

BALASAHEB THACKERAY
GOREWADA INTERNATIONAL
ZOOLOGICAL PARK,
NAGPUR

Annual Report

2022-23



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Report of the Officer-in-charge:

The Balasaheb Thackeray Gorewada International Zoological Park, formerly known as Gorewada International Zoo, was officially inaugurated on January 26, 2021, by the esteemed Chief Minister of Maharashtra, Hon. Shri. Uddhav Balasaheb Thackeray. Situated in Nagpur, (Maharashtra) the park swiftly gained recognition and became a prominent tourist destination right from its inception.

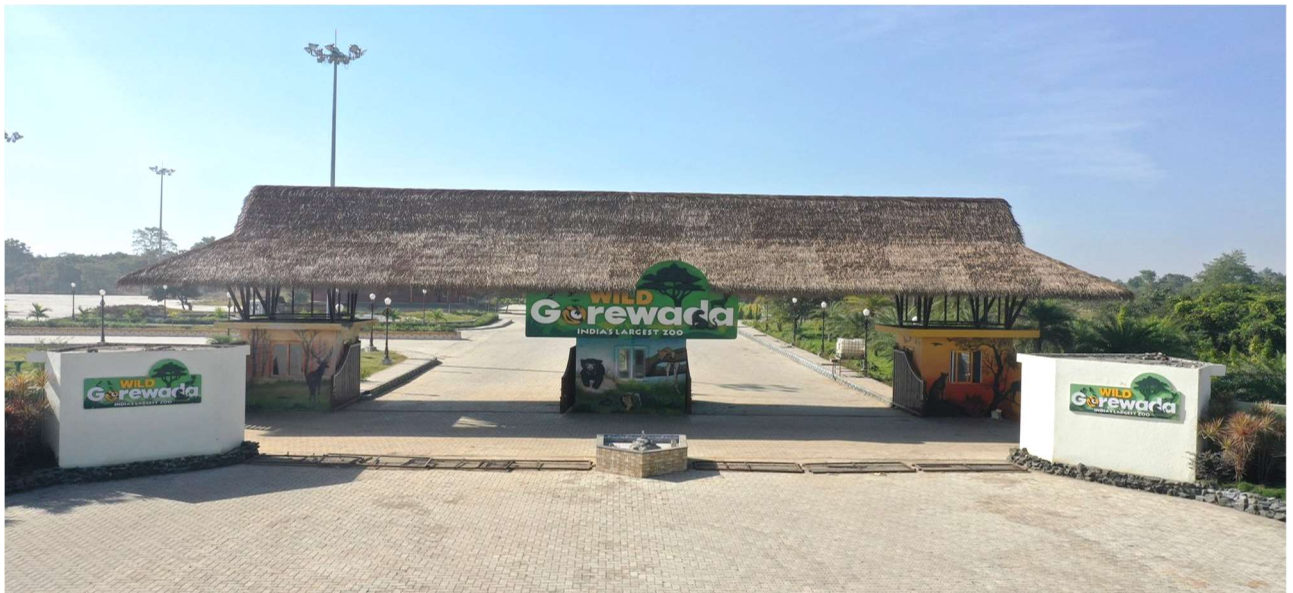
Since its establishment, the Balasaheb Thackeray Gorewada International Zoological Park has been committed to upholding the highest standards in animal welfare, visitor satisfaction, and environmental sustainability. Every aspect of the zoo's operations and practices is carefully evaluated based on these fundamental principles.

Following its opening to the public on January 27, 2021, the park has consistently aimed to provide an exceptional experience for visitors while ensuring the well-being and care of its diverse range of animal inhabitants. As a result, it has earned a reputation as a premier attraction in Nagpur, drawing visitors from far and wide.

The Balasaheb Thackeray Gorewada International Zoological Park remains dedicated to pursuing excellence in all aspects of its functioning, striving to create a harmonious environment where animals thrive, visitors are satisfied, and the surrounding ecosystem is preserved.

The Balasaheb Thackeray Gorewada International Zoological Park is determined for best practices for animal welfare, visitor satisfaction and economical and environmental sustainability. All zoo operations and practices are considered on the merits of the above-mentioned principles.

Gorewada Zoo: Main Entrance



1. History of the Zoo:

The Gorewada Reserve Forest was granted for compensatory afforestation and the protection of the Gorewada Lake, which is a crucial drinking water source for the city of Nagpur. The vast area, which covers 1,914 hectares, is divided into two units by the Nagpur-Katol Highway, with the northern zone designated as Unit 1 and the southern zone as Unit 2. The location is just 10 kilometres away from Nagpur Railway Station and is easily accessible from the city. The Maharashtra Government proposed the development of an international standard zoo on this land to attract tourists from all over the world.

In 2006, the Government of Maharashtra announced its intention to build an international standard zoo in Nagpur. M/s. Bernard Harrison & Friends Co. Singapore was appointed as a consultant by the Forest Department in 2008 to create the concept and detailed project report. In 2009, the project and land were handed over to the Forest Development Corporation of Maharashtra (FDCM) to expedite the implementation process. An area of 564 hectares in Unit 2 of Gorewada Forest was proposed for the zoo's development and received the FCA for the same. This area was relatively degraded and had scanty vegetation. Tenders were called for the appointment of a consultant to prepare the detailed Master Plan of the zoo. M/s. Ashfaq Ahmad Architectural Associates was selected for the task in 2013-14. The first Master Plan was approved in 2014 by CZA.

The FDCM built a 29-kilometre boundary wall to protect the land, which enhanced the biodiversity of the region. In 2015, Unit 1 of the area was opened to tourists through Gorewada Jungle Drive. Unit 1 is a deciduous scrub forest with a diverse range of wildlife, including leopards, spotted deer, sambar, nilgai, and over 200 species of birds. In 2016, Central India's largest Rescue Centre became operational at Gorewada.

The government decided to establish a Special Purpose Vehicle (SPV) with a private investor for the development and operations of the zoo in 2016. Essel World Tourism Infra Pvt Ltd was selected as a private investor and a Joint Venture company 'FDCM Esselworld Gorewada Zoo Pvt. Ltd' was established for the design, development, and operations of Gorewada Zoo. The private investor demanded a revision of the approved Master Plan to increase the economic viability and international appeal of the project. The founding principles for developing a new zoo were established based on the following factors:

- ENVIRONMENTALLY SOUND
- AESTHETICALLY PLEASING
- BOTH ECOLOGICALLY AND FINANCIALLY SUSTAINABLE
- OPERATIONALLY PRACTICAL

Accordingly, a revised Master Plan was created by M/s. Bernard Harrison & Friends Co., and Phase-I i.e., Indian Safari of the project received approval in March 2019. Indian Safari was completed and operationalized in January 2021. The zoo began its operation with four safaris, namely Leopard, Sloth bear, Herbivores, and Tiger. Each safari is spread over 25 hectares, while the herbivore safari covers 40 hectares.

A walking zoo is proposed in a 2-hectare area next to the Indian safari, which will have ten enclosures for smaller animals. The development process is in accordance with the latest CZA guidelines and norms for an immersive zoo experience.

In 2022, the state government has taken over all the shares of JVC and now the company is working as a wholly subsidiary unit of the Forest Development Corporation of Maharashtra (FDCM). The company is renamed 'FDCM Gorewada Zoo Ltd, Nagpur. The company was given the objective of developing and operating zoos across the nation.

Cafeteria and selfie point



Aerial View of Entry Plaza



2. Vision:

A journey through the forests with animals and birds is a compliment to conservation, education, awareness and recreation. The Gorewada International Zoo, Nagpur is of international standards which will house various animal species in innovatively created areas thus attempting to establish one of its kinds Zoo thereby making the sightseer's visit a rewarding experience. This zoo will be a showcase of nature for the visitors.

3. Mission

The Park will volunteer for nature conservation, scientific research, and public education of the Floral and Faunal species of great importance in Gondwana land. The place will conduct enlightening activities for the visitors to bring betterment in their outlook towards animals. The Gorewada Zoo will be a combination of entertainment, education and science of zoos, aquariums, botanical gardens, museums, etc. all put in one place.

4. Objective

1. Promote wildlife conservation (Undertaking a breeding program of endangered species).
2. Care and rehabilitation of injured, sick and orphan wild animals.
3. To collect and collate the scientific data on the biology, behaviour and health care of various species of wild animals housed in the zoo and use the same in future management.
4. To assist in the conservation of the in-situ population of various species of endangered animals and their habitat by sensitizing the people.
5. To promote research and education on wildlife conservation
6. To create amongst the visitors' empathy towards wild animals through appreciation and better understanding.
7. To promote international eco-tourism.
8. To create opportunities for employment/self-employment.



Jambu- Our Mascot

About us:

S. No.	Particulars	Information
Basic Information about the Zoo		
1	Name of the Zoo	Balasaheb Thackeray Gorewada International Zoological Park, Nagpur
2	Year of Establishment	2021
3	Address of the Zoo	Kalmeshwar Road, Fetri - 441501
4	State	Maharashtra
5	Telephone Number	0712- 297 1268
6	Fax Number	-
7	E-mail address	gorewadazoo@gmail.com
8	Website	www.wildgorewada.com
9	Distance from nearest	Airport: 15 km
		Railway Station: 10 km
		Bus Stand:
		City bus access: 100 m Inter-State bus terminus: 14 km
10	Recognition Valid up to (Date)	28-08-2022
11	Category of zoo	Mini Zoo
12	Area (in Hectares)	564 Ha
13	Number of Visitors (Financial Year)	Adult: 1,98,797
		Children: 22,973 (School Trips only)
		Total Indian: Not available
		Total Foreigners: Not available
		Total Visitors: 2,21,770
14	Visitors' Facilities Available in Zoo	<ul style="list-style-type: none"> • AC and Non-AC Safari Bus • A sufficient number of toilets • RO processed cooled drinking water • Restaurant • Souvenir Shop • Emergency telephone facility • First Aid • Wheelchair and wheelchair-friendly access • Anti-Snake venom

S. No.	Particulars	Information
Management Personnel of the zoo		
16	Name with the designation of the Officer-in-charge	Mr. S. S. Bhagwat, Divisional Manager and Zoo Director
	Name of the Veterinary Officer	Dr Mayur Pawshe
	Name of the Curator	Mr Dipak Sawant
	Name of the Biologist	Mr. Shubham Chhapekar
	Name of the Education Officer	
	Name of the Compounder/ Lab Assistant	-
Owner / Operator of the Zoo		
17	*Name of the Operator	FDCM GOREWADA ZOO LTD. NAGPUR
18	Address of the Operator	Chairman, FGZ and Managing Director, Forest Development Corporation of Maharashtra, FDCM Bhavan, 359/B, Hingna Rd, Ambazari, Nagpur, Maharashtra 440036
19	Contact details/Phone number of Operator	0712 - 281 1965
20	E-mail address of the Operator	md@fdcm.nic.in

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

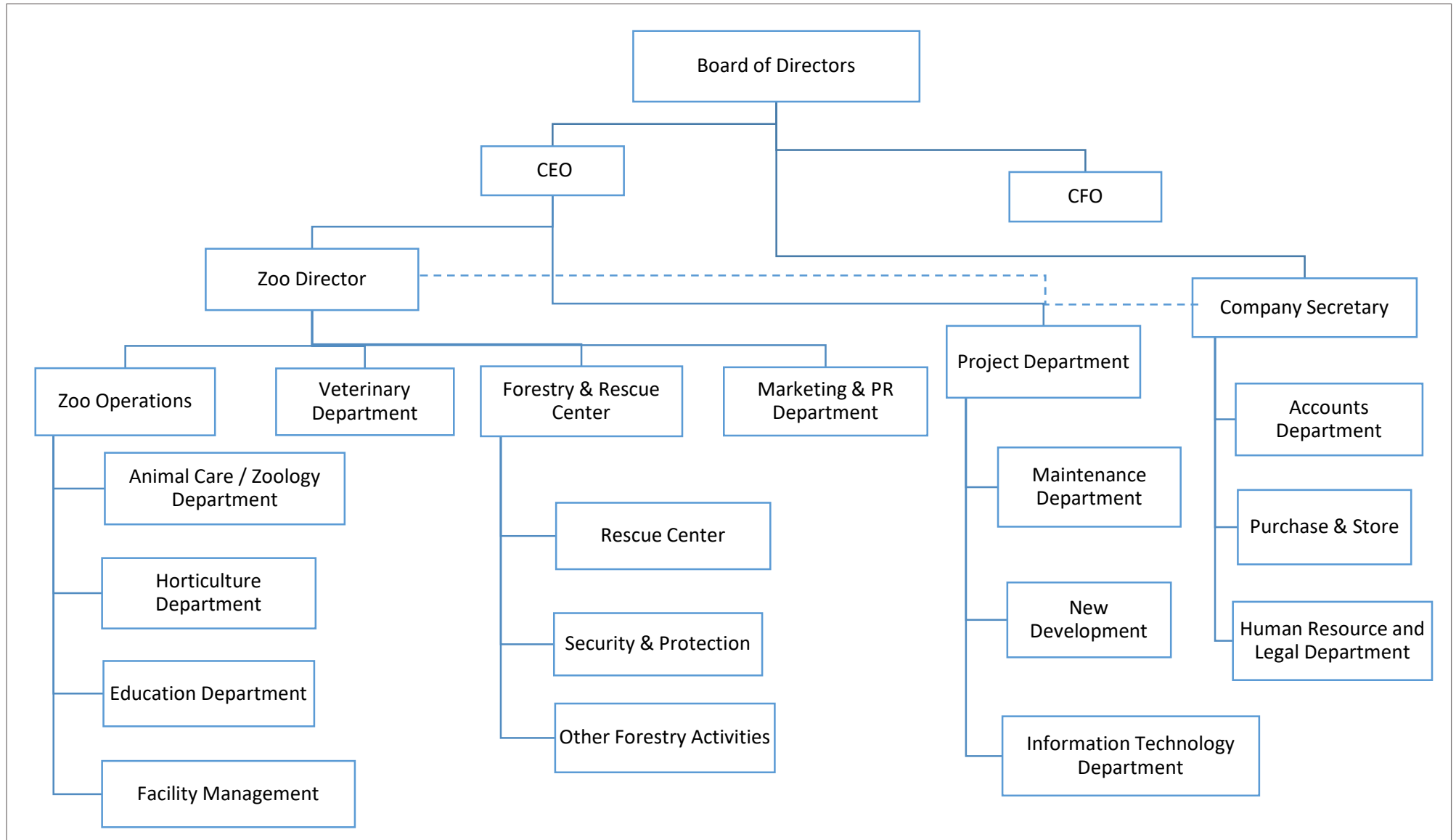
“Zoo Operator” means the person who has ultimate control over the affairs of the zoos provided that _____

I. in the case of a firm or other association of individuals, any one of the individual partners or members thereof; or

II. in the case of a company, any director, manager, secretary or other officer, who is in-charge of and responsible to the company for the affairs of the zoo; or

III. In case of zoo owned or controlled by the Central Government or any State Government or Union Territory Administration or any Trust or Society funded by the Central Government or a State Government or a Union Territory Administration, the Secretary of the concerned Department of that Government, or as the case may be the Union Territory Administration, shall be deemed to be the Zoo Operator.

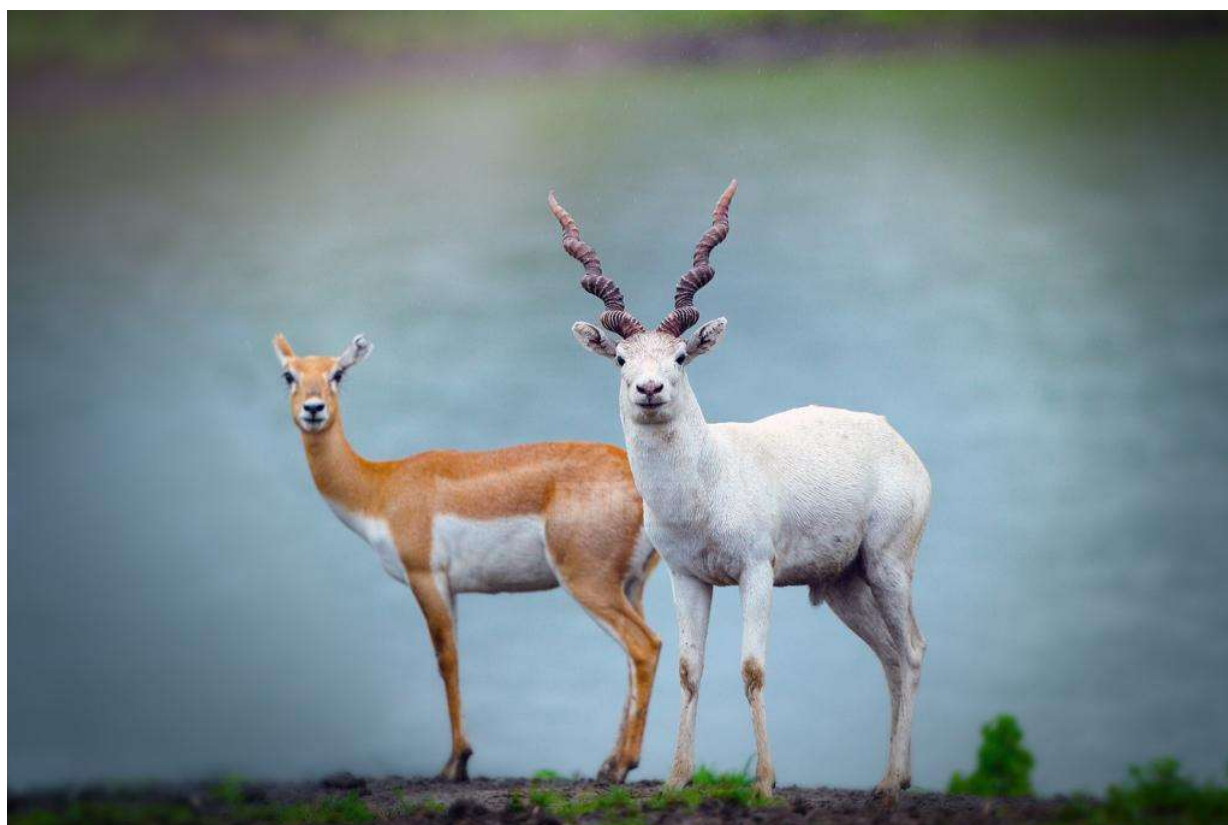
6. Organizational Chart



7. Human Resources

Manpower of the Zoo (Phase-1) *

Sr. No.	Designation	Number of Sanctioned Posts	No of the Posts filled	Names of the incumbent
1	Zoo Director	1	1	Mr S. S. Bhagwat
2	General Curator	1	1	Mr Dipak Sawant
3	Veterinary Officer	1	1	Dr Mayur Pawshe
4	Biologist	1	1	Mr. Shubham Chhapekar
5	Education Officer	1	0	
6	Head Animal Keeper	1	1	Mr. Aashish Kohale
7	Animal Keeper	4	2	
8	Asst Animal Keeper	24	23	



Normal Blackbuck Female with Male (albino) Blackbuck in Herbivore Safari

8. Capacity Building of zoo personnel (The year 2022-2023):

Sr. No.	Name of zoo personnel	The subject matter of the training/workshop	Training period	Name of institute where training conducted
1.	Shri. Shubham Dhanraj Chhapekar	Capacity building workshop for Zoo Biologists	23 rd to 25 th November 2022	Nehru Zoological Park, Hyderabad
2.	Shri. Shatanik Bhagwat	National Zoo Conference for Zoo Directors	18 th to 19 th January 2023	Sri. Chamarajendra Zoological Gardens, Mysuru, Karnataka
3.	Shri. Deepak Sawant			
4.	Shri. Arjun Tyagi			
5.	Shri. Ravi Tajne	Regional Capacity Enhancement Workshop for Zoo Keepers of the Western Region	16 th to 18 th March 2023	Nahargarh Biological Park, Jaipur, Rajasthan
6.	Shri. Chetan Kamde			
7.	Shri. Shubham Dhanraj Chhapekar	Capacity Enhancement Workshop for Education Officers	15 th to 17 th February 2023	Mumbai Zoo, Byculla, Mumbai
8.	Shri. Shubham Dhanraj Chhapekar	Capacity Enhancement Workshop for Zoo Biologists	21 st to 23 rd March 2023	Greens Zoological Rescue and Rehabilitation Centre, Jamnagar

Showstopper – The Rajkumar



9. Zoo Advisory Committee: Not Constituted

- a. Date of constitution
- b. Members
- c. Dates on which Meetings held during the year

10. Health Advisory Committee:

- a. Date of the constitution: **22.11.21**

Sr. no.	Members	Information
1.	Dr Shirish Upadhye, Director, WRTC & Dean, MAFSU, Nagpur	Chairman
2.	Mr S.S. Bhagwat, Zoo Director, BTGIZP, Nagpur	Member
3.	Dr V. M. Dhoot, Deputy Director, WRTC, Nagpur	Member
4.	Dr S. M. Kolangath, SMS (Biotech), WRTC, Nagpur	Member
5.	Mr. Dipak Sawant, General Curator, BTGIZP, Nagpur	Member
6.	Dr Mayur Pawshe, Zoo Veterinarian, BTGIZP, Nagpur	Member Secretary



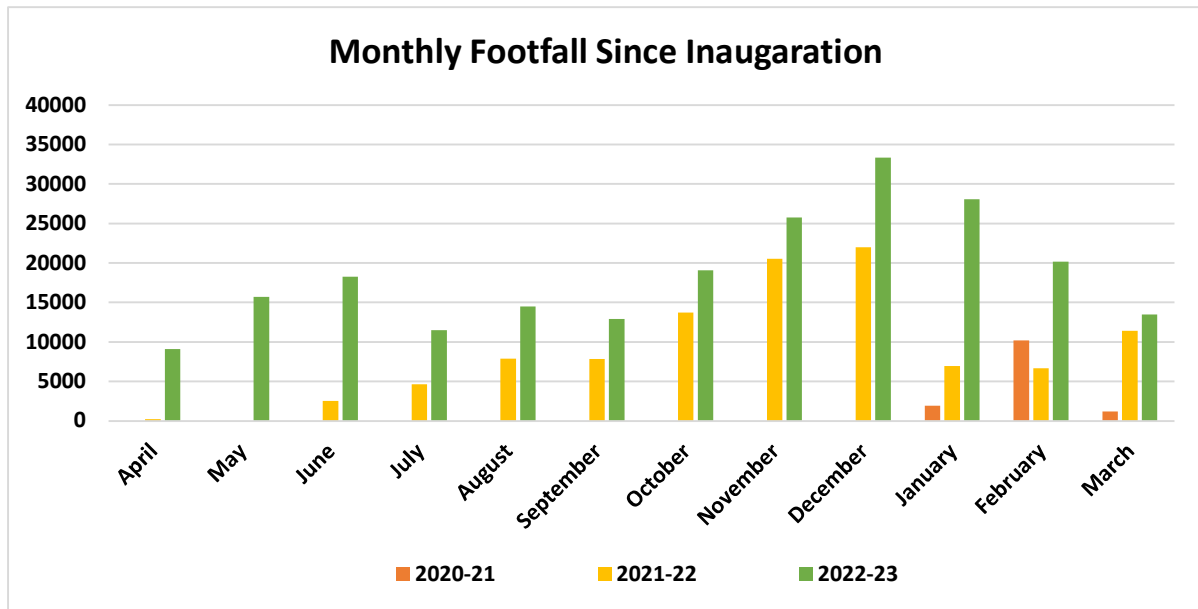
Leopard Safari

11. Statement of income and expenditure of the Zoo

Sr. no.	Number of Visitors	Total Revenue
1.	2,21,770	6,17,07480

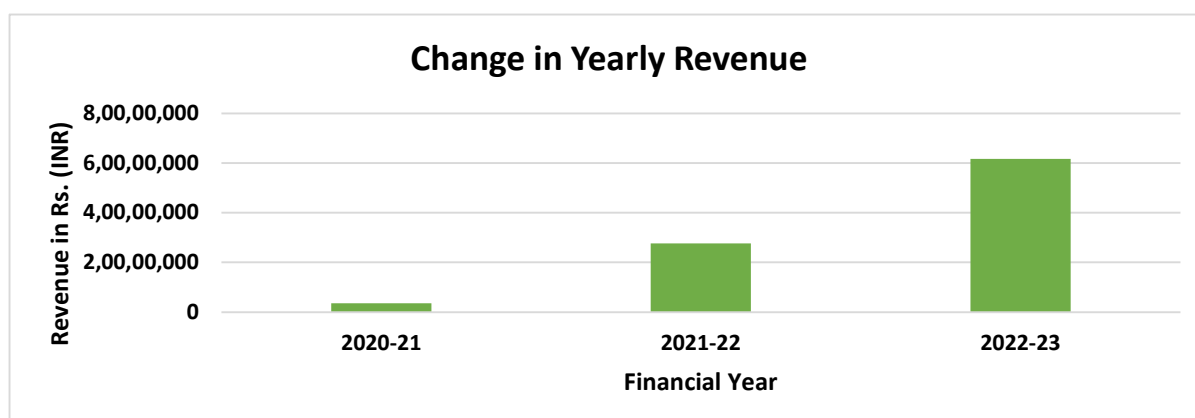
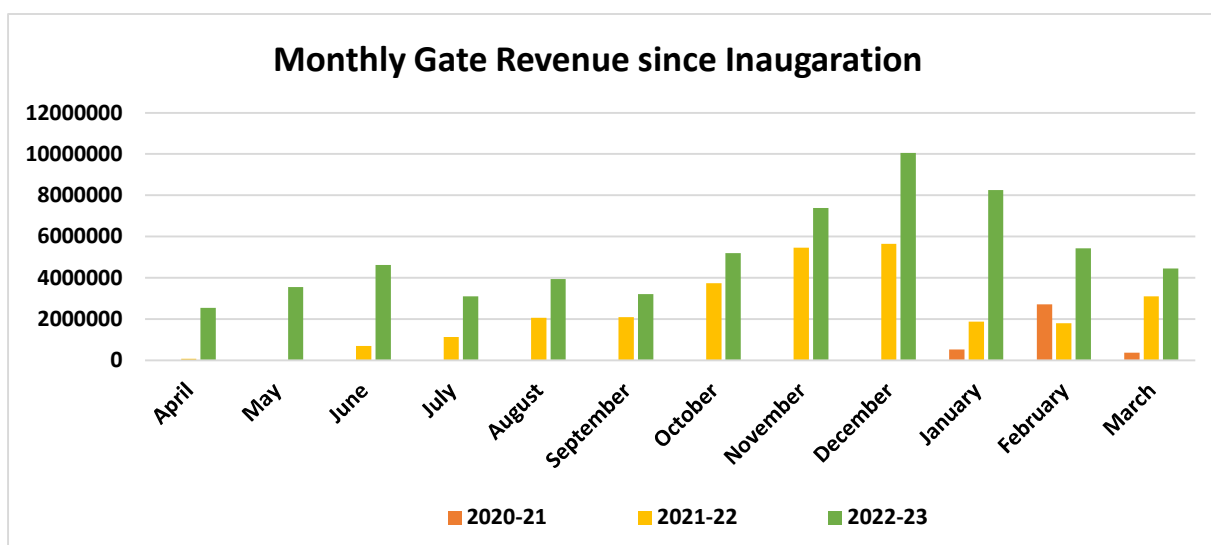
Monthly Footfall Since Inauguration

Months / Year	2020-21	2021-22	2022-23
April		214	9,100
May		-	15,692
June		2,537	18,250
July		4,631	11,481
August		7,886	14,498
September		7,842	12,904
October		13,705	19,061
November		20,510	25,750
December		21,989	33,339
January	1,909	6,935	28,081
February	10,177	6,651	20,142
March	1,171	11,420	13,472
Total	13,257	1,04,320	2,21,770



Monthly Gate Revenue Since Inauguration

Year	2020-21	2021-22	2022-23
April	-	67,840	25,39,840
May	-	-	35,44,470
June	-	6,98,960	46,23,590
July	-	11,19,990	30,97,760
August	-	20,62,170	39,42,520
September	-	20,82,280	32,07,060
October	-	37,28,520	51,95,535
November	-	54,58,120	73,84,580
December	-	56,51,960	1,00,50,250
January	5,19,380	18,79,440	82,45,875
February	27,13,530	18,01,480	54,26,750
March	3,63,500	31,03,520	44,49,250
Total Earning	35,96,410	2,76,54,280	6,17,07,480



12. Daily Feeding Schedule of animals:

Sr. No.	Species	Feed item	Quantity/animal		Day of fasting
			Winter	Summer	
1	Tiger	Beef	10-12 Kg per day	9-11 kg per day	Saturday
2	Leopard	Beef and/or Chicken	2.5 to 3.5kg per day	2 to 3 kg per day	Saturday
3	Sloth Bear	Mixed Fruits, honey, jaggery, Suji halwa with dry fruits, Boiled Eggs, and occasionally fish	13-16 kg per day	11-14 kg per day	No fasting
4	Herbivores (Chital, Nilgai, Sambar, Blackbuck, Barking Deer, Sangai)	Greed fodder- maize green / Sorghum grass/ Lucerne / edible grasses Mash	Ad lib	Ad lib	No fasting
5	Golden Jackal	Beef / Chicken Boiled Eggs	1- 1.5 kg per day	1- 1.5 kg per day	Saturday
6	Indian Fox	Beef / Chicken Boiled Eggs	0.75- 1.25 kg per day	0.75- 1.25 kg per day	Saturday
7	Golden Pheasant/ Silver Pheasant/ Red Jungle Fowl	Peacock Mixture – (Mixed Grains, Oil Seeds, seasonal leafy vegetables, carrot, cabbage, cauliflower, etc.) Half Boiled Egg	0.2 - 0.5 kg/day	0.2 - 0.5 kg/day	No fasting
8	Grey Mongoose	Minced Chicken Boiled Egg Mixed Fruits (Papaya/ Chiku/ Ber / Watermelon/ Musk Melon)	200 gms 2 200gm	150gm 2 200gm	No Fasting (Except Chicken is not served on Saturday)
9	Reticulated Python	Albino Rat Or Guinny Pig Live Chicken	2-3 1 1	2-3 1 1	Fed once a week

13. Vaccination Schedule of animals

Sr. No.	Species	Disease vaccinated for	Name of the Vaccine	Periodicity	Remarks
1	Tiger	Feline Rhinotracheitis, Feline Calicivirus and Feline Panleukopenia	Feligen CRP	Yearly	Subcutaneous
		Rabies	Raksharab	Yearly	Subcutaneous
2	Leopard	Feline Rhinotracheitis, Feline Calicivirus and Feline Panleukopenia	Feligen CRP	Yearly	Subcutaneous
		Rabies	Raksharab	Yearly	Subcutaneous
3	Sloth Bear	Rabies	Raksharab	Yearly	Subcutaneous

14. De-worming Schedule of animals

Sr. No.	Species	Drug used	Month
1	Tiger	Praziquantel, pyrantel embonate and febantel (Drontal plus)	January, April, July, October
2	Leopard	Praziquantel, pyrantel embonate and febantel (Drontal plus)	January, April, July, October
3	Sloth Bear	Tab. Nemocid	January, April, July, October
4	Herbivores	Fenbendazole (Bol. Panacur)	January, April, July, October



Sangai - Manipur Brow Antlered Deer at Gorewada Zoo

15. Disinfection Schedule

Sr. No.	Species	Type of enclosure	Disinfectant used	Frequency of disinfection
1	Feline	Night Shelter	Kohrsolin Bleaching Powder Sodium bicarbonate Flaming Turmeric	15 days 15 days Alternate day 15 days If required
2	Ursidae	Night Shelter	Kohrsolin Bleaching Powder Sodium bicarbonate Flaming Turmeric	15 days 15 days Alternate day 15 days If required
3	Herbivores	Night Shelter	Flaming	15 days

16. Health Check-ups of employees for zoonotic diseases

Sr. No.	Name	Designation	Date of Health Check-up	Findings of Health Check-up
1	All keepers were tested for zoonotic and other infectious diseases at the time of joining	Asst. Keeper and all animal-related staff	13/12/2022	Negative

17. Development Works carried out in the zoo during the year:

Indian Safari of Gorewada Zoo is only phase-I. As an extension to Indian Safari a small walking zoo of 10 enclosures is under construction.

18. Education and Awareness programmes during the year

Every safari at Balasaheb Thackeray Gorewada International Zoo is assisted by a trained nature interpreter. List of all the activities undertaken the guides are trained for visitor interaction and conservation education.

Due to Covid-19 restrictions, no special education programs were conducted during the year.

19. Important Events and Happenings

A professionally run zoological park serves a variety of roles to benefit both; the animals it houses and the visiting public. It acts as an Institution for animal conservation, research and a public facility for education, recreation as well as a tourism attraction. The principal objective of the Zoo will be animal welfare shown towards every species and individual in the animal collection.

Pure as well as applied research on animals in captivity can benefit not only the animals in the zoos but also in the wild. Educational programmes can help foster the respect that wild animals deserve and familiarize the visitors with the important role these animals play in the ecosystem.

The zoo has carried out several initiatives and events to promote conservation education in the wider community and among visitors to the zoo, in line with the mission of the zoo. Such events have proved challenging during the Covid-19 Pandemic, however innovative means to do this through virtual events were carried out.

Moving forward into a post pandemic situation, the zoo will continue and expand its efforts to carry out such activities. With a greater focus on activities that promote conservation efforts, thereby providing visitors to the zoo an engagement and meaningful experience.



School students visited the Gorewada Biopark and Nature Trail organised to know about the wetlands of Gorewada and its aquatic fauna

Some Notable Educational Events held by Gorewada Zoo

Sr. No.	Date	Name of Event	Collaboration	Activities	No. of Participants
1.	03.04.2022	Insect Walk- To Know, Love & Conserve	TERN	An outdoor education activity was organized to spread awareness about the flora and fauna.	15
2.	10.04.2022	Insect Walk- To Know, Love & Conserve	TERN	An outdoor education activity was organized to spread awareness about the flora and fauna at Ambazhari Biodiversity Park, Nagpur	13
3.	18.05.2022	Insect Walk- To Know, Love & Conserve	Open for Public	An outdoor education activity was organized to spread awareness about wildlife for the children and citizens.	80+
4.	23.05.2022	World Biodiversity Day: 2022	Nagpur Social Forestry, Nagpur	A seminar on Biodiversity was delivered at High-Nursery, Seminary Hills, Nagpur with Social Forestry Division, Nagpur to sensitise the youth about the Importance of biodiversity.	25
5.	19.08.2022	Interactive indoor session	Wildlife Research and Training Centre, Nagpur	An indoor education session was conducted for the Interns of WRTC at the Conference Hall of Gorewada Rescue Centre, Nagpur	15
6.	05.09.2022	Biodiversity Survey	Shri. Mathuradas Mohata Science College, Nagpur	A biodiversity survey was conducted at the campus of Mohata science college, Nagpur to document the biodiversity and sensitizes the students about the importance of biodiversity.	35
7.	15.09.2022	Reintroduction of Cheetah	Shri Mathuradas Mohata Science College, Nagpur	The awareness program was conducted at Mohata Science College, Nagpur for the students to sensitise them about the ecological importance of Cheetah.	110

8.	21.09.2022	Nature Walk	Seva Sadan Arts, Commerce and Science College, Nagpur	A nature walk was organized at Ambazhari Biodiversity Park, Nagpur to sensitise the students about	50+
9.	04.09.2022	Indoor Education Session	मूक बधिर निवासी शाळा, सावनेर, जि. नागपूर.	Interacted with students and delivered a Talk on "Birds and Their Roles" The session of Questions and Answers was energetic as they were aware of the local Birds around. And the students of मूक बधिर निवासी शाळा, सावनेर, जि. नागपूर.	40+
10	23.12.2022	World Wildlife Day:2022	Open for public	Wall Painting Competition was organized to spread awareness among the students about wildlife through the art of painting.	35
11	08.01.2023	Nature Walk	Kids for Tiger – Sanctuary Asia	A nature walk was organized at Gorewada Biopark to spread awareness about wildlife conservation among the students.	100+
12	03.03.2023	Forest Fire Awareness	Open for Public	Street Play: To aware villagers of the forest fire, a street play was organised in the vicinity of Gorewada Reserve Forest including Bodhala, Pithesur, & Gorewada.	500+
13	21.03.2023	World Forest Day - 2023	Nagpur Social Forestry, Nagpur Division	"अरण्य वाचन" program was conducted at Japanese Garden, Seminary Hills, Nagpur to spread awareness about the forest and its importance among college students.	200+



On the occasion of World Forest Day, a अरण्य वाचन was celebrated with Jawaharlal Nehru College, Wadi organised by Nagpur Social Forestry in collaboration with Gortewada Zoo, Nagpur.



Interaction with Zoo Education Officers from Western Region at Mumbai



Nature Walk and Outreach Activities for citizens



Street Play for awareness on Forest Fires



A Indoor educative session on Role of birds at मूक बधिर निवासी शाळा, सावनेर, जि. नागपूर



Shri Mathuradas Mohata College
Reintroduction of Cheetah In India
14.09.2022 11:26
21.12828, 79.11156
Sakkardara, Chowk, Umred Rd, Ragnaji Nagar, Nagpur,
Maharashtra 440009

Cheetah Reintroduction Program at Mohata Science College, Nagpur

20. Seasonal special arrangements for the upkeep of animals:

Seasonal management plays a crucial role in the well-being and care of animals in zoos. It involves implementing specific strategies and practices to address the unique needs and challenges that arise during different seasons throughout the year. Gorewada management implements various seasonal arrangements for comfort of animals.

Temperature and Climate Control: Many animals have specific temperature and climate requirements, and seasonal changes can impact their health and behavior. Zoos need to ensure that enclosures are equipped with appropriate heating, cooling, or insulation systems to maintain a comfortable environment for the animals. This may involve adjusting temperature controls, providing shade structures, or installing misting systems during hot weather.

During summer, Desert coolers are used in Night shelters for effective temperature control. Safari enclosures pose a big challenge in this aspect. Natural vegetation play an important role in temperature control. They provide with natural shed and cooler temperature zones. Small and large waterbodies have been placed strategically throughout the safari enclosure for water and temperature requirements of animals. Especially tigers prefer to sit in these cool water puddles during summer.



Use of Desert Coolers for Night Shelters



21. Vaccination Schedule of animals:

Sl. No.	Species	Disease Vaccinated for	Name of the Vaccine and dosage/ quantity used	Periodicity	Remarks
1	Feline	Leptospirosis Feline calicivirus Feline panleukopenia <i>Feline rinotraqueitis</i>	Feligen 1 ml	Annually	Subcutaneous route
2	Ursidae	Anti rabies	Raksharab	Annually	Subcutaneous route

22. De-worming Schedule of animals:

Sl. No.	Species	Drug used	Periodicity
1	Feline	Doramectin Praziquantel Pyrantel Pamoate Febantel	Quarterly & if and when required
2	Ursidae	Doramectin Praziquantel Pyrantel Pamoate Febantel	Quarterly & if and when required
3	Herbivores	Albendazole Fenbendazole	Quarterly & if and when required

23. Disinfection Schedule:

Sl. No.	Species	Type of enclosure	Disinfectant used and method	Frequency of disinfection
1	Feline	Night Shelter	Kohrsolin Bleaching Powder Sodium bicarbonate Flaming Turmeric	15 days 15 days Alternate day 15 days If required
2	Ursidae	Night Shelter	Kohrsolin Bleaching Powder Sodium bicarbonate Flaming Turmeric	15 days 15 days Alternate day 15 days If required
3	Herbivores	Night Shelter	Flaming	15 days

24. Research and Publications:

Sr. No.	Title	Authors	Journal	Year
1	Molecular investigation of Feline Panleukopenia in an endangered leopard (<i>Panthera pardus</i>)- a case report	S. M. Kolangath, S. V. Upadhye, V. M. Dhoot, M D. Pawshe, B. K. Bhadane, A. P. Gawande and R. M. Kolangath	BMC Veterinary Research	2023
2	P2/ P8 primer PCR effective in sex determination in Domestic birds	Amisha Mishra, Sujit Kolangath, Shirish Upadhye, Mayur Pawshe and Priyanka Mulmule	Journal of Entomology and Zoology Studies	2023
3	Molecular Evidence of <i>Hepatozoon felis</i> Infection in Wild Captured Royal Bengal Tiger Cub (<i>Panthera tigris tigris</i>)	S. M. Kolangath, S. V. Upadhye, V. M. Dhoot, M D. Pawshe, A. S. Shalini, P. A. Tembhurne, S. W. Kolte	Indian Journal of Animal Research	2022
4	Molecular investigation and clinical management of <i>Hepatozoon Canis</i> infection in an Indian jackal- a case report	S. M. Kolangath, S. V. Upadhye, V. M. Dhoot, M D. Pawshe, A. S. Shalini R. M. Kolangath	BMC Veterinary Research	2022
5	Enterobiasis in a wild captured Indian Langur	Kolangath SM, Pawshe MD, Dhoot VM and Upadhye SV	Journal of Entomology and Zoology Studies	2022
6	Diversity and habitat preference of mantids in Gorewada Reserve forest, Nagpur, Maharashtra	Chhapekar SD, Kolangath SM, Sawant DS, Chinchkhede KH, Pawshe MD and Shalini AS	Journal of Entomology and Zoology Studies	2021
7	Bamboo Plantation as a Value–Added Enrichment for Leopard (<i>Panthera pardus</i>) Enclosures in Captivity	Kolangath S. M., Upadhye S. V., Dhoot V. M., Pawshe M. D. and Shalini A. S.	Indian Zoo Year Book, Volume IX	2021
8	Nutrition for Geriatric and Incapacitated Leopards (<i>Panthera pardus</i>) in Captivity	S. M. Kolangath, S. V. Upadhye, V. M. Dhoot, M D. Pawshe and A. S. Shalini	Intas Polivet	2021
9	Surgical Management of Third-Degree Rectovestibular Laceration in Marwari Mare	M. D. Pawshe, Gulvinder Chowdhary and S. M. Kolangath	Intas Polivet	2019

25. Conservation Breeding Programme of the Zoo

Natural Breeding of the following species is going on in captivity under supervision.

Sr. No.	Species	Animal Name	Captive Breeding Status
1.	Tiger	<i>Panthera tigris</i>	Under supervision
2.	Leopard	<i>Panthera pardus</i>	Ongoing under supervision
3.	Sloth Bear	<i>Mulrsus urcinus</i>	Under supervision
4.	Black Buck	<i>Antilope cervicapra</i>	Under supervision
5.	Albino Black Buck	<i>Antilope cervicapra</i>	Under supervision
6.	Brow Antlered Deer	<i>Rucervus eldii</i>	Under supervision



Brow Antlered Deer with Fawn



Albino Black Buck (Male & Female)

26. Animal acquisition/transfer/exchange during the year

Sr. No.	Animals arriving in the Zoo				
	Enclosure	Species	Number (M: F)	From which Zoo	Date of arrival in the zoo
1	Civet Cat Enclosure	Civet Cat	2:2	National Zoological Park, Nagpur	26.11.2023
2	Mongoose	Indian grey mongoose	2:2	Pilikula Biological Park, Mangaluru, Karnataka	10.03.2023
3	Python Enclosure	Reticulated Python	3:3		
4	Pheasant Enclosure	Golden Pheasant	2:2	Padmaju Naidu Himalayan Zoological Park, Darjeeling	19.02.2023
5		Silver Pheasant	2:2		
6		Red Jungle Fowl	2:2		
B.	Animals going from the zoo				
	Species Enclosure	Species	Number (M: F)	Going to which Zoo	Date of deposition from the zoo
	Herbivore Enclosure	Nilgai	2:2	Pilikula Biological Park, Mangaluru, Karnataka	06.03.2023
	Herbivore Enclosure	Blackbuck	2:2	Pilikula Biological Park, Mangaluru, Karnataka	06.03.2023

27. Rescue and Rehabilitation of wild animals carried out by the Zoo-Nil

Sr.No.	Date of Rescue	Species with a 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

Gorewada Zoo has a separate facility for Rescue and Rehabilitation, therefore no Rescue and rehabilitation is performed by the zoo.

28. Annual Inventory of Animals

PART - A Gorewada International Zoo, Nagpur, Maharashtra Proforma for Annual Inventory Report Inventory Report for the Year: 2022-2023

Endangered Species*

- Modified Closing Balance

S.No.	Animal Name	Scientific Name	Opening Stock (01-Apr-2022)				Births			Acquisitions			Disposals			Deaths			Closing Stock (31-Mar-2023)			
			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T
Mammalia																						
1.	Blackbuck	<i>Antilope cervicapra</i>	4	6	0	10	0	0	2	0	0	0	0	0	0	1	0	0	3	6	2	1
2.	Blackbuck (leucistic/white)	<i>Antilope cervicapra</i>	3	6	4	13	0	0	0	0	0	0	2	2	0	2	0	0	0	4	3	7
3.	Indian Jackal	<i>Canis aureus indicus</i>	1	2	0	3	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	2
4.	Indian Grey Mongoose	<i>Herpestes edwardsi</i>	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	2	0	4
5.	Sloth Bear	<i>Melursus ursinus</i>	3	3	0	6	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	6
6.	Leopard	<i>Panthera pardus</i>	2	5	0	7	1	1	0	0	0	0	0	0	0	1	2	0	2	4	0	6
7.	Bengal Tiger	<i>Panthera tigris tigris</i>	1	1	0	2	1	2	0	0	0	0	0	0	0	1	2	0	1	1	0	2
8.	Asian Palm Civet	<i>Paradoxurus hermaphroditus</i>	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	2	0	4
9.	Eld's Deer (Brow-antlered Deer)	<i>Rucervus eldii</i>	4	4	0	8	0	0	2	0	0	0	0	0	0	0	0	0	4	4	2	10
10.	Bengal Fox	<i>Vulpes bengalensis</i>	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4
Total Mammalia	10		20	29	4	53	2	3	4	4	4	0	2	2	0	5	5	0	20	29	7	56
Reptilia																						
1.	Reticulated Python	<i>Malayopython reticulatus</i>	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	3	3	0	6
Total Reptilia	1		0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	3	3	0	6
Total			20	29	4	53	2	3	4	7	7	0	2	2	0	5	5	0	23	32	7	62

*Animals under Sch-I and Sch-II of Wild Life (Protection) Act, 1972

Part – B

Other than Endangered Species

Other than Endangered Species*

- Modified Closing Balance

S.No.	Animal Name	Scientific Name	Opening Stock (01-Apr-2022)				Births			Acquisitions			Disposals			Deaths			Closing Stock (31-Mar-2023)			
			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T
Aves																						
1.	Golden Pheasant	Chrysolophus pictus	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	2	0	4
2.	Red Junglefowl	Gallus gallus	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	2	0	4
3.	Silver Pheasant	Lophura nycthemera	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	2	0	4
Total Aves	3		0	0	0	0	0	0	0	6	6	0	0	0	0	0	0	0	6	6	0	12
Mammalia																						
1.	# Chital/ Spotted Deer	Axis axis	2	3	2	7	0	0	4	0	0	0	0	0	0	0	0	0	2	5	4	11
2.	Nilgai	Boselaphus tragocamelus	7	7	3	17	0	0	4	0	0	0	2	2	0	0	0	0	5	5	7	17
3.	Indian Muntjac	Muntiacus muntjak	6	10	2	18	0	0	0	0	0	0	0	0	0	0	0	0	6	10	2	18
4.	Sambar Deer	Rusa unicolor	4	3	0	7	0	1	0	1	0	0	0	0	0	0	0	0	5	4	0	9
Total			19	23	7	49	0	1	0	7	0	0	2	2	0	0	0	0	24	34	13	51
Grand Total			39	52	11	102	2	4	12	14	13	0	4	4	0	5	5	0	47	62	20	129

29. Mortality of animals:

Sr. No.	Animal Name	Scientific Name	Sex	Date of Death	Reason of Death as per the Post-mortem report
1	Tiger	<i>Panthera tigris</i>	F	31.05.2022	Juvenile death due to Haemorrhagic shock
2	Black Buck	<i>Antelope cervicapra</i>	M	11.10.2022	Cardiorespiratory failure
3	Indian Jackal	<i>Canis aureus</i>	F	13.11.2022	Cardiorespiratory failure
4	Black Buck (Albino)	<i>Antelope cervicapra</i>	M	16.12.2022	Selenity
5	Tiger	<i>Panthera tigris</i>	M	24.12.2022	Juvenile death due to Haemorrhagic shock
6	Tiger	<i>Panthera tigris</i>	F	24.12.2022	Juvenile death Respiratory failure
7	Black Buck (Albino)	<i>Antelope cervicapra</i>	F	26.01.2023	Gastro-enteritis and dehydration
8	Leopard	<i>Panthera pardus</i>	M	24.01.2023	Juvenile death due to Anaemia & Cardio-respiratory failure.
9	Leopard	<i>Panthera pardus</i>	F	17.01.2023	Infighting and Haemorrhagic shock
10	Leopard	<i>Panthera pardus</i>	F	27.01.2023	Juvenile death due to Haemorrhagic shock

30. Compliance with conditions stipulated by the Central Zoo Authority

Sr. No	Norm No. under RZR, 2009	Condition Stipulated	Time Period to Comply	Since When Pending	Status with regard to compliance with the conditions
1	10.1.(8)	The zoo should not acquire sick, injured infirm animals for display, animals should be acquired after permission under sec 38(i)	With immediate effect		Complied. Zoo shall never display sick, injured and infirm animals.
2	10.2.(1)	The zoo should post a full-time officer-in-charge with adequate financial and administrative powers.	With immediate effect		The Divisional Manager, Gorewada Project is designated as a full-time officer-in-charge and Zoo Director with adequate financial and administrative powers.
3	10.2.2	The zoo should post full-time Veterinary Officers, Education Officers/ Biologist	With immediate effect		Dr Mayur Pawshe has been appointed as Veterinarian for the zoo.
4	10.2.3	Zoo should appoint Keeper, a head keeper with adequate experience in work	With immediate effect		Keepers currently appointed at the zoo have prior experience of working with animals at the Rescue Centre, Gorewada.
5	10.3.1	The zoo should submit Master Plan for all the phases to CZA for approval.	3 months		Phase- I and II of the master plan along with detailed drawings of each component were submitted to CZA. Preparation of the Master Plan for the entire zoo is in process.
6	10.3.5	Feeding and Retiring cells should be camouflaged by suitable plantations.	With immediate effect		Night shelters have been painted in shades of green for better camouflage. A suitable plantation is provided for the purpose. Additional plantation will be considered as per requirement.

7	10.4.2, 3	<p>1. The design of the Leopard and Sloth Bear Safari should be as per the standards. These safaris should house animals only after they are fully audited for the safety and security of animals, visitors and keepers and structural stability.</p> <p>2. The safari area should be free from all the debris, metal pieces, and sharp corners which may injure the animal.</p> <p>3. The functionality of the double gate system should be verified for electro-mechanical and manual operations.</p> <p>4. The zoo operator should ensure that an adequate amount of soil is compacted along the safari fence so that animal does not escape through burrows.</p> <p>5. The overhang steel plate expansion joints of leopard and sloth bear safari should be properly affixed in such a way that it does not allow any space for animal escape.</p> <p>6. The drop gates in the animal houses should have a U-shaped channel frame to prevent any animal escape as well as the pulley of the drop gate should have a proper cover. The cable running for the sliding door should be covered in Steel pipe and have a locking system.</p> <p>7. All gates opening in the keeper gallery in the feeding and retiring cell should have locking systems.</p> <p>8. The strength of the cable used for pulling the drop gate should be checked periodically and should be maintained properly.</p>	With immediate effect		<p>1 Complied.</p> <p>2 Complied</p> <p>3. Complied.</p> <p>4. Complied</p> <p>5. Complied</p> <p>6. Complied</p> <p>7. Complied</p> <p>8. Complied. The cable for pulling gates have been changed for better strength. Its maintenance is observed periodically.</p>
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		<p>9. Feeding and retiring cells in leopard safari shall have meat drop windows.</p> <p>10. The kraal provided for leopards and sloth bears shall have easy access for animals and keepers for cleaning and maintenance. Its design should be animal and management friendly.</p> <p>11. There should be provision for squeeze cages in Leopard and Sloth Bear Cage.</p>			<p>9. Complied.</p> <p>10. Suitable changes have been made during the construction for animal and management-friendly access.</p> <p>11. A mobile squeeze cage has been provided in every night shelter.</p>
8	10.4.6	The zoo should make efforts to enrich feeding and retiring cells	With immediate effect		Wooden tables and water pots have been provided in every feeding cell. Necessary changes in enrichment are considered from time to time.
9	10.4.10	The zoo should provide appropriate signages with relevant information at suitable locations.	With immediate effect		Appropriate signage is provided at suitable locations.
10	10.5.2	The zoo should ensure to provide all animals timely supply of quality food and water.	With immediate effect		Food protocols are prepared and strictly followed.
11	10.5.5	The zoo shall provide a tyre bath (as a biosecurity measure) at the appropriate entry point.	3 months		A Tyre bath has been provided at the beginning of the safari.
12	10.6.1	As per the provision under Zoo Rules, 2009, the zoo should have a full-fledged Veterinary unit with a diagnostic facility. Though the Rescue Centre, across the road in front of the zoo, has all these facilities. The Zoo operator has assured that these facilities will be used for the zoo as well.	6 months		A small veterinary unit and quarantine block are proposed for construction on the zoo premises.

		However, it is suggested that the zoo may have a bare minimum veterinary facility in the zoo premises.			
13	10.12.1	The zoo operator should provide adequate civic facilities for visitors at appropriate and convenient places in the zoo including for the physically disabled.	With immediate effect		Civic facilities like toilets, drinking water, and a cafeteria are provided at appropriate locations. All entry and pathways are designed for easy access to the physically disabled.
14	10.12.2	The zoo should have a first aid facility and emergency medicines at a suitable location inclusive of Anti Snake Venom.	With immediate effect		The first aid facility is available in the admin block and ticketing building.
Non-Statutory Recommendations					
1		The water tank near the parking area and night shelter buildings attached to safari enclosures should be painted olive green or camouflaged with the surrounding area.	3 months		A sky landscape has been selected for painting on the tank. It will be complied with soon.
2		Labours living in the safari area should be shifted before the safari is made functional.	With immediate effect		All labours living in the safari area were removed from the safari before the park was operational.
3		Substrates in kraal should have soft soil.	With immediate effect		Complied.

31. List of free-living wild animals within the zoo premises

Sr. No.	Animals	Species
1.	Mammals	Nilgai
		Sambar
		Leopard
		Jungle Cat
		Grey Mongoose
		Common Palm Civet etc.
2.	Aves	Indian Peafowl
		Grey Francolin
		Painted Francolin
		Little Brown Dove
		Ring Dove
		Black-winged Kite
		White-eyed Buzzard
		Honey Buzzard
		Eagle Owl
		Barn Owl
		Spotted Owlet + 200 Birds species
3.	Reptiles	Indian Rat Snake
		Russell's Viper
		Saw-scaled Viper
		Indian Cobra
		Common Trinket
		Wolf Snake
		Indian Rock Python
		Common Cat Snake
		Stout sand Snake
		Bronze-backed Tree Snake
		Indian Egg-Eater
		Monitor Lizard
		Garden Lizard & Many More

The list of free-living wild animals in zoo premises is tentative and based on daily observations; detailed documentation of free-living wildlife is under process.