was inaugurated on 07.12.2011 by Shri Hiten Barman, Minister-in-Charge / Forests, Govt of West Bengal along with Shri Rohit Sharma, MLA, Kurseong. The satellite zoo was developed for the purpose of Pheasantry as well as conservation breeding of herbivores and Pheasants. The construction of an aviary, herbivore enclosures, staff quarters, Dy. Directors residential quarter and suspension bridge were taken up in stages.

The breeding centre has thirteen open enclosures for herbivores after partition. All the herbivore enclosures are fenced, equipped with night shelters and feeding platforms. The breeding centre has also been doing remarkably well. The Park has also come up with a 2-unit Pheasantry, adjacent to the previously constructed 7-unit Pheasantry. The 2-unit pheasantry was completed on 11.12.2014. The Pheasantry is complete with chick rearing and artificial incubation rooms, covering an approximate area of 426.43 sq. m. Electrification of the chick rearing house has also been complete and made functional. The breeding centre also has a veterinary hospital, keeper's quarters, record keeping room and the Deputy Directors bungalow.

Currently the breeding centre houses Golden Pheasant, Lady Amherst's Pheasant, Silver Pheasant, Temminck's Tragopan, Kaleej Pheasant, Red Jungle Fowl, Cheer Pheasant, Reeve's Pheasant, Blue Sheep, Himalayan Thar, Barking Deer and Himalayan Goral.



Our late Prime Minister Smt. Indira Gandhi along with late Chief Minister of West Bengal Shri Jyoti Basu visited the Zoo.

3. Vision

To establish as a leading zoological park dedicated to CONSERVATION BREEDING and CONSERVATION RESEARCH. Ensuring conservation of all endangered species and their eco systems through holistic approach towards captive management, education and research.

4. Mission

Assisting the National efforts for conservation of the endangered Eastern Himalayan Ecosystem by ex-situ conservation breeding, augmenting wild population and strengthening biodiversity conservation by education and research.

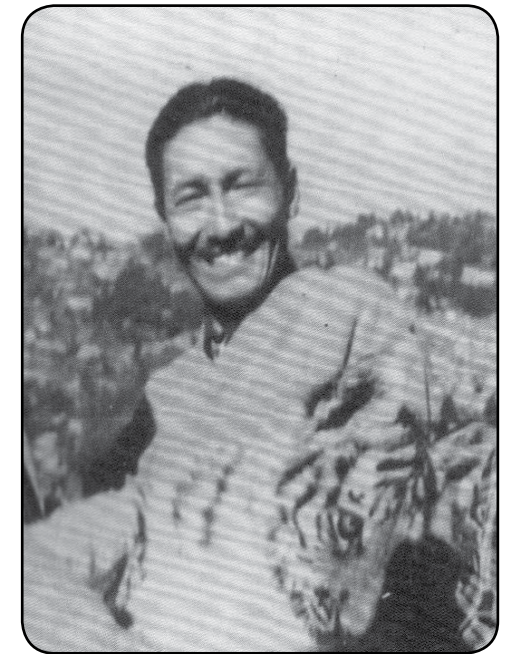
5. Objective

The Zoological Park is striving for the maintenance of ecological balance in the Eastern Himalayas with the following objectives:

- 1) Ex-situ Conservation & Captive breeding of endangered Himalayan animal species. Educating, motivating and initiating awareness campaign among the local people as well as the visitors on the importance of conservation of Himalayan eco-system.
- 2) Initiating applied research on animal biology, behaviour and health care.



Smt. Padmaja Naidu



Sri Tenzing Norgay in Zoo



Sri Viren J. Shah,
the then Governor of West Bengal



Smt. Padmaja Naidu



Smt. Indira Gandhi & Smt. Sonia Gandhi



Mr. A. L. Dias, the then Governor of West Bengal &
Mr. D. K. Dey, Director

6. ABOUT US

Basic Information about the Zoo

S. No.	Particulars	Information
1	Name of the Zoo	Padmaja Naidu Himalayan Zoological Park
2	Year of Establishment	14 th August, 1958
3	Address of the Zoo	Padmaja Naidu Himalayan Zoological Park, Jawhar Parbat (West), Dist Darjeeling, 734101
4	State	West Bengal
5	Telephone Number	0354-2253709/2254250
6	Fax Number	0354-2252522
7	E-mail address	pnhzp@yahoo.com
8	Website	www.pnhzp.gov.in
9	Distance from nearest	Airport: Bagdogra International Airport: 67 kms
		Railway Station: New Jalpaiguri Railway Station: 73.8 Kms
		Bus Stand: Tenzing Norgay Bus Stand, Siliguri: 64.1 kms
		Darjeeling Bus Stand: 2 kms
11	Category of zoo	Medium
12	Area (in Hectares)	Main Zoo including old breeding Centre - 27.341 hectares. The area as shown in the Master Layout Plan is the area within the RCC boundary wall. Apart from the area as shown in the Master Layout Plan, zoo has certain area which have staff quarters and other infrastructure which have not been calculated in the area in the Master Layout Plan. Conservation Breeding Centre for Herbivores and Pheasants, Dow Hill, Kurseong - 4.65 hectares and 1.28 hectares for Deputy Director residence and staff quarters. Conservation Breeding Centre for Red Panda and Snow Leopard, Topkeydara, 3 rd Mile- 5 hectares.
13	Number of Visitors (Financial Year)	Adult :
		Children :
		Total Indian : 7,24,198
		Total Foreigners : 9,042
		Total Visitors: 7,33,240

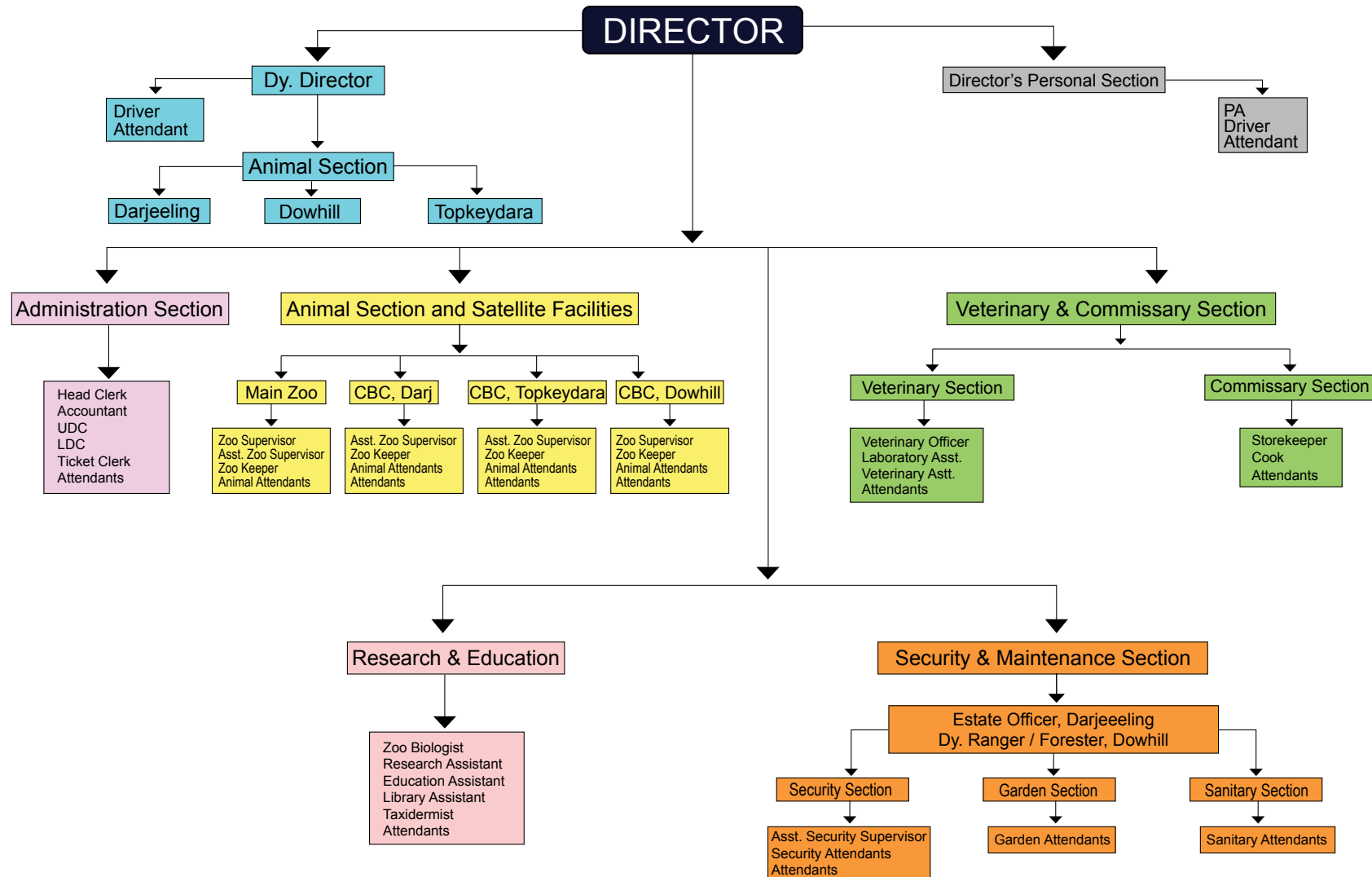


S. No.	Particulars	Information
14	Visitors' Facilities available in Zoo	i. Rain Shelter ii. Resting benches iii. Kiosks iv. Drinking water v. Toilets (Gents and ladies) vi. Child care rooms vii. Canteen viii. Photographers on payment ix. Wheelchairs x. Zoo guides on payment xi. Information brochures
15	Weekly Closure Day of the Zoo	Thursday
Management Personnel of the zoo		
16	Name with designation of the Officer in-charge	Shri Rajendra Jakher, IFS
	Name of the Veterinary Officer	Dr Joy Dey
	Name of the Curator	Shri Badal Debnath, WBFS
	Name of the Biologist	Ms. Upashna Rai
	Name of the Education Officer/ Assistant	Ms. Pranita Gupta
	Name of the Compounder & Lab Assistant	Compounder: Shri Pradip Singh & Lab Assistant: Shri. Vikash Chettri
Owner / Operator of the Zoo		
17	Name of the Operator	i. Principal Secretary, Department of Forest, Govt. of West Bengal. ii. Member Secretary, West Bengal Zoo Authority.
18	Address of the Operator	Aranya Bhavan, Block-LA, 10-A, Sector-III, Salt Lake, Kolkata-700106
19	Contact details/Phone number of Operator	Department of Forest, Govt. of West Bengal: Tel: 033 2335 7751 West Bengal Zoo Authority: Tel: 033-23355010
20	E-mail address of Operator	Department of Forest, Govt. of West Bengal: micforest@wb.gov.in West Bengal Zoo Authority: mswbza@gmail.com

* Rule 2(m) of the Recognition of Zoo Rules, 2009

7. Organizational Chart

PADMAJA NAIDU HIMALAYAN ZOOLOGICAL PARK, DARJEELING.



8. Human Resources

The number of post sanctioned in the 9th Governing Body Meeting was 53 and in the 15th Governing Body Meeting one post of Sub Assistant Engineer was approved.

Manpower of the Zoo

Sl.No.	Designation	Number of Sanctioned Posts	Names of the incumbent
1	Director	1	Shri Rajendra Jakher, IFS
2	Deputy Director	1	Shri Badal Debnath, WBFS
3	Assistant Director cum Veterinary Officer	1	Dr Joy Dey
4	Zoo Biologist	1	Mrs Upashna Rai
5	Sub Assistant Engineer (Civil)	1	Mr Saurav Sharma
6	Zoo Supervisor 1. PNHZ Darjeeling 2. Dow Hill	2	Mr Purna Ghissing Mr Arup Chanda
7	Museum Supervisor	1	-
8	Estate/ Security Supervisor	1	Mr Shiromani Syangden
9	Research Assistant	1	Miss Rohini Chettri
10	Education Assistant	1	Miss Pranita Gupta
11	Library Assistant	1	-
12	Taxidermist	1	Mr Sairus Bhaktaraj
13	Laboratory Assistant	1	Mr Vikash Chettri
14	Veterinary Assistant	2	Mr Pradip Singh
15	Asst. Zoo Supervisor 1. PNHZ-1 2. Old CBC-1	2	Mr Deepak Roka -
16	Asst. Estate/ Security Supervisor	2	Mr Siddharth Chettri
17	Gate Keeper	2	-
18	Driver	2	Mr Elvin Lepcha
19	Zookeepers 1. PNHZ Darjeeling -10 2. Old CBC-2 3. CBC Topkeydara-2 4. Dow Hill- 2	16	Mr Nipan Tamang, Mr Ruden Lepcha, Mr Amar Chettri, Mr Binod Kumar Subba, Mr Bidhan Tamang, Mr Sachin Sunam, Mr Nima Tamang, Mr Krishan Rai, Mr Sanil Rai, Mr Mahesh Gurung, Mr Pranay Thapa, Mr Pawan Subba, Mr Anil Das, Mr Umesh Rai, Mr Aditya Tamang and Mr Ranjit Thapa

20	Cook	2	Mr Samson Tamang -
21	Head Clerk	1	Mrs Karuna Niroula
22	Accountant	1	Mrs Sangita Lama
23	PA to Director	1	Mrs Mamta Subba
24	Storekeeper	1	Mr Ashim Gurung
25	UDC	1	Mrs Ranju Gurung
26	LDC	4	Mr Gopal Pradhan
27	OA/TA	2	Miss Preetika Lakhandri (TA) Mr Aaseem Z. Ansari (TA)
28	Ticket Clerk	2	Mr Mir Tshering Tamang Mr Amit Pradhan
	Total Permanent	54	
29	Support Staff (on Contract): a) Security 1. PNHZP -20 2. Old CBC-2 3. Topkeydara-4 4. Dow hill- 4	30	16 PNHZP - 11 Topkey - 3 Dowhill - 3 + 15 + (extra 1) engaged
	b) Sanitation	10	PNHZP - 3 Permanent + PNHZP-5
	c) Garden Attendant	10	3
	d) Attendants	14	PNHZP - 2 Permanent + 2
	e) Animal Attendants 1. PNHZP -10 2. Old CBC-2 3. Topkeydara-2 4. Dow hill- 2	16	PNHZP - 11 Old CBC - 1 Topkey - 3 Dowhill - 4 (extra 3 engaged)
	Total Contractual	80	
	TOTAL (Sanctioned post + contractual)	134	

9. Capacity Building of Zoo Personnel

Sl.No.	Name and Designation of the Zoo Personnel	Subject matter of Training	Period of Training	Name of the Institution where the Training attended
1	Shri Rajendra Jakher, IFS Director	Carbon Forestry	16.05.2019	Nature Interpretation Centre, Sukna
2	Shri Rajendra Jakher, IFS Director	Interactive session	22.05.2019	Central Zoo Authority, New Delhi
3	Dr Joy Dey, ADVO	ZIMS Training Session	12.06.2019 - 13.06.2019	Zoological Garden, Alipore, Kolkata
4	Shri Rajendra Jakher, IFS Director	Status of Environment, Forests and Wildlife in North Bengal - Role of Media	17.06.2019	Nature Interpretation Centre, Sukna
5	Shri Shiromani Syangden, Estate Officer	Middle level Official Training Programme	16.07.2019 - 18.07.2019	Nandankanan Biological Park, Bhubaneswar, Odisha
6	Shri Badal Debnath, WBFS Deputy Director	Use of Chemical Immobilization as a means to mitigate human-elephant conflict	01.11.2019 - 02.11.2019	Kochi, Kerala
7	Shri Ranjit Thapa, Shri Sunil Rai, Shri Dipen Gurung, Shri Rinchen Lama (Zoo keepers) and Shri Simon Gurung (Veterinary Assistant)	Training workshop for Zoo staff on capture of animals and tranquilization	22.02.2020 - 23.02.2020	North Bengal Wild Animal Park, Siliguri





Middle level Official Training Programme



Training workshop for zoo staffs on capture of animals and tranquilization at NBWAP, Siliguri

10. Zoo Advisory Committee

Date of constitution - 24.03.2012

Sl. No.	Members Name	Designation
1	Principal Chief Conservator of Forest (Wildlife) & Chief Wildlife Warden, West Bengal	Chairman
2	Member Secretary, WBZA	Convener
3	Director, Veterinary Sciences	Member
4	Director, PNHZ Park, Darjeeling	Member
5	Director, Zoological Park, Alipore	Member
6	CE/EE of WBZA	Member

Dates on which Meetings held during the year - The meeting was held on 12.04.2019

11. Health Advisory Committee

Date of constitution – 07.03.2018

Sl. No.	Members Name	Designation
1	Dr Basudeb Maity Joint Director, ARD IAH & VB (R&T), Belachia, Kolkata-37	Chairman
2	Dr. Joyjit Mitra, Specialist (Sero-Epidemiology) RDDL(ER), IAH & VB, Belachia, Kolkata-37	Member
3	Dr Debasish Chatterjee, Asst. Director, ARD (Vety) (Disease Investigation), IAH7VB, Belachia, Kolkata-37	Member
4	Dr Pralay Mandal, Asst. Director, ARD (Vety) Belachia, Kolkata-37	Member

Dates on which Meetings held during the year - The members of the Health Advisory Committee visited PNHZ Park on 17.07.2019 – 19.07.2019

12. Statement of Income and Expenditure of the Zoo

SI. No.	Year (2019-2020)	Receipt in Rupees	Expenditure in Rupees
1	Grant-in-Aid	Rs 6,03,00,000.00	Rs 6,01,11,431.54
2	State Plan	Rs 77,61,325.00	Rs 76,24,107.00
3	Entry fee and other Revenues	Rs 2,73,71,838.00	
TOTAL		Rs 9,62,23,799.00	Rs 6,77,35,538.54

13. Daily Feed Schedule of Animals

SI. No.	Species	Feed item	Quantity		Day of fasting
			Winter	Summer	
MAMMALS					
1	Red Panda <i>(Ailurus fulgens)</i>	i. Egg ii. Banana iii. Apple iv. Honey v. Milk vi. Bamboo leaves vii. other seasonal fruits like watermelon, orange, grapes, cucumber viii. Wild fruits, green leaves	1 pc 300 gms 200 gms 50 ml 400 ml 5 kgs 200 gms Upon availability	1 pc 200 gms 500 gms 50 ml 500 ml 4kgs 200 gms Upon availability	No fasting day observed
2	Snow Leopard <i>(Uncia uncia)</i>	i. Beef ii. Chicken iii. Mutton	2.5 kgs 2.5 kgs 2.5 kgs	2.5 kgs 2.5 kgs 2.5 kgs	Thursdays
3	Himalayan Wolf <i>(Canis lupus himalayensis)</i>	i. Beef ii. Chicken	1.5 kgs 1.5 kgs	1.5 kgs 1.5 kgs	Thursdays
4	Himalayan Tahr <i>(Hemitragus jemlachius)</i>	i. Crushed Maize ii. GramCrushed wheat iii. Barley iv. Salt v. Wheat Bran vi. Pulses (Mung/Masoor soaked) vii. Molasses viii. Turmeric ix. Green fodder	230 gms 65 gms 50 gms 120 gms 5 gms 130 gms 40 gms 50 gms 5 gms 8 kgs	180 gms 50 gms 40 gms 90 gms 5 gms 100 gms 30 gms - 20 gms 8 Kgs	No fasting day observed

5.	Himalayan Goral (<i>Naemorhaedus goral</i>)	i. Crushed Maize ii. Gram iii. Crushed wheat iv. Barley v. Salt vi. Wheat Bran vii. Pulses (Mung/Masoor soaked) viii. Molasses ix. Turmeric x. Green fodder	130 gms 35 gms 25 gms 50 gms 3 gms 65 gms 20 gms 50 gms 5 gms 8 kgs	130 gms 35 gms 25 gms 60 gms 3 gms 70 gms 20 gms - 20 gms 8 kgs	No fasting day observed
6.	Markhor (<i>Capra falconeri</i>)	i. Crushed Maize ii. Gram iii. Crushed wheat' iv. Barley v. Salt vi. Wheat Bran vii. Pulses (Moong/Masoor soaked) viii. Molasses ix. Turmeric x. Green fodder	230 gms 65 gms 50 gms 120 gms 5 gms 130 gms 40 gms 50 gms 5 gms 8 kgs	180 gms 50 gms 40 gms 90 gms 5 gms 100 gms 30 gms - 20 gms 8 kgs	No fasting day observed
7.	Barking Deer (<i>Muntiacus muntjac</i>)	i. Crushed Maize ii. Gram iii. Crushed wheat iv. Barley v. Salt vi. Wheat Bran vii. Pulses (Mung/Musur soaked) viii. Molasses ix. Turmeric x. Green fodder	130 gms 35 gms 25 gms 50 gms 3 gms 65 gms 20 gms 50 gms 5 gms 8 kgs	130 gms 35 gms 25 gms 60 gms 3 gms 70 gms 20 gms - 20 gms 8 kgs	No fasting day observed
8	Blue Sheep (<i>Pseudois nayaur</i>)	i. Crushed Maize ii. Gram iii. Crushed wheat iv. Barley v. Salt vi. Wheat Bran vii. Pulses (Mung/Masoor soaked) viii. Molasses ix. Turmeric x. Green fodder	230 gms 65 gms 50 gms 120 gms 5 gms 130 gms 40 gms 50 gms 5 gms 8 kgs	180 gms 50 gms 40 gms 90 gms 5 gms 100 gms 30 gms - 20 gms 8 Kgs	No fasting day observed

9.	Sambar Deer (<i>Rusa unicolor</i>)	i. Crushed Maize ii. Gram iii. Crushed wheat iv. Barley v. Salt vi. Wheat Bran vii. Pulses (Mung/Masoor soaked) viii. Molasses ix. Turmeric x. Green fodder	400 gms 100 gms 70 gms 230 gms 8 gms 200 gms 60 gms 50 gms 5 gms 40 kgs	300 gms 80 gms 50 gms 180 gms 8 gms 160 gms 48 gms - 20 gms 40 kgs	No fasting day observed
10.	Yak (<i>Bos grunniens</i>)	i. Crushed Maize ii. Gram iii. Crushed wheat' iv. Barley v. Salt vi. Wheat Bran vii. Pulses (Moong/Masoor soaked) viii. Molasses ix. Turmeric x. Green fodder	720 gms 190 gms 130 gms 320 gms 15 gms 390 gms 130 gms 50 gms 5 gms 40 kgs	550 gms 150 gms 100 gms 250 gms 15 gms 300 gms 100 gms - 20 gms 40 kgs	-
11.	Mishmi Takin (<i>Budorcas taxicolor taxicolor</i>)	i. Crushed Maize ii. Gram iii. Crushed wheat' iv. Barley v. Salt vi. Wheat Bran vii. Pulses (Moong/Masoor soaked) viii. Molasses ix. Turmeric x. Green fodder	400 gms 100 gms 70 gms 230 gms 8 gms 200 gms 60 gms 50 gms 5 gms 40 kgs	300 gms 80 gms 50 gms 180 gms 8 gms 160 gms 48 gms - 20 gms 40 kgs	-
12.	Royal Bengal Tiger (<i>Panthera tigris</i>)	i. Beef ii. Chicken	13 kgs 13 kgs	12 kgs 12 kgs	Thursdays
13.	Common Leopard (<i>Panthera pardus</i>)	i. Beef ii. Chicken iii. Mutton	2 kgs 2.5 kgs 2.5 kgs	2 kgs 2 kgs 2 kgs	-
14	Clouded Leopard (<i>Neofelis nebulosa</i>)	i. Beef ii. Chicken iii. Mutton	2.kgs 2 kgs 2 kgs	1.5kgs 1.5kgs 1.5kgs	Thursdays

15	Asiatic Black Bear (<i>Ursus thibetanus</i>)	i. Wheat chappati ii. Rice iii. Soup (beef/ mutton/ chicken) iv. Sattu balls v. Soaked, boiled and crushed chana vi. Vegetables like cabbage, potato, tomato, cucumber, raddish, carrot, turnip, peas, pumpkin, squash, tubers (locally available), maize, celery, all forms of leafy vegetables vii. Fruits like guava, apple (in less quantity), sugarcane, grapes, whole watermelon, lemon (locally available) viii. Honey ix. Milk x. Molasses xi. Boiled eggs	7 pcs 250 gms 1 lts 2 pcs 250 gms 1 kg 500 gms 250 ml 500 ml 250 gms 2pcs	200 gms 150 gms 1 lts 500 gms 200 gms 1kg 500 gms 50 ml 1000 ml - 1pc	-
16	Jackal (<i>Canis aures</i>)	i. Beef ii. Chicken	1 kg 1 kg	1 kg 1 kg	Thursdays
17	Leopard Cat (<i>Prionailurus bengalensis</i>)	i. Beef ii. Chicken	250 gms 250 gms	250 gms 250 gms	Thursdays
18	Himalayan Palm Civet (<i>Paguma larvata</i>)	i. Banana ii. Apple iii. Mutton with mutton heart	200-gms 200 gms 150 gms	100 gms 100 gms 100 gms	Thursdays
19	Asian Palm Civet (<i>Prionailurus hermaphrodites</i>)	i. Banana ii. Apple iii. Mutton with mutton heart	200 gms 200 gms 150 gms	100 gms 100 gms 100 gms	Thursdays
20	Common Grey Langur (<i>Semnopithecus entellus</i>)	i. Groundnuts ii. Potato/tubers iii. Green leafy vegetables, bamboo iv. Boiled egg v. Apple vi. Banana vii. fodder leaves.	400 gms 140 gms 300 gms 1pc 200 gms 200 gms	50 gms 100 gms 200 gms 1pc 100 gms 100 gms 400 gms	No fasting
21	Slow Loris (<i>Nycticebus bengalensis</i>)	i. Egg ii. Banana with other seasonal fruits	1 pc 150 gms	1pc 150 gms	No fasting
22	Jungle Cat (<i>Felis chaus</i>)	i. Beef ii. Chicken	500 gms 500 gms	400 gms 400 gms	Thursdays

PHEASANTS

Cheer Pheasant (*Catreus wallichii*), **Grey Peacock Pheasant** (*Polyplectron bicalcaratum*), **Kaleej Pheasant** (*Lophura leucomelana*), **Himalayan Monal** (*Lophophorus impejanus*), **Temminck's Tragopan** (*Tragopan temminckii*), **Red Jungle Fowl** (*Gallus gallus*), **Golden Pheasant** (*Chrysolophus pictus*), **Reeves Pheasant** (*Syrmaticus reevesii*), **Silver Pheasant** (*Lophura nycthemea*) and **Lady Amhrest** (*Chrysolophus amherstia*).

Feed item	Quantity		Day of fasting
	Winter	Summer	
i. Crushed maize	10 gms	10 gms	No fasting
ii. Onion	5 gms	5 gms	
iii. Garlic	5 gms	5 gms	
iv. Green & leafy vegetables (lettuce, cabbage, leaves of raddish, carrots, citrus fruits, turnip, palak, raya, simraya, raddish and carrot leaves kumra etc).	30 gms	30 gms	
v. Mutton heart	20 gms	20 gms	
vi. Wheat & paddy husk	30 gms	30 gms	
vii. Boiled egg with shell	1 /2 pc	1 /2 pc	
viii. Sattu Balls	10 gms	10 gms	
ix. Meal worms (if possible)	15 each	15 each	

EXOTIC BIRDS

Red and Blue Macaw (*Ares chloropterus*), **Blue and Gold Macaw** (*Ares chloropterus*), **Bare Eyed Cockatoo** (*Cacotua sanguine*), **Sulphur Crested Cockatoo** (*Cacotua sulphurea*) **African Grey parrot** (*Paittacus erithacus*), **Cocktaiels** (*Nymphicus hollandicus*), **Rose Breasted Cockatoo** (*Elophus roseicapilla*) and **Turaco** (*Tauraco*).

i. Groundnuts, soaked gram/pulses	25 gms	25 gms	No fasting
ii. Tomato (Solid)	25 gms	25 gms	
iii. Green Chilly (Solid)	5 gms	5 gms	
iv. Crushed Maize	10 gms	10 gms	
v. Green & leafy vegetables (seasonally available)	10 gms	10 gms	
vi. Apple	30 gms	30 gms	
vii. Banana	25 gms	25 gms	
viii. Kangni seeds	10 gms	10 gms	
ix. Sunflower seeds	60 gms	60 gms	
x. Meal worms (if possible)	15 each	15 each	

REPTILES

Species	Feed item	Quantity		Day of fasting
		Winter	Summer	
Indian Rock Python (<i>Python molurus</i>)	i. Live broiler 800 gms in 10 days ii. Albino mice every 10 days	Hibernation	1 no 2 nos	No fasting
Checkered Keelback (<i>Xenochroptis piscator</i>)	Fish after every 3-4 days		250 gms	No fasting
Indian Sand Boa (<i>Erynx johnii</i>), Rat Snake (<i>Ptyas mucosa</i>) Russell's Viper (<i>Daboia russelii</i>) and Himalayan Pit Viper (<i>Gloydius himalayanus</i>)	i. Day old chick every 10 days ii. Albino mice every 10 days		2 nos 2 nos	

14. Vaccination Schedule of Animals

Sl. No.	Species	Diseases vaccinated against	Name of the vaccine and dosage/quantity used	Periodicity	Remarks
1	Snow Leopard	Panleukopenia, Calcivirus, Herpesvirus, Rabies Infection	Biofel PCHR: 1 ml	Annually	Booster is given after 1 month
2	Common Leopard	Panleukopenia, Calcivirus, Herpesvirus, Rabies Infection	Biofel PCHR: 1 ml	Annually	Booster is given after 1 month
		Canine Distemper	Purevax: 1 ml	Annually	Booster given on 21st and 42nd day and annually thereafter
3	Clouded Leopard	Panleukopenia, Calcivirus, Herpesvirus, Rabies Infection	Biofel PCHR: 1 ml	Annually	Booster is given after 1 month
		Canine Distemper	Purevax: 1 ml	Annually	Booster given on 21st and 42nd day and annually thereafter
4	Royal Bengal Tiger	Panleukopenia, Calcivirus, Herpesvirus, Rabies Infection	Biofel PCHR: 1 ml	Annually	Booster is given after 1 month
		Canine Distemper	Purevax: 1 ml	Annually	Booster given on 21st and 42nd day and annually thereafter
5	Leopard Cat	Panleukopenia, Calcivirus, Herpesvirus, Rabies Infection	Biofel PCHR: 1 ml	Annually	Booster is given after 1 month
		Canine Distemper	Purevax: 1 ml	Annually	Booster given on 21st and 42nd day and annually thereafter
6	Jungle Cat	Panleukopenia, Calcivirus, Herpesvirus, Rabies Infection	Biofel PCHR: 1 ml	Annually	Booster is given after 1 month
		Canine Distemper	Purevax: 1 ml	Annually	Booster given on 21st and 42nd day and annually thereafter
7	Himalayan Palm Civet	Panleukopenia, Calcivirus, Herpesvirus, Rabies Infection	Biofel PCHR: 1 ml	Annually	Booster is given after 1 month
8	Asian Palm Civet	Panleukopenia, Calcivirus, Herpesvirus, Rabies Infection	Biofel PCHR: 1 ml	Annually	Booster is given after 1 month
9	Jackal	Canine Distemper Virus, Canine Parvo Virus, Canine Adenovirus Type 1, Canine Adenovirus Type 2, Canine Paraifluenza, Leptospira Canicola, Leptospira Icterohaemorrhagiae	MEGAVAC - 7	Annually	Booster is given after 1 month
		Rabies	RAKSHARAB	Annually	Booster is given after 1 month
10	Tibetan Wolf	Canine Distemper Virus, Canine Parvo Virus, Canine Adenovirus Type 1, Canine Adenovirus Type 2, Canine Paraifluenza, Leptospira Canicola, Leptospira Icterohaemorrhagiae	MEGAVAC - 7	Annually	Booster is given after 1 month
		Rabies	RAKSHARAB	Annually	Booster is given after 1 month

15. De-worming Schedule of Animals

SL. NO.	SPECIES	DRUG USE	MONTH
1	Pheasants And Birds	Piperazine Citrate Albendazole	April - September October - March
2	Jungle Cat	Praziquantel, Pyrantel Pamoate, Fenbendazole Fenbendazole Albendazole	April - June & January - March July - September October - December
3	Himalayan Palm Civet	Praziquantel, Pyrantel Pamoate, Fenbendazole Fenbendazole Albendazole	April - June & January - March July - September October - December
4	Asian Palm Civet	Praziquantel, Pyrantel Pamoate, Fenbendazole Fenbendazole Albendazole	April - June & January - March July - September October - December
5	Slow Loris	Praziquantel, Pyrantel Pamoate, Fenbendazole Fenbendazole Albendazole	April - June & January - March July - September October - December
6	Leopard Cat	Praziquantel, Pyrantel Pamoate, Fenbendazole Fenbendazole Albendazole	April - June & January - March July - September October - December
7	Common Grey Langur	Praziquantel, Pyrantel Pamoate, Fenbendazole Fenbendazole	April - June & January - March July - September & October - December
8	Red Panda	Praziquantel, Pyrantel Pamoate, Fenbendazole Fenbendazole Albendazole	April - June & January - March July - September October - December
9	Asiatic Black Bear	Praziquantel, Pyrantel Pamoate, Fenbendazole Albendazole Fenbendazole	April - June July - September & October - December January - March
10	Himalayan Goral	Fenbendazole Albendazole	April - June & October - December July - September & January - March
11	Himalayan Tahr	Fenbendazole Albendazole	April - June & October - December July - September & January - March
12	Markhor	Fenbendazole Albendazole	April - June & October - December July - September & January - March

SL. NO.	SPECIES	DRUG USE	MONTH
13	Sambar Deer	Fenbendazole Albendazole	April - June & October - December July - September & January - March
14	Yak	Fenbendazole Albendazole	April - June & October - December July - September & January - March
15	Blue Sheep	Fenbendazole Albendazole	April - June & October - December July - September & January - March
16	Mishmi Takin	Albendazole Fenbendazole	April - June, July-September & January - March October - December
17	Barking Deer	Fenbendazole Albendazole	April - June & October - December July - September & January - March
18	Jackal	Praziquantel, Pyrantel Pamoate, Fenbendazole Albendazole Fenbendazole	April - June July - September & January - March October - December
19	Tibetan Wolf	Praziquantel, Pyrantel Pamoate, Fenbendazole Albendazole Fenbendazole	April - June July - September & January - March October - December
20	Royal Bengal Tiger	Praziquantel, Pyrantel Pamoate, Fenbendazole Albendazole Fenbendazole	April - June July - September & January - March October - December
21	Clouded Leopard	Praziquantel, Pyrantel Pamoate, Fenbendazole Albendazole Fenbendazole	April - June July - September & January - March October - December
22	Common Leopard	Praziquantel, Pyrantel Pamoate, Fenbendazole Albendazole Fenbendazole	April - June July - September & January - March October - December
23	Snow Leopard	Praziquantel, Pyrantel Pamoate, Fenbendazole Albendazole Fenbendazole	April - June & January - March July - September October - December



16. Disinfection Schedule

Sl. No.	Species	Type of enclosure	Disinfectant used and method	Frequency of disinfection
1	All Species	Open	1. Virkon S: 10% Solution Sprayed	Every Fortnight
			2. Quick Lime: Sprinkled	Monthly (Herbivores only)
			3. Blow Flame: Flaming	Every Fortnight (Herbivores only)
2	All Species	Night Shelters	1. Virkon S: 10% Solution Sprayed	Every Fortnight
			2. Quick Lime: Sprinkled	Monthly (Herbivores only)
			3. Blow Flame: Flaming	Every Fortnight
			4. Gluteraldehyde Concentrate: 10% wash	Every day
			5. Potassium Permanganate: Foot bath	Every day
3	Herbivores	Keepers' Pathway	1. Sodium carbonate: 5% sprinkled	Monthly (Herbivores only)
4		Zoo Entrances	1. Sodium Hypochlorite: 5% Sprayed	Every day for every entry of vehicles
			2. Potassium Permanganate: Foot bath	Every day for visitors and staffs



17. Health Check-up of Employees for Zoonotic Diseases

Sl. No.	Name	Date of Health Check Up	Date of Health Check Up	Findings of Health Check Up
1	Shri. Badal Debnath	Deputy Director Cum Curator	22.08.2019	Negative for any Zoonotic Disease
2	Dr. Joy Dey	Asst. Director Cum Veterinary Officer	22.08.2019	
3	Shri. Shiromani Sangden	Estate Officer Cum Assistant Curator	22.08.2019	
4	Shri. Arup Chand	Ranger C.B.C., Dowhill Kurseong	22.08.2019	
5	Smt. Upashna Rai	Zoo Biologist	22.08.2019	
6	Shri. Purna Ghising	Animal Supervisor	22.08.2019	
7	Shri. Deepak Roka	Assistant Animal Supervisor	22.08.2019	
8	Shri. Siddarth Chettri	Assistant Estate Supervisor	22.08.2019	
9	Shri. Saurav Sharma	Sub Assistant Engineer	22.08.2019	
10	Shri. Ashim Gurung	Store Keeper	22.08.2019	
11	Shri. Pradeep Kr. Singh	Veterinary Compounder	22.08.2019	
12	Shri. Vikash Chhetri	Veterinary Laboratory Assistant	22.08.2019	
13	Miss Pranita Gupta	Research Assistant	22.08.2019	
14	Miss Rohini Chettri	Research Assistant	22.08.2019	
15	Shri. Sairus Bhaktaraj	Taxidermist	22.08.2019	
16	Shri. Suresh Reshmi	Forest Guard	22.08.2019	
17	Shri. Simon Gurung	Veterinary Compounder	22.08.2019	
18	Smt. Mamta Subba	Personal Assistant	22.08.2019	
19	Smt. Anju Sarwan	Office Peon	22.08.2019	
20	Miss Sabita Sunwar	Office Peon	22.08.2019	
21	Smt. Sangita Lama	Accountant	22.08.2019	
22	Smt. Preetika Lakandri	Tally Accountant	22.08.2019	
23	Shri. Mahesh Gurung	Zoo Keeper	22.08.2019	
24	Shri. Nima Tamang	Zoo Keeper	22.08.2019	
25	Shri. Amar Chettri	Zoo Keeper	22.08.2019	
26	Shri. Umesh Rai	Zoo Keeper	22.08.2019	
27	Shri. Ruden Lepcha	Zoo Keeper	22.08.2019	
28	Shri. Neepan Tamang	Zoo Keeper	22.08.2019	
29	Shri. Ranjit Chettri	Zoo Keeper	22.08.2019	
30	Shri. Sujit Rai	Zoo Keeper	22.08.2019	
31	Shri. Arjun Tamang	Zoo Keeper	22.08.2019	
32	Shri. Lakpha Tamang	Zoo Keeper	22.08.2019	
33	Shri. Ashik Rai	Zoo Keeper	22.08.2019	
34	Shri. Jugal Rai	Zoo Keeper	22.08.2019	

Sl. No.	Name	Date of Health Check Up	Date of Health Check Up	Findings of Health Check Up
35	Shri. Anil Rai	Zoo Keeper	22.08.2019	Negative for any Zoonotic Disease
36	Shri. Pema Dorjee Bhutia	Zoo Keeper	22.08.2019	
37	Shri. Mani Tamang	Zoo Keeper	22.08.2019	
38	Shri. Deepan Gurung	Zoo Keeper	22.08.2019	
39	Shri. Aswin Gurung	Zoo Keeper	22.08.2019	
40	Shri. Sanjeep Tamang	Zoo Keeper	22.08.2019	
41	Shri. Binod Subba	Zoo Keeper	22.08.2019	
42	Shri. Gulsan Gurung	Zoo Keeper	22.08.2019	
43	Shri. Buddha Tamang	Zoo Keeper	22.08.2019	
44	Shri. Rinchan Lama	Zoo Keeper	22.08.2019	
45	Shri. Pawan Lepcha	Zoo Keeper	22.08.2019	
46	Shri. Ningma Sherpa	Zoo Keeper	22.08.2019	
47	Shri. Dhiran Rai	Zoo Keeper	22.08.2019	
48	Shri. Pawan Subba	Zoo Keeper	22.08.2019	
49	Shri. Sudhan Chettri	Zoo Keeper	22.08.2019	
50	Shri. Sujeet Pahari	Zoo Keeper	22.08.2019	
51	Shri. Anil Tamang	Zoo Keeper	22.08.2019	
52	Shri. Kamal Shashankar	Blacksmith-cum-Electrician	22.08.2019	
53	Shri. Subash Sharma	Night Guard	22.08.2019	
54	Shri. Ashok Chettri	Forest Guard	22.08.2019	
55	Shri. Sharda Dayali	Staff	22.08.2019	
56	Smt. Urimila Balmiki	Staff	22.08.2019	
57	Smt. Urimila Ghising	Staff	22.08.2019	
58	Shri. Chandrapal Balmiki	Sweeper	22.08.2019	
59	Smt. Chanda Devi Balmiki	Sweeper	22.08.2019	
60	Shri. Bharat Rasaily	Mali - Plumber	22.08.2019	
61	Shri. Dawa Sherpa	Staff	22.08.2019	
62	Shri. Deepak Chawan	Staff	22.08.2019	
63	Shri. Kishor Baraily	Staff	22.08.2019	
64	Shri. Roshan Bhujal	Staff	22.08.2019	
65	Shri. Bikash Tamang	Staff	22.08.2019	
66	Shri. Amit Pradhan	Staff	22.08.2019	
67	Shri. Rakesh Sundas	Staff	22.08.2019	
68	Shri. Nawang Sherpa	Staff	22.08.2019	
69	Shri. Jiten Tamang	Staff	22.08.2019	
70	Shri. Tashi Sherpa	Staff	22.08.2019	
71	Shri. Chandan Tamang	Staff	22.08.2019	

18. Development Works carried out in the Zoo during the year 2019-2020

SI no	Name of Work
1	Erection of internal fencing to prevent intrusion of free ranging wild animals into display area
2	Development of a drop and pick up facility for visitors
3	Construction of water filtration tanks for Rain water Harvesting below Director's office, BNHM building
4	Installation of squeezing cage in Snow Leopard and Tiger night shelters
5	Provisioning of toughened glass in front of Leopard Cat, Asian Palm Civet, Slow Loris, Jungle Cat and Himalayan Palm Civet enclosure for better view and reduction of noise for visitors
6	Improvement of Zoo Workshop and development of Office Space
7	Provision of ante-room to conference hall of BNHM
8	Provision of wooden and glass partition for better working space in Research section
9	Construction of Rain Shelters near Aviary
10	Modification of Hedge planters, flower plants and beautification in front of Office, Rest house and various enclosures.
11	Provision of sitting benches and wheelchairs for visitors at various places at PNHZ Park
12	Improvement of Snow Leopard night shelter and enclosure by undertaking damp proofing
13	Construction of boundary fencing of A.D.V.O. quarter for improvement of security

19. Education and Awareness Programmes during the year 2019-2020

The outreach programme of the Park involves students of all levels including trainees. The programme includes a tour of the park followed by an interactive session where topics such as role and functions of the Modern Zoo, Conservation Breeding Programmes, Environmental Issues and the work of the zoo in working towards conserving rare and endangered species are discussed. Educational material regarding information on the housed animals of the park, Conservation Breeding Programmes of the zoo, its biodiversity etc. are distributed to the students along with notebooks and lunches.

During the year 2019-2020 the education wing of the Park attended to 2453 students and 314 faculties from 55 institutes, till 16th March, 2020. The zoo was closed from 17th March onwards.

Date	Name of school/ Training institute/ Colleges/ Universities	Number of students/ trainees	Number of teachers/ instructors	Education incentives
10.04.2019	Rama Krishna Siksha Parishad Higher Secondary School, Darjeeling	31	10	Education Materials, Visit to Zoo and Interaction
15.04.2019	Turnbull Primary School, Darjeeling	27	19	Education Materials, Visit to Zoo and Interaction
15.04.2019	Forest Guard Trainees, State Environment & Forestry Training Institute, Dimapur	25	04	Education Materials, Visit to Zoo and Interaction
30.04.2019	Glenmore International School, Mirik	50	06	Education Materials, Visit to Zoo and Interaction
12.05.2019	Range Officer Trainees, East India Tour of Forest Range Officers Training Batch 2018-19, Uttarakhand Forestry Training Academy	26	03	Education Materials, Visit to Zoo and Interaction
14.05.2019	Debinagar K.C.R. Vidyapith Higher secondary School, Raiganj	40	08	Education Materials, Visit to Zoo and Interaction
20.05.2019	Mukh Bandh Kam Suru (NGO), Darjeeling	12	01	Education material, Visit to Zoo and Interaction
21.05.2019	Risheehat Higher Secondary School, Darjeeling	60	04	Education material, Visit to Zoo and Interaction
21.05.2019	New Light Academy, Marybong	87	15	Education material, Visit to Zoo and Interaction
04.06.2019	Camellia School Darjeeling	10	04	Education material, Visit to Zoo and Interaction
05.06.2019	Minerva Academy, Kalimpong	21	05	Education material, Visit to Zoo and Interaction
18.06.2019	Goke High School, Darjeeling	32	05	Education material, Visit to Zoo and Interaction
05.07.2019	St. Joseph's School	22	03	Education Materials, Visit to Zoo and Interaction / Lecture
08.07.2019	St. Joseph's School	28	04	Education Materials, Visit to Zoo and Interaction
29.07.2019	Edith Wilkins Street Children Trust Fund	71	05	Education Materials, Visit to Zoo and Interaction
24.08.2019	St. Joseph's School	115	02	Education Materials, Visit to Zoo and Interaction
24.08.2019	St. Joseph's School	106	02	Education Materials, Visit to Zoo, Interaction and Packet lunch
02.09.2019	Birch Hill Academy	11	03	Education Materials, Visit to Zoo and Interaction
04.09.2019	Gujarat Forest Ranger College, FRO Trainees	34	02	Education Materials, Visit to Zoo and Interaction
16.09.2019	Indira Gandhi National Forest Academy, IFS Trainees	20	01	Education Materials, Visit to Zoo and Interaction
21.09.2019	Kamarpota Ramkrishna Vidyamandir (H.S.)	54	19	Education Materials, Visit to Zoo and Interaction / Lecture
23.10.2019	Gyangap Tashiding, West Sikkim	40	04	Education Materials, Visit to Zoo and Interaction

23.10.2019	Mothers Nursery School, Darjeeling	40	10	Education Materials, Visit to Zoo and Interaction
25.10.2019	Samdong Primary School	28	4	Education Materials, Visit to Zoo and Interaction
25.10.2019	Don Bosco English School	38	2	Education Materials, Visit to Zoo and Interaction
05.11.2019	Neshu Yuwa Kendra Sangathan, Darjeeling	52	4	Education Materials, Visit to Zoo and Interaction
06.11.2019	Maharani Girls Primary School, Darjeeling	17	06	Education Materials, Visit to Zoo and Interaction
06.11.2019	St. Josephs School, Darjeeling	118	03	Education Materials, Visit to Zoo and Interaction
08.11.2019	Crayons Preparatory School, Darjeeling	65	10	Education Materials, Visit to Zoo and Interaction
08.11.2019	Kerala Agriculture University, College of Horticulture	57	4	Education Materials, Visit to Zoo and Interaction
13.11.2019	Cantonment Board & Primary School Jalpahar, Lebong, Darjeeling	33	10	Education Materials, Visit to Zoo and Interaction
13.11.2019	Pinewood School, Darjeeling	75	10	Education Materials, Visit to Zoo and Interaction
13.11.2019	Kumudini Home, Kalimpong	70	04	Education Materials, Visit to Zoo and Interaction
13.11.2019	Ringtong T.E. Primary School, Darjeeling	12	10	Education Materials, Visit to Zoo and Interaction
15.11.2019	Dr. Grahams Homes, Kalimpong	32	04	Education Materials, Visit to Zoo and Interaction
15.11.2019	Govt. Primary School, Lower Sikkim	13	07	Education Materials, Visit to Zoo and Interaction
16.11.2019	Sri Satya Sai Saraswati Vidya Mandir Primary School, Kalimpong	25	08	Education Materials, Visit to Zoo and Interaction
18.11.2019	Smyrna English School	16	06	Education Materials, Visit to Zoo and Interaction
18.11.2019	Zion Academy, Darjeeling	25	04	Education Materials, Visit to Zoo and Interaction
18.11.2019	District Child Protection, Kanchanjunga Primary School	19	04	Education Materials, Visit to Zoo and Interaction
19.11.2019	Singla T.E. Primary School	10	02	Education Materials, Visit to Zoo and Interaction
20.11.2019	University of Agriculture Science, Bangalore	51	03	Education Materials, Visit to Zoo and Interaction
27.11.2019	Notre Dame Primary School, Darjeeling	40	05	Education Materials, Visit to Zoo and Interaction
02.12.2019	St. Teresa's School, Darjeeling	210	08	Education Materials, Visit to Zoo and Interaction
03.12.2019	Banbhole High School, North Bengal	56	01	Education Materials, Visit to Zoo and Interaction
03.12.2019	Telangana State Forest Academy, FRO Trainees	40	01	Education Materials, Visit to Zoo and Interaction
06.12.2019	Lower Santosh, M.S.K. School, Algarah, Kalimpong	26	05	Education Materials, Visit to Zoo and Interaction
06.12.2019	Anulia High School, Anulia, Ranaghat, Nadia	26	11	Education Materials, Visit to Zoo and Interaction
03.01.2020	65 th Batch of FG Trainees, West Bengal Forest School, DowHill	32	02	Education Materials, Visit to Zoo and Interaction
24.01.2020	St. Joseph's School, North Point Winter Camp	79	16	Education Materials, Visit to Zoo and Interaction
27.01.2020	St. Joseph's School, North Point Winter Camp	65	14	Education Materials, Visit to Zoo and Interaction
02.02.2020	CASFOS, Burnihat, Assam	36	02	Education Materials, Visit to Zoo and Interaction
18.02.2020	Karnataka Forest Academy, Dharward	39	02	Education Materials, Visit to Zoo and Interaction
26.02.2020	Telangana State Forest Academy, Dulapally, Hyderabad	41	1	Education Materials, Visit to Zoo and Interaction
15.03.2020	Karnataka State Forest Academy, RFO Trainees, Dharwad, Karnataka	45	02	Education Materials, Visit to Zoo and Interaction



Educational Tour of Glenmore International School, Mirik



Educational tour of New Light Academy, Marybong



Educational Tour of Debinagar K.C.R Vidyapith Higher Secondary School, Raiganj



Educational Tour of Goke High School, Darjeeling





Educational Tour of Camelia School, Darjeeling



Educational Tour of Range Officer Trainees, East India Tour of Forest Range Officers, Training Batch 2018-19



Educational Tour of Gujarat Forest Ranger College, FRO



Educational Tour of Indira Gandhi National Forest Academy, IFS Trainees





Educational Tour of Dr. Grahams Homes, Kalimpong



Educational Tour of Zion Academy, Darjeeling



Educational Tour of District Child Protection, Kanchanjunga Primary School



Educational Tour of Telangana State Forest Academy, FRO Trainees



Educational Tour of Nesha Yuva Kendra Sangathan



20. Important Events and Happenings

Celebration of International Biodiversity Day

Padmaja Naidu Himalayan Zoological Park celebrated the International Day of Biodiversity on 22nd May 2019 to increase understanding and awareness of biodiversity issues. The theme for 2019 is “Our Biodiversity, Our Food, Our Health”. This year’s celebrations aims to leverage knowledge and spread awareness of the dependency of our food systems, nutrition, and health on biodiversity and healthy ecosystems and also celebrates the diversity provided by our natural systems for human existence and well-being on Earth, while contributing to the Sustainable Development Goals.

An extempore competition based on the theme of the day involving students from different local schools in Darjeeling were invited to participate. A total of five (5) students including three (3) participants, two (2) audience members from class IX and X, and one (1) faculty member were invited from eight (8) schools. The total number of attendees were forty nine (49) out of which twenty four (24) were participants in the extempore competition. The participant school list is as follows:

Sl. No.	Name of School	No of Participants
1.	Vidya Vikash Academy	3
2.	Camellia School	3
3.	Assembly of God Church School	3
4.	North Point School	3
5.	St. Pauls School	3
6.	West Point School	3
7.	Gyanoday Niketan	3
8.	Notre Dame Academy	3

The Extempore competition was judged by Dr Joy Dey, Assistant Director-cum-Veterinary Officer and Mr Shiromani Syangden, Estate Officer, Padmaja Naidu Himalayan Zoological Park.

The event commenced at 10 am with the registration of the students and teachers, followed by a welcome address by Dr Joy Dey, ADVO, PNHZ Park and hi-tea. The extempore competition was followed by the screening of a wild life movie along with the distribution of packet lunch to all the students and teachers. The programme ended with the prize distribution and vote of thanks by Miss Rohini Chettri, Research Assistant, PNHZ Park.

The programme for the event was as follows:

World Biodiversity Day 2019 Programme

10:00 am	- 10:15 am	:	Registration
10:15 am	- 10:30 am	:	Welcome address by Dr Joy Dey, ADVO, PNHZ Park
10:30 am	- 10:45 am	:	Hi-Tea
10:45 am	- 11:45 am	:	Preparation time for students
11:15 am	- 1:30 pm	:	Extempore Competition
1:30 pm	- 2:00 pm	:	Lunch/ Screening of wildlife movie
2:30 pm	- 2:30 pm	:	Remarks of the Judges & Prize Distribution
2:30 pm	- 3:00 pm	:	Vote of thanks

For the Extempore competition, the students were given topics relevant to the theme for this year's International Biodiversity day. Each participant picked out a different topic for their extempore speech through a luck draw system on the day of the event. All the participants were given one hour to prepare for their speeches based on the topic picked out and each student was given a maximum time of 5 (five) minutes each to speak on their respective topics.

Sl. No.	Topics
1	Biodiversity acts as a key catalyst in transforming food systems and improving human well-being.
2	Biodiversity might be the cure for modern sickness - and lower health costs as well.
3	Sustainable urban food systems.
4	Biodiversity reveals the treasure all around us, how local varieties can support nutrition and food security.
5	Local food systems offer long term sustainable solutions to communities.
6	Biodiversity plays a crucial role in food security, nutrition, livelihoods and in the provision of ecosystem services.
7	Sustainable food system- A healthy perspective.
8	Challenges to achieve a healthy and sustainable food systems.
9	Impact of climate change on agriculture, nutrition and health.
10	Interaction between sustainable food systems, health and industrial crop systems.
11	Agriculture, Biodiversity and Ecosystem services - Together is better.
12	Different food, different impact.
13	Agricultural sectors - the big enemy or a strong ally for biodiversity?
14	Healthy sustainable diets for future generations.
15	Issues with sustainable food consumption.
16	Sustainable management of water resources.
17	Agro biodiversity for food security, health and income.
18	Social issues in sustainable agriculture.
19	Environmental issues in sustainable agriculture.
20	Economic issues in sustainable agriculture.
21	Challenges in water sanitation and health.
22	How sustainable agriculture can address the environmental and human health harms of industrial agriculture?
23	Climate change, food security and chronic diseases.
24	Food security: Why is biodiversity important?



The students were judged based on relevance to the topic, presentation of ideas, language, confidence and fluency. The winners list and their topics are as follows:

Prize	Name	School	Topic
1 st	Master Bipashwee Lama	North Point school	Biodiversity reveals the treasure all around us, how local varieties can support nutrition and food security.
2 nd	Master Pranav Gurung	Gyanoday Niketan	Local food systems offer long term sustainable solutions to communities.
3 rd	Miss Sneha Dubey	Notre dame Academy	Biodiversity might be the cure for modern sickness- and lower health costs as well.

The winners were presented with books related to Biodiversity, Environment and Conservation along with a certificate. All the participants were given certificates and education materials from the zoo along with packet lunches and caps. The teachers too received educational materials from the park.

The main purpose of organizing an extempore competition for senior students of various local schools was to open a dialogue in between students and also between students and authorities that contribute towards conservation efforts and to understand the students perception and knowledge about our biodiversity, the problems plaguing it along with ways to counter the loss of biodiversity through individual and collective efforts.



CELEBRATION OF WORLD ENVIRONMENT DAY, 2019

Padmaja Naidu Himalayan Zoological Park, celebrated World Environment Day on 5th June 2019. This year's theme was "Air Pollution". The park organized poster making competition to celebrate the event and to educate students about environmental issues and the importance of working towards conservation.

The invitation to participate in the event was sent out to different local schools of Darjeeling who were requested to send three students each from either or class V- VI along with a teaching staff. A total of eight (8) schools accepted the invitation to compete in the event. Twenty-four (24) students and eight (8) teachers of different schools of Darjeeling participated in the programmes.

Sl. No.	Name of School	Number of Participants
1.	St. Michaels Higher Secondary School	3
2.	St. Robert's Higher Secondary School	3
3.	Municipal Boys Higher Secondary School	3
4.	Ram Krishna Siksha Parishad Higher secondary School	3
5.	St Teresa's School	3
6.	Mount Carmel School	3
7.	North Point Academy	3
8.	Nepali Girls Higher Secondary School	3

The event started at 10:00 am with registration of all the participants followed by a welcome address by Dr Joy Dey, ADVO & Shri Shiromani Syangden, Estate Officer, PNHZ Park. The participants were given an hour for poster making. After the poster making competition, the participants were shown a wildlife movie during lunch. The program ended with the prize distribution and vote of thanks.

The programme for the event was as follows:

WORLD ENVIRONMENTAL DAY 2019 PROGRAMME

10:00 am	-	10:40 am	:	Registration & Welcome Address
10:40 am	-	11:00 am	:	Tea & Snacks
11:00 am	-	12:00 noon	:	Poster Making Competition
12:00 noon	-	12:30pm	:	Lunch and Wildlife Movie
12:30 pm	-	1:00 pm	:	Results & Vote of Thanks

The theme for the Poster making competition was "Air pollution" and was judged by Dr Joy Vey, Assistant Director cum Veterinary officer, PNHZP and Shri Kiran Moktan, former Animal Supervisor, PNHZ Park & artist. The participants were judged on the basis of relevance to the topic, their ideas and their ability to portray their ideas.

The winners list is as follows:

Prize	Name of Student	School
1st	Miss Meghna Sharma	North Point Academy
2nd	Master Koangtshen Lepcha	St Roberts Higher Secondary School
3rd	Miss Tshering Doma Sherpa	Mount Carmel School

The 1st, 2nd and the 3rd prize winners were presented with a certificate and books as prizes. All the participants were also given certificates, educational materials and caps. The teachers were also given educational materials. All the attendees of the program were also given packet lunches and refreshments. The posters created by the students were also kept on display at the Bengal Natural History Museum at the Park for visitors to create awareness on World Environment Day.

The main aim of organizing such a programme was to get children from primary division of local schools involved and educated regarding environmental issues and conservation measures and also to grasp their understanding on the particular subject and to broaden their knowledge.



VAN MAHOTSAV CELEBRATIONS

Van Mahotsav is a week-long festival of tree planting and is organised every year in the month of July all across India where lakhs of trees are planted. Van Mahotsav was launched in the year 1950 by Shri Kanhaiyalal. M. Munshi, the then Union Minister for Agriculture and Food to create an enthusiasm in the popular mind for the preservation of forest and planting of trees, as “trees mean water, water means bread and bread is life”. It was also hoped that it would create tree consciousness among the people.

This year, Van Mahotsav week was celebrated from 14th July 2019 to 20th July 2019. Padmaja Naidu Himalayan Zoological Park celebrated the event on 18th July 2019. Every year the park organises sapling plantation in and around the park, involving all the staff of the park.

This year in addition to the zoo staff, the park celebrated the event with students from St Roberts Higher Secondary School and Rama Krishna Siksha Parishad Higher Secondary School. The program for the day included an interactive session on waste management followed by the sapling plantation ceremony, waste collection along the nature's trail within the Park's forest and compost making class.

The interactive session on waste management included a talk on the current situation of the waste management in Darjeeling, waste segregation and the principles of reduce, reuse, recycle and refuse and methods by which we can apply these principles practically in our everyday life. The students were then given a practical demonstration on how to reduce kitchen waste by making compost. The students were also explained the principle of water harvesting system at the park along with a practical demonstration. This was followed by lunch after which the students were taken to the nature trail in the Park Forest where saplings were planted by the zoo staff and students and plastic waste was collected from the forest area. Educational materials were also distributed to the students and teachers.

The aim of the program was to create awareness on the current situation of waste management in Darjeeling, raise awareness and empathy and encourage active participation in solving the problem of waste management plaguing Darjeeling town.



Presentation and Interactive Session on Waste Management



Demonstration of the Water Harvesting System at PNHZ Park



Compost Making Class



Plantation of Saplings at PNHZ Park



Cleanliness Drive at PNHZ Park

INTERNATIONAL RED PANDA DAY 2019 CELEBRATION

International Red Panda Day is celebrated on the third Saturday of November every year. This year the day fell on 21st September 2019. With the decline in the habitat of the Red Panda, International Red Panda day hopes to encourage people to learn about these animals and help save the biome in which they live. Padmaja Naidu celebrated the International Red Panda Day on 21st September 2019.

Students and teachers from local schools were invited for various activities like Mask Making Competition, Essay Writing Competition, Poster Making Competition and Experiential Story Telling. The participating schools were also asked to bring posters for a poster presentation. The theme for the event was "Conservation of Red Panda: International Red Panda Day". The Park had also planned a procession with the students displaying the posters within the Park for local visitors

and tourists before lunch and a procession up to Chowrasta at the end of the event. However, the procession had to be cancelled because of rain. The posters were displayed on the terrace of the new Bengal Natural History Museum for the local visitors and tourists with the aim of creating awareness on the species and its conservation.

An experiential story telling session was conducted by Miss Minkit Lepcha. Experiential Story Telling is creative storytelling that creates a strong emotional connection between the listener and the story by creating a connection through touch, smell, vision and sound. The stories focused on the Red Panda and aimed to create empathy among the students regarding the animals. Pamphlets on International Red Panda day with information on the species were distributed among the students, teachers and visitors.

Program for Celebration of International Red Panda Day

9:30 am	-	10:00 am	:	Registration & Welcome Speech by Director, PNHZ Park
10:00 am	-	10:15 am	:	Tea Break
10:15 am	-	11:15 am	:	Mask Making Competition for Class IV & V and Essay Writing Competition for Class VII & VIII
11:15 am	-	11:45 am	:	Procession in the Zoo with posters
11:45 am	-	12:15 pm	:	Lunch
12:15 pm	-	12:30 pm	:	Prize Distribution
12:30 pm	-	2:30 pm	:	Experiential Story Telling with Miss Minkit Lepcha
02:30 pm	-	4:00 pm	:	Procession to Chowrasta
04:00 pm	-	4:30 pm	:	Poster Presentation at Chowrasta
4:30 pm			:	Dispersal of Students



The winners of the competition were as follows:

Event	Prize	Winner	School
Mask Making Competition	1 st prize	Miss Shaina Chettri	Loreto Convent
	2 nd prize	Miss Samiksha Mukhia	Sardeshwari Government girls High School
	3 rd prize	Master Hangsawa Rai	St Joseph's School
Essay Writing Competition	1 st prize	Miss Chimme Pema Gurung	Notre Dame Academy
	2 nd prize	Miss Soumyashree Thapa	Loreto Convent
	3 rd prize	Miss Pema Doma Sherpa	Assembly of God Church School
Poster Competition	1 st prize	Rama Krishna Siksha Parishad	
	2 nd prize	Loreto Convent	
	3 rd prize	Assembly of God Church School	







CELEBRATION OF FOUNDATION DAY, 2019

Padmaja Naidu Himalayan Zoological Park celebrated its 61st Foundation Day on 14th August 2019. In its 61 years, Padmaja Naidu Himalayan Zoological Park has successfully bred endemic species of the Eastern Himalayan range and is also the only zoo in the world to successfully reintroduce captive Red Pandas into the wild. The park has also successfully bred Snow Leopards and the breeding program is the most successful Snow Leopard Breeding Program in South East Asia. The zoo is involved in the conservation breeding of several high-altitude Pheasants and herbivores. The park was awarded the Earth Hero Award in 2014 by the Royal Bank of Scotland for its contribution to ex-situ conservation breeding of animals. Apart from its Conservation Breeding programs, the park also organises outreach programs to educate the local population on the local flora and fauna and the importance of conservation. The Park will continue to work towards its goal of Conservation, Research and Education.

This year, the park celebrated Foundation day by holding a series of events involving the staff of the Park. The program for the event was as follows:

- 7:00 am : Race from the Old Conservation Breeding Centre to PNHZ Park.
- 9:00 am : Flag hoisting
- 1:00 pm : Evaluation of all beats at PNHZ Park
- 3:00 pm : Quiz Competition for Zoo Keepers and Security Personnel
- 4:00 pm : Cultural Programme for Zoo staff & Family and Drawing Competition for Children of Staff, PNHZP

This year, a race was held at 7:00 am for the zoo staff. The race had three divisions 1. 50-60-year-old staff 2. 40-50-year-old, 3. Below 40 years and 4. Female division. The race for participants in the first and fourth division was from Main Gate, PNHZ Park to HMI gate, the race second and third division was from main gate, PNHZ Park via zoo forest leading to old CBC to the main gate, PNHZ Park.

The winners of the race are as follows:

Division	Winner
50-60 years	First Prize: Amar Chettri (Zoo keeper)
	Second Prize: Deepak Roka (Assistant Animal Supervisor)
40-50 years	First Prize: Vikash Chettri (Lab Technician)
	Second Prize: Suresh Reshmi (Forest Guard)
Below 40 years	First Prize: Sahil Gurung
	Second Prize: Rinchen Lama (Zoo Keeper)
	Third Prize: Lakpa Tamang (Zoo Keeper)
Women	First Prize: Hemlata Pradhan (Security)
	Second Prize: Aarti Rai (Gardener)
	Consolation Prize: Mrs. Chanda Balmiki (Sweeper)

All the zoo staff assembled in front of the Director's bungalow at 9:00 am for the hoisting of the Zoo flag along with singing of the Zoo Anthem. Director, PNHZ Park, Dr. Joy Dey, Assistant Director cum
46 Veterinary officer and Shri Shiromani Syangden, Estate Supervisor PNHZ Park addressed the staff after, followed by the distribution of sweets.

Beat evaluation was on the basis of cleanliness of enclosures and shelters, enrichment of enclosures, knowledge and observation of animals by keepers, self hygiene and cleanliness of keepers, bio security measures adopted, record keeping and self-initiative of beat keepers with regard to animals and birds of the beat, knowledge of feed, feed removal and feed replenishment, willingness to learn about birds, animals, diseases occurring in the beat and ability to understand the importance of instructions and follow them. The winners of the beat evaluation were as follows:

Beat Evaluation	First prize: Off-display Conservation Breeding Centre for Red Panda and Snow Leopard, Topkeydara
	Second Prize: Beat V (Herbivore Section)

A quiz competition regarding basic animal information, identification, animal welfare and captive management was also held for the zoo keepers and security staff. The winners of the competition were as follows:

Quiz Competition	First prize: Mr Binod Kumar Subba (Zoo Keeper)
	Second Prize: Mr Ruden Lepcha and Mr Ranjeet Thapa (Zoo Keeper)
	Third Prize: Mr Lakpa Tamang (Zoo Keeper)

The celebrations ended with prize distribution, followed by cultural show organised by PNHZ Park staff.





INDEPENDENCE DAY CELEBRATION

The Park celebrated the 73rd Independence Day of India along with the rest of the country on 15th August 2019. The Park staff assembled outside the Director's residence for flag hoisting and singing of the National Anthem. The flag hoisting was conducted by Shri Rajendra Jakher IFS, Director, PNHZ Park at 9am. The staff was addressed by the Director after the National Anthem followed by the Shri Shiromani Syandan, Estate officer, PNHZ Park and Shri Purna Ghissing, Animal Supervisor, PNHZ Park. Sweets were distributed to the staff and the day was observed as a holiday.



OBITUARY TO OUR BELOVED RED PANDA "POKHRAJ"

PNHZ Park is deeply saddened to inform that our beloved Red Panda named "Pokhraj" left for his heavenly abode on the morning of 17.03.2020. Pokraj was born on 18.6.2001 to dam Ekta and sire Gora at PNHZ Park. He lived for 18 years-9 months. He was the oldest living Red Panda in captivity in India and probably the longest surviving Red Panda in the world. He was very active, playful, he loved climbing trees & was very fond of bananas. He will always remain in our hearts and memory.



RED PANDA GLOBAL SPECIES MANAGEMENT PLAN WORKSHOP
24th APRIL - 27th APRIL, 2019



INAUGURATION and TECHNICAL SESSION



VISIT TO PNHZ PARK ▲

VISIT TO SINGALILA NATIONAL PARK ▼



VISIT TO CONSERVATION BREEDING CENTRE, TOPKEYDARA ▲

GROUP PICTURE OF THE PARTICIPANTS ▼



21. Seasonal Special Arrangements for upkeep of Animals.

Winter (end November – February):

1. Bedding materials provided to the following animals
Leopard cat, Jungle Cat, Asian Palm Civet, Himalayan Palm Civet, Slow Loris, Asiatic Black Bear.
2. Curtains in all the night shelters for warmth.
3. Heaters, and Blowers in the night shelters.
4. Luke warm water for drinking for all the animals.
5. Quantity of Molasses and honey increased to animals like herbivores Asiatic Black bear and Red Panda.
6. Knitted thatched roof of dry bamboo used for covering the roof of the enclosures.
7. Bedding materials like blankets and straw provided for all the reptiles. Reptile house closed for the visitors.
8. Wooden platforms and wooden frames provided in the night shelters for warmth.



Monsoon (June- September)

1. De-humidifiers used in the night shelters to lower the humidity.
2. Polythene sheets to cover the roof of the enclosures to keep the enclosures and the Kraal area dry.
3. Shelters in the enclosure of the herbivores.
4. Regular clearing of enclosures with thick overgrowths.
5. Care taken to keep the night shelters dry for animal retirement at night.
6. Pheasants with chicks kept inside the chick rearing room.

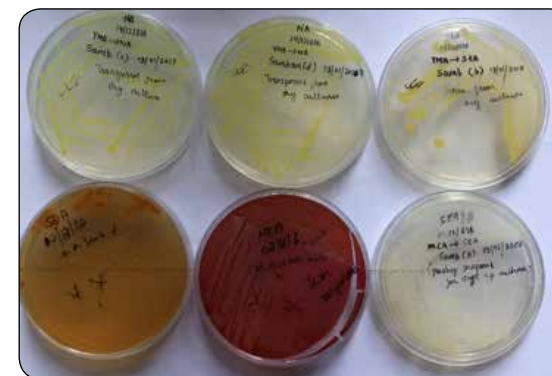


Spring (March- May)

1. Enrichments for all species done - wooden platforms, aerial walkways, breeding boxes.
2. Feeding enrichments

22. Research Work carried out and Publications

SI. No.	Name	Institute	Tenure	Area of Work
1	Director Padmaja Naidu Himalayan Zoological Park	Padmaja Naidu Himalayan Zoological Park, Darjeeling.	The project is ongoing	Red Panda Augmentation programme in Singalila National Park and Neora Valley National Park
2	Director Padmaja Naidu Himalayan Zoological Park	Padmaja Naidu Himalayan Zoological Park, Darjeeling.	Initiated from June 2017. The project is ongoing.	Status Survey of Himalayan Goral (<i>Nemorhaedus goral</i>) at Singalila National Park, Neora Valley national Park, Mahananda Wildlife Sanctuary, Senchal Wildlife Sanctuary and Kurseong Division.
3	Director Padmaja Naidu Himalayan Zoological Park	Padmaja Naidu Himalayan Zoological Park, Darjeeling.	The project is ongoing	Analyses of scat/dung/pellets/excreta
4	Dr Mousumi Poddar Sarkar, Prof, Chemical Signal and Lipidomics Lab. Dept of Botany (Center of advance study UGC.)	PNHZ Park in collaboration with University of Calcutta.	April 2017 - March 2018 / April 2018 – 31 st March 2020.	“Marking fluid” (MF) and urine samples of mammals of Felidae family of captive Indian Tiger, Clouded Leopard, Black Leopard, Common Leopard, Snow Leopard, Leopard Cat from PNHZ Park Darjeeling.
5	Director Padmaja Naidu Himalayan Zoological Park	Padmaja Naidu Himalayan Zoological Park, Darjeeling.	The project is ongoing	Haematological and biochemical values of captive animal at PNHZ Park
6	Director Padmaja Naidu Himalayan Zoological Park	Padmaja Naidu Himalayan Zoological Park, Darjeeling.	The project is ongoing	Study of Microflora and Microfauna at PNHZ Park, Darjeeling



23. Conservation Breeding Programme of the Zoo

SNOW LEOPARD

- Extremely threatened due to hunting, killing, IUCN (2006) lists as endangered (EN-C2a (i) on the IUCN Red List and IWPA lists it as a Schedule I species. CITES includes it as an Appendix I species. Population estimated below 2500.
- Snow Leopard is an extremely beautiful animal distributed along the habitat scattered throughout a vast region surrounding the Central Asian deserts and plateaus ranging from Afghanistan to Uzbekistan. Throughout most of its range, Snow Leopards are associated with arid and semi-arid shrub-land, grassland or steppe. The species is generally found at elevation between 3000m -4600m, although they are known to go above 5500 m in the Himalayas. Steep terrain broken by cliffs, ridges, gullies and rocky outcrops is preferred, although in certain parts like Mongolia and Tibet plateau they can be found in relatively flat country. In India, Snow Leopard is distributed in the Himalayan chain from Kashmir to Sikkim, northwards their territory extends into Tibet, Central Asia and the Altias in the region of stupendous rock and cliff above the tree- line some 12,000 -13,000ft (3660-3965m) above sea level.
- Hunting of the Snow Leopard is one of the major threats to the species. Snow Leopards have been hunted out of many of the areas of the high Central Asian Mountain. There is a demand for Snow Leopard bone from the Chinese medicine trade. Garments of Snow Leopard fur were once highly priced in fashion world and although no longer in International trade, fur coats and novelty furs have seen for sale in shops throughout China, Taiwan and Mongolia.
- The species have become extremely rare in many parts of its native habitat. In India, where Snow Leopards occur on the southern slopes of the Himalayas. The species is listed as endangered under the Wildlife Protection Act (1972). In this respect PROJECT SNOW LEOPARD (PSL), a flagship species programme to strengthen wildlife conservation in the Himalayan high altitude was launched.
- PNHZ Park started work on captive breeding project of this rare species in the year 1983. Apart from a number of insitu conservation efforts, a global captive breeding programme is in place. Darjeeling zoo has been a part of this initiative since 1986.
- Experts Dr. Ingo Rieger and D. Walzthoeny from USA inspected the site in July 1983 and gave their approval.
- Site selection for off-display conservation breeding centre for Snow Leopard is the North-Western corner of Jawahar Parbat (Birch Hill) at an altitude of 27 degree and longitude 88-degree East. Altitude is 6900ft.
- Founder stock of Snow Leopard at PNHZ Park (1986 - 2015)

Sl. No.	Name of the animal	Sex	International Stud book Number	Acquired from
1	Kashi	F	1005	Zurich
2	Vishna	M	620	Helsinki
3	Persia	F	697	Toledo Zoo
4	Hank	M	1059	Litterock
5	Quizil	M	1472	Zurich
6	Quilla	F	1473	Zurich
7	Quetta	F	1474	Zurich
8	Tyson	M	1850	Hubstrand - Sweden
9	Neeta	F	2228	Leh
10	Meeta	F	-	Srinagar



- A total of fifty-nine Snow Leopard births have been recorded in the park. The table below depicts the birth at an interval of every five years and their survivality.

YEAR	SEX RATIO / TOTAL BIRTH						
	M	F	U	Total birth	M	F	Total survivality
1986-1991	0	2	2	4	0	0	0
1992-1996	6	3	1	10	1	2	3
1997-2001	8	5	0	13	1	2	3
2002-2006	11	7	1	19	5	4	9
2007-2013	6	4	0	10	0	1	1
2014-2019	2	1	0	3	1	0	1
Total	33	22	4	59	8	9	17

* Wild caught founder (“Meeta” 227) did not make any contribution to the breeding programme.

- Padmaja Naidu Himalayan Zoological Park in 2003 had 18 Snow Leopards (9:9), one of the largest captive population, in a single zoo, in the world.
- Next step was to have at least 4-5 stable captive population of Snow Leopards at different high-altitude zoos in the country, before any release/restocking in the wild can be contemplated. In 2004, a pair each of Snow Leopard was sent from Darjeeling zoo to Himalayan Zoological Park, Gangtok, Pandit Govind Ballabh Pant High Altitude Zoo, Nainital and Himalayan Nature Park, Kufri, Shimla to start subsidiary Snow Leopard -breeding centers in these Himalayan zoos.
- In between 2004-2013 three individuals died with one cub survival that skewed the option for breeding leaving the captive stock with ten individuals and with limited breeding pairs. The analysis done so far regarding the population management of Snow Leopard in the facility came up with the following recommendations:
 - Scientific management of the Breeding programme including development of husbandry protocols.
 - In order to maintain the genetic variability and to provide with larger breeding options animal exchange should be made regularly in consultation with the International Stud book keeper. Individuals > 16 years should not be considered for breeding.

- Demographic and genetic analysis mandatory of captive stock.
- Newer breeding facilities to be established.
- Based on the recommendations —

A short-term research on the “Study of Snow Leopards” funded by Central Zoo Authority looked into developing ex-situ husbandry aspects particularly to look into persistent problems that existed in the breeding programme majorly cub mortality and brittle bone diseases. The research work proved to be beneficial and provided recommendations for creating appropriate facilities for breeding, cub care and their survivality. Adopting these methods, the 3 cubs born in 2012 and 2014 survived. Besides this the research work helped in giving inputs during the establishment of the new breeding centre for the Snow Leopards where the night shelters, breeding dens, enclosures, veterinary facilities have been developed based on the recommendations of the findings.

Genetic study of the captive stock was done by LaCONES, CCMB. Reports concluded that 1:1 out of the total captive stock are genetically more vibrant when compared with other samples and the two individuals can be used for Conservation Breeding.

Studbook analysis: Inbreeding - not advisable, low co-efficient - advisable. Demographic analysis suggested that new founders be added to the captive population and the population size be increased to at least 100 individuals with equal sex ratio in the period of next ten years. The population projection for both actual and modelled population suggest that the goal of maintaining at least 100 genetically viable and demographically stable individuals in captivity in India cannot be achieved without the addition of fresh founders and utilizing the reproduction potential of the captive population to the maximum.

Based on the genetic and demographic analysis of the captive stock 2:2 individuals were included in the captive. The captive stock in June 2014 was as follows:

Total population and their sex ratio: 11 (3:8)

- Death of one male in 2014, death of 2 males in 2015 and 1 male in 2016 skewed the breeding options leaving the Park with 1 male and 8 females.
- Two males acquired from Dudley Zoo, London and Mulhouse Zoo, France in consultation with the International Stud Book Keeper.
- One of the males used for breeding, three litters born to this male.

Sl. No.	Name	Stud#	Sex	Birth Date	Sire	Dam	Location	Transponder	Remarks
1	Tista	2399	F	29.03.2002	1897	2228	Darjeeling	00-0611-4DB1	
2	Ritu	2538	F	11.03.2004	1897	2228	Darjeeling	981098102056547	
3	Yashmin	2540	F	25.05.2004	1850	1797	Darjeeling	ID-00-00F6-8A38	
4	Rare	2994	F	19.06.2012	2405	2538	Darjeeling	956000002158446	
5	Kim	2846	F	29.05.2012	2566	2430	Nurnberg	3968000005548177	Acquired from Nurnberg Zoo, Germany on 11.10.12
6	Zima	2861	F	06.05.2010	2469	2274	Lepzig Zoo	968000005542846	Acquired from Lepzig Zoo, Germany on 06.10.13
7	Morning	3159	F	02.05.2014	2401	2862	Darjeeling	0007155A51	
8	Makalu	3140	M	17.04.2014	2826	2813	Dudley Zoo, London	956000001458313	Acquired from Dudley Zoo, London on 25.06.16
9	Namkha	3141	M	16.06.2016	1847	2887	Mulhouse Zoo, France	250228730005176	Acquired from Mulhouse Zoo, France on 01.09.16
10	Mayur	3335	M	04.03.2018	3141	2861	Darjeeling	981098102056183	
11	Unnamed	3336	F	04.03.2018	3141	2861	Darjeeling	981098102057956	

Future Works:

- 1) Regular genetic demographic and hormonal analysis of the captive stock to ensure maximum genetic variability.
- 2) Behavioural study in captivity.
- 3) Research on the health issues of the species in young, adults and old individuals. Frequent occurrence of pneumonia, brittle bone disease, what leads to the occurrence of such diseases in higher frequency in captivity? Its preventive measures etc.
- 4) More exchange programmes.
- 5) Linkage of the *ex-situ* conservation with *in-situ* conservation.



RED PANDA

- Red Panda *Ailurus fulgens* is a small mammal of the Himalayas, almost of the size of the Jungle Cat with chestnut coat and ringed tail. It is distributed in the Himalayas from Central Nepal through northern Burma in the mountains of South-Western China at altitudes between 900-13,000 feet. In India, Red Panda is distributed in Sikkim, Darjeeling Hills and Arunachal Pradesh.
- Red Panda is threatened by habitat loss and fragmentation. Red Panda was also hunted and trapped in large number to be kept as pets and for supply to zoos all over the world. The species is enlisted as Endangered by the IUCN (2006) with a declining population in its distribution range. The species is a protected species in all its range countries (Nepal, Bhutan, India, Burma and China). In India the species receives protection under the Indian Wildlife Protection Act (1972). The species is also under the CITES I Appendix. Population estimated below 2500.
- In captivity, a global captive breeding program is in place something which started in the early 1990s in Europe. Padmaja Naidu Himalayan Zoological Park, Darjeeling which at present has 17 (10:7) Red Pandas is also a part of this breeding program for the Red Panda. The zoo was able to restock four Red Pandas back to the wild as a Conservation initiative.
- A planned Conservation Breeding Project as a part of the Global Captive Breeding Project as a part of the Global Captive Breeding Master Plan was initiated in early nineties in the Zoological Park in response to the International Conservation efforts, through initiation of the project and improvement/modification of existing housing facilities which already existed.
- Zoological Park had one male (Basant) and three females (Amita, Chanda and Divya) all of wild origin in the stock at the beginning of the Project in 1990. Hence one male "Oscar" (DOB June 29,1992) was brought from Rotterdam Zoo in April 1, 1993 to augment the existing population of 4 Red Pandas in the zoological Park.
- The first successful planned breeding of Red Panda occurred on 20.06.1994 when two cubs "Ekta" and "Friend" were born to "Basant" and "Amita".
- Hari (DOB – June 30, 1993, Rotterdam), Gora (male, DOB - June 25,1993, Koln) and Indira (female DOB - June 26,1993, Madrid) arrived in Darjeeling on November 10, 1994 to include new blood and to continue the planned breeding programme.
- PNHZ Park in 2003 had a stable and genetically healthy population of 21 Red Pandas in captivity. A pair at Gangtok Zoo, Sikkim (a subsidiary breeding center established in the region) also started breeding.
- The zoological park was in a position of realizing the ultimate objective of the project of releasing zoo bred Red Pandas in the wild in the Singalila National Park (SNP), to begin with.
- Guidelines stipulated by the IUCN for re-introduction/re-stocking of captive born wild animals were followed in totality for the programme. All necessary clearances from Govt. of India and Govt. of West Bengal were obtained for the purpose.
- Pre-release monitoring of the Red Panda population and habitat in the Gairibans area of the Singalila National Park was organized during November/December, 2002.
- DNA based analysis was conducted in collaboration with Centre for Cellular and Molecular Biology (CCMB), Hyderabad for taxonomic status and genetic variability studies.
- Both the animals were shifted to the intermediary release facility at Gairibans for acclimatization and kept there for 3-4 months. Though they were in the wild, they were still under the supervision and observation of some of the zoo staffs posted there. When the animals were thought to have acclimatized well to the environment, they were finally released into the wild.
- Radio collars of appropriate size and weight were fitted on the animals for their post-release monitoring for at least 12 months (or till batteries of the collars were functional).
- Out of the two female Red Pandas (Mini and Sweetie) released in 2003, Sweetie gave birth to a cub in July 2004 in a hollow of an Oak tree in Gairibans (SNP, Darjeeling).
- In 2007 and 2008 two wild caught males were added to the captive stock to increase the breeding potential.
- In 2010 one captive born female was brought from Auckland Zoo, New Zealand to add variability to the existing population.

- In 2012 Red Panda census was carried out in two phases, the objective of the census was to conduct meetings and train locals for the census, assess the population number, and assess the habitat. Further verification of the population status by genetic analysis through fecal samples of the other existing animals in the Red Panda habitat, threat analysis, and GIS Mapping of both the National Parks.
- 31 Red Pandas through direct sighting in both National parks. Through genetic analysis 38 in SNP (17:4:17) and 32 (12:13:7) in Neora Valley National Park (NVNP).
- A short-term research Project was also initiated from March 2012-2014 funded by Central Zoo Authority on “Study of Red Panda (*Ailurus fulgens*) in *ex-situ* facilities in co-relation with *in-situ* facilities for Conservation Breeding funded by Central Zoo Authority.
- The genetic analysis of blood and faecal samples observed showed that captive Red Panda at PNHZP, Darjeeling are genetically vibrant and can be used selectively for Conservation breeding (CCMB) in 2013.
- A collaborative work on the Red Panda Stress level-hormonal analysis with LaCONES, CCMB completed, results indicates cyclicity of all female individuals in 2013-2014.
- A Research project “Study on housing, enclosure enrichment, evaluation of existing housing and enrichment practices” also funded by Central Zoo Authority conducted by Wildlife Institute of India also includes the species Red Panda.
- New breeding facility at Topkeydara for the Red Pandas.
- A short-term research Project was also initiated from March 2013-2015 funded by Central Zoo Authority on “Red Panda Nutrition - Towards an integrated approach”.
- Population Habitat Viability Analysis (PHVA) for Red Panda done on November 2014.
- Pt. Govind Ballabh Panth High Altitude Zoo, Nainital approved as participating Zoo by Central Zoo Authority vide letter F.N.O 24-7/2007-CZA(Vol.II)(A)/3613 dated 25.9.2013.
- A pair of Red Panda was transferred to Nainital Zoo on 25.11.14. The pair gave birth to two cubs in 2015, thus ensuring a captive population that shall later assist the breeding programme at Darjeeling Zoo.
- One captive female was added to the captive stock from Sikkim Zoo for further breeding.
- Singalila National Park conducted Red Panda census on 22nd-24th March 2018. The scats collected from the census were sent to IISER, Kolkata for genetic analysis. Neora Valley NP conducted Red Panda census from 14th -17th March 2019. The scats collected from the census have been sent to IISER, Kolkata for genetic analysis as done for the samples from Singalila NP.
- A two-day Interstate meeting held at PNHZ Park on 28th-29th March, 2018 recommended to release Red Pandas in the wild habitat in Singalila National Park and Neora Valley National Park.
- A draft proposal of “Red Panda Augmentation Programme in Singalila National Park and Neora Valley National Park in West Bengal” was submitted to PCCF (WL) & CWLW, West Bengal vide memo no 1101/SO19/(VolIV PartI)PRP (Release)/PNHZP/18-19 dated 12.03.2019 jointly by the CCF Wildlife (North) and Director, PNHZ Park.
- The final project proposal titled “Red Panda Augmentation in Singalila National park and Neora Valley National Park, West Bengal”, of total outlay of Rs 16,65,62,500 for a period of five years, was approved by the Office of the Deputy Inspector General of Forests (WL), Ministry of Environment, Forest and Climate Change, Wildlife Division vide memo 1-21/2019 WL dated 25.06.2019, by the PCCF & CWLW, West Bengal vide memo no C-46022/01/2019 dated 04.09.2019 and by the Central Zoo Authority vide memo no 24-7/2007-CZA(D)/1435/2019 dated 12.09.2019.
- As a part of the augmentation project, PNHZ Park conducted genetic analysis of its Red Panda by LaCones, CCMB, Hyderabad and IISER, Kolkata. On the basis of the results of the genetic analysis 2:2 Red Panda were selected for release at SNP and 2:2 Red Panda were selected for release at NVNP. The selected animals to be released at SNP have been shifted to CBC, PNHZ Park. They will be shifted to the soft release facility at Gairibans for further acclimatization.
- The Second Red Panda Global Species Management Workshop was organised by the West Bengal Zoo Authority and hosted by PNHZ Park, Darjeeling held on April, 2019. It was attended by 11 foreign delegates including the International Stud book keeper of Red Panda & GSMP convener, Dr Angela Glatston, Rotterdam Zoo and 37 delegates from 7 states in India. It was decided that PNHZ Park will get 4 Red Pandas from Australia and Europe to infuse fresh blood.
- PNHZ Park under the animal exchange programme exported 2 (1:1) “Joel” & “Shine” Red Pandas to Tierpark Berlin, Germany on 05.02.2020.

Current stock of Red Panda as on 31st March 2020

Sl. No.	Name	Stud Book No.	Sex	Sire	Dam	Dt. of Acquisition	DOB	Transponder No.
1	Ram	1088	M	John	Sheetal	Captive born	22.6.10	0006B82659
2	Janaki	1089	F	John	Sheetal	Captive born	22.6.10	0006B7428B
3	Rigsel	0789	F	Rahul	Lucky	31.10.11 from Sikkim Zoo	28.05.07	0006B7107E
4	Smile	12123	F	Kaijalay	Samridhi	Captive born	19.6.2012	956000002159372
5	Shifu	13175	M	Kaijalay	Rigsel	Captive born	27.6.2013	956000002147924
6	Kitchi	13176	F	Kaijalay	Rigsel	Captive born	27.6.2013	956000002145534
7	Shova	11116	F	Ram	Lucky	22.02.2014 from Sikkim Zoo	07.6.2011	956000002158277
8	Balam	15117	M	Kaijalay	Janaki	Captive born	07.6.2015	00074C5ADA
9	Prashana	15118	F	Ram	Shova	Captive born	16.6.2015	000715472D
10	Noel	15119	M	Shifu	Sheetal	Captive born	14.7.2015	0007152F07
11	Karma	10118	F	Ram	Lucky	23.11.2015 from Sikkim Zoo	3.6.2010	956000002158469
12	Angela	1794	F	Balam	Rigsel	Captive born	08.7.2017	00074D578B
13	Yeshe	1795	F	Balam	Rigsel	Captive born	08.7.2017	00075043AE
14	Pabu	1796	M	Shifu	Prashana	Captive born	16.7.2017	007152639
15	Sunita	1889	F	Shifu	Janaki	Captive born	29.6.2018	00071F3684
16	Kimbu	1890	M	Noel	Kitchi	Captive born	09.07.2018	0074C5D9E
17	Numa	1891	F	Noel	Kitchi	Captive born	09.07.2018	000715305B
18	Nikki	1892	F	Noel	Kitchi	Captive born	09.07.2018	00071565D0
19	Unnamed		M	Shifu	Prasanna	Captive born	06.06.2019	-
20	Unnamed		M	Balam	Shova	Captive born	01.07.2019	-

Future Work:

Ex-situ:

- Encourage exchange of Red Panda among zoos at national and international level.
- Scope to include Himalayan Nature Park, Kufri and Itanagar Zoo, Arunachal Pradesh to be participating zoos in the Red Panda Conservation Breeding Programme.
- Formulate Population Management Plan/Species Survival Plan.
- Basic behavioural study on the captive Red Pandas.
- Restocking of captive Red Pandas.
- Take up advance studies with the research organizations – Genetic studies/Germplasm banking/disease screening/hormonal and behavioural studies.
- CBC, Dowhill; and CBC, Topkeydara for presence of various parasites.
- Better awareness and knowledge dissemination.
- Opportunities for Zoo/Wildlife Veterinarians, Biologists, Technicians, Animal Supervisors and Zoo Keepers.

In-situ:

- Zoos and other organization routinely conduct surveys of one or more PA's (population/genetics).
- Intensive management of protected areas – SNP and NVNP.
- Routine threat assessment.



24. Animal Acquisition / Transfer / Exchange during the year 2019-2020

A	Animals arriving in the Zoo			
Sl. No	Species	Number (M: F)	From which Zoo	Date of arrival in the zoo
PNHZ Park did not acquire any animals from any of the zoos in the year 2019-2020				

B	Animals transferred from the Zoo			
Sl. No	Species	Number (M: F)	Going to which Zoo	Date of deposition from the zoo
1	Red Panda	1:1	Tier Park Berlin zoo, Germany	04.02.2020
2	Silver Pheasant	1:1	Jungle Mahal Zoological Park, Jhargram	04.02.2020
3	Golden Pheasant	1:1	Jungle Mahal Zoological Park, Jhargram	04.02.2020
4	Red Jungle Fowl	1:0	Jungle Mahal Zoological Park, Jhargram	04.02.2020
5	Barking Deer	2:8	Jungle Mahal Zoological Park, Jhargram	04.02.2020
6	Red Jungle Fowl	2:2	Zoological Garden, Alipore	20.02.2020
7	Red Jungle Fowl	2:2	Bardhaman Zoological Park, Burdwan	20.02.2020
8	Red Jungle Fowl	2:2	Purulia Mini Zoo, Surulia	20.02.2020
9	Red Jungle Fowl	1:1	Jungle Mahal Zoological Park, Jhargram	20.02.2020

25. Rescue and Rehabilitation of Wild Animals carried out by the Zoo

Sl. No.	Date of Rescue	Species with number of animals rescued with their sex (M: F: U: T)	Received from	Date of Submission of Report to the CWLW / CZA	Action taken	
					Date and Place of rehabilitation in their habitat	Reasons for housing in the zoo, if not released in their habitat
1	04.06.2019	Flying squirrel (1:0)	Bhanugram, Darjeeling	350/S.O.23/GENL/RES.ANM/ PNHZP/19-20 dated 01.07.2019	Released at Senchal Wildlife Sanctuary Memo no 431/GENL/RES/W. ANIMALS/ PNHZP/ 19-20 dated 22.07.2019 and 543/GENL/ RES/W.ANIMALS/ PNHZP/19-20 dated 20.08.2019	
2	19.07.2019	Injured Chinese Pangolin (0:1)	Kurseong Forest Division	548/GENL/RES/W.ANIMALS/ PNHZP/19-20 dated 21.08.2019	The Chinese pangolin was provided treatment at PNHZ Park hospital but could not survive.	
3	15.08.2019	Leopard Cat (1:0)	Darjeeling Police	818/GENL/RES/W.ANIMALS/ PNHZP/19-20 dated 09.11.2019 and 1161/ GENL/RES/W.ANIMALS/ PNHZP/19-20 dated 07.02.2020		The female cub was too young (approx.2- 3 months) to survive on its own in the wild and hence was kept at the veterinary hospital at PNHZ Park
4	10.05.2019 18.05.2019 10.07.2019	Himalayan Pit Viper (0:0:3)	Forest of PNHZ Park	1304/GENL/RES/W.ANIMALS/ PNHZP/19-20 dated 22.07.2019		The hatchlings were found in distressed condition and were kept in observation of veterinary section.
5	17.03.2019	Eurasian Coot	Darjeeling Wildlife Division, Darjeeling	1350/GENL/RES/W.ANIMALS/ PNHZP/19-20 dated 19.03.2020	Gajoldoba water body (Teesta barrage)	

26. Annual Inventory Report of Padmaja Naidu Himalayan Zoological Park (1st April 2019-31st March 2020)

Endangered species (Schedule I and II)																						
S. No	Animal Name	Scientific Name	Opening stock on 01.04.2019				Births			Acquisitions			Disposals			Deaths			Closing Stock on 31.3.2020			
			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T
Birds																						
1	Pheasant Cheer	<i>Catreus wallichii</i>	2	4	0	6	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	6
2	Pheasant Grey Peacock	<i>Polyplectron bicalcaratum</i>	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3
3	Pheasant Kalij	<i>Lophura leucomelana</i>	10	2	0	12	0	0	3	0	0	0	0	0	0	0	1	1	11	2	0	13
4	Pheasant Monal	<i>Lophophorus impejanus</i>	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
5	Tragopan Temminck's	<i>Tragopan temminckii</i>	9	11	1	21	0	0	6	0	0	0	0	0	1	1	6	8	11	0	19	
Total Birds			23	19	2	44	0	0	9	0	0	0	0	0	1	2	7	23	20	0	43	
Mammals																						
1	Bear Himalayan Black	<i>Ursus thibetanus</i>	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
2	*Cat Jungle	<i>Felis chaus</i>	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
3	Cat Leopard	<i>Prionailurus bengalensis</i>	2	1	0	3	0	0	3	0	1	0	0	0	0	0	0	0	2	2	3	7
4	**Civet Himalayan Palm	<i>Paguma larvata</i>	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
5	*** Civet Common Palm	<i>Paradoxurus hermaphrodites</i>	7	4	0	11	0	0	0	0	0	0	0	0	0	0	0	0	8	3	0	11
6	Jackal	<i>Canis aures</i>	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1

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S. No	Animal Name	Scientific Name	Opening stock on 01.04.2019				Births			Acquisitions			Disposals			Deaths			Closing Stock on 31.3.2020				
			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T	
7	Langur Common	<i>Semnopithecus entellus</i>	4	2	1	7	0	1	0	0	0	0	0	0	0	0	1	0	0	5	2	0	7
8	Common Leopard	<i>Panther Pardus</i>	2	2	0	4	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	3	
9	Leopard Clouded	<i>Neofelis nebulosa</i>	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
10	Leopard Snow	<i>Uncia uncia</i>	4	8	0	12	0	0	0	0	0	0	0	0	1	0	0	3	8	0	11		
11	Loris Slow	<i>Nycticebus bengalensis</i>	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2		
12	Markhor	<i>Capra falconeri</i>	2	4	0	6	0	0	4	0	0	0	0	0	4	1	0	2	3	0	5		
13	Panda Red/ Lesser	<i>Ailurus fulgens fulgens</i>	8	13	0	21	0	0	2	0	0	0	1	1	0	1	0	0	8	12	0	20	
14	Sheep Blue/ Bharal	<i>Pseudois nayaur</i>	8	5	0	13	1	0	0	0	0	0	0	0	2	0	0	7	5	0	12		
15	Tahr Himalayan	<i>Hemitragus jemplachius</i>	6	6	0	12	1	0	2	0	0	0	0	0	1	1	0	6	7	0	13		
16	Tiger Bengal	<i>Panthera tigris tigris</i>	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1		
17	Wolf Tibetan	<i>Canis lupus himalayensis</i>	2	5	0	7	0	0	0	0	0	0	0	0	0	0	0	2	5	0	7		
18	Yak Wild	<i>Bos grunniens</i>	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1		
19	Mishmi Takin	<i>Budorcas taxicolor taxicolor</i>	2	2	0	4	0	0	1	0	0	0	0	0	0	0	0	2	2	1	5		
Total Mammals			57	55	1	113	2	1	12	0	1	0	1	1	0	12	3	0	54	54	4	112	
Reptile/ Amphibian																							
1	**** Python Indian Rock	<i>Python molurus</i>	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
2	Burmese Python	<i>Python bivittatus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
3	Indian Rat Snake	<i>Ptyas mucosa</i>	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1		

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S. No	Animal Name	Scientific Name	Opening stock on 01.04.2019				Births			Acquisitions			Disposals			Deaths			Closing Stock on 31.3.2020				
			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T	
4	Checkered Keelback	<i>Xenochroptis piscator</i>	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1
5	Viper Russells	<i>Dabola russelii</i>	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
6	Himalayan Newt	<i>Tylototriton verrucosus</i>	6	7	16	29	0	0	0	0	0	0	0	0	0	0	0	0	0	6	7	16	29
Total Reptile/ Amphibian			9	7	19	35	0	0	0	0	0	0	0	0	0	0	1	0	9	9	16	34	
TOTAL ANIMALS			89	81	22	192	2	1	21	0	1	0	1	1	0	13	6	7	86	83	20	189	

*The actual sex determination of the jungle cat is 1:1 and not 2:0

** The actual sex determination of the Himalayan Palm civet is 2:0 and not 1:1

*** The actual sex determination of the Asian Palm civet cat is 8:3 and not 7:4

****Two Rock Pythons were first thought of Indian Rock Python but later on one of them has been identified as Burmese Rock Python.

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Other Species (Schedule III and IV)																						
S. No	Animal Name	Scientific Name	Opening stock on 01.04.2019				Births			Acquisitions			Disposals			Deaths			Closing Stock on 31.3.2020			
			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T
Birds																						
1	Red Jungle Fowl	<i>Gallus gallus</i>	18	15	6	39	0	0	21	0	0	0	8	7	0	2	0	2	17	18	6	41
2	Parakeet Rose Ring	<i>Psittacula krameri</i>	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
Total Birds			18	15	11	44	0	0	21	0	0	0	8	7	0	2	0	2	17	18	11	46
Mammals																						
1	Deer Barking	<i>Muntiacus muntjak</i>	6	10	0	16	1	0	4	0	0	0	2	8	0	2	1	0	5	3	0	8
2	Deer Sambar	<i>Rusa unicolor</i>	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3
3	Goral	<i>Naemorhedus goral</i>	11	7	0	18	0	5	0	0	0	0	0	0	0	0	0	0	11	12	0	23
Total mammals			18	19	0	37	1	5	4	0	0	0	2	8	0	2	1	0	17	17	0	34
Reptile																						
1	Sand Boa	<i>Eryx johnii</i>	1	0	5	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	6
2	Himalayan Pit Viper	<i>Gloydius himalayanus</i>	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	2	1	0	3
3	**Tricarnate Hill Turtle	<i>Indotestudo elongate</i>	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Total Reptile			1	0	6	7	0	0	0	0	0	3	0	0	0	0	0	1	3	1	5	9
TOTAL ANIMALS			37	34	17	88	1	5	25	0	0	3	10	15	0	4	1	3	37	36	16	89

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Exotic Species																						
S. No	Animal Name	Scientific Name	Opening stock on 01.04.2019				Births			Acquisitions			Disposals			Deaths			Closing Stock on 31.3.2020			
			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T
	Birds																					
1	Cockatiel	<i>Nymphicus hollandicus</i>	0	0	24	24	0	0	0	0	0	0	0	0	0	3	1	8	0	0	12	12
2	Bare Eyed Cockatoo	<i>Cacotua sanguinea</i>	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
3	Sulphur Crested Cockatoo	<i>Cacotua sulphurea</i>	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
4	Roseate Cockatoo	<i>Elophus roseicapilla</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5	Red and Blue Macaw	<i>Ares chloropterus</i>	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
6	Blue and Gold Macaw	<i>Ares chloropterus</i>	1	1	3	5	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	4
7	African Grey Parakeet	<i>Paittacus erithacus</i>	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3
8	Golden Pheasant	<i>Chrysolophus pictus</i>	7	13	0	20	0	0	15	0	0	0	1	1	0	0	0	8	10	15	0	25
9	Lady Amhrest Pheasant	<i>Chrysolophus amherstiae</i>	7	6	0	13	0	0	7	0	0	0	0	0	0	0	1	1	9	9	0	18
10	Reeves Pheasant	<i>Syrmaticus reevesii</i>	2	7	0	9	0	0	0	0	0	0	0	0	0	2	1	0	0	6	0	6
11	Silver Pheasant	<i>Lophura nycthemea</i>	8	7	16	31	0	0	8	0	0	0	1	1	0	0	0	0	19	18	0	37
12	Turaco	<i>Tauraco</i>	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Total exotic birds			31	39	43	113	0	0	30	0	0	0	2	2	0	6	3	18	44	54	14	112
Reptile																						
1	Red Eared Slider Turtle	<i>Trachemys scripta elegans</i>	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

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Total Reptile	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
TOTAL ANIMALS	31	39	44	114	0	0	30	0	0	0	2	2	0	6	3	19	44	54	14	112
GRAND TOTAL	157	154	83	394	3	6	76	0	1	3	13	18	0	23	10	29	167	173	50	390

[Signature]
 CURATOR
 20/04/20

[Signature]
 20/4/2020
 DIRECTOR
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27. Mortality of Animals

MORTALITY LIST PNHZ PARK DARJEELING 01.04.2019 - 31.03.2020

Sl. No	Date of death	Animal	Date of birth	Age	Sex	No.	Cause of Death
MAMMALS							
1	05.04.2019	Common Grey Langur	05.04.2019		F	1	Ill nursing
2	17.05.2019	Markhor fawn (Arun)	15.05.2019	2 days	M	1	Pneumonia and starvation from ill nursing
3	17.05.2019	Markhor fawn (Kumar)	15.05.2019	2 days	M	1	Pneumonia and starvation from ill nursing
4	19.05.2019	Common Leopard (Binod)	01.01.2005 (estimated)	14 years 4 months	M	1	Asphyxia as sequelae to preliminary hemorrhages due to uraemia and multi organ failure
5	21.05.2019	Markhor fawn (Samant)	16.05.2019	5 days	M	1	Developmental anomaly of left kidney and retention of urine
6	13.06.2019	Himalayan Tahr fawn (Smriti)	10.05.2019	1 month	F	1	Hypovolemic shock
7	02.07.2019	Blue Sheep (Brad)	23.05.2013	6 years 1 month	M	1	PPR
8	05.07.2019	Barking Deer (Neetu)	23.06.2019	12 days	F	1	Pneumonia
9	06.07.2019	Markhor (Swarnim)	16.05.2019	1 month 21 days	M	1	Coccidiosis
10	11.07.2019	Blue Sheep (Badal)	22.05.2015	4 years 1 month	M	1	Toxaemia
11	17.07.2019	Himalayan Tahr (Harshad)	23.04.2016	3 years 2 months	M	1	Syncope due to ashyxia and acute tympany

12	23.8.2019	Markhor (Vinita)	17.05.2010	9 years 3 months	F	1	Dystocia
13	09.10.2019	Yak (Shyam)	17.09.1999	20 years 22 days	M	1	Old age leading to cardio respiratory failure
14	1.11.2019	Snow Leopard (Subash)	08.07.2002	17 years 3 months	M	1	Cardio respiratory failure tentatively due to chronic kidney disease
15	3.11.2019	Barking Deer (Prabas)	26.06.2019	4 months 7 days	M	1	Syncope tentatively due to toxicological origin
16	31.01.2020	Barking Deer fawn (Mani)	31.01.2020	1 day	M	1	Due to illnursing
17	07.03.2020	Clouded Leopard (Nibash)	29.05.2006	13 years 9 months	M	1	Due to Respiratory failure
18	17.03.2020	Red Panda (Pokraj)	18.06.2001	18 years 8 months	M	1	Due to multi organ failure related to senility
						18	
PHEASANTS							
1	25.04.2019	Kalij Pheasant			F	1	Old age
2	23.05.2019	Kalij Pheasant			U	1	Ill nursing
3	03.06.2019	Red Jungle Fowl chick	26.05.2019	8 days	U	1	Predated
4	04.06.2019	Temminck's Tragopan	14.05.2018	1 year 21 days	M	1	Cerebral hemorrhage
5	14.06.2019	Temminck's Tragopan pheasant chick			U	1	Ill nursing
6	17.06.2019	Temminck's Tragopan pheasant chick			U	1	Poor Bone Development
7	17.06.2019	Temminck's Tragopan pheasant chick			U	1	Poor Bone Development

8	17.06.2019	Temminck's Tragopan pheasant chick			U	1	Pneumonia
9	17.06.2019	Temminck's Tragopan pheasant chick			U	1	Pneumonia
10	26.06.2019	Temminck's Tragopan pheasant chick			U	1	Poor Bone Development
11	01.07.2019	Red jungle fowl	26.04.2018	1 year 2 months	M	1	Internal bleeding due to in fighting
12	13.8.2019	Red jungle fowl	26.05.2019	2months 18 days	M	1	Enteritis
13	30.8.2019	Temminck's tragopan			F	1	Visceral gout
14	04.01.2020	Red Jungle Fowl	01.03.2017	2 years 10 months	M	1	Due to infighting
						14	
REPTILES							
1	26.06.2019	Tricarnate Hill Turtle	Unknown		U	1	Putrefied
2	3.11.2019	Checkered Keelback	Unknown		F	1	Hypothermia
						2	
EXOTIC SPECIES							
1	09.05.2019	Golden Pheasant chick			U	1	Ill nursing
2	17.05.2019	Reeves Pheasant			F	1	Acute pneumonia
3	21.05.2019	Golden Pheasant chick	19.05.2019	2 days	U	1	Ill nursing
4	22.05.2019	Golden Pheasant chick	19.05.2019	3 days	U	1	Ill nursing
5	24.05.2019	Golden Pheasant chick			U	1	Ill nursing

6	24.05.2019	Golden Pheasant chick			U	1	Ill nursing
7	24.05.2019	Golden Pheasant chick			U	1	Ill nursing
8	30.05.2019	Cockatiel	Unknown		U	1	Dashing
9	30.05.2019	Cockatiel	Unknown		U	1	Dashing
10	02.06.2019	Golden pheasant chick	19.05.2019	14 days	U	1	Predated
11	02.06.2019	Golden pheasant chick	19.05.2019	14 days	U	1	Predated
12	06.06.2019	Reeves Pheasant	Unknown		M	1	Dashing
13	22.07.2019	Turaco	Unknown		M	1	Old age
14	2.8.2019	Cockateil	Unknown		U	1	Dashing
15	9.8.2019	Lady amherst chick			U	1	Shock from fracture of both legs
16	17.8.2019	Lady amherst			F	1	Tumour at leg
17	31.8.2019	Cockateil	Unknown		U	1	Pneumonia
18	02.09.2019	Red eared slider turtle	Unknown		U	1	Putrefied
19	16.09.2019	Cockateil	Unknown		U	1	Infighting
20	16.09.2019	Cockateil	Unknown		U	1	Infighting
21	31.10.2019	Cockatiel	Unknown		U	1	Hypovolemic shock due to Infighting
22	7.11.2019	Cockatiel	Unknown		M	1	Acute pneumonia
23	21.11.2019	Cockatiel	Unknown		M	1	Acute pneumonia
24	04.01.2020	Reeves pheasant	30.07.2014	5 years 6 months	M	1	From starvation due to lameness
25	15.01.2020	Cockateil	Unknown		M	1	Due to infighting
26	15.01.2020	Cockateil	Unknown		F	1	Due to infighting

27	07.03.2020	Blue and Gold Macaw	Unknown		F	1	Due to severe blood loss with body size ratio over a period of time leading to cardio respiratory failure.
28	25.03.2020	Cockateil	Unknown		F	1	Due to Infighting leading to CR failure
						28	
TOTAL						62	

Joy Dey 26/4/20

Dr. Joy Dey
 Assisatnt Director cum Veterinary Officer
 PNHZ Park.



28. Compliance with conditions stipulated by the Central Zoo Authority

The Evaluation team comprising of Shri Rupak De, IFS (Retired) and Dr A.B. Srivastava visited PNHZ Park from 1st March to 3rd March, 2020. The evaluation team has submitted its evaluation report to CZA. PNHZ Park has not yet received the comments from CZA.

29. List of free-living Wild Animals within the Zoo premises

MAMMALS

SI. No.	Common Name	Scientific Name
1	Jackal	<i>Canisaures</i>
2	Fox	<i>Vulpes bengalensis</i>
3	Himalayan Palm Civet	<i>Paguma larvata</i>
4	Himalayan Yellow Throated martin	<i>Martes flavigula</i>
5	Hoary bellied Himalayan Squirrel	<i>Callosciurus pygerythrus</i>
6	Giant Flying Squirrel	<i>Petaurista philippensis</i>
7	Barking Deer	<i>Muntiacus muntjak.</i>
8	Leopard Cat	<i>Prionailurus bengalensis</i>
9	Assam Macaque	<i>Macaca assamensis</i>
10	Weasel	<i>Mustela</i>

BIRDS

1	Green Tailed Sunbird	<i>Aethopyga nipalensis</i>
2	Rufous Winged Fulvetta	<i>Alcippe castaneiceps</i>
3	Little Spider Hunter	<i>Arachnothera longirostra</i>
4	Rusty Flanked Tree Creeper	<i>Certhia nipalensis</i>
5	Common Green Magpie	<i>Cissa chinensis</i>
6	Large Billed Crow	<i>Corvus macrorhynchos</i>
7	Gray-headed Canary Flycatcher	<i>Culicicapa ceylonensis</i>
8	Grey-capped Pygmy Woodpecker	<i>Dendrocopos canicapillus</i>

9	Darjeeling Woodpecker	<i>Dendrocopos darjellensis</i>
10	Fulvous Breasted Woodpecker	<i>Dendrocopos macei</i>
11	Verditer Flycatcher	<i>Eumyias thalassina</i>
12	Snowy Browed Flycatcher	<i>Ficedula hyperythra</i>
13	Little Pied Flycatcher	<i>Ficedula westermanni</i>
14	Chestnut Crowned Laughing Thrush	<i>Garrulax erythrocephalus</i>
15	Hill Myna	<i>Gracula religiosa</i>
16	Rufous Sibia	<i>Heterophasia capistrata</i>
17	Black Bulbul	<i>Hypsipetes leucocephalus</i>
18	Black Eagle	<i>Icinaetus malayansis</i>
19	Grey Backed Shrike	<i>Lanius tephronotus</i>
20	Silver Eared Mesia	<i>Leiothrix argentauris</i>
21	Red Tailed Minla	<i>Minla ignotincta</i>
22	Chestnut Tailed Minla	<i>Minla strigula</i>
23	Chestnut Bellied Rock Thrush	<i>Monticola rufiventris</i>
24	White Tailed Robin	<i>Myiomela leucora</i>
25	Blue Whistling Thrush	<i>Myophonus caeruleus</i>
26	Large Niltava	<i>Niltava grandis</i>
27	Mountain Tailorbird	<i>Orthotomus cuculatus</i>
28	Green Backed Tit	<i>Parus monticolus</i>
29	Urasian Tree Sparrow	<i>Passer montanus</i>
30	Long Tailed Minivet	<i>Pericrocotus ethologus</i>
31	Scarlet Minivet	<i>Pericrocotus flammeus</i>
32	Tickell's Leaf Warbler	<i>Phylloscopus affinis</i>
33	Greenish Tree Warbler	<i>Phylloscopus trochiloides</i>
34	Lesser Yellownape	<i>Picus chlorolophus</i>
35	Greater Yellownape	<i>Picus flavinucha</i>
36	Alexandrine Parakeet	<i>Psittacula eupatria</i>
37	Rose Ringed Parakeet / Green Parrot	<i>Psittacula krameri</i>

38	Black Crested Bulbul	<i>Pycnonotus flaviventris</i>
39	White Throated Fantail	<i>Rhipidura albicollis</i>
40	White Browed Fantail	<i>Rhipidura aureola</i>
41	Plumbeous Water Redstart	<i>Rhyacornis fuliginosus</i>
42	Chestnut Crowned Warbler	<i>Seicercus castaniceps</i>
43	White Tailed Nuthatch	<i>Sitta himalayensis</i>
44	Chestnut Headed Tesia	<i>Tesia castaneocoronata</i>
45	Grey Winged Black Bird	<i>Turdus bouboul</i>
46	Whiskered Yuhina	<i>Yuhina flavicollis</i>
47	Stripe Throated Yuhina	<i>Yuhina gularis</i>
48	Kalij Pheasant	<i>Lophura leucomelanos</i>
49	Red Jungle fowl	<i>Gallus gallus</i>
50	Gold-fronted Chloropsis	<i>Chloropsis aurifrons</i>
51	Jerdon's Chloropsis	<i>Chloropsis cochinchinensis</i>
52	Large Niltava	<i>Niltava grandis</i>
53	Barred Cuckoo Dove	<i>Macropygia unchall</i>
54	Mountain Bulbul	<i>Ixos mccllellandii</i>
55	White Throated Fantail Flycatcher	<i>Rhipidura albicollis</i>
56	Blue Headed Rock Thrush	<i>Monticola cinclorhynchus</i>

REPTILES

1	Common House Gecko	<i>Hemidactylus frenatus</i>
2	Gray's Skink	<i>Sphenomorphus indicus</i>
3	Common Skink	<i>Mabuya carinata</i>
4	Green Trinket Snake	<i>Elaphe prasina</i>
5	Himalayan Pit Viper	<i>Gloydius himalayanus</i>



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