



Municipal Corporation of Greater Mumbai



Veermata Jijabai Bhosale Udyan & Zoo

## Annual Report

2018 – 2019



Veermata jijabai Bhosale Udyan & Zoo  
Dr. Babasaheb Ambedkar Road,  
Byculla (East), Mumbai – 400027

## **CONTENTS**

<b>S.No</b>	<b>Section</b>	<b>Page Number</b>
1.	Report of the Officer-in-charge	4
2.	History of the Zoo	6
3.	Vision	7
4.	Mission	8
5.	Objective	9
6.	About us	10-12
7.	Organizational Chart	13
8.	Human Resources	14-15
9.	Capacity Building of the zoo personnel	16
10.	Zoo Advisory Committee	16
11.	Health Advisory Committee	17
12.	Statement of income and expenditure of the Zoo	17
13.	Daily feed Schedule of animals	18-21
14.	Vaccination Schedule of animals	22
15.	De-worming Schedule of animals	23

<b>S.No</b>	<b>Section</b>	<b>Page Number</b>
16.	Disinfection Schedule	24
17.	Health Check-up of employees for zoonotic diseases	25-26
18.	Development Works carried out in the zoo during the year	27
19.	Education and Awareness programmes during the year	28-35
20.	Important Events and happenings in the zoo	36-38
21.	Seasonal special arrangements for upkeep of animals	39-40
22.	Research Work carried out and publications	41
23.	Conservation Breeding Programme of the Zoo	41
24.	Animal acquisition / transfer / exchange during the year	41
25.	Rescue and Rehabilitation of the wild animals carried out by the zoo	41
26.	Annual Inventory of animals	42-46
27.	Mortality of animals.	47
28.	Status of the Compliance with conditions stipulated by the Central Zoo Authority	48-52
29.	List of free living wild animals within the zoo premises	53-54

## **1. Report of the Officer-in-charge**

### **MUNCIPAL CORPORATION OF GREATER MUMBAI**

### **VEERMATA JIJABAI BHOSALE UDYAN & ZOO**

#### **From Director's Desk**

*Veermata Jijabai Bhosale Udyan & Zoo, Byculla, Mumbai has been under renovation and witnessed monumental changes within a couple of years. Various animal facilities, upkeep of gardens, newly developed animal exhibits, upgraded public amenities, improvised pathways and roads, Installation of CCTVs, Vermicomposting plant have now been operational. The Zoo has witnessed progressive increase in visitors' footfall after the arrival of various new animals.*

*The Humboldt penguin birds are now settled in their habitat wherein our team is keeping their health care regime up to date and they have been given their own nesting places for breeding. The birds are been looked after with utmost care and as per the WAZA norms.*

*The newly arrived animals like Swamp deer, Jackal are now displayed in their newly developed naturalistic exhibits. A total 5 zoo animal exhibits including spotted deer, barking deer and sambar deer are open for public viewing. The newly developed animal exhibits have been equipped with Glass viewing panels, natural and aesthetically built GRC structures like dens, rock work, water bodies with water circulation feature, waterfalls with sensors, animal holdings and shaded areas along with landscapes augmented with indigenous species of plants merged with the surroundings and suitable for the specific animal.*

*Other developments include a well-equipped zoo hospital, upgraded veterinary health care facilities, various garden plots, selfie points, signage and other allied infrastructure. The newly developed 3D Auditorium is now functional and various educational programmes are being arranged thereat.*

*The irrigation system has been developed connecting three natural wells inside the premises and the water supply all over the Zoo is directly linked to the wells. Other ongoing works include construction of animal exhibits for new animals and a landscape garden based on Biome theme consisting of three underground water tanks for irrigation, drinking water and STP.*

*The Zoo is nearing its target of complete modernization and expect to become the most aspiring destination for Mumbaikars attracting worldwide visitors. With the most advanced animal exhibits enhanced with naturalistic enrichment, acrylic glass panels, rock work and other facilities, the*

*Zoo is embellishing its look while maintaining its heritage precincts of more than 150 years.*

*May the future endeavors be bright and shining...!!!*

*Dr. Sanjaykumar A. Tripathi*

***Director (Zoo)***

## **2. History of the Zoo**

Vermata Jijabai Bhosale Udyan & Zoo is one of the oldest zoos in the country & was established in 1862. This area was under the control of Agri-Horticultural Society of Western India. The management of this Udyan & Zoo was handed over to MCGM by the then state govt in 1873. The total area of this Udyan & Zoo is approx. of 53 acres and is declared as “Heritage Grade II (B)” site. This Udyan & Zoo has been given recognition as “Medium Zoo” by Central Zoo Authority, New Delhi.

### **3. Vision**

Veer mata Jijabai Bhosale Udyan and Zoo is one of the oldest zoos in the country and was established in the year 1862. The total area of the Udyan and the Zoo is approximately 53 acres and is declared as Heritage Grade II (B) site. This Udyan and Zoo as been given recognition as “Medium Zoo” by the Central Zoo Authority, New Delhi

Considering the small area of this zoo and a great footfall (around 10 to 15 thousand visitors on an average per day) it is felt that this zoo should work more in educating the people for creating love, interest, empathy and awareness among general visitors, school students/teachers group, college students and representative of various organizations. Various event days related to wildlife, Nature and Environment shall be organized for the purpose in the interpretation center newly constructed at this zoo having the facilities such as a 200-seater auditorium and exhibition areas which are under development. These facilities can be used for conducting various training programme, seminars, workshops, exhibition, wildlife weeks, essay/drawing/elocution competitions and similar other activities including various audiovisual shows, wildlife movies and power point presentation etc.

Most of the New Animal Enclosures will be open and spacious (as per the area norms prescribed for Indian Animals by the Central Zoo Authority, New Delhi). The Natural environment, as per the natural habitat of the respective animals will be created. This will satisfy the basic needs of the animals and provide them comfort and security. These exhibits will also be helpful in educating the visitors about the natural habitats of the animals. There will be visitors viewing areas with the acrylic glass panels, which would not only serve the purpose of a barrier in between the animals and visitors but also shall facilitate the visitor's viewing.

#### **4. Mission**

##### **“To engender a respect for wildlife and inspire conservation action”**

The zoo aims to create an ambiance that will create awareness about wildlife and inculcate a healthy attitude towards animals. By providing naturalistic, immersion exhibits that display animals in their “wild” surroundings and by imparting information through engaging signage, the zoo aims to become a learning center, albeit in a relaxed and leisurely manner.

The future objective of the zoo is to meet world standards for animal care and husbandry, for environmental education and to be a truly memorable visitor experience.

As part of its mission, the zoo aims to help the visitor be a good zoo steward. Caring for the collection is a primary responsibility of the zoo and the visitor has an important role to play in ensuring the health and well-being of the collection. Visitors shall be briefed on what behaviors are acceptable in the zoo, how their behavior has an impact on animal health and the quality of their own experience and the reasons why respectful conduct is important. Visitor action, both at the zoo and at their home, should serve as an example to others to respect wildlife and to protect the environment on which all life depends.

It is important to educate the visitors about extinction and remind them of our losses, like the dodo, the Indian Cheetah, the Pink headed duck which were all lost due to man’s fault. Remembering our losses is important so that we may learn not to commit the same grave mistakes again and help species that are already on the brink of extinction and thus inspire conservation action amongst them.



## **5. Objective**

The objective of the V.J.B udyan and Zoo is to develop in to one of the best Zoos in the country as well as abroad, by providing best facilities to the Zoo inmates as well as the visitors. Such as a well-equipped Zoo hospital, cafeteria, food kiosks, drinking water fountains, beautiful internal gardens, rain water shelters, high class Toilets etc. It aims to perform as one of the best nature Interpretation centres for creating interest and awareness about the role of a Zoo in particular and also about Nature, Wildlife and Environment in general, in the minds of people, especially school/college students and teachers. The Zoo interpretation centre having facilities such as an auditorium for conducting various educational activities and the exhibition area are under development, which will be functional in near future.

## 6. About us

S.No.	Particulars	Information
<b>Basic Information about the Zoo</b>		
1	Name of the Zoo	<b><u>Veermata Jijabai Bhosale Udyan &amp; Zoo</u></b>
2	Year of Establishment	<b>1862</b>
3	Address of the Zoo	<b>Dr. Babasaheb Ambedkar Rd., Byculla (East), Mumbai- 400 027</b>
4	State	<b>Maharashtra</b>
5	Telephone Number	<b>022-223772414</b>
6	Fax Number	—
7	E-mail address	<b>vjbudyanzoo@yahoo.co.in</b> <b>dirzoo01@mcgm.gov.in</b>
8	Website	—
9	Distance from nearest	Airport: <b>16 km (Approx.)</b>
		Railway Station: <b>From Byculla Station: 550 m (Approx.)</b> <b>Reay Road Station: 700 m(Approx.)</b>
10	Recognition Valid up to (Date)	<b>22/03/2020</b>
11	Category of zoo	<b>Medium</b>

<b>S.No.</b>	<b>Particulars</b>	<b>Information</b>
12	Area (in Hectares)	<b>21.4483 Hectares (Approx.)</b>
13	Number of Visitors  (Financial Year)	Adult: <b><u>146759</u></b>
		Children: <b><u>320989</u></b>
		Total Indian: <b><u>467748</u></b>
		Adult: <b>2060</b>  Children: <b>235</b>  Total Foreigners: <b><u>2295</u></b>  Date 01.08.2018 to 31.03.2019
		Total Visitors: <b><u>1270027</u></b>
14	Visitors' Facilities Available  in Zoo	<b>1. Ticket house with baggage counter souvenir shop and public toilet 2. Drinking water fountains 3. Rain water shelters 4. Interpretation Center 5. Child care center 5. Public Toilets 6. Cafe Wild- Eatry</b>
15	Weekly Closure Day of the  Zoo	<b>Wednesday</b>
<b>Management Personnel of the zoo</b>		
16	Name with designation of the  Officer in-charge	<b>Dr. Sanjaykumar A. Tripathi</b>  <b>Director (Zoo)</b>

<b>S.No.</b>	<b>Particulars</b>	<b>Information</b>
	Name of the Veterinary Officer	<b>Dr. Komal V. Raul</b>
	Name of the Curator	<b>Dr. Devanand D. Shirsat</b>
	Name of the Biologist	–
	Name of the Education Officer	<b>Shri. Anil L. Paranjpe</b>
	Name of the Compounder/ Lab Assistant	<b>Shri. Gurunath Narvekar</b>
<b>Owner / Operator of the Zoo</b>		
17	*Name of the Operator	<b>Municipal Commissioner. Municipal Corporation of Greater Mumbai</b>
18	Address of the Operator	<b>2<sup>nd</sup> Floor, Municipal Head Office, Mumbai- 400 001.</b>
19	Contact details/Phone number of Operator	<b>022- 22620251 022-22620525</b>
20	E-mail address of Operator	<b>mc@mcm.gov.in</b>



## **8. Human Resources**

<b>Sr. No.</b>	<b>Designation</b>	<b>Number Sanctioned Posts</b>	<b>of Names of the incumbent</b>
1	Director (Zoo)	1	1
2	Deputy Superintendent (Vet) Zoo	1	0
3	Deputy Superintendent of Garden	1	1
4	Veterinary Officer	1	1
5	Curator (Zoo)	1	1
6	Education-cum-Public Officer	Relation <sub>1</sub>	1
7	Biologist	1	0
8	Administrative Officer	1	1
9	Head Clerk	1	1
10	Horticultural Assistant	4	2
11	Clerk	3	3
12	Executive Assistant	2	2
13	Clerk (Store)	1	1
14	Peon	2	2
15	Tracer	1	0
16	Draftsman	1	0
17	Mechanic	1	0
18	Mistri I	1	0
19	Welder	1	0
20	Helper	1	0
21	Carpenter II	1	0
22	Painter	2	0
23	Head Mali	1	0
24	Plumber cum Fitter -III	1	0
25	Garden Attendants	3	2
26	Carpenter- III	1	0
27	Mukadam	5	0

28	Mistry II	4	1
29	Mali	81	31
30	Sweeper	14	12
31	HalalKhor	1	0
32	Store Attendant	1	0
33	Garden Labourer	15	3
34	Hamal	2	0
35	Cart Driver	2	0
36	Head Animal Keeper	1	0
37	Mahawat	3	0
38	Elephant Keeper	1	1
39	Camel Keeper	2	0
40	Camel Leader	1	0
41	Assistant Head Animal Keeper	2	0
42	Veterinary Dresser	1	1
43	Animal Keeper	25	13
44	Assistant Veterinary dresser	1	1
45	Horse Syce	2	0
46	Zoo Labourer	14	13
47	Laboratory Servants	2	1
	TOTAL	216	96

### 9. Capacity building of zoo personnel

Sr. No.	Name & Designation of the zoo personnel	Subject matter of training	Period of training	Name of the institution where the training attended
1.	Dr. S. A. Tripathi, Director (Zoo)	Zoo Management training - MZA	18 <sup>th</sup> -19 <sup>th</sup> March 2019	Thane- Mumbai
2.	Dr. Komal V. Raul, Veterinary Officer	1. 'Middle Management Officials Training Programme'.  2. Zoo Management training - MZA	15 <sup>th</sup> -16 <sup>th</sup> March 2019  18 <sup>th</sup> -19 <sup>th</sup> March 2019	New Delhi  Thane- Mumbai
3.	Mr. Jamal Ahmed Khan	Training programme for Capacity building of Mahouts"	4 <sup>th</sup> - 8 <sup>th</sup> February 2019	Shri.Chamarajendra Zoological Gardens, Mysuru Zoo
4.	Mr. Amaithibalan Balamurugan Adidraavidar	"Training programme for Zoo Keepers on regional basis 2018-19"	4 <sup>th</sup> - 10 <sup>th</sup> March 2019	Dr. Shyamaprasad Mukharjee Zoological Garden, Surat

### 10. Zoo Advisory Committee – NIL



## **11. Health Advisory Committee-**

**a. Date of Constitution-** 05.07.2011

### **b. Members**

1.) Dr. D. U. Lokhande

Professor, Dept. of Surgery & Radiology

2.) Dr. D.G. Dighe

Asst. Professor, Dept. of Medicine

3.) Dr. G.M. Gadegaonkar

Asst. Professor, Dept. of Animal Nutrition

4.) Dr. P.V. Meshram

Asst. Professor, Dept. of Pathology

5.) Dr. P. E. Awari

Asst. Professor, Dept. of Poultry Science,

**c. Dates on which meetings held during the year-** NIL

## **12.Statement of income and expenditure of the Zoo**

<b>Financial Year 2018-19</b>			
<b>Annual Revenue (Rs.) Entry fees</b>		52,867,920	
<b>Annual Expenditure (Rs.)</b>			
<b>Allotted Revenue Budget</b>	<b>Consumed Revenue Expdt.</b>	<b>Allotted Capital Budget</b>	<b>Consumed Capital Expdt</b>
19,1020,010	19,1020,010	Nil	Nil

### 13. Daily Feed Schedule of animals

Sr. No.	Species	Feed item	Quantity		Day of fasting
			Winter	Summer	
1.	Elephant	a) Hay b) Rice Straw c) Lucern grass d) Banana e) Carrots f) Sugar Cane g) Pony pellets + wheat bran + oil cake h) Jaggery I) Garlic+pepper+sesame seeds+ turmeric+ methi +linseed+ karli	20 kg. 10 kg. 55 kg. 1 Dozen 15 kg. 25 kg. 5 kg. + 5 kg. + 0.8 kg. 500gm 1.5kg	5 % less feed	None
2.	Hippopotamus	a) Soaked Gram + Maize b) Wheat Bran c) Lucern grass	6 Kg. 10 Kg. 30 Kg.	5 % less feed	None
3.	Sambar, Nilgai	a) Soaked gram + maize b) Wheat bran + Oil cake c) Carrots d) Lucern Grass e) Hay f) Cattle Feed g) Bananas h) Rock salt	½ Kg. ½ Kg.+100gm ¼ Kg. 2 Kg. 1 Kg. ½ Kg 4-5 nos.	5 % less feed	None

4.	Black Buck, Spotted Deer, Barking Deer	a) Soaked Gram + Maize b) Wheat Bran c) Carrots d) Lucern Grass e) Hay f) Cattle Feed	½ Kg. ½ Kg. ¼ Kg. 1 Kg. 1 Kg. ¼ Kg	5 % less feed	None
5.	Swamp Deer	1) Soaked gram + maize b) Wheat bran + Oil cake c) Carrots d) Lucern Grass e) Hay f) Cattle Feed g) Bananas h) Rock salt	½ Kg. ½ Kg.+100gm ¼ Kg. 2 Kg. 1 Kg. ½ Kg 4-5 nos.	5 % less feed	
6.	Monkey	a) Groundnuts b) Socked gram + Maize c) Carrots d) Banana e) Ladies finger, Beet, Tomato, Cucumber f) Other vegetables and Fruits (apple, guava, seasonal fruit) g) Water Melon	100 gms. 100 gms. 50 gms. 4 No. }80 gms. }1 Kg. 100 gms5 % less feed	5 % less feed	None

7.	Hyaena	a) Chicken b) Liver c) Rock Salt	4 Kgs. 200 gms. Always avail	4 Kgs. 200 gms. Always avail	Wednesday.
9.	Snakes	a) Mice	1 No.	1 No.	Depending on the size
10.	Pied Horn Bill	a) Plantain (Banana) b) Papaya c) Minced meat d) Seasonal fruits	4 Nos. 100 gms. 30 gms. 50gms	4 Nos. 100 gms. 30 gms. 50gms	None
11.	Adjutant stork/ Painted Stork	a) Fish	500 gms.	500 gms.	None
12.	Pelican	a) Fish	2 Kgs.	2 Kgs.	None
13.	Macaw (per pair)	a) Apple, Chickoo b) Groundnuts with cover c) Sugar cane d) Guava e) Sunflower seed f) Paddy g) Cuttle fish Bone h) Corn Cobs i) Green peas	300 gms. 200 gms. 200 gms. 100 gms. 100 gms. 50 gms. Always avail. In season In season	300 gms. 200 gms. 200 gms. 100 gms. 100 gms. 50 gms. Always avail. In season In season	None
15.	Budgerigar (per pair)	a) Kang (Khursani) b) Fruits c) Coriander Leafy Veg.	300 gms. 100 gms. 200 gms. Always	300 gms. 100 gms. 200 gms. Always	None

		d) Cuttle Fish Bone	available	available	
16.	Crane	a) Mixed Grain. b) Fish c) Mixed Leafy vegetables	250 gms. 200 gms. 50 gms.	250 gms. 200 gms. 50 gms.	None
17.	Cockatiel (Per pair)	a) Kang b) Sunflower seed c) Mixed vegetables d) Mash (chonga) e) Cuttle Fish Bone	50 gms. 50 gms. 100 gms. 50 gms. Always avail.	50 gms. 50 gms. 100 gms. 50 gms. Always avail.	None
18.	Red Crown Crane	a) Fish b) Mixed Grain c) Mixed vegetables d) Mixed Fruits	300 gms. 250 gms. 100 gms. 100 gms.	300 gms. 250 gms. 100 gms. 100 gms.	None
20.	Wild Boar	a) Wheat bran + Oil cake b) Carrots c) Lucern Grass d) Hay e) Bananas f) Rock salt g) sweet potato h) sugar cane i) palak j). cucumber	½ Kg.+100gm 2kg 2 Kg. 1 Kg. 4-5 nos. 1 kg 750 gms 1kg 300gms	½ Kg.+100gm 2kg 2 Kg. 1 Kg. 4-5 nos. 1 kg 750 gms 1kg 300gms	None
21.	Humboldt Penguins	Sardine/Eel/ Bombay Duck/ Indian Mackerel/ Anchovies Salmon/	700-800 gms	700-800 gms	Sunday

#### **14. Vaccination Schedule of Animals**

<b>Sr. no.</b>	<b>Species</b>	<b>Disease vaccinated for</b>	<b>Name of the vaccine and dosage/quantity used</b>	<b>Periodicity</b>	<b>Remarks</b>
1.	Hyaena	a) Canine Distemper b) Canine Leptospirosis, grippotyphosa, and icterohaemorrhagica c) Canine Adenovirus type 2 d) Canine Parainfluenza e) Canine Parvovirus	7 in 1 vaccine	Annually	Intramuscular
		a) Canine Rabies	Anti-Rabies vaccine	Annually	
2.	Elephant	a) Canine Corona virus a) Rabies	Carona vaccine Anti-Rabies vaccine	Annually Annually	Intramuscular
3.	All birds	b) Tetanus a) Ranikhet disease	Tetanus toxoid vaccine (T.T.) Lasota vaccine/ Ranikhet vaccine	Annually Biannually	Drinking water

### 15. Deworming Schedule of Animals

Sr. no.	Class of animals	Species	Drug used	Month
1.	Carnivores	Hyaena	Fenbendazole	May, September, January
2.	Omnivores	Monkeys	Ivermectin	May, September, October, January
3.	Herbivores	Elephants	Ivermectin	May, September, October, January
		Hippopotamus	Fenbendazole	
		Deer	Fenbendazole	
		Antelope	Fenbendazole	
		Nilgai	Fenbendazole	
		Wild Boar	Fenbendazole	
4.	Birds	Pheasant	Ivermectin/ Fenbendazole	May, September, October, January
		Parakeet	Ivermectin/ Fenbendazole	
		Macaw	Ivermectin/ Fenbendazole	
		Cockatoo	Ivermectin/ Fenbendazole	
		Cockateil	Ivermectin/ Fenbendazole	
		Budgerigar	Ivermectin/ Fenbendazole	
		Parrot	Ivermectin/ Fenbendazole	
		Emu	Ivermectin/ Fenbendazole	
		Crane	Ivermectin/ Fenbendazole	
		Stork	Ivermectin/ Fenbendazole	
		Heron	Ivermectin/ Fenbendazole	
		Pelican <i>etc.</i>	Ivermectin/ Fenbendazole	
5.	Reptiles	Crocodile	Fenbendazole	May, September, January
		Snake	Fenbendazole	
		Turtle	Fenbendazole	

## 16. Disinfection Schedule

Disinfectants in the form of sprays, solutions, powders eg. Potassium permanganate, Dettol, Aseptic, Kohrsoline, Bleaching powder are used to maintain hygiene in and around animal enclosures.

Sr. No.	Class of animals	Species	Type of enclosure	Disinfectant used and method	Frequency of disinfection
1.	Carnivores	Hyaena	Feed House	KMno <sub>4</sub> , Kohrsoline, Virkon	Daily with water and once a week with disinfectant
2.	Omnivores	Monkeys	Feed House	KMno <sub>4</sub> , Kohrsoline, Virkon	Daily with water and once a week with disinfectant
3.	Herbivores	Elephants Hippopotamus Deer Antelope Nilgai Wild Boar	Feed House and water body	KMno <sub>4</sub> , Kohrsoline, Virkon	Water body cleaned once a week.
4.	Birds	Pheasant Parakeet Macaw Cockatoo Cockateil Budgerigar Parrot Emu Crane Stork Heron, Pelican <i>etc.</i>	Enclosure and water body	KMno <sub>4</sub> , Kohrsoline, Virkon	Water body cleaned once a week.



### **17. Health check -up of employees for zoonotic diseases**

Animal keepers in batches of 3-4 keepers are sent each year for annual T.B. Testing at Municipal Medical Centre, Byculla.

<b>Sr. no.</b>	<b>Name</b>	<b>Designation</b>	<b>Date of Health check-up</b>	<b>Findings of Health Check up</b>
1	Yashwant Khandekar	Asst. Head Animal keeper	30-11-2018	Negative
2	Israr Khan	Asst. Head Animal keeper	30-11-2018	Negative
3	Omkar Satardekar	Labour	30-11-2018	Negative
4	Ravindra Nivate	Animal keeper	30-11-2018	Negative
5	Arun Bhangane	Animal keeper	07-12-2018	Negative
6	Rakesh Jadhav	Animal keeper	07-12-2018	Negative
7	Jeetsingh Bali	Animal keeper	07-12-2018	Negative
8	Jamal Khan	Animal keeper	08-12-2018	Negative
9	Vilas AMberkar	Lab Assitant	14-12-2018	Negative
10	Sanju Kharva	Animal keeper	14-12-2018	Negative
11	Balkrishna Shelke	Labour	14-12-2018	Negative
12	Santosh Kadam	Animal keeper	14-12-2018	Negative
13	Mahesh Choughule	Animal keeper	14-12-2018	Negative
14	Amol shinde	Animal keeper	21-12-2018	Negative
15	Ramesh Pawar	Animal keeper	21-12-2018	Negative
16	Balu Waghmare	Animal keeper	21-12-2018	Negative
17	Arun Bhangane	Animal keeper	28-12-2018	Negative
18	Gurunath Narvekar	Compounder	28-12-2018	Negative

19	Santosh Kadam	Animal keeper	28-12-2018	Negative
20	Ashish Tambe	Animal keeper	28-12-2018	Negative
21	Dr. Komal Raul	Veterinary Dr.	28-12-2018	Negative
22	Dr. Deepika V.	Veterinary Dr.	28-12-2018	Negative
23	Maruti Makadwala	Animal keeper	04-01-2019	Negative
24	Amit Waghmare	Labour	04-01-2019	Negative
25	Amethibalan	Labour	04-01-2019	Negative
26	Nitin Kadam	Head Animal Keeper	04-01-2019	Negative
27	Sachin Satam	Labour	05-01-2019	Negative
28	Mahesh Kashte	Labour	18-01-2019	Negative
29	Naushad Ali	Animal keeper	18-01-2019	Negative
30	Suresh Rathod	Animal keeper	18-01-2019	Negative
31	Pratap Kharat	Labour	18-01-2019	Negative
32	Sajid Khan	Mahawat	18-01-2019	Negative
33	Siddharth Kadam	Animal keeper	18-01-2019	Negative

## **18. Developmental Works carried out in the zoo during the year 2018-19**

This Udyan & Zoo is under complete revamping and the development works are being undertaken phase wise. Phase II works started in the year 2018-19 . Under Phase I, the following works got completed in this year.

- Quarantine for carnivores
- Zoo hospital equipment – incinerator machine
- kitchen complex and food storage
- Acquisition of land for the proposed zoo extension facility.
- Water irrigation network by inter-connecting 3 existing fresh water wells inside zoo premise – daily 2 lakh liters of MCGM water conserved
- Vermi-compost project – having a capacity of approx 2 tons of organic waste daily

Under Phase II, various animal enclosures (17 nos. ) are being constructed. Till March 31, 2019, total 5 animal exhibits for Sambar, Spotted deer, barking deer, Jackal and Swamp Deer were opened for the public viewing. The construction works for various other animals including Lion, Tiger, Leopard, Sloth bear, are taking place in full swing.

## **19. Education and Awareness programmes during the year**

### **Celebration of "World Earth Day" (22<sup>nd</sup> April 2018)**

The World Earth Day was celebrated at this Udyan & Zoo on 22<sup>nd</sup> April 2018 in collaboration with the HOPE organization, Thane.

The program started at 7 am with Mr. Anil Paranjpe, Education cum PRO, VJB Udyan and Zoo, Dr.Sasikumar Menon and Mr. Shyam Ghate (both from HOPE) welcoming the participants with an introductory talk on history of VJB Udyan and Zoo and the changed concept of Zoo as per the National Zoo Policy, 1998 and also about the significance of Earth Day. The participants then proceeded on a walk through the green environs of the Zoo. Each group was accompanied by experts on Birds, Botanists and environment. Apart from getting a guided tour of various bird and animal exhibits at the ZOO, the participants were introduced to the rich tree diversity of the VJB Udyan and Zoo. Experts like Dr. Mangala Borkar and Ms. Sheetal Pachpande shared interesting information with the participants. Trees like the Baobab, Corypha palm, Ebony, Mysore fig. Queen's Flower Samudhraphool, Taman, Fishtail palm, Bottle brush, Kailashpati and Buddha's Coconut held the interest of the participants. Participants also had close encounter with interesting avian species which are free-rangers at the VJB Udyan and Zoo. Experts like Ashutosh Joshi, Kiran Dabholkar and Kiran Kadam provided the participants with interesting information about birds. Grey Hornbill feeding on the figs held the attention of participants for a long time. White-breasted

kingfisher and white-breasted waterhen were other birds that delighted the participants who watched them with binoculars and spotting scopes. Spotting scopes were specifically focussed on the roosting flying foxes at the centre of the park. Female bats with babies were observed with special attention by the participants.

The participants finally regrouped at the Zoo Interpretation Centre. The Humboldt's penguins enthralled the participants with their underwater antics. At the Information Centre, Ms. Sheetal Pachpande gave a demonstration on composting kitchen waste to the participants. She highlighted the importance of waste management especially saying "NO to Plastics. Dr.Sasikumar Menon urged the participants to stop using tissue paper as an important Earth Day initiative to save trees. Mr Paranjpe briefed the participants about the future developmental plans at the zoo especially the establishment of Zoo Interpretation Centre and setting up of an interactive exhibition to facilitate nature interpretation to the visitors at the zoo. The program concluded with a vote of thanks by Mr. Paranjpe and Dr. Menon. The participants were unanimous in describing the program as a unique experience and wanted more such activities at the zoo.

In all 63 persons of different age groups participated in the said programme.



## **Celebration of “World Biodiversity Day” (22<sup>nd</sup> May 2018)**

The World Biodiversity Day was celebrated at this Udyan & Zoo on 22<sup>nd</sup> May 2018 in collaboration with the HOPE organization, Thane.

The Nature Trails were conducted from 7am to 10am, inside the premises of VJB Udyan and Zoo for observing different Zoo animals, Free-ranging animals, and some rare trees by the experts from the HOPE Organisation as well as officials and Zoo Volunteers.

Thereafter, a presentation was given by Shri. Anil L. Paranjpe, Education Cum PRO about Modernisation of VJB Udyan and Zoo. This was followed by a presentation on topic “Biodiversity in the primises of VJB Udyan and Zoo was given by Shri. Ashish A. Thoke and Shri. Karan Dabholkar, Zoo Volunteers. Dr. Sanjay Tripathi, Director (Zoo) addressed the participants regarding the role of zoos in India in general and VJB Udyan and Zoo in particular for Wildlife Conservation and Education.

In all 50 persons of different age groups participated in the said programme and they were given participation certificates at the hands of Director (Zoo)





### **Celebration of “World Environment Day” (5<sup>th</sup> June 2018)**

The World Environment Day 2018 was celebrated on 5<sup>th</sup> June 2018. A group of Municipal School Teachers participated in the said programme.

In the beginning Shri. Anil L. Paranjpe, Education-Cum-P.R.O., V.J.B. Udyan & Zoo welcomed the participants and briefed them about the modern concepts of zoos in India as per the National Zoo Policy, adopted by Central Zoo Authority, New Delhi. He mentioned that the main objective of zoo is not entertainment but protection and conservation of Wild fauna, especially endangered species and their re-establishment in the wild and educating the general visitors, school students, and teaches from creating empathy, interest and awareness in their minds about the wildlife, nature and environment. Further E.P.R.O. briefed about the various educational activities being conducted at this Udyan & Zoo. The introductory lecture was followed by Nature Trail inside the premises of this Udyan & Zoo. The participants were told to observe different Zoo animals/birds, free ranging animals and some rare trees. An appropriate information about the flora and fauna in the premises was given to them during the said trail.

Dr. Sanjay Tripathi, Director (Zoo) addressed the participants regarding the role of zoos in India in general and VJB Udyan and Zoo in particular for Wildlife Conservation and Education.

In all 14 Municipal School Teachers participated in the said programme and they were given participation certificates at the hands of Director (Zoo).





### **Celebration of Global Tiger Day (29<sup>th</sup> July 2018)**

The "**Global Tiger Day**" was celebrated on 30<sup>th</sup> July 2018 at the Interpretation Centre at Veermata Jijabai Bhosle Udyan & Zoo since it was a Sunday on 29<sup>th</sup> July 2018.

In all 117 Municipal school students from Poorva Byculla Hindi Municipal School alongwith their teachers (6 nos) participated in the said programme.

The participants were given information by Shri. Anil L. Paranjpe, Education Cum PRO, VjB Udyan and Zoo, about the Tiger in terms of their external characteristics by using a life size model of a Tiger. They were also told about the habits, habitats, of the Tigers. More Emphasis was given on the important role performed by the Tigers in the food chain and need for their protection & conservation.

The programme ended with a question/answer session, wherein the students enthusiastically asked various questions and received important information about the Tigers.

### **Celebration of "World Elephant Day" (12<sup>th</sup> August 2018)**

The "World Elephant Day" was celebrated on Sunday, the 12<sup>th</sup> of August 2018. In all 42 college students from Bhavan's Hazarimal Somani college, Chowpatty, Mumbai, along with their two professors, participated in the said event. The students from Bhavan's Hazarimal Somani college, Chowpatty, Mumbai as well as Shri. Ashish A. Thoke and Shri. Druvesh kerdikar, Zoo Volunteers presented the posters prepared by them on various points related to elephants to the participants. There after these students interacted with the visitors near the elephant enclosure at this zoo by imparting information about the elephants on the following points with the help of posters prepared by them.

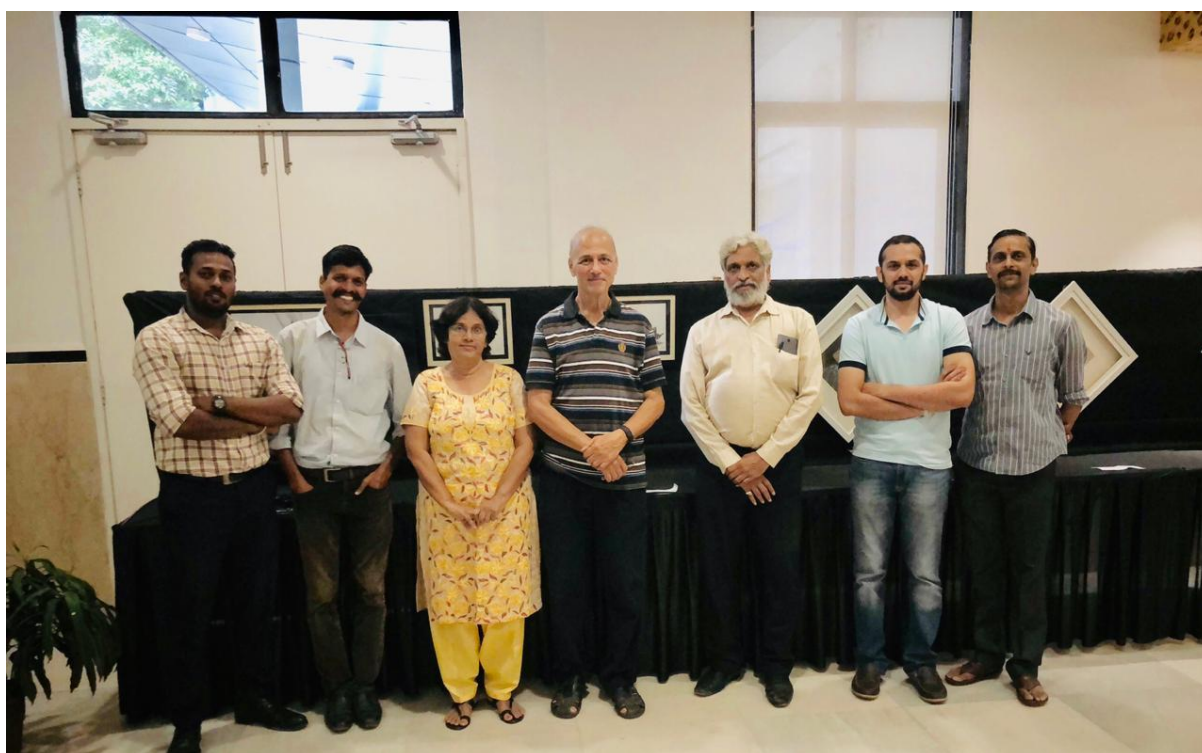
- Evolution of the Elephants
- Difference between Asiatic and African elephants
- Anatomy and external characteristics of elephants
- Social behavior of elephants and mating

### **Celebration of Wildlife Week ( 2<sup>nd</sup> to 8<sup>th</sup> October 2018)**

The Wildlife Week 2018 was celebrated from 2<sup>nd</sup> October to 8<sup>th</sup> October 2018. An exhibition on "**Rare Species of Butterflies of India**" was organised and displayed in the Zoo Interpretation Centre at this Zoo during the period. The exhibition contained realistic hand paintings of butterflies of different species found in Rann Of kutch, Himachal Pradesh, Uttarakhand, Kashmir, Sikkim, Arunachal Pradesh, Megalaya, Assam, Western Ghats and Andaman Islands. These painting were prepared by Shri. Paresh Churi of Breathing Roots Organisation. The said exhibition were kept open from 10am to 6pm for the general visitors. The groups of Municipal school students from the Municipal School in the E-ward also visited the said exhibition. The lectures on the Topic- Big Cats – Predators under threat which included information about the external characteristics, distribution and habitat, Food and hunting techniques of the predator also

reasons for declination in their numbers and imbalance in the ecosystem etc were delivered to them by Shri Anil L. Paranjpe, Education Cum PRO. In all 803 Municipal School Students, 33 Municipal School Teachers From 9 Municipal Schools participated in the said programmes. The Municipal School Students and Teachers were also given the introductory lectures on the topic--“Role of Indian Zoos in Wildelife Conservation and Education” which were followed by the Zoo guided tours conducted by Shri. Ashish A.Thoke, Zoo Volunteer.

As per the directions of Member Secretary, Central Zoo Authority, New Delhi “Swachhata Hi Seva” campaign was organised at VJB Udyan and Zoo on 12<sup>th</sup> and 13<sup>th</sup> October 2018. In all 50 NSS students from Thakur College, Kandivali, Mumbai participated in the said Abhiyaan. The activities such as cleanlines drive on various plots inside the premises of VJB Udyan and Zoo, street plays for general visitors, interaction with the visitors to sensitize them about the hazardous effect of plastic on the environment and lecture for house keeping staff working at this zoo were conducted.



### **Animal welfare Fortnightly Programmes**

In all four Animal welfare Fortnightly Programmes were organised for the Municipal School Students in E-Ward during the second fortnight of January 2019. The programmes such as introductory lecture, Penguin exhibit visit, Zoo guided tour and question-answer sessions were conducted for the participants.

### **Story Express Festival**

In all 50 students along with their teachers participated in the Story Express Festival conducted by Akshara Children's Library and Aseema Charitable Trust on 5<sup>th</sup> February 2018. It was an exclusive event for the students of 8-14 years age group organised by The Story Express NGO. The session started with an introductory lecture by Shri Anil Paranjpe, Education -cum- P.R.O, V.J.B Udyan and Zoo. It was followed by story telling session conducted by Smt. Indira of the said organisation. These session were held near the respective animal enclosure at this zoo. The event was concluded with an interactive question-answer session.

## **20. Important events and happenings:-**

### **Death Anniversary of Veermata Jijabai Bhosale (as per date)**

The Death Anniversary of Veermata Jijabai Bhosale, as per date was observed on Sunday, the 17<sup>th</sup> June 2018. Shri. Sudhir Naik, Dy. Commissioner (General Administration) paid homage to Jijamata by offering garlands to the statue of Veermata Jijabai Bhosale and Bal Shivaji at V.J.B.Udyan & Zoo other officials from V.J.B.Udyan & Zoo remained present at the occasion.

### **Death Anniversary of Veermata Jijabai Bhosale (as per the Solar Calender)**

The 344<sup>th</sup> Death Anniversary of Veermata Jijabai Bhosale, as per the Solar Calender was observed on Saturday, the 7<sup>th</sup> July 2018.

The Hon. Mayor of Mumbai, Shri. Vishwanath Mahadeshwar, Shri. Ramakant Rahate, Local Corporator and Shri. Bhau Sawant paid homage to Jijamata by offering garlands to the statue of Veermata Jijabai Bhosale and Bal Shivaji at V.J.B.Udyan & Zoo. The Director (Zoo) I/c & other officials remained present at the occasion.

### **Celebration of Birth Anniversary of Veermata Jijabai Bhosale at V.J.B. Udyan & Zoo (2<sup>nd</sup> January 2019 - as per the Solar Calender)**

The Birth Anniversary of Veermata Jijabai Bhosale was celebrated by offering garlands to the statues of Veermata Jijabai Bhosale & Balshivaji at the hands of Shri. Sudhir Naik, Dy. Commissioner (General Administration) on 2<sup>nd</sup> January 2019 at Veermata Jijabai Bhosale Udyan-Zoo. Other Zoo officials remained present to grace the occasion.

### **Celebration of Birth Anniversary of Veermata Jijabai Bhosale at V.J.B. Udyan & Zoo (as per date)**

The Hon. Mayor of Mumbai, Shri. Vishwanath Mahadeshwar, Shri. Ramakant Rahate, Local Corporator, Smt. Sanvi Tandel, Chairman Market And Garden Committee, Shri. Sudhir Naik, Dy. Commissioner (General Administration), Dr. Sanjay Tripathi, Director (Zoo) and Other Zoo officials paid homage to Jijamata by offering garlands to the statue of Veermata Jijabai Bhosale and Bal Shivaji at V.J.B.Udyan & Zoo.

### **Volunteers Training Programme**

The Volunteer training programmes were conducted for NSS students and students from other departments of Sophia college, Mumbai, Bhavan's Hazarimal Somani college, Chawpaty Mumbai, Maharshi Dayanand college, Parel, Mumbai, S.I.E.S college, Sion, Mumbai, Kishinchand Chellaram college Colaba Mumbai. The volunteers actively participated in educating visitors about the Humboldt Penguins and other zoo animals by imparting interesting information about various points such as distribution, habits, habitat, food, breeding and other interesting facts

to the general visitors especially on Saturdays, Sundays and also during celebration of event days at VJB Udyan and Zoo.

### **Zoo Awareness Programmes**

**The programmes for creating interest and awareness about the order concept of zoo as per the National Zoo Policy 1998 were conducted for the following groups during the period under report.**

<b>Sr No.</b>	<b>Name Of The Institution</b>	<b>Date of the Programme</b>	<b>No. of Participants</b>
1	Paryavaran Dakshata Mandal, Thane	15 /04 / 2018	20
2	Doorstep School	21/ 04 / 2018	26
3	Children from Gadchiroli Dist oraganised by Police mahasanchalak office, Colaba, Mumbai.	29 / 04 / 2018	100
4*	Children group organised by vice chairman of market and garden commitee	19 / 04 / 2018	100
5	Children from Gadchiroli Dist oraganised by Police mahasanchalak office, Colaba, Mumbai.	23 / 06 / 2018	140
6	D. G . Ruparel College, Mahim, Mumbai.	21 / 07 / 2018	82
7	Swadhyay Bhavan School	03 / 08 / 2018	166
8	Bhartiya Vidya bhavan	05 / 08 / 2018	70
9	Kishichand Chellaram college, colaba, Mumbai.	19 / 08 / 2018	50
10	Children and teachers From Montessori school, 102 Bn RAF, oraganised by 102 BN. CRPF.	06 / 09 / 2018	135
11	Kishichand Chellaram college, colaba, Mumbai.	09 / 09 / 2018	55

12	Sophia College For Women, Mumbai.	05 / 10 / 2018	39
13	Indian Women Scientist's Association	08 / 12 / 2018	
14	Patkar- varde college , Goregaon, Mumbai.		65
15	Annasaheb Sahastrabuddhe Adivasi Anudanit Prathmik/ Madhyamik AashramShala, Vakdi, Panvel.	17 /01 / 2019	
16	Poddar High school, Mumbai	28 / 01 / 2019	
17	Campion School, Mumbai	01 / 02 / 2019	
18	Swadhyay Bhavan School, matunga, Mumbai	04 / 02 / 2019	122
19	D. G. Ruparel college, Mahim, Mumbai.	15 / 02 / 2019	55
20	I. E. S . Digambar Patkar School , Dadar, Mumbai.	18 / 02 / 2019	19
21	DSPM's K.V. Pendharkar College, Dombivli.	28 / 02 / 2019	24

## **21. Seasonal special arrangements for upkeep of animals**

### **Summer:**

1.) **Feed enrichment:** Whole fruits like watermelon and seasonal fruits, whole tender coconuts, ice lollies and ice fruit cakes made out of cut seasonal fruits and sweetened water with jaggery syrup are offered to monkeys and elephants. Whole watermelons and pumpkins are also provided to the hippopotamus.

### 2.) **Enclosure enrichment:**

Wet mud patches in the enclosures are provided for the deer to cool off in the Summer.

Small water pools are provided for the monkeys in the enclosures.

Roofs of the bird enclosures are covered with palm leaves.

### **Monsoon:**

Animal enclosure roofs are covered with Tarpaulin sheets.

Dry hay is provided in all animal houses and sheds of deer enclosures to keep the deer dry and warm during the rains. Similarly, jute gunny bags are provided to monkeys and hyaenas.

### **Winter:**

Dry hay is provided in all deer animal houses and sheds to keep the deer warm during Winter. Similarly, jute gunny bags are provided to monkeys and hyaenas.

## **Humboldt Penguin Enrichment at V.J.B. Udyan & Zoo**

Penguins are pelagic birds and have an aquatic lifestyle. In wild, most of the time is spent in water foraging for aquatic prey. Enrichment plays an important role in the physical and mental well being of captive animals. Enrichment helps in enhancing the bird's natural behaviour. A few uses of enrichment, which we observed for the penguins at V.J.B. Udyan & Zoo, are as follows:

It enables them to spend maximum time in water. This reduces the occurrence of stereotypic behaviour, foot and feather issues in these birds. Enrichment plays key role in utilisation of the enclosure. Humboldt penguins are shy and generally require time to adapt to a new enclosure. On shifting of the penguins from quarantine to the exhibit area, the same enrichment program as in the quarantine, was followed. Initially, the birds would understandably be reluctant to explore certain corners of the exhibit, as well as their nesting areas. Use of a variety of enrichment activities enabled us to not only make the birds comfortable with the keeper and doctor staff, but also with their new surroundings.

### **Enrichment Strategies :-**

A daily protocol for enrichment of Humboldt penguins at V.J.B. Udyan & Zoo is followed, as listed in the table 1. Use of more than one type of enrichment method is carried out. Maximum amount of time is spent with these birds during the enrichment activities. This not

only helps in understanding their normal behaviour, but also helps in observing any health abnormalities, if present.

Table 1: Schedule of enrichment activities and their uses

<b>Sr. no.</b>	<b>Type of enrichment</b>	<b>Observations</b>
1	Use of mirror reflection	Penguins seem to get attracted to bright lights and hence this type of enrichment is used when the birds need to get used to newly added objects into the exhibit. E.g.: Nest boxes, Crates, weight check.
2	Use of Laser Pointer	The Pointer is a green coloured light. Its purpose is same as that of the mirror reflection, however it can be utilised in the absence of sunlight.
3	Use of soap bubbles	It allows birds to spend Maximum time in and out of water. The birds like to chase the bubbles, and this increases their active time.
4	Fish ice cakes	This type of feed enrichment helps the birds in bringing out their natural foraging behaviour. The birds have to wait till the ice melts and the quantity of fish that is consumed daily is given in this Ice-cake form.
5	Use of slides, rings and balls	Rings: These are used as tools. Penguins use their body in such a way that the ring passes down their body. Slides: The birds maintain body balance and slide through. Ball: Since these are floating in water, they hold their breath, take it to water depths and then come back to the surface. These give them better practice for breath holding.

After use of the above variety of enrichment, it was observed that the use of laser pointer was the most attractive enrichment for penguins. Hence this tool was used to get the penguins to the corners that they wouldn't otherwise explore. Similar Pattern was followed for days, after which the birds eventually started exploring every corner of the exhibit.



Humboldt penguin enrichment has been effective in meeting the basic goals of animal welfare i.e. to maintain the animal in good physical as well as mental health.

**22. Research work carried out and publications-** None

**23. Conservation breeding Programme of the zoo-** None

**24. Animal Acquisition / transferred / exchange during the year-**

Acquisition of Swamp deer (1M:1F) from Kanpur Zoological Park in exchange of Military Macaw (1 pair), Night Heron (3 pairs) on 08-03-2019.

<b>Sr. No.</b>	<b>Animals Acquired</b>	<b>From</b>	<b>No.s</b>	<b>Animals Transferred in exchange</b>	<b>From</b>	<b>Nos</b>
1.	Swamp Deer	Kanpur Zoological Park	(1M:1F)	a) Military Macaw b) Night Heron	Veer mata Jijabai Bhosale Udyan & Zoo	1M:1F 3M:3F

**25. Rescue and Rehabilitation of wild animals carried out by the zoo-** None

## 26. Annual Inventory of animals

<b>Veermata Jijabai Bhosale Udyan – Zoo, Mumbai</b>																						
<b>Endangered Species (Sch I &amp; II)</b>																						
<b>Annual Inventory from 01-04-2018 to 31-03-2019</b>																						
Sr. no	Species	Scientific Name	Stock as on 01-04-18				Birth			Acquired			Disposal			Death			Stock as on 31-03-19			
			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T
<b>A Mammals</b>																						
1	Black Buck	Antelope cervicapra	0	2	0	2	-	-	-	-	-	-	-	-	-	1	-	0	1	0	1	
2	Elephant Indian	Elephas maximus	0	2	0	2	-	-	-	-	-	-	-	-	-	-	-	0	2	0	2	
3	Macaque Bonnet	Macaca radiata	1	0	0	1	-	-	-	-	-	-	-	-	1	-	-	0	0	0	0	
4	Macaque Rhesus	Macaca mulatta	8	4	3	15	1		3	-	-	-	-	-	2		-	7	4	6	17	
5	Swamp Deer	Rucervus duvaucelli	0	0	0	0				1	1	0						1	1	0	2	
<b>B Birds</b>																						
1	Hornbill Indian Pied	Anthracoceros malabaricus	0	1	0	1	-	-	-	-	-	-	-	-	-	-	-	0	1	0	1	
2	Hill Myna	Gracula religiosa	0	1	0	1	-	-	-	-	-	-	-	-	1	-	0	0	0	0	0	
	Total of B		0	2	0	2	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	
<b>C Reptiles</b>																						
1	Cobra Indian	Naja naja	1	0	1	2	-	-	-	-	-	-	-	-	-	-	-	1	0	1	2	
2	Crocodile Long Snouted	Gavialis gangeticus	2	0	0	2	-	-	-	-	-	-	-	-	-	-	-	2	0	0	2	
3	Crocodile Marsh (Mugger)	Crocodylus palustris	2	2	2	6	-	-	-	-	-	-	-	-	-	-	-	2	2	2	6	
4	Python Indian Rock	Python molurus	0	0	4	4	-	-	-	-	-	-	-	-	-	-	-	0	0	4	4	
5	Rat Snake	Ptyas mucosus	0	0	2	2	-	-	-	-	-	-	-	-	-	-	-	0	0	2	2	
6	Turtle Indian Black	Melanochelys trijuga	0	0	5*	5*	-	-	-	-	-	-	-	-	-	-	-	0	0	5	5	
7	Indian Flap Shell Turtle	Lissemys punctata	0	0	8*	8*						23*						0	0	31	31	
	Total of C		5	2	22	29	0	0	0	0	0	23	0	0	0	0	0	5	2	45	52	
	<b>Total of A+B+C</b>		<b>14</b>	<b>12</b>	<b>25</b>	<b>51</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>13</b>	<b>11</b>	<b>51</b>	<b>75</b>
(Note – 13 Indian Black turtle identified as 5 Indian black turtle and 8 Indian Flap shell while dewatering the pond.)																						
(Note – 23 Flap shell turtles found while dewatering the pond.)																						

**Veer mata Jijabai Bhosale Udyan – Zoo, Mumbai**  
**Species (Sch III & IV)**  
**Annual Inventory from 01-04-2018 to 31-03-2019**

Sr. no	Endangered Species	Scientific Name	Stock as on 01-04-18				Birth			Acquired			Disposal			Death			Stock as on 30-03-19			
			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T
1	Crane Demoiselle	Anthropoides virgo	1	0	0	1	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	1
2	Crane Sarus	Grus antigone	1	0	0	1	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	1
3	Heron Night	Nycticorax nycticorax	2	2	50	54	-	-	-	-	-	-	-	-	6	2	-	10	0	2	34	36
4	Ibis White	Threskiornis melanocephala	0	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	0	1	0	1
5	Parakeet Alexandrine	Psittacula eupatria	11	4	0	15	-	-	-	-	-	-	-	-	-	-	-	-	11	4	0	15
6	Parakeet Red Breasted	Psittacula alexandri	3	0	0	3	-	-	-	-	-	-	-	-	-	-	1	-	2	0	0	2
7	Pelican Rosy / White	Pelecanus onocrotalus	1	1	0	2	-	-	-	-	-	-	-	-	-	-	-	-	1	1	0	2
8	Stork Adjutant	Leptoptilos dubius	1	2	2	5	-	-	-	-	-	-	-	-	-	-	1	-	1	1	2	4
9	Stork Painted	Mycteria leucocephala	4	9	14	27	-	-	-	-	-	-	-	-	-	-	1	-	4	8	14	26
10	Stork White Necked	Ciconia episcopus	1	0	0	1	-	-	-	-	-	-	-	-	-	-	1	-	0	0	0	0
	<b>Total of D</b>		<b>25</b>	<b>19</b>	<b>66</b>	<b>110</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>4</b>	<b>2</b>	<b>10</b>	<b>21</b>	<b>17</b>	<b>50</b>	<b>88</b>

(Note- Night heron 10 unknown identified as 3 males and 7 females on post mortem report )

(Note-Night heron 6 unknown identified as 3 males and 3 females and sent to Kanpur Zoo in animal exchange basis)

E	Mammals	Scientific Name	Stock as on 01-04-18				Birth			Acquired			Disposal			Death			Stock as on 30-03-19			
			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T
1	Barking Deer	Muntiacus Muntjack	8	8	1	17	-	-	9	-	-	-	-	-	-	4	2	-	4	6	10	20
2	Sambar Deer	Cervus unicolor	2	10	0	12	-	-	1	-	-	-	-	-	-	1	-	2	9	1	12	12
3	Spotted Deer	Axis axis	7	27	7	41	4	4	3	-	-	-	-	-	10	10	-	1	21	10	32	
4	Hyaena Stripped	Hyaena hyaena	2	0	0	2	-	-	-	-	-	-	-	-	2	-	-	0	0	0	0	
5	Nilgai / Blue Bull	Boselaphus tragocamelus	1	0	0	1	-	-	-	-	-	-	-	-	-	-	-	1	0	0	1	
6	Wild Boar	Sus scrofa	1	1	0	2	-	-	-	-	-	-	-	-	1	-	-	0	1	0	1	
	<b>Total of E</b>		<b>21</b>	<b>46</b>	<b>8</b>	<b>75</b>	<b>4</b>	<b>4</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>13</b>	<b>0</b>	<b>8</b>	<b>37</b>	<b>21</b>	<b>66</b>	



<b>Acquisition report of Endangered and other Sp. of Mammals/ Birds/ Reptiles at V. J. B. Udyan &amp; Zoo from 01-04-2018 to 30-03-2019</b>					
<b>Sr. No.</b>	<b>Name of Species</b>	<b>Scientific name</b>	<b>Date of Acquisition</b>	<b>No. &amp; Sex</b>	<b>Remarks</b>
1	Swamp Deer	Rucervus duvaucelli	08-03-2019	1M, 1F	Acquired from Kanpur Zoological Park

<b>Disposition report of Endangered and other Sp. of Mammals/ Birds/ Reptiles at V. J. B. Udyan &amp; Zoo from 01-04-2018 to 30-03-2019</b>					
<b>Sr. No.</b>	<b>Name of Species</b>	<b>Scientific name</b>	<b>Date of Disposition</b>	<b>No. &amp; Sex</b>	<b>Remarks</b>
1	Heron Night	Nycticorax nycticorax	01-03-2019	3M, 3F	Shifted to Kanpur Zoological Park
2	Macaw Military	Ara militaris	01-03-2019	1M, 1F	Shifted to Kanpur Zoological Park

<b>Annual Birth report of Endangered and other Sp. of Mammals/ Birds/ Reptiles at V. J. B. Udyan Zoo from 01-04-2018 to 30-03-2019</b>				
<b>Sr. No.</b>	<b>Name of Species</b>	<b>Scientific name</b>	<b>Date of Birth</b>	<b>No. &amp; Sex</b>
1	Emu	Dromaius novaehollandiae	07-04-2018	4 U
2	Barking Deer	Muntiacus Muntjack	11-04-2018	1 U
3	Spotted Deer	Axis axis	12-04-2018	1 F
4	Spotted Deer	Axis axis	28-04-2018	1 F
5	Macaque Rhesus	Macaca mulatta	03-05-2018	1M
6	Barking Deer	Muntiacus Muntjack	15-05-2018	1 U
7	Sambar Deer	Cervus unicolor	27-05-2018	1U
8	Barking Deer	Muntiacus Muntjack	31-05-2018	1 U
9	Barking Deer	Muntiacus Muntjack	06-06-2018	1 U
10	Budgerigar	Melopsittacus undulates	10-06-2018	1M
11	Humboldt Penguin	Spheniscus humboldti	15-08-2018	1M
12	Macaque Rhesus	Macaca mulatta	23-08-2018	1U
13	Macaque Rhesus	Macaca mulatta	25-08-2018	1U
14	Macaque Rhesus	Macaca mulatta	28-08-2018	1U
15	Spotted Deer	Axis axis	25-08-2018	1M
16	Barking Deer	Muntiacus Muntjack	07-09-2018	1U
17	Spotted Deer	Axis axis	08-09-2018	1U
18	Hippopotamus	Hippopotamus amphibius	10-09-2018	1M
19	Spotted Deer	Axis axis	1-11-2018	1M

20	Spotted Deer	Axis axis	11-11-2018	1U
21	Spotted Deer	Axis axis	24-11-2018	1F
22	Spotted Deer	Axis axis	19-12-2018	1U
23	Barking Deer	Muntiacus muntjack	30-12-2018	1U
24	Spotted Deer	Axis axis	30-12-2018	1M, 1F
25	Spotted Deer	Axis axis	03-01-2019	1M
26	Barking Deer	Muntiacus muntjack	20-01-2019	1U
27	Barking Deer	Muntiacus muntjack	24-01-2019	1U
28	Barking Deer	Muntiacus muntjack	12-02-2019	1U
29	Barking Deer	Muntiacus muntjack	05-03-2019	1U
30	Emu	Dromaius novaehollandiae	19-03-2019	1M

<b>Egg report of Bird Emu (Dromaius novaehollandiae)</b>						
<b>Sr. No.</b>	<b>Date of egg lay</b>	<b>No. of eggs</b>	<b>Date of incubation</b>	<b>Date of hatch</b>	<b>Date of egg disposed</b>	<b>Method of incubation</b>
1	30.01.2018	7	30.01.2018	07.04.2018		Natural
2		3			10-04-2018	
3	04.11.2018	2	20.11.2018		16.01.2019	Artificial
4	8.11.2018	1	20.11.2018		16.01.2019	Artificial
5	13.11.2018	1	20.11.2018		16.01.2019	Artificial
6	17.11.2018	1	20.11.2018		16.01.2019	Artificial
7	18.11.2018	1	20.11.2018		16.01.2019	Artificial
<b>Egg report of Humboldt Penguin (Spheniscus humboldti)</b>						
<b>Sr. No.</b>	<b>Date of egg lay</b>	<b>No. of eggs</b>	<b>Date of incubation</b>	<b>Date of hatch</b>	<b>Date of egg disposed</b>	<b>Method of incubation</b>
1	5-07-2018	1	5-07-2018	15-08-2018		Natural
<b>Egg report of African Grey Parrot (Psittacus erithacus)</b>						
<b>Sr. No.</b>	<b>Date of egg lay</b>	<b>No. of eggs</b>	<b>Date of incubation</b>	<b>Date of hatch</b>	<b>Date of egg disposed</b>	<b>Method of incubation</b>
1	19-9-2018	2	19-9-2018		25-10-2018	Natural
2	19-9-2018	3	19-9-2018	2 chicks hatched out on 22-10-2018		Natural
				1 chick hatched out on 25-10-2018		

## 27. Mortality of Animal

Sr. No.	Name of Species	Scientific name	Date of Death	No. & Sex	Cause of Death
1	Spotted Deer	Axis axis	13-04-2018	1F baby	Cardiac shock, abandoned by mother
2	Parrot African Grey	Psittacus erithacus	14-04-2018	1 M	Cardiac shock, gout
3	Macaw Military	Ara militaris	15-04-2018	1M	Respiratory failure
4	Spotted Deer	Axis axis	16-04-2018	1F	Septicemia, h/o tail wound
5	Spotted Deer	Axis axis	19-04-2018	1M	Septicemia and cardiac shock
6	Spotted Deer	Axis axis	11-05-2018	1F	Hepatitis, old age
7	Budgerigar	Melopsittacus undulates	31-05-2018	2F	Old age, shock
8	Spotted Deer	Axis axis	10-06-2018	1M	Cardiac shock
9	Budgerigar	Melopsittacus undulates	20-06-2018	1 M baby	Abandoned , shock
10	Striped Hyaena	Hyaena hyaena	17.06.2018	1M	Respiratory infection, old age
11	Budgerigar	Melopsittacus undulates	23-06-2018	1M, 1 F	Shock, old age
12	Barking Deer	Muntiacus Muntjack	01-07-2018	1M	Hepatitis, old age
13	Macaw Military	Ara militaris	04-07-2018	1U	Sent for taxidermy , report awaited
14	Budgerigar	Melopsittacus undulates	09-07-2018	1M	Cardiac shock, old age
15	Parrot African Grey	Psittacus erithacus	10-07-2018	1M	Hepatitis
16	Budgerigar	Melopsittacus undulates	14-07-2018	1M	Cardiac shock
17	Spotted Deer	Axis axis	16-07-2018	1F fawn ( 3 months old)	Anemia
18	Budgerigar	Melopsittacus undulates	18-07-2018	1F	Cardiac shock
19	Spotted Deer	Axis axis	24-07-2018	1F fawn	Cardiac shock,starvation, abandoned by mother
20	Parakeet Red Breasted	Psittacula alexandri	30-07-2018	1M	Infight, fracture of lower beak
21	Spotted Deer	Axis axis	30-07-2018	1F	Respiratory failure
22	Heron Night	Nycticorax nycticorax	08-08-2018	1M	Cardiac shock
23	Stork Adjutant	Leptoptilos dubius	18-08-2018	1F	H/o fracture, cardiac shock
24	Humboldt Penguin	Spheniscus humboldti	22-08-2018	1M chick	Yolk sac retention, cardiac shock, respiratory failure
25	Heron Night	Nycticorax nycticorax	22-08-2018	1M	Cardiac shock
26	Spotted Deer	Axis axis	26-08-2018	1M fawn day old	Cardiac shock, abandoned by mother
27	Barking Deer	Muntiacus Muntjack	06-09-2018	1F fawn 3 months	Cardiac shock
28	Budgerigar	Melopsittacus undulates	13-09-2018	1M	Infight injuiry
29	Budgerigar	Melopsittacus undulates	15-09-2018	1M	cardiac shock, liver failure
30	Stork White Necked	Ciconia episcopus	20-09-2018	1M	Liver failure
31	Sambar Deer	Cervus unicolor	21-09-2018	1F	Cardiac shock, h/o femur fracture
32	Barking Deer	Muntiacus Muntjack	26-09-2018	1M	Respiratory and hepatic failure
33	Spotted Deer	Axis axis	02-11-2018	1M day old	abandoned by mother, cardiac shock
34	Barking Deer	Muntiacus Muntjack	08-10-2018	1M 4months old fawn	Respiratory failure
35	Cockatiel grey	Nymphicus hollandicus	07-10-2018	1M	Cardiac shock
36	Budgerigar	Melopsittacus undulates	09-10-2018	1M	Cardiac shock
37	Cockatiel grey	Nymphicus hollandicus	17-10-2018	1M	Cardiac shock
38	Wild Boar	Sus scrofa	24-10-2018	1M	Intussuception , intestinal disorder
39	Spotted Deer	Axis axis	02-11-2018	1M day old	abandoned by mother, cardiac shock
40	Budgerigar	Melopsittacus undulates	09-11-2018	1M	Cardiac shock
41	Hill Myna	Gracula religiosa	14-11-2018	1F	Cardiac shock, old age
42	Spotted Deer	Axis axis	16-11-2018	1M	Cardiac shock, h/o amputation, anemia
43	Spotted Deer	Axis axis	01-12-2018	1F one wk old	abandoned by mother, cardiac shock
44	Barking Deert	Muntiacus muntjack	03-12-2018	1F	Cystitis, septicemia
45	Black Buck	Antelope cervicapra	03-12-2018	1F	Cardiac arrest, abdominal tumor
46	Rhesus Macaque	Macaca mulata	22-12-2018	1M	Respiratory failure (suspected TB)
47	Spotted Deer	Axis axis	31-12-2018	1M day old	Cardiac shock
48	Spotted Deer	Axis axis	31-12-2018	1F day old	Hepatitis, cardiac shock
49	Budgerigar	Melospittacus undulatus	02-01-2019	1M	Cardiac shock, hepatomegaly
50	Spotted Deer	Axis axis	04-01-2019	1M	Respiratory and cardiac failure, bloat
51	Spotted Deer	Axis axis	05-01-2019	1M two days old fawn	cardiac shock, liver failure
52	Spotted Deer	Axis axis	05-01-2019	1F	Respiratory and cardiac failure
53	Love Fisher Bird	Agapomis fischeri	09-01-2019	1M	Sent for taxidermy, report awaited
54	Stork Painted	Mycteria leucocephala	12-01-2019	1F	Cardiac shock
55	Macaque Bonnet	Macaca radiata	15-01-2019	1M	Old age, hepatomegaly

**28. Status of the Compliance with conditions stipulated by the Central Zoo Authority**

Sr. No.	Norm under RZR 2009	Particulars of suggestions / recommendations	Status of compliance till March 2019
<b>Administrative and Staffing pattern</b>			
	10 (2.2)	The VJB Udyan Zoo being medium Category zoo, it should have full time one Biologist as well as one Education Officer.	There is a post of full time Education Officer at this Zoo. The sanction of MCGM has been obtained to create post of Biologist in this zoo and the process to fill up the post is undergoing.
	10 (2.3)	The in-patient wards at the zoo lying unused should be made functional.	The in-patient wards at the zoo are used for isolation and treatment of sick and injured animals or rescued animals etc. All in -patient wards are occupied and the facility is functional.
	10 (3.7 & 3.8)	The Zoo should not accept any rescued animals unless prior approvals are obtained from Chief Wildlife Warden of the state and the Central Zoo Authority	Prior approval of PCCF, Nagpur and CZA is always taken before adding any rescued animal in the zoo inventory periodically.
<b>Animal housing, display of animals and animal enclosures</b>			
	10 (4.2)	The zoo operator should ensure that all animal exhibits at the zoo should strictly meet the standards and norms as prescribed by the CZA	Complied.



	10 (4.2)	The zoo operator while taking up various development works at the premises of the zoo, should give priority to the animals which are housed in sub-standard housing, rather giving focus on other allied activities	While taking up the development works, priority has been given to the animals which are already housed in the zoo, by constructing new enclosures for Spotted deer, Jackal, Sambar deer as per CZA norms and guidelines. Photos attached for ready reference.
	10 (4.6)	The enrichment provided at the Penguin exhibit should have first got tested in the off-exhibit area and artifacts used for enrichment should be natural. The plastic ropes provided as enrichment to macaques and other animals should be avoided rather rope made of natural materials should only be utilized.	Enrichment material made of plastic is removed from the Penguin Exhibit area. Cotton ropes and natural wood, bamboos is used for enrichment for macaques enclosure.
	10 (4.7)	The proposed Black buck enclosure next to service road to kitchen and quarantine area should be provided with adequate screening	The feed house of the black buck enclosure is covered with green cloth as screening. However dense bamboo plantation will be done during monsoon.
	10 (4.10)	The zoo has proposed interpretation and auditorium facility for conducting various education awareness programmes at the zoo. However, it has not been made functional. The zoo is advised to make it functional at an early date.	The Auditorium in the Interpretation Building has a seating capacity for 205 visitors but NOC's from various departments like Police, PWD is being obtained.

<b>Upkeep and healthcare of animals</b>			
	10 (5.2)	Dry ration stored for feeding various animals should be checked for its quality. The zoo operator should ensure that no animal at the zoo should be under-nourished.	Curator (Zoo) and Veterinary Officer of Zoo have a regular check on dry ration storage and the quality is regularly checked. At the new Zoo kitchen complex there are separate sections for dry ration (2 nos.), Veg and Non-veg preparation area, etc.
	10 (5.5)	Plastic waste lying in the zoo at various places should be disposed in hygienic manner.	A house keeping agency is appointed for cleanliness within the Zoo premises and are collecting the plastic and other waste for disposal or for recycling. The entire Zoo premises is declared as plastic free Zone.
	10 (5.10)	The zoo should maintain the individual Animal History Cards, Treatment Cards for all Schedule I & II animals housed at the zoo, in the format as of prescribed by the CZA.	Complied.
<b>Veterinary and infrastructure facilities</b>			
	10 (6.1)	The veterinary unit at the zoo should be made functional with all basic diagnostic facilities, comprehensive range of drugs, operation theatre and in-patient wards.	The veterinary hospital building has different sections like Isolation wards, Treatment room, Operation Theatre, Recovery room, Lab, Medicine storage room, Incubator Room, Conference area and Dكتور's cabins.  The Veterinary Hospital is equipped with various instruments like Hydraulic

			Operation Table, Surgical Light, Gas Anaesthesia machine, Portable X-ray machine, Microscope, Electric Cautery machine, ECG machine, Muliparameter, Blow Pipe, Jabstick, Infra red Lamp, Portable SPO2 monitor, Ophthalmoscope, Otoscope, etc. The entire Veterinary unit is fully functional.
<b>Post-mortem and disposal of carcasses of animals</b>			
	10 (7.1, 2 & 3)	Every post mortem at the zoo should contain the signature of the Veterinary Officer	Complied.
	10 (7.5)	The zoo should have a full time Lab Assistant or Compounder to assist the Veterinary Officer	The post of compounder is currently filled and the compounder assists the Veterinary Officer. The post of Lab Assitant is sanctioned by the MCGM administration and the qualifications required for the post are in the finalization process. The Post will be filled within the next 1 year.
<b>6. Visitors facilities</b>			
	10 (12.1)	The zoo provide Wheel-chair placed at the appropriate place for physically challenged personnel visiting the zoo.	All entry and exits of the animal exhibits are designed from the point of view of convenience for the physically challenged visitors. Procurement of wheelchair will be done soon.
	10 (12.3)	The zoo should have a first-aid kit for the visitors	A first Aid box is kept at the Ticket counter, Director Office and the Security Office.
<b>Maintenance of records and submission of inventory</b>			

	11 (1)	The zoo should maintain the record of the birds, acquisitions, deaths and disposals of animals of each species in its collection in the manner and in the form of as prescribed by the CZA	Complied.
<b>Non Statutory</b>			
1		The zoo should have independent website of the zoo for the use of its visitors, may also have online booking system for zoo entrance tickets.	The work of website with online booking facility is in process and will be complied within six months.
2		There are vacant spaces lying outside the penguin exhibit, may be utilized for interpretation and display of graphics on animals	A theme based interpretation area for public is being proposed in the vacant space lying outside the penguin exhibit and will be ready in the next 1 year.
3		The keepers should be provided with the uniform so that they can be identified by the visitors in case of any help, they may need or during any emergency situation.	Currently all the zoo field staff is provided with the MCGM approved Khaki colored uniform. However a new uniform according to their work profile will be created with the logo of the zoo and will be complied in the next one year

## **29. List of free living wild animals within zoo premises**

### **Mammals:**

1. Mongoose
2. Fruit Bats
3. Three striped Palm Squirrel

### **Birds:**

1. Common House Crow
2. Jungle Crow
3. Rose-ringed Parakeet
4. Alexandrine Parakeet
5. Plum Headed Parakeet
6. Indian Grey Hornbill
7. Black Kite
8. House Sparrow
9. Common Mynah
10. Eurasian Cuckoo
11. White-throated Kingfisher
12. Purple-rumped Sunbird
13. Cattle Egret
14. Grey Heron
15. Pond Heron
16. Night Heron
17. Copper-smith Barbet

18. White-breasted Water-hen
19. Ashy Drongo
20. Golden Oriole
21. Tailor Bird
22. White-browed Fantail
23. Spotted Owlet
24. Rock Pigeon
25. Indian Cormorant
26. Crow Pheasant
27. Magpie Robin
28. Red-vented Bulbul
29. Red- whiskered Bulbul
30. Barn owl
31. Paradise Flycatcher

**Reptiles:**

1. Checkered Keelback
2. Common Rat Snake
3. Skinks
4. Geckos
5. Garden Lizards
6. Worm Snake
7. Wolf snake

