

INTRODUCTION TO THE STATE OF ODISHA

The State of Odisha has a geographical area of 1, 55,707 sq. km. The recorded forest area is 58,136 sq.km as per the State of Forest Report (SFR-2013) of Forest Survey of India. The State is quite rich in wildlife. The important wildlife found in state are Elephants, Tigers, Leopards, Hyena, Jungle cats, Sambar, Spotted deer, Wild boar, Giant squirrels, Pea fowl, Hill myna, Marsh Crocodile, Gharial, Salt water Crocodile, King Cobra, Sea turtles and Monitor lizard etc. To provide protection to wildlife and their habitat, a network of protected areas have been constituted. Special programmes have been initiated for special care of endangered and threatened species.

The State has 19 Sanctuaries including Gahirmatha Marine Wildlife Sanctuary, one National Park (Bhitarkanika), one proposed National Park (Similipal) which have been notified under the provisions of Indian Wildlife (Protection) Act, 1972 for in-situ conservation. These Protected Areas constitute 10.37% of the total forest area and 5.36% of the total geographical area of the State. One large Zoological Park (Nandankanan), two Small Zoos and 8 Mini Zoos have been notified for ex-situ conservation and management of wildlife out side protected areas. The State has the singular distinction of having three stretches of mass nesting beaches of endangered Olive Ridley Sea turtles including the world's largest nesting ground of Olive Ridley Sea turtle, *Lepidochelys olivacea* at Gahirmatha. It has many natural wetlands including the largest wetland of Asia (Chilika) and Bhitarkanika which are declared as " Ramsar Sites".

The Wildlife Diversity of Odisha

A total of 20 species of amphibians, 110 species of reptiles including three crocodylian species, 479 species of birds and 86 species of mammals have so far been recorded in the State which include 54 species of threatened animals (17 species of reptiles, 15 species of birds and 22 species mammals) as per the definition of IUCN Red Data Book. The state is blessed with an extremely rich and unique assemblage of wildlife, inhabiting their respective habitats spread over three different bio-geographic zones.

For captive and rescued animals provision of ex-situ conservation has been made. Various developmental project and mining etc are creating disturbances for wildlife and their habitat leading to man-animal conflicts. Hence habitat fragmentation and the ensuing man-animal conflicts are some of the major challenge before the Wildlife Organization.

ODISHA FOREST AT A GLANCE:

FOREST TYPES	AREA
Reserve Forest	26,329 sq km
Protected Forest	15,525 sq km
Unclassed Forest	16,282 sq km
Total Recorded Forest Area	58,136 sq.km
Percentage of recorded forest to geographical area	37.34%
Of India's Forest Area	07.53%
FOREST COVER WITH GREEN WASH	
Very dense forest cover	6,780 sq.km
Moderately dense	19,646 sq.km
Open forest	17,555 Sq.km
Total	43,981 sq km
FOREST COVER OUTSIDE GREEN WASH	
Very dense forest	262 sq km
Moderately Dense Forest	1,652 sq km
Open Forest	4,452 sq km
Total	6,366 sq km
MANGROVE COVERS	
Very dense mangrove	82 sq.km
Moderately dense mangrove	88 sq.km
Open mangrove	43 Sq.km
Total	213 sq km

***FSI Report 2013**

Biodiversity Comparison:

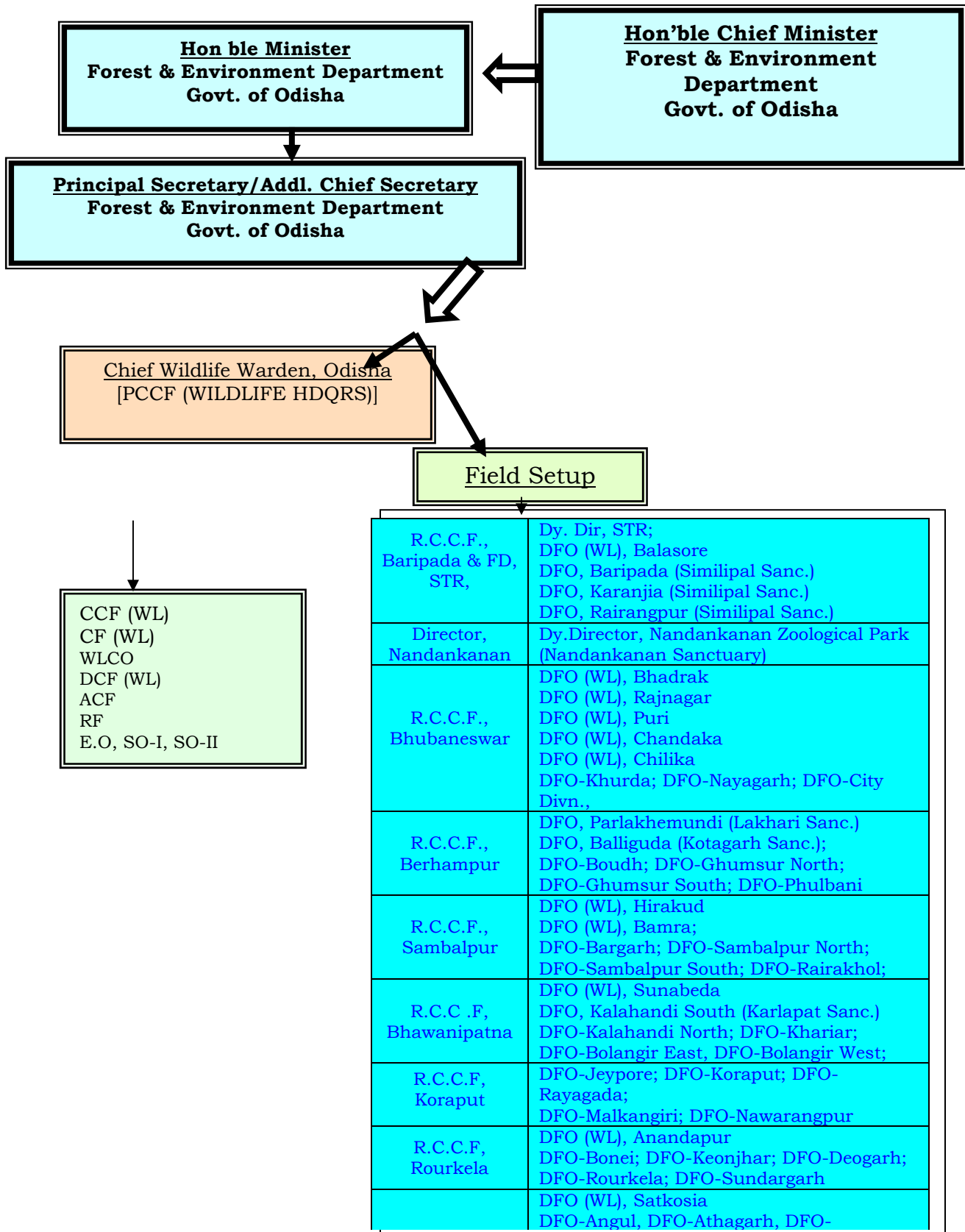
TAXA	Number of Species			PERCENTAGE OF ODISHA TO INDIA
	WORLD	INDIA	ODISHA	
Mammals	4629	397	86	22%
Birds	9026	1232	479	38%
Reptile	5817	460	110	24%
Amphibians	5150	240	20	09%
Fish	21723	2546	288	11%

About Wildlife Organization

The State Wildlife Organization was formed on 14th August 1974, a sequel to adoption of the Wildlife (Protection) Act, 1972; and promulgation of the Wildlife (Protection) (Odisha) Rules, 1974. The Conservator of Forests, Development Circle was designated as the Ex-Officio Chief Wildlife Warden, Odisha. In the year 1976, a separate Wildlife Organization was constituted with the Chief Wildlife Warden posted in the rank of Conservator of Forests, to begin with.

The present Wildlife Organization is headed by Principal Chief Conservator Forest (Wildlife) and is assisted by Chief Conservator of Forests (Wildlife) and Wildlife Conservation Officer, and three Deputy Conservator of Forests in the headquarters and the Field Director, Similipal Tiger Reserve, Director, Nandankanan Biological Park, and fourteen Divisional Forest Officer/Deputy Conservators of different divisions in the field. All the RCCFs in charge of circles and all the DCFs in charge of 37 territorial divisions and 13 Wildlife Divisions function as Wildlife Wardens under Wildlife (Protection) Act, 1972.

ORGANIZATIONAL CHART



A quick glance on wildlife status of Odisha....

National Park	: 1 (Bhitarkanika)
Proposed National Park	: 1 (Similipal)
Sanctuary	: 19
Total area of Sanctuaries and National Parks (Protected area)	: 8352.30 sq.km
Percentage of Protected area to geographical area of the state	: 5.36%
Percentage of protected area to forest area	: 10.37%
Tiger Reserve (a) Notified	: 2 (Similipal and Satkosia)
Elephant Reserves	: 3 (Mayurbhanj, Sambalpur and Mahanadi)
Biosphere Reserve	: 1 (Similipal)
Ramsar sites	: 2 (Chilika and Bhitarkanika)

Crocodylian Research & Conservation Centres:

- (1) Tikarpada/Satkosia- Gharial
- (2) Dangmal/Bhitarkanika- Saltwater crocodile
- (3) Ramatirtha/Similipal-Mugger crocodile
- (4) Nandankanan- Captive Breeding programme for all the three Indian crocodylian species

Mass Nesting beaches of Olive Ridley Sea turtles: 3 (Gahirmatha, Rushikulya river mouth, Devi river mouth)

Community Reserve (Proposed) : Balipadar-Bhetnoi Blackbuck habitats in Ganjam District.

The State Icons...

State Tree - Kadamba (*Neolamarckia cadamba*)

State Flower - Ashoka (*Saraca asoca*)

State Animal - Sambar (*Rusa unicolor*)

State Bird - Indian Roller or Blue Jay (*Coracias benghalensis*)

National Heritage Animal -In October, 2010, Indian Government declared the Elephant a National Heritage Animal.

National Animal Tiger- The Tiger was accorded the status of National Animal in 1973 with the initiation of Project Tiger, a National Tiger protection programme. Before this, the National Animal was Lion.

National Aquatic Animal- Ganges River Dolphin declared the national aquatic animal in October 2010 to save it from extinction.

WILDLIFE CONSERVATION IN THE STATE

Wildlife conservation is a practice of protecting the wildlife including plants and animals in their habitat. It has become an increasingly important practice in order to mitigate the negative impact of human activity on their habitat. The major objectives of wildlife conservation are

1. Maintenance of essential ecological processes and life support systems.
2. Preservation of genetic Diversity that is flora and fauna.
3. Sustainable utilization of species and ecosystem.

The strategies of Wildlife Conservation include in-situ and ex-situ conservation.

IN-SITU CONSERVATION

In-Situ conservation is on-site conservation or the conservation of genetic resources in natural population of plants or animal species in a habitat as well as to ensure the ongoing process of evolution and adaptation with in their environment.

IN-SITU CONSERVATION AREAS

In the State of Odisha, the in-situ conservation is achieved in the following forms:-

- a) Though the legal entities or protected areas like National Parks and Sanctuaries.
- b) Through other Protected landscapes like Tiger Reserves, Elephant Reserves and Biosphere Reserves

a) Protected Area (PAs) network in Odisha comprises of:

There are 2 National Parks (1 proposed), 19 Wildlife Sanctuaries, 2 Tiger Reserves, 1 Biosphere Reserve and 3 Elephant Reserves in Odisha. These constitute 5.36 % of geographical area and 10.37 % of forest area in the state. These lie in two Biogeographic zones and three provinces as given below:-

Bio-geographic Zones / Province / Sub-Division and Location of Sanctuaries in Odisha

Zone	Province	Sub-Division	Sanctuary located in this region
Deccan Peninsula	Eastern Plateau	Eastern-ghat	Baisipalli, Chandaka, Karlapat, Kotagarh, Lakhari, Nandankanan
		Chhatisgarh-Dandakaranya	Debrigad, Sunabeda
	Chhota-nagpur	Garhjat Hills	Badrama, Hadgarh, Khalasuni, Kuldiha,

			Satkoshia, Similipal, Kapilash
Gangetic Plain	Lower Gangetic plain		
Coasts	Eastern Coast		Balukhand, Bhitarkanika, Gahirmatha, Nalabana

A. List of National Parks and Sanctuaries of Odisha

Sl. No.	Protected Area	Area in Sq.km	Notification No. and Date	Administrative control (Division / Circle)	District
National Parks					
1	Bhitarkanika (National Park)	145.00	22904 / Dt.30.10.1988 19686 / Dt.16.9.1998 (Final)	DFO, Mangrove Forest Division (WL), Rajnagar / RCCF, Bhubaneswar Circle	Kendrapara, Bhadrak
2	Similipal National Park (Proposed)	845.70	18703 Dt.6.8.1980 & 19525 Dt.11.6.1986	Field Director, STR, Baripada	Mayurbhanj
Wildlife Sanctuaries of Odisha					
1	Bhitarkanika	672	6958 Dt.22.4.1975	DFO, Mangrove Forest Division (WL), Rajnagar / RCCF, Bhubaneswar Circle	Kendrapara
2	Balukhand-Konark	71.72	9013 Dt.23.4.1984 & 15216 Dt.1.9.1987	DFO, Puri, Khurda / RCCF, Bhubaneswar Circle	Puri
3	Baisipalli	168.35	25335 Dt.06.05.1981	DFO, Mahanadi WL Division, Nayagarh / RCCF, Angul circle	Nayagarh
4	Badrama	304.03	23393 Dt.17.12.1987	DFO, Bamra(WL), Sambalpur / RCCF, Sambalpur circle	Sambalpur
5	Chilika(Nalban)	15.53	23403 dt.17.12.1987	DFO, Chilika WL Division, Balugaon / RCCF, Bhubaneswar Circle	Puri
6	Chandka-Damapara	193.39	35500 dt.21.12.1982 13482 dt.10.6.1988	DFO, Chandka Wildlife Division, Bhubaneswar / RCCF, Bhubaneswar Circle	Khurda, Cuttack

7	Debrigarh	346.90	2409 dt.8.2.1985	DFO, Hirakd WL Division, Sambalpur / RCCF, Sambalpur circle	Sambalpur
8	Gahirmatha (Marine)	1435.00	18805 dt.27.9.1997	DFO, Mangrove Forest Divn (WL), Rajnagar / RCCF, Bhubaneswar Circle	Kendrapara Bhadrak
9	Hadgarh	191.06	34113 dt.6.12.1978	DFO, Keonjhar (Wildlife) / RCCF, Rourkela Circle	Keonjhar
10	Khalasuni	116.00	584 dt.7.1.1982	DFO, Bamara (WL) / RCCF, Sambalpur circle	Sambalpur
11	Kuldiha	272.75	243 dt.4.1.1984	DFO, Balesore (WL) / RCCF, Baripada Circle	Balasore
12	Nandankanan	4.37	20682 dt.3.8.1979	Deputy Director, Nandankanan, /Director, , BBSR	Khurda
13	Similipal	2306.61	6484 dt.23.04.2008	DFO, Baripada / Karanjia /Rairangpur RCCF, Baripada Circle	Mayurbhanj
14	Satkosia Gorge	795.52	12727 Dt.19.5.1976	DFO, Satkosia Wildlife Division, Angul / RCCF, Angul Circle	Angul
15	Sunabeda	600.00	10772 dt.10.5.1988	DFO, Sunabeda Wildlife Division, Nuapada / RCCF, Bhawanipatna Circle	Nuapada
16	Karlapat	147.66	24498 Dt.15.10.1992	DFO, Kalahandi (South) / RCCF, Bhawanipatna Circle	Kalahandi
17	Lakheri-valley	185.87	2333 Dt.8.2.1985	DFO, Parlakhemundi / RCCF, Berhampur Circle	Ganjam (Gajapati)
18	Kotgarh	399.05	30253 Dt.3.12.1981	DFO, Baliguda / RCCF, Berhampur Circle	Phulbani
19	Kapilash	125.5	5937 Dt.2.4.2011	DFO, Dhenkanal / RCCF, Angul Circle	Dhenkanal

b) Other Protected landscapes of Odisha are:

Sl. No.	Protected Area	Area in Sq.Km.	Notification No. and Date	
Tiger Reserve				
	Similipal Tiger Reserve	2750.00 sq.km	Notification No.8F(T)-9/2007/20801/F&E Dated 31.12.2007	
	Satkosia Tiger Reserve	963.87 sq.km	Notification No.8F(S)-32/2006/20807/F&E, Dated 31 st December 2007	
Elephant Reserve				
	Mayurbhanj Elephant Reserve	7043.74 Sq.Km.	Notification No.8F(W)-42/2001/15806 Dated 29.09.2001	
	Mahanadi Elephant Reserve	1038.30Sq.km	Notification No.8F(W)-17/2002/10162 Dated 19.06.2002	
	Sambalpur Elephant Reserve	426.91 Sq.Km	Notification No.8F(W)-10/2002/5840 Dated 27.03.2002	
Biosphere Reserve				
	Similipal Biosphere Reserve	5569 sq.km	Notification No.8/96/11319/ Dated 20.05.1996.	

A. TIGER RESERVE

Tiger Reserves are visualized as breeding nuclei from which surplus tiger would migrate to adjacent forests. Conceived under the Project Tiger launched in 1973, these areas aim to conserve the habitat for ensuring a viable population of Royal Bengal Tigers along with their prey base in their habitat.

SIMILIPAL TIGER RESERVE: Mayurbhanj District holds about most of the of tiger population of the state. Less than thirty tigers were surviving here in the year 1975. Sustained protection measures and management initiatives have resurrected the dwindling population of tigers to around 95 in the 1990s and thereafter the population has remained stable at around 100. Most of the tigers from North Similipal are moving to south Similipal that remains a better habitat, and the leopards, more adaptable than the tiger, are appearing in most of the habitats vacated by the tiger. These observations suggest that Similipal habitat may be reaching the maximum of its carrying capacity for tiger. The future seems dependent on adjoining forests of Hadgarh and Kuldiha that are better known as elephant habitats.

Tiger is only an indicator species but the project in Similipal has provided incidental conservation to the entire biota contained in these forests. The giant squirrel (*Ratufa indica*) of the upper tree canopy, the mugger crocodile (*Crocodylus palustris*) in the rivers of Similipal, and the 94-species of orchid flora are only a few that 'indicate' the positive impact of Project Tiger on the health of the ecosystem, and the prevailing microclimate of Similipal.

Major threats to Similipal centre round four lakh people living in the periphery and ten thousand people living inside it. Most of them 'use' Similipal to make a living, and the population continues to rise at a rate of 20% for each decennial period. Similipal presents an accurate reflection of the declining status of a habitat in the face of growth of human population.

SATKOSIA TIGER RESERVE:

Encompassing the Satkosia Gorge Sanctuary constituted in May 1976 and the Baisipalli Sanctuary constituted in November 1981. The Tiger Reserve is rich in tigers and its prey along with wetland fauna (Gharial, Mugger, freshwater turtles, freshwater shark etc.) in the Mahanadi and rich biodiversity in the terrestrial ecosystem. Pugmark tracking conducted in January 2004 revealed the presence of 18 tigers and 36 leopards in the twin-sanctuaries constituting the Tiger Reserve.

The Tiger Reserve is located in the Central Zone of Odisha and spreads over Angul, Cuttack, Nayagarh and Boudh districts covering an area of 963.87sq.kms and comprises of Moist Deciduous Forests, Dry Mixed Deciduous Forest, Bamboo Brakes, Dry Tropical Riparian Forest and Teak Plantations.

Satkosia Gorge is the home of the most endangered Gharial (*Gavialis gangeticus*), the Mugger crocodiles (*Crocodylus palustris*) and a variety of freshwater turtles. Other faunal elements include Leopard, Wild dog, Gaur, Nilgai, Sambar, Spotted Deer, Barking Deer, Bear, Ratel, Jackal, Porcupine, Indian Hare, and Giant Squirrel etc. A viable but stabilized population of about 155 elephants thrives in this region which forms a part of the Mahanadi Elephant Reserve.

Both the resident as well as migratory birds are found in this sanctuary. The resident birds include the Hornbills, Peafowl, Kingfishers, Egrets, Cormorants, River Tern, Owls, Pigeons, Myna, Parakeets, Drongo, Doves, Woodpecker, Gulls, Golden Oriole, Vultures, Babblers, Barbets, Minivets, Sun Bird, Eagle, Crow Pheasants etc. The migratory birds include Brahminy Ducks, Bar Headed Geese etc.

B.ELEPHANT RESERVE (ER) NETWORK

“Because the elephant requires much larger home range than any other terrestrial animal, it is usually one of the first species to suffer the consequences of habitat fragmentation and destruction.” Elephant Reserves offer hope to rejuvenate some of the fragmented habitats.

In the state of Odisha, where many forest habitat are shared by the tiger and elephant, the establishments of ERs have raised the hope to unify fragmented tiger habitats as well.

Three Elephant Reserves (ERs) namely- Mayurbhanj ER notified in the year 2001, Mahanadi ER and Sambalpur ER were notified in the State in the year 2002 to define the prime elephant habitats and to launch various management interventions for conservation of elephant. The extent of notified and proposed forest blocks in these three reserves is 4129 sq. km, and the geographical area covered by these three reserves is 8509 sq. km. In order to (a) include most of the remaining important elephant habitats within ERs, (b) redress the problem of rising number of cases of elephant depredation and (c) reverse the trend of habitat fragmentation and degradation, it is proposed (i) to expand the area of Mahanadi and Sambalpur ERs, and (ii) to constitute two new ERs called the Brahmani-Baitarani ER and the South Odisha ER. After declaration, the forest area comprised within ERs will be about 25% of the total forest area of the state; and about 90% of the elephants will be within the Reserves.

1. MAYURBHANJ ELEPHANT RESERVE:

(Constituted: September 2001)

Location:

Districts: Portions of Mayurbhanj, Balasore, Bhadrak and Keonjhar

Forest Divisions: Similipal Tiger Reserve, Karajia, Baripada, Rairangpur, Balasore WL, Keonjhar WL

Latitude North: 21° 10' to 22° 35'

Longitude East: 85 ° 45' to 87 ° 05'

Area: 7043.74 sq. km

2. MAHANADI ELEPHANT RESERVE:

(Constituted: June, 2002)

Location:

Districts: Angul, Cuttack, Nayagarh, Kondhmal, Dhenkanal

Forest Divisions: Portions of Angul , Athagarh, Cuttack, Nayagarh, Boudh and Dhenkanal, and entire Satkosia Wildlife Division, Mahanadi Wildlife Division and Athamallik Forest Division.

Latitude: North 20°. 10´ to 21°.5´

Longitude East: 84°. 15´ to 85°.58´

Area: 1038.30 sq km

3. SAMBALPUR ELEPHANT RESERVE:

(Constituted: March 2002;

Location:

Districts: Sambalpur, Sundargarh, Jharsuguda,

Forest Divisions: (Parts) of : Bamra (Wildlife), Bonai, Sambalpur , Jharsuguda, Rairakhol.

Latitude North: 20° 5'N and 22° 12'

Longitude East: 83° 13'E and 84° 58'

Area: 426.91 sq km

C.BIOSPHERE RESERVES

Biosphere Reserve is intended to preserve genetic diversity in representative ecosystems and provide opportunities for research on ecosystem processes in nature. Criteria for selection of Biospheres include representativeness, naturalness, biological diversity and potential as effective conservation unit.

Similipal Biosphere Reserve

Similipal and adjoining area comprising of 5569 sq.km. was declared as a Biosphere Reserve by Government of India on the 22nd June, 1994 with the objectives for

- (a) Conservation for the area as a representative ecosystem of the “Mahanadian Bio-geographic Region”.
- (b) Provision of long term in-situ conservation of genetic diversity
- (c) Promotion of basic and applied research and monitoring; and
- (d) Dissemination of experience for education and training.

Similipal Biosphere Reserve is intended to fulfill three basic objectives:

- Conservation of biodiversity (genetic, species and ecosystem diversity) and landscapes.
- Eco-development of villages and human habitations within the biosphere; (improvement of livelihood and income opportunities for these villagers in the immediate vicinity of Similipal, while reducing or eliminating adverse impact on the ecosystem resources of Similipal.
- Provide the base and benchmark for long term ecological studies, environmental education, and research into local, national and global issues of conservation and sustainable development.

These functions / objectives find expression in the Zonation of the Biosphere into core, buffer and transition areas.

Statistics about Similipal Biosphere Reserve

A	Area of Biosphere Reserve	5569 sq.km
B	Zonation	
	(i) Core area	845 sq.km
	(ii) Buffer area	2129 sq.km
	(iii) Transition area	2595 sq.km
C	Villages	
	(i) No. of Villages in the Core area	3
	(ii) No. of villages in the Buffer area	61
	(iii) No. of villages in the Transition area	1200
D	Population	3.5 lakh
	(i) Tribal population	73.44%
	(ii) SC population	5.21%
	(iii) Other population	21.35
E	Common Tribes: Bhunjia, Bathudi, Kolha, Ganda, Santhal, Khadia, Mankadia	

D.ELEPHANT CORRIDORS IN ODISHA

Elephants are big migratory animals and move a long distance in search of food and require substantial areas to support the ecological need of elephant. But habitat loss, expansion of human habitation and fragmentation of traditional elephant corridors has forced the elephants to split into a number of meta- populations or herds and move to new areas in search of food and shelter. As a result the interface of elephant and man has increased manifold. This results in conflicts with humans due to elephants raiding or destroying their crops. And as retaliation by villagers, there is killing of elephants, either by electrocution or poisoning.

In order to protect the animals and its habitat there is a need to connect these fragmented patches of forest, which is called a corridor. This corridor will not only help the animals move without any disturbances, but also increase the chance of genetic interchange. As the risk of inbreeding within the localized patch of forest is reduced there will be a healthy population.

Traditionally fourteen corridors have been identified in the State which were to be used by elephants during course of their migration. These corridors need to be protected. All round development like human settlements, roads, railway line, electric lines, canal and mining etc is the main cause of corridor fragmentation.

For preparation of Corridor Management Plan, survey of each of the fourteen corridors has been done by the DFOs in the field. First task in this regard has been to know the extent of width of corridors. Generally the areas around the old corridor up to which elephants have reached during recent past has been tentatively taken as width of the corridor with due rationalisation to see the extent of problem which has to be faced while securing the corridor. Then in this width, broad land use survey has been done using Satellite imageries and ground truthing. Demographic survey has also been done to know the no. of villages, and house holds, village population along with other administrative units like Name of district, Thana and Tehsil covering the area. House hold survey has not been taken up at this stage.

Due to fragmentation of traditional Corridors and degradation of habitat these elephants are in search of new habitat and corridors. Presence of elephants has been noticed in places where elephants have never been found before. It is noticed that few elephants are using new corridors. To assess these new corridors, Government has engaged an expert Shri Kishor Choudhary to identify new corridors. He has identified 9 new corridors. Its detailed survey is being conducted and these 9 new corridors are not part of this Management Plan. The Plan covers only 14 traditional corridors:

D.Elephant Corridors in Odisha:

Sl. No.	Name of the Corridor	Extends over District	Name of the Division	Length of the corridor km	Width of corridor km	Total area Sq km
1	Badampahar(Mayurbhanj)-Dhobadhobin (Jharkhand) INTERSTATE	Mayurbhanj	Karanjia, Rairangapur	16	0.5-1.5	24.3
2	Badampahar(Mayurbhanj)-Karida (Jharkhand) INTERSTATE	Mayurbhanj	Rairangapur	43	0.2-2.6	26.09
3	W.Bengal-Deuli-Suliapada (Passage) INTERSTATE	Mayurbhanj, Balsore; (West Bengal)	Baripada	72	0.1-0.7	39.5
4	Similipal-Hadagarh-Kuldiha INTER-DISTRICT	Mayurbhanj; Keonjhar; Balasore	Baripada, Balasore WL, Keonjhar WL	41.7	0.7-3.5	91.39
5	Telkoi-Pallahara INTER-DISTRICT	Keonjhar; Angul	Keonjhar, Deogarh	30.4	0.2-0.6	13.24
6	Karo (Keonjhar)-Karampada (Saranda, Jharkhand) INTERSTATE	Keonjhar; (Jharkhand)	Keonjhar	15	0.3-2.3	17.3
7	Maulabhanja - Jiridamali- Anantapur INTER-DISTRICT	Dhenkanal	Dhenkanal	6.5	0.25-0.28	1.55
8	Kahnejena-Anantapur INTER-DISTRICT	Angul; Dhenkanal	Angul	6.6	0.4-1.1	5.22
9	Buguda-Central RF of Nayagarh Divn	Nayagarh	Nayagarh	2.6	0.8-0.6	0.76
10	Nuagaon-Baruni	Angul	Athmallik	4.5	0.4-4.6	20.7
11	Tal-Kholgarh	Sambalpur	Rairakhol	6.3	0.5-0.08	4.56
12	Barpahad-Tarava-Kantamal INTER-DISTRICT	Sonpur; Boudh	Subarnapur	24.2	0.38-1.5	21.7
13	Kotagarh-Chandrapur INTER-DISTRICT	Kandhamal; Rayagada	Balliguda, Rayagada	77	2.0-22.4	575.4
14	Karlapat-Urladani INTER-DISTRICT	Kalahandi; Rayagada	Kalahandi(S), Kalahandi(N), Rayagada	75	0.2-0.5	28.9
	14 corridor		16 Divisions	421		870.6

EX-SITU CONSERVATION AREAS

Indian mythology, history and literature are replete with accounts of wild animals patronized by kings, emperors and nobles for work, warfare and entertainment. Scriptures also record the existence of a Deer Park where Lord Buddha gave his first discourse. In India, the zoo movement received an impetus after independence.

“Zoos” or “Zoological Gardens/Parks” possess and manage a collection primarily of wild (non-domesticated) animals. In the arena of wildlife conservation, zoos play a significant role. The zoos provide environmental education, eco-system awareness, and nature interpretation. They facilitate research on wild animals maintained in captivity and help in maintaining the gene pool of the critically endangered species often double up as rescue centre for straying wild animals rescued from near the human habitation.

Presently, there are one large Zoo, two small Zoos and eight Mini Zoos in the state. Nandankanan is a large Zoo. Two mini zoos have been upgraded to the status of small zoos are Wild Animal Conservation Centre (WAAC) at Motijharan in Sambalpur District, and Rourkela in Sundargarh District. The other Mini Zoos which are managed by Forest Department are Kuanria in Nayagarh District, Taptapani in Ganjam District, Papadahandi in Nawarangpur District, Harishankar in Bolangir District, Gharial Research and Conservation Unit at Tikarpada in Angul District and Kapilash in Dhenkanal District.

The rest four Deer Park / Mini Zoos in the state are owned by other agencies- Rourkela Small Zoo in Sundargarh District managed by SAIL, a Govt. of India PSU. Deer Park/ Mini Zoo at Bhanja Vihar, Berhampur University in Ganjam District, Mini Zoo, Sunabeda in Koraput District managed by Hindustan Aeronautics Limited (HAL) a Govt. of India PSU and Municipal Corporation Mini Zoo, Cuttack in Cuttack District.

Zoos in India are regulated by Central Zoo Authority, Govt. of India under the provisions of Section-38H of the Wildlife (Protection) Act, 1972 (amended up to 2006) and are guided by the National Zoo Policy, 1998. The Government of India have formulated Recognition of Zoo Rules, 2009, and fixed standards and norms for management of Zoos in the country. Central Zoo Authority (CZA), which is a statutory body under the Ministry of Environment & Forests, Govt. of India oversees the functioning of Zoos in the country and provides technical guidance and assistance as assigned under Section 38C of the Wildlife (Protection) Act, 1972. The CZA also regulates minimum standards and norms for upkeep and health care of animals in Indian Zoos and controls mushrooming of unplanned and ill-conceived Zoos which used to crop up in the country as adjuncts to public parks, industrial complexes and waysides.

Standards and norms for animal maintenance, housing and health care need to be given due priority for ensuring quality life to zoo animals. For this purpose regulatory as well as monitoring mechanisms have been prescribed. State Wildlife Organization with financial and technical support from the Central Zoo Authority endeavors to maintain standards and quality of the Zoo Small and Mini Zoos of the state, so that the very purpose of operating Zoos is achieved.

NANDANKANAN ZOOLOGICAL PARK

Nandankanan Zoological Park is one of the premier large Zoos of India located amidst a beautiful natural setting. Unlike conventional Zoos, it spreads over a vast 3.62 sq.km area of undulating topography with natural moist deciduous forest, water bodies and enchanting landscape that provides the Zoo inhabitants an appropriate ambience to live in harmony with the nature. The Zoological park is new a part of Nandankanan Wildlife Sanctuary

It was dedicated to the public on 29th December, 1960.

MISSION

To achieve the distinction of an outstanding Zoo through World Class Conservation, Education, Research and enriching visitor experiences by connecting people to wildlife and ex-situ conservation.

NANDANKANAN IS KNOWN FOR:

- # Birth of white tiger from normal coloured parents in the year 1980. and Melanistic Tiger cubs in 2014
- # White Tiger Safari established in 1991.
- # First captive breeding programme for Gharial in 1980.
- # First Indian Zoo to become a member of WAZA and to breed Rattle and Pariah Kite.
- # Puri-New Delhi Superfast Express has been named as Nandankanan Express. Nandankanan is the first Zoo in the country after which an express train has been named.
- # Second largest heronry of the State for Open-billed Storks (more than 12,000).
- # Has a captive fodder farm (over 33 Acres) and a Slaughter house to cater to dietary needs of carnivorous Zoo animals.
- # Has the largest pool for housing Gharials and Hippopotamus.
- # Prioritizing awareness, education and training programmes on wildlife conservation and research.
- # Nandankanan is not only a Zoo but also an ideal centre for research, education and ecotourism.

A list of various Ex-situ Conservation Sites in the State of Odisha

Sl. No.	Name of the Zoo /Mini Zoo	Location (Revenue district)	Present status / Notification No. and Date	CZA's approval valid up to:	Managed by
1	Nandankanan Zoological Park	Khurda	Large Zoo/ Notification letter No. F NO. 19- 64/92-CZA (212) (Vol. VII) (M) /3537 dated 11.9.13	30.09.2017	Director, Nandankanan Biological Park
2	Kapilash Deer Park/Mini ZOO	Dhenkanal	Mini Zoo/ Notification letter No - F.No.- 19-106/92-CZA (211) (M)/4100 dt 7.1.2014.	31.01.2016	DFO, Dhenkanal Division
3	Motijharan Deer Park(renamed as "Wild Animal Conservation Centre")	Sambalpur	Small Zoo/ Notification letter No F.No. 19-3/93-CZA (201) (M)/463 dt. 15.3.2012.	31.03.2016	DFO, Hirakud Wildlife Division
4	Harishankar Deer Park	Bolangir	Mini Zoo/Notification letter No . F. NO. 19-1/93-CZA (194) (M)/3516 dt. 10.9.2013.	30.09.2015	DFO, Bolangir Forest Division
5	Taptapani Deer Park	Ganjam	Mini Zoo/Notification letter No.-F. NO. 19-107/92-CZA (196) (M)/3075 dt. 25.06.2013.	30.09.2014	DFO, Paralakhemundi Division
6	Kuanria Deer Park	Nayagarh	Mini Zoo/ Notification letter No. F. No. 19-105/92-CZA (195) (M)/3518 dt. 10.09.2013	30.09.2015	DFO, Mahanadi Wildlife Division

7	Papadahandi Deer Park	Nabarangpur	(Mini Zoo)- Notification letter No.. F.No. 19- 112/92- CZA (197) (M)/801 dt. 17.10.2011	31.10.2014	DFO, Nabarangpur Division
8	Gharial Research and Conservation Unit (GRACU), Tikarpada	Angul	Notification letter No.- F. No. 19-46/93 -CZA (200) (NS)/ 6988 dt. 17.04.2015.	30.4.2017	DFO, Satkosia Wildlife Division
9	Deer Park, Berhampur University	Ganjam	letter No F. No. 19- 103/93 CZA (198) (NA)/2376/dated.12. 03.2013.Cancelation of Recognition communicated by CZA	31.03.2010	Berhampur University
10	HAL, Sunabeda Deer Park	Koraput	(Mini Category Zoo) – Notification letter No - F. No. 19-42/93- CZA (209) (M)/ 3063 dt. 24.6.2013	30.09.2014	HAL, Sunabeda
11	Indira Gandhi Park Zoo and Deer Park, Rourkela.	Sundargarh	(Small Category Zoo) Notification letter No - 19-155/93 –CZA (199) (Vol. III) (M) / 4096 dt. 7.1.2014.	31.01.2017	SAIL, Rourkela
12	Municipality Deer Park, Cuttack	Cuttack	Notification letter No F. No. 19-206/93- CZA (204) (NS)/6970 dt. 17.4.2015	30.4.2017	Municipal Corporation , Cuttack

Policy Initiatives on Wildlife Conservation

Wildlife Organization is taking many initiatives strategies to tackle various field related issues. Few of the important policy initiatives during the last year are as follows:

Research Advisory Committee: A Research Advisory Committee has been constituted in the Office of the Principal Chief Conservator of Forests (Wildlife) and Chief Wildlife Warden, Odisha to monitor the Review wildlife Research activities, Identify priority areas for wildlife Research works, scrutinize and recommend the research proposals in the wildlife sector. The committee will sit every three month to take up the wildlife research issues in the State. The Committee has been constituted vide Office Order No.4623 dated 4.6.2015. Principal Chief Conservator of Forests (Wildlife) is the Chairman of this Committee.

Committee for Shooting/Photography: A Committee has been constituted in the Office of the Principal Chief Conservator of Forests (Wildlife) and Chief Wildlife Warden, Odisha for scrutinizing the proposal and to recommend for necessary permission for the Educational/commercial photography/photography shooting of films or documentaries in and around Protected Area of the State. The Committee has been constituted vide Office Order No.4888 dated 10.6.2015. Principal Chief Conservator of Forests (Wildlife) is the Chairman of this Committee.

Coordination with Other Departments

Railways: Regular meetings with Railways department are being held to prevent death of elephant due to rail accidents.

Electrocution: Elephant squads engaged in Forest/wildlife divisions are continuously monitoring the sagging of electric transmission lines and squads the information are being despatched to the concerned Electricity Department officials by the Divisional Forest Officers. Guidelines have been issued by Government of India from time to time vide letter no CEI-1/28(Wildlife)/2005-1262 dt 27.04.2005 of Central Electricity Authority, letter no-CEI-1/28/2002 dt 15.03.2002 of Government of India, Central Electricity Authority and DO No 8/6/2002-thermal-3 dt 27.03.2002 of Government of India, Ministry of Power to Chairman of all State Electricity Boards. Regular coordination meetings with electricity department are being held to prevent of death of elephants due to electrocution.

Research: MOU has been signed on 22nd February 2014 with Asian Nature Conservation Foundation(ANCF), c/o Innovation Centre, Indian Institute of Science(IISc), Bengaluru for the "Study to asses the carrying capacity for Elephants in Odisha" with a budget Rs 49,51,320.00 lakhs. The study is progress.

Interstate Meeting: Interstate Coordination Meeting to address Human-Elephant Conflict issues was held at Baripada on 24th June, 2015 under the Chairmanship of Principal CCF (Wildlife) & Chief Wildlife Warden, Odisha. Inspector General Forests (Project Elephant), Government of India, Ministry of Environment, Forests and Climate Change and forest officers from Jharkhand, West Bengal, Chhattisgarh, Andhra Pradesh and Odisha. He highlighted the importance of region with rich natural sal forests bearing rich mineral resource of country. He also explained the importance of cooperation and coordination among the Forest departments of bordering States to address the issues relating to man-elephant conflicts arising due to trans-boundary migration of elephants.

ACHIEVERS IN THE FIELD OF WILDLIFE CONSERVATION

THE BIJU PATNAIK WILDLIFE CONSERVATION AWARD STATE LEVEL

The State Government have instituted the Biju Patnaik Award for Wildlife Conservation to be presented each year in the month of October at a State Level Function to recognize the contribution individuals/institutions for conservation of wildlife. Presently, the award carries a citation and cash award of Rupees Two Lakhs among other honours. Biju Patnaik Wildlife Conservation Award is one of the most prestigious awards in the field of wildlife conservation.

THE AWARDEES OF PREVIOUS YEARS ARE AS FOLLOW:

2014: Prof. Priyambada Mohanty-Hejmadi for her life time sustained contribution towards Conservation of Wildlife, especially Olive Ridley Sea turtles & Estuarine Crocodile in The State.

2013: Dr Lala Aswini Kumar Singh and Swaraj Kumar Kanhar for their life time contribution for wildlife conservation in Odisha

2012: Shri Shyama Om Prasad Mishra-for his sustained contribution for conservation of House Sparrows with own initiatives at local level to build up its dwindling population in the State.

2011: Dr. Lakshmi Narayan Acharjyo and Sri Prasanna Kumar Behera-for their life time contribution for wildlife conservation and protection in Odisha

2010: Sri Amarendra Lal Bose-for sustained campaigning in the print media over last forty years for conservation of wildlife, emphasising flora and fauna of Similipal.

Sri Saroj Kumar Patnaik-who made a mark nationally as a wildlife expert and a professional in the field of ex-situ management.

2009: Dr Udaya Narayan Dev- for his sustained lifetime contributions in wildlife, particularly the birds of Odisha.

Dr Sundara Narayana Patro- for sustained life-time contributions and campaigner for the cause of conservation of wildlife and biodiversity of Orissa.

2008: Prof. Basanta Kumar Behura-for sustained work for over sixty years on all faculties of wildlife science, i.e. Education, Research and Conservation.

2007: Sri Sri Mahabir Pakshi Surakshya Samiti of Mangalajodi in taking a beaming role in bird conservation in and around Chilika lagoon.

2006: The Peacock Protection Committee, Ganjam. –for collective effort of villagers that have made the peafowl very visible and local entity in the Pakidi hill area.

2005: Blackbuck Management Committee, Ganjam. –for outstanding contribution to the cause of protection of blackbucks, and for the larger cause of spreading the wildlife conservation ethos.

SUB-DIVISIONAL LEVEL

As per Resolution in the Odisha Gazette Notification No. 14585-1-Affn - 6/2012- F&E dated 03.08.2012, the State Government have taken initiatives for conservation of Wildlife in the State for the promotion of awareness on the issues involved for nurturing Wildlife Conservation. In order to encourage vital contribution in this regard, the Biju Patnaik Award for Wildlife Conservation is constituted at Sub-Divisional Level from the year 2013-14 with a cash award of Rs.5000/- during the Wildlife Week Celebration in the 1st Week of October.

List of EDC involving in Wildlife Conservation

Sl.No	Name of the Division	Name of the District	No of EDC
1	Satkosia WL	Angul	37
2	Mahanadi WL	Nayagarh	15
3	Balasore WL	Balasore	11
4	STR	Mayurbhanj	164
5	Puri WL	Puri	29
6	Chandaka WL	Khurda	27
7	Rajnagar WL	Kendrapara	48
8	Bhadrak WL:	Bhadrak	0
9	Kalahandi south	Kalahandi	14
10	Sunabeda WL	Nuapara	04
11	Keonjhar WL	Keonjhar	05
12	Baamra WL	Sambalpur	25
13	Hirakud WL	Sambalpur	23
14	Balliguda	Kandhamal	80
15	Parlakhemundi	Gajapati	04
16	Dhenkanal	Dhenkanal	26
		Total	512

Payment of Compassionate Grant

Compassionate payment is one of the most important mitigation measures in the field of animal depredation. In the current year, the amounts for compassionate payment have been revised.

Table showing Amounts Approved for Compassionate payments

Sl. No	Type of Depredation	Amount in Rs
1	Human Kill (45-AA)	3lakhs
2	Permanent injury (45-BB)	1lakh
3	Temporary injury (45-BB) (Including free treatment in govt. hospital)	5,000 + free treatment in Govt. Hospital
4	Cattle Kill (Adult) (45-CC)	5,000
5	Cattle Kill (Calf) (45-CC)	2,500
6	Crop Damage (Paddy + Cereals) (45- EE)	10,000/ Ha
7	Crop Damage (Cash Crop) (45- EE)	12,000/ Ha
8	House Damage (Partial) (45- FF)	2,000
9	House Damage (Full) (45- FF)	10,000

WILDLIFE CENSUS

Wildlife research and documentation is a recognized mandate of the Wildlife Wing. The conservation projects on crocodiles, sea turtles, Dolphin, tiger, elephant and blackbuck, along with the captive-breeding programme at Nandankanan, and eco-development need and approaches are some of the few areas generating lot of data which are used in planning and execution of wildlife conservation programmes.

Population estimation of various wildlife species has been done regularly for better understanding of wildlife and their habitat which form a vital input for better management.

As a practice, regular census of Elephant, Tiger and Blackbuck in the terrestrial (forest) habitat; the Gharial, Mugger and waterfowl in the freshwater habitat; the Estuarine Crocodile, the Waterfowl, Whale, Dolphins in fresh water and the nesting Turtles in the sea coast habitat are being conducted.

WILDLIFE CENSUS RESULTS

(2007-08, 2008-09, 2009-2010, 2010-11, 2011-12, 2012-13, 2013-14 and 2014-15)

Sl. No.	Species	Census area / site	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
1	Saltwater crocodile	Bhitarkanika	1516	1596	1627	1670	1659	1661	1655	1678
2	Mugger crocodile	(i) Satkosia / Mahanadi river	78	87	79	91	81	76	90	86
		(ii) River systems of Similipal Tiger Reserve	89	-	78	85	82	80	79	81
		(iii) Ghodahada Reservoir, Digapahandi, Ganjam	29	41	40	-	48	48	46	49
3	Gharial	Mahanadi river system	03	03	03	03	02	02	02	01
4	Olive	Gahirmatha	-	1.67	3.57	4.72	1.68	4.06	00	4.13 lakhs

	Ridley sea turtle					lakhs	lakhs	lakhs		
		Rushikulya river mouth	1.80 lakhs	2.61	1.56	2.52 lakhs	4.01 lakhs	2.88 lakhs	0.60 lakhs	3.09 lakhs
		Total	1.80 lakh	4.28 lakhs	5.13 lakhs	7.24 lakhs	5.69 lakhs	6.94 lakhs	0.60 lakhs	7.22 lakhs
5	Irrawaddy Dolphin	Chilika lagoon	138	146	158	156	145	152	158	144
	Dolphins (7 species)	Entire Coastal Odisha including Chilika lagoon	-----	-----	-----	-----	-----	-----	-----	450 (Irrawaddy-206 Bottle-Nose-52 Humpback-125 Pantropical spotted-50 Finless- 1 Gaanges River- 1)
6	Blackbuck	Balukhand-Konark Wildlife Sanctuary	-	-	-	34	13	22		0
		Balipadar-Bhetnoi area in Ganjam District	1672	-	-	2181	-			3806
7	Elephant	Entire State	1862	-	-	1886	-	1930		1954
8	Tiger*	Entire State	45 (as per Camera Trap Method by WII, Dehradun)	-	-	32 (as per Camera Trap Method by WII, Dehradun)	-	-		28 (as per Camera Trap Method by WII, Dehradun)
9	Leopard	Entire State	-	-	-	-	-	-		
10	Migratory Birds	(i) Chilika lagoon	8.92 lakhs of 111 species	8.91 lakhs of 101 species	9.04 lakh 114 species	7.92 lakhs 103 species	8.68 lakhs 106 species	8.62 lakhs 112 species	7.07 lakhs 99 species	7.46 lakhs 102 species
		(ii)Bhitarkanika Mangrove Wetland	1.25 lakhs of 97	1.01 lakhs 79	1.05 lakh 74	0.53 lakhs 107	0.53 lakhs 118	0.82 lakhs 111	0.67 lakhs 142	1.13 lakhs 145 species

		species	species	species	species	species	species	species	species	
	(iii) Hirakud reservoir	0.22 lakhs of 25 species	-	0.49 lakh 26 species	0.11 lakh 34 species	0.47 lakhs 52 species	0.79 lakhs 59 species	0.64 lakhs 54 species	0.58 lakhs 64 species	

- * **A new method of monitoring using camera traps in samples has been introduced. In this study during Jan 2006 to July 2008, the scientists of WII estimated the presence of 45 (37-53) Tigers.**
- * **The monitoring was also conducted during 2010. In this study the scientists of WII estimated presence of 32 (20-44) Tigers.**
- * **Camera Trap method was used during the current year in Similipal and Satkosia tiger Reserve By NTCA for estimation of tiger population in the whole State.**

A. Elephant Census

The census of Elephants was conducted in all divisions having Elephant during the months of April-May. The census dates are decided in consultation with the states of Jharkhand, Chhatisgarh and West Bengal, all of which share the Eastern Range Elephant Habitat, with Odisha state. Odisha holds about 70% of the Elephants in the region. The Wildlife Headquarters of Odisha Government organizes the training at the regional level. The technique involved is actual count method.

The Census of elephants in Odisha were conducted in the years 1979, 1999 and 2002, 2007, 2010, 2012 and 2015. The technique for census of Elephant has been developed and refined with every successive census operation. The traditional method involves fixed point counts from salt-licks, watch towers, etc. combined with perambulations during the day time.

ODISHA: ELEPHANT CENSUS RESULT 2015

Name of the Division	Male	Female	Unknown	Young	Total
Angul	8	22	0	10	40
Athmalik	7	33	2	14	56
Dhenkanal	35	90	5	34	164
Athgarh	21	60	0	33	114
Cuttack	12	13	1	9	35
Satkosia WL	22	83	0	41	146
Mahanadi WL	12	51	0	25	88
Total Angul Circle	117	352	8	166	643
Balasore WL	18	50	0	21	89
Rairangpur	8	21	0	19	48
Karanja	13	28	0	15	56
Baripada	14	40	0	14	68
Similipal TR Core	39	206	1	91	337
Total Baripada Circle	92	345	1	160	598
Berhampur	2	11	1	6	20
Ghumsur North	6	11	0	4	21
Ghumsur South	6	21	0	15	42
Parlakhemundi	3	15	0	3	21
Balliguda	4	23	4	15	46
Boudh	2	2	2	2	8
Phulbani	1	4	0	3	8
Total Berhampur Circle	24	87	7	48	166

Kalahandi North	7	9	0	3	19
Kalahandi South	1	3	0	3	7
Subarnapur	1	29	0	7	37
Bolangir	2	22	0	4	28
Khariar	0	0	0	0	0
Total Bhawanipatna Circle	11	63	0	17	91
Chandaka WL	3	3	0	2	8
Chilika WL	0	0	0	0	0
City Forest	0	0	0	0	0
Khurda	8	16	0	7	31
Nayagarh	2	11	1	3	17
Bhadrak WL	0	0	0	0	0
Total Bhubaneswar Circle	13	30	1	12	56
Rayagada	2	5	0	2	9
Koraput	0	0	0	0	0
Total Koraput Circle	2	5	0	2	9
Bonai	11	43	0	11	65
Deogarh	7	19	6	10	42
Keonjhar	12	24	1	10	47
Keonjhar WL	13	27	1	10	51
Rourkela	7	21	0	11	39
Sundargarh	4	3	2	1	10
Total Rourkela Circle	54	137	10	53	254
Sambalpur	3	1	0	1	5
Jharsuguda	0	1	0	0	1
Rairakhol	4	3	0	2	9
Bamra WL	19	60	0	23	102
Hirakud WL	2	12	0	6	20
Bargarh	0	0	0	0	0
Total Sambalpur Circle	28	77	0	32	137
ODISHA GRAND TOTAL	341	1096	27	490	1954

The male, female ratio of 1:3 is one of the best in the Country.

B. Tiger / Leopard Census

'Pugmark Tracking' involves collection of pugmark tracings and plaster casts from the field and analysis of these separately for individual male, female, and cub of tiger and leopard, and their diagnostic track dimensions and spatial distribution.

The final result indicates the (a) total numbers of male, female and cub of tiger and leopard, (b) their pugmark dimensions with stride where available, (c) the names of locations where the pugmarks of each tiger have been traced to show the gross movement areas (d) interrelationship among different tigers by linking each male to female and the latter to cubs tracked in the movement area, and finally (e) spatial distribution map.

192 tigers were estimated to be found in the year State during the year 2004(Table-1) by pug-mark technique.

In the year 2004-05, the Project Tiger authorities and the Wildlife Institute of India together devised a monitoring method. In this method, there were two approaches to collect field data. First, information on habitat conditions and different signs of Tiger evidences were to be collected, and second, by using camera traps Tiger photographs were to be obtained from all Tiger areas.

This process involves following phases namely:

Phase-I: involves field data collection at the beat level using a eight-day standardized protocol after due training to field personnel in states. The eight day protocol consists of field data collection of evidence pertaining to carnivore (tiger, leopard), signs, ungulate abundance, human disturbance and status of habitat. Formats for the eight-day beat level data collection were made available in local vernacular language to help field staff.(done at the forest Department, Odisha).

Phase-II: involves computation of human disturbance indices, habitat indices and landscape indices from remotely sensed data (done at the Wildlife Institute of India).

Phase-III: involves computation of tiger density using camera traps in a mark recapture statistical framework through research biologists deployed by the Wildlife Institute of India, besides computation of ungulate density using distance sampling. The result of camera trap method are given as below:

TABLE SHOWING ALL INDIA TIGER ESTIMATION BY CAMERA TRAP METHODS *

Sl. No	Name of the Tiger Reserve	Year 2006	Year 2010	Year 2014
1	Similipal Tiger Reserve	20(17-23)	23(12-34)	Whole State
2	Satkosia Tiger Reserve	6	8(7-9)	
3	Sunabeda Tiger Reserve	9	Census not done	
4	Sporadic Occurrence	6		
	ODISHA TOTAL	45(37-53)	32(20-44)	28

* This is only CAMERA TRAP estimation, which is different from earlier process of sampling through pugmark survey. Hence, they are not comparable.

Tiger/Leopard Census 2004

All Odisha Tiger/Leopard Census 2004

date: 08 March 2004	TIGER				LEOPARD			
	Male	Female	Cub	Total	Male	Female	Cub	Total
<u>Bhawanipatna Circle:</u>								
Sunabeda	11	10	11	32	14	17	5	36
Khariar	1	2	1	4	1	2	0	3
Kalahandi(N)	0	0	0	0	2	5	1	8
Kalahandi (S)	0	1	0	1	0	5	0	5
Balangir (E)	0	0	0	0	1	2	0	3
Balangir(W)	0	0	0	0	1	3	2	6
Sub-Total	12	13	12	37	19	34	8	61
<u>Koraput Circle</u>								
Jeypore (incl tigers of Malkangiri)	1	1	0	2	9	7	1	17
Rayagada	2	1	0	3	5	5	1	11
Malkanagiri (Tigers with Jeypore)	0	0	0	0	5	4	1	10
Nawarangpur	0	0	0	0	1	2	0	3
Koraput	1	1	0	2	4	6	1	11
Sub-Total	4	3	0	7	24	24	4	52
<u>Angul Circle</u>								
Satkosia(WL)	4	6	1	11	9	9	1	19
Angul	0	0	0	0	2	2	0	4
Dhenkanal	0	0	0	0	2	0	0	2
Athagarh	0	0	0	0	0	0	0	0
Athmalik	0	0	0	0	6	8	2	16
Cuttack	0	0	0	0	0	1	0	1
Sub-Total	4	6	1	11	19	20	3	42
<u>Sambalpur Circle</u>								
Sambalpur(S)	0	0	0	0	1	1	0	2
Sambalpur(N)	0	0	0	0	1	0	1	2
Rairakhole	0	0	0	0	2	0	0	2
Bamra WL	1	1	0	2	7	8	1	16
Hirakud WL	2	3	0	5	10	11	0	21
Bargarh	0	0	0	0	0	1	0	1
Sub-Total	3	4	0	7	21	21	2	44
<u>Bhubaneswar Circle</u>								
Nayagarh	0	0	0	0	2	0	0	2
Mahanadi WL	3	2	2	7	7	8	0	15
Chandka	0	0	0	0	4	4	0	8
Khurda	0	0	0	0	4	4	0	8

Sub-Total	3	2	2	7	17	16	0	33
<u>Berhampur Circle</u>								
Berhampur	0	0	0	0	1	0	0	1
Ghumsur(S)	0	1	1	2	4	4	0	8
Ghumsur(N)	0	2	6	8	25	21	3	49
Phulbani	0	0	2	2	4	11	2	17
Boudh	0	1	2	3	6	6	0	12
Parlakhemundi	0	0	0	0	2	0	0	2
Balliguda	3	1	2	6	4	5	0	9
Sub-Total	3	5	13	21	46	47	5	98
All Odisha Tiger/Leopard Census 2004					Page-2 of 2			
<u>Rourkela Circle</u>								
Anandpur(WL)	0	0	0	0	0	2	1	3
Sundargarh	0	0	0	0	3	6	1	10
Bonai	0	0	0	0	2	6	0	8
Raurkela	0	0	0	0	0	0	0	0
Deogarh	0	0	0	0	0	0	0	0
Keonjhar	0	0	0	0	0	4	0	4
Sub-Total	0	0	0	0	5	18	2	25
<u>STR Circle</u>								
Similipal	27	39	28	94	32	50	18	100
Baripada	0	0	2	2	4	9	0	13
Karanja	1	1	0	2	4	3	1	8
Rairangpur	0	1	2	3	4	2	0	6
Bhadrak WL	0	0	0	0	0	0	0	0
Balasore WL	0	1	0	1	1	4	0	5
Sub-Total	28	42	32	102	45	68	19	132
Summary								
Bhawanipatna Circle:	12	13	12	37	19	34	8	61
Koraput Circle	4	3	0	7	24	24	4	52
Angul Circle	4	6	1	11	19	20	3	42
Sambalpur Circle	3	4	0	7	21	21	2	44
Berhampur Circle	3	5	13	21	46	47	5	98
Rourkela Circle	0	0	0	0	5	18	2	25
Bhubaneswar Circle	3	2	2	7	17	16	0	33
STR Circle	28	42	32	102	45	68	19	132
Odisha Total	57	75	60	192	196	248	43	487

DETECTION OF WILDLIFE OFFENCE CASES

Protection is one of the prime mandate of wildlife organization. Several field forest staff, special squads and many communities devote their prime time in protection of wildlife. The details of the wild life Offence cases booked and accused arrested are as follows:

Wildlife Offence cases booked and accused arrested 2007-08 to to 2015-16 (up to August 2015).

Year	Animal	No of O R cases booked	No of accused Forwarded
2007-08	Elephant	7	12
	Other Animal	75	166
	Total	82	178
2008-09	Elephant	11	11
	Other Animal	63	86
	Total	74	97
2009-10	Elephant	51	12
	Other animal	59	198
	Total	110	210
2010-11	Elephant	49	18
	Other animal	54	81
	Total	103	99
2011-12	Elephant	37	22
	Other animal	49	104
	Total	86	126
2012-13	Elephant	11	17
	Other animal	94	192
	Total	105	209
2013-14	Elephant	15	33
	Other animal	158	318
	Total	173	351
2014-15	Elephant	07	29
	Other animal	180	361
	Total	187	390
2015-16 (up to 31.08.2015)	Elephant	02	14
	Other animal	37	127
	Total	39	141

BUDGET

Projects and Schemes....

Wildlife organization has different schemes for wildlife management which are funded under Non-Plan, State Plan, & Central Plan. The details of financial target and achievement position under Non-Plan, State Plan, Central Plan & Centrally Sponsored Schemes during 2014-15 in respect of Wildlife Organization (Rs. in lakhs) are as follows:

Sl. No.	Name of the scheme	Budget provision In Lakhs	Amount released by Govt. of India (including revalidated amount)	Amount sanctioned by State Govt. In Lakhs	Expenditure incurred In Lakhs
1	2	3	4	5	6
1	Non-Plan(Including 13 th F.C grant for preservation of forest Wealth)	5546.06	Not applicable	5546.06	5379.52
2	State Plan				
a)	One time ACA-Promotion of Eco-Tourism in Wildlife Sanctuary & Forest Resorts	200.00	-do-	200.00	193.99
b)	Wildlife Protection & Conservation measures including those for black buck and fresh water turtles	1200.00	-do-	1200.00	1190.98
c)	Protection & Conservation of Olive Ridley turtle	70.00	-do-	70.00	70.00
d)	Integrated development of wildlife habitats (State share of exper. under CSP)	455.00	31.887	52.51	52.51
e)	Elephant Management Project	400.00	-do-	400.00	399.48
f)	Management and Development of Elephant Corridor	500.00	-	500.00	495.75
g)	Strengthening of transmission line in elephant corridor	0.01	-	0	0

h)	111-Zoological Park – Nature Conservation. Maintenance of wildlife	60.00	-	-	-
i)	Devt. & Beautification of Nandankanan	0.01	-	0	0
j)	Satkosia Tiger Reserve(Central Share+State Share)	397.58	197.56	315.278	315.27
k)	796-Tribal Area Sub-Plan- Similipal Tiger Reserve- State share+ Central Share)	906.87	515.30	687.35	664.29
m)	4406- Capital Outlay Construction of Prakruti Bhawan	0.01	-	0	0
n)	TOTAL STATE PLAN	4189.48	744.74	3425.14	3382.29
3	Central Plan				
a)	Integrated development of wildlife habitats	600.00	340.72	340.66	334.37
b)	Elephant Management Project	300	170.08	170.08	169.05
c)	Relocation of villages from sanctuaries & National Parks	0.01	0	0	0
d)	Similipal Biosphere Reserve	400.00	0	0	0
e)	Conservation & Management of Mangroves	200.00	101.68	101.68	97.98
	TOTAL CENTRAL PLAN	1500.01	612.48	612.43	601.40

WILDLIFE PROTECTION, CONSERVATION AND MANAGEMENT UNDER CAMPA

Activities proposed in the APO (2014-15) for management of wildlife inside and outside the protected area network under CAMPA are as follows:

Protection of wildlife and their habitat, anti-depredation activities, strengthening the communication network, infrastructure development in the field, habitat improvement activities, eco-development programmes, Capacity building, Training programme, Engagement of Research Fellows, Site specific Wildlife Management Plan.

Table showing the details of Wildlife Protection and Management in the action plan for 2014-15 under CAMPA

Sl.No.	Item of work	Odisha State Grand total (Rs. in lakhs)
1	Protection Activities	796.00
2	Anti-depredation activities	2355.00
3	Communication	398.00
4	Infrastructure Development	245.00
5	Habitat Improvement	1552.00
6	Management of Protected Areas and Zoos	175.00
7	Research activities	35.00
8	Implementation of site specific wildlife conservation plans	750.00
9	Strengthening of Wild crime cell, Elephant cell etc at WLHQ	10.00
10	Additional amount for rehabilitation with in Similipal Tiger Reserve, Baripada	350.00
	Total	6736.00