

# SECTION-IV

## PROTECTED AREAS AND WILDLIFE







## PROTECTED AREAS AND WILDLIFE

Forests provide a host of services in addition to revenue. The various kind of services provided by the forests are wildlife, eco-tourism and climate mitigation. Wildlife parameters are covered under national parks, zoos and wildlife sanctuaries. The important projects namely Project Tiger and Project Elephant are also covered under this section.

The statistics pertaining to the development of the protected areas and wildlife, including funds provided to various schemes form a part of this section.

1. **Protected Areas**
2. **Plan Expenditure on Forestry and Wildlife**
3. **National Parks**
4. **Wildlife Sanctuaries**
5. **Zoos**
6. **Tiger Population**
7. **Biosphere Reserves**
8. **Project Tiger**
9. **Project Elephant**
10. **Protected area and wildlife**

For management and protection of wildlife and their habitat, protected area (PA) network consisting of National Parks (NP) and Wildlife (WL) Sanctuaries has been created in India covering the forests with relatively large populations of the target species and associated ecological components. For managing the PAs, Management Plans are to be prepared which identifies conservation objectives and prescribes management interventions to be undertaken during the plan period (Tables 4.1, 4.3 and 4.4).

The All India Tiger estimation exercise is one of the most crucial components of National Tiger conservation efforts. Though monitoring of tigers population in India is being done since many decades but since 2006, the exercise is undertaken with more scientific and statistically robust approach, every four years (Table 4.5).

Biosphere Reserves in India have been created as a consequence of Man and Biosphere (MAB) Programme of UNESCO. They represent unique communities of biodiversity or areas with unusual natural features of exceptional interest with natural and cultural landscapes wherein people are an integral component of the system. In India, the national Biosphere Reserve Programme was initiated in



1986 to serve as wider base for conservation of entire range of living resources and their ecological foundations in addition to already established Protected Area (PA) network system. They are also the protected areas extended over large areas.

First national park in India was declared in 1935, now famous as the Corbett National Park. Since then there has been a steady rise in the number of PAs and National Parks and Wildlife Sanctuaries after the enactment of the Wildlife Protection Act in 1972. In 1988, there were 54 national parks and 372 sanctuaries covering a total area of 109,652 sq km. By the year 2000, this number had increased to 566, covering 1, 53,000 sq km, or 4.66% of India's geographical area. There are currently 668 national parks and sanctuaries in India, encompassing 1, 61,221 sq. Km. country's geographical area. Protected areas are categorised as National Parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves.

Apart from the protected areas system mandated under the Wildlife Protection Act (WPA) 1972, certain areas have also been declared as biosphere reserves by the Government of India. The purpose of the formation of the biosphere reserve is to conserve in situ all forms of life, along with its support system, in its totality, so that it could serve as a referral system for monitoring and evaluating changes in natural ecosystems. The section also gives state wise statistics of Wildlife Sanctuaries, National Parks and Zoos. In all India have 512 Wildlife Sanctuaries 93 National Parks and 63 Zoos.

The other statistics of importance regarding expenditure, amount released under Forestry, Wildlife, Tiger Project, Project Elephant, Integrated Forest Protection Scheme and Intensification of Forest Development Scheme. Financial assistance is being provided to States under Centrally Sponsored Schemes such as "Development of National Parks and Sanctuaries", "Project Tiger", "Project Elephant" The data are presented Planwise as well as year wise (Table 4.7 to Table 4.11).



**Table 4.1: Number and total area of Protected Areas in India**

Sl. No.	Category	Nos.	Area (km <sup>2</sup> )
1	National Parks	102	39,888
2	Wildlife Sanctuaries	515	1,19,930
3	Conservation Reserves	47	1,382
4	Community Reserves	4	21
	<b>Total</b>	<b>668</b>	<b>161221</b>

*Source:* Figures calculated from data provided by State Forest Departments

**Table 4.2: Plan expenditure on Forestry and Wildlife of the Ministry of Environment and Forests (Rs in crores).**

Plan/Year	Forestry	Wildlife	Total
<b>9th Plan (1997-02)</b>	<b>990.20</b>	<b>450.62</b>	<b>1440.82</b>
<b>10th Plan (2002-07)</b>	<b>1964.08</b>	<b>739.42</b>	<b>2703.50</b>
<b>11th Plan (2007-12)</b>			
2007-08	621.09	198.86	819.95
2008-09	612.05	321.06	933.11
2009-10	604.23	363.19	967.42
2010-11	622.38	357.56	979.94
<b>Total</b>	<b>2,459.75</b>	<b>1,240.67</b>	<b>3,700.42</b>

*Source:* Ministry of Environment and Forests, Government of India



**Table 4.3: State-wise National Parks, Wildlife Sanctuaries and Zoos**

States / U.T. s	Wildlife Sanctuaries	National Parks	Zoos
A & N Islands	96	9	1
Andhra Pradesh	22	5	3
Arunachal Pradesh	11	2	3
Assam	18	5	1
Bihar	11	1	*
Chandigarh	2	0	0
Chhattisgarh	11	3	2
Dadra & Nagar Haveli	1	0	1
Daman & Diu	1	0	*
Delhi	1	0	1
Goa	4	2	1
Gujarat	22	4	1
Haryana	8	2	0
Himachal Pradesh	33	2	4
Jammu & Kashmir	14	5	1
Jharkhand	11	1	1
Karnataka	21	5	8
Kerala	12	3	*
Lakshadweep	1	0	*
Madhya Pradesh	25	9	*
Maharashtra	36	5	*
Manipur	5	2	1
Meghalaya	3	2	1
Mizoram	11	2	3
Nagaland	3	1	2
Odisha	18	2	14
Puducherry	0	0	0
Punjab	12	0	3
Rajasthan	25	2	5
Sikkim	7	1	1
Tamil Nadu	20	5	
Tripura	4	2	1
Uttar Pradesh	24	1	2
Uttarakhand	4	5	*
West Bengal	15	5	2
<b>Total</b>	<b>512</b>	<b>93</b>	<b>63</b>

\* Data not available

Source: State Forest Departments



**Table 4.4 Status of management plans of Protected Areas as on 31st March 2010**

States	Number of PAs	Status of management plans
Andhra Pradesh	27	Management plans for 17 PAs are operational, plans for 2 PAs are being revised and 6 PAs being newly prepared.
Gujarat	26	Plans for 21 PAs are operational, and for 2 PAs being prepared. Only 23 plans are required as 3 PAs are included in others
Karnataka	26	Plans for 20 PAs are operational and for 6 PAs under revision.
Jammu & Kashmir	18	14 plans are in place; 4 being prepared.
Madhya Pradesh	34	Plans for all 34 PAs are operational.
Odisha	18	Plans are in place for all the PAs.
Rajasthan	27	Plans for 21 PAs are operational and for remaining 6 PAs not yet prepared
Tamil Nadu	29	Plans of 22 PAs are operational and for four bird sanctuaries and three WL sanctuaries are under preparation.
Uttarakhand	12	Plans for all 12 PAs are operational
Uttar Pradesh	25	Plans for 23 PAs were operational till March 2010; now revised.
West Bengal	17	Plans for 13 PAs are in place; draft of plans of 4 PAs has been submitted for approval.
<b>Total</b>	<b>259</b>	

**Source:** State Forest Departments



**Table 4.5: Population Estimate of Tigers in India in year 2006 and 2010**

Landscape Complex	Tiger Estimate (2006)			Tiger Estimate (2010)		
	Lower limit <sup>1</sup>	Population estimate	Upper limit <sup>1</sup>	Lower limit <sup>1</sup>	Population estimate	Upper limit <sup>1</sup>
Shivalik-Gangetic Plains	259	297	335	320	353	388
Central India & Eastern Ghats	486	601	718	569	601	
Eastern Ghats	651					
Eastern Ghats	336	412	487	500	534	568
North East Hills & Brahmaputra Flood Plains	84	100	118	118	1482	178
Sunderbans		Not assessed		64	70	90
<b>Total</b>	<b>1,165</b>	<b>1410</b>	<b>1658</b>	<b>1,571</b>	<b>1,706</b>	<b>1,875</b>

<sup>1</sup>The numbers in the "Upper limit" and "Lower limit" column show the range of these estimates.

<sup>2</sup>Excluding the minimum population estimate of Buxa Tiger Reserve (12 tigers) based on genetic analysis conducted by the Centre for Cellular and Molecular Biology (CCMB).

**Source: Wildlife Institute of India**

**Source: State Forest Departments**





**Table-4.6: State wise release for Centrally Sponsored Scheme of Project Tiger, during 2009-10 (as on 03.03.2010)**

S.No.	Tiger Reserve	Total Amount Released (Rs. In lakh)
1.	Andhra Pradesh	94.91
2.	Arunachal Pradesh	48.86
3.	Assam	184.77
4.	Bihar	8.00
5.	Chhattisgarh	1,338.70
6.	Jharkhand	110.735
7.	Karnataka	644.972
8.	Kerala	281.16
9.	Madhya Pradesh	2,419.446
10.	Maharashtra	362.877
11.	Mizoram	2,171.00
12.	Odisha	170.08
13.	Rajasthan	10,694.17
14.	Tamil Nadu	240.55
15.	Uttarakhand	241.705
16.	Uttar Pradesh	414.437
17.	West Bengal	298.55
	<b>Total</b>	<b>19,724.926</b>

**Source: Ministry of Environment and Forests, Government of India**



**Table-4.7. Reserve-wise release for Centrally Sponsored Scheme of Project Tiger, during 2009-10 (as on 03.03.2010)**

S.No.	Tiger Reserve	State	Total Amount Released (Rs in Lakhs)
1.	Nagarjunsagar	Andhra Pradesh	94.91
2.	Namdhapa	Arunachal Pradesh	-
3.	Pakke	Arunachal Pradesh	48.86
4.	Kaziranga	Assam	165.00
5.	Manas	Assam	-
6.	Nameri	Assam	19.77
7.	Valmiki	Bihar	8.00
8.	Achanakmar	Chhattisgarh	1193.50
9.	Indravati	Chhattisgarh	42.15
10.	Udanti-Sitanadi	Chhattisgarh	103.05
11.	Palamau	Jharkhand	110.74
12.	Bandipur	Karnataka	161.70
13.	Bhadra	Karnataka	128.09
14.	Dandeli Anshi	Karnataka	144.37
15.	Nagarhole	Karnataka	210.82
16.	Periyar	Kerala	151.80
17.	Bandhavgarh	Madhya Pradesh	159.96
18.	Kanha	Madhya Pradesh	277.06
19.	Panna	Madhya Pradesh	175.90
20.	Pench	Madhya Pradesh	158.32
21.	Sanjay Dubri	Madhya Pradesh	145.84
22.	Satpura	Madhya Pradesh	1502.37
23.	Melghat	Maharashtra	155.19
24.	Pench	Maharashtra	75.87
25.	Tadoba-Andheri	Maharashtra	131.82
26.	Dampa	Mizoram	2171.00
27.	Satkosia	Odisha	127.73
28.	Similipal	Odisha	42.35
29.	Ranthambhore	Rajasthan	10560.00
30.	Sariska	Rajasthan	134.17
31.	KMTR	Tamil Nadu	138.46
32.	Mudumalai	Tamil Nadu	51.85
33.	Corbett Tiger	Uttarakhand	241.71
34.	Buxa	West Bengal	38.58
35.	Sunderbans	West Bengal	259.97
36.	I) Dudhwa	Uttar Pradesh	285.96
	II) Katerniaghat	Uttar Pradesh	128.48
37.	Anamalai	Tamil Nadu	50.25
38.	Parambi Kulam	Kerala	129.36
		<b>Total</b>	<b>19416.16</b>



**Table-4.8. List of Elephant Reserves**

S.No.	Elephant Range	Elephant Reserve with date of notification	State	Total Area (Sq. Km.)
I	Eastern India (South West Bengal- Jharkhand - Orissa)	1. Mayurbhanja ER (24.10.02)	West Bengal	414
		2. Singhbhum ER (26.9.01)	Jharkhand	4530
		3. Mayurbhanj ER (29.9.01)	Odisha	3214
		4. Mahanadi ER (20.7.02)	Odisha	1038
		5. Sambalpur ER (27.3.02)	Odisha	427
		6. Baitarni ER#	Odisha	1755
		7. South Orissa ER#	Odisha	4216
		8. Lemru #	Chhattisgarh	450
		9. Badalkhol- Tamorpingla- #	Chhattisgarh	1048.3
			<b>Total</b>	
II	North Brahmaputra (Arunachal-Assam)	10. Kameng ER (19.6.02)	Arunachal	1892
		11. Sonitpur ER (6.3.03)	Assam	1420
		<b>Total</b>		<b>3312</b>
III	South Brahmaputra (Assam-Arunachal)	12. Dihing-Patkai ER (17.4.03)	Assam	937
		13. South Arunachal ER(29-2-08)	Arunachal	1957.5
		<b>Total</b>		<b>2894.5</b>
IV	Kaziranga (Assam-Nagaland)	14. Kaziranga – Karbi Anglong ER (17.4.03)	Assam	3270
		15. Dhansiri-Lungding ER (19.4.03)	Assam	2740
		16. Intanki ER (28.2.05)	Nagaland	202
		<b>Total</b>		<b>6212</b>
V	Eastern Dooars (Assam W. Bengal)	17. Chirang-Ripu ER (7.3.03)	Assam	2600
		18. Eastern Dooars ER (28.8.02)	W. Bengal	978
		<b>Total</b>		<b>3578</b>
VI	E. Himalayas (Meghalaya)	19. Garo Hills ER (31.10.01)	Meghalaya	3,500
		20. Khasi Hills ER#	Meghalaya	1331
		<b>Total</b>		<b>4831</b>
VII	Nilgiri–Eastern Ghat (Karnataka-Kerala- Tamilnadu- Andhra Pradesh)	21. Mysore ER (25.11.02)	Karnataka	6724
		22. Wayanad ER (2.4.02)	Kerala	1200
		23. Nilgiri ER (19.9.03)	Tamilnadu	4663
		24. Rayala ER (9.12.03)	Andhra Pradesh	766
	<b>Total</b>		<b>13353</b>	



S.No.	Elephant Range	Elephant Reserve with date of notification	State	Total Area (Sq. Km.)
VIII	South Nilgiri (Kerala- Tamilnadu)	25. Nilambur ER (2.4.02)	Kerala	1419
		26. Coimbatore ER (1 9.9.03)	Tamilnadu	566
	<b>Total</b>			<b>1985</b>
IX	Western Ghat (Tamilnadu- Kerala)	27. Anamalai ER (19.9.03)	Tamilnadu	1457
		28. Anamudi ER (2.4.02)	Kerala	3728
	<b>Total</b>			<b>5185</b>
X	Periyar (Kerala-Tamil Nadu)	29. Periyar (2.4.02)	Kerala	3742
		30. Srivilliputtur ER (19.9.03)	Tamilnadu	1249
	<b>Total</b>			<b>4991</b>
XI	Northern India (Uttarakhand- UP)	31. Shivalik ER (28.10.02)	Uttarakhand	5405
		32. Uttar Pradesh ER (9.9.09)	U.P.	744
	<b>TOTAL</b>		Total	6149



**Table 4.9: Details of Biosphere Reserves notified up to August 2011.**

S.No.	Name of the Biosphere Reserves and total area (km <sup>2</sup> )	Date of Notification	Location details
1	Nilgiri (5,520)	01.08.1986	Part of Wynad, Nagarhole, Bandipur and Madumalai, Nilambur, Silent Valley and Siruvani hills (Tamil Nadu, Kerala and Karnataka)
2	Nanda Devi (5,860.69)	18.01.1988	Part of Chamoli, Pithoragarh and Almora Districts (Uttaranchal)
3	Nokrek (820)	01.09.1988	Part of Garo Hills (Meghalaya)
4	Manas (2,837)	14.03.1989	Part of Kokrajhar, Bongaigaon, Barpeta, Nalbari, Kamrup and Darang Districts (Assam)
5	Sunderbans (9,630)	29.03.1989	Part of delta of Ganges and Brahmaputra river system (West Bengal)
6	Gulf of Mannar (10,500)	18.02.1989	Indian part of Gulf of Mannar between India and Sri Lanka (Tamil Nadu)
7	Great Nicobar (885)	18.01.1989	Southern most islands of Andaman and Nicobar (A&N Islands)
8	Simplipal (4,374)	21.06.1994	Part of Mayurbhanj district (Orissa)
9	Dibru-Saikhowa (765)	28.07.1997	Part of Dibrugarh and Tinsukia districts (Assam)
10	Dehang-Debang (5,111.5)	02.09.1998	Part of Siang and Debang valley in (Arunachal Pradesh)
11	Pachmarhi (4,926.28)	03.03.1999	Parts of Betur, Hoshangabad and Chindwara district of Madhya Pradesh.
12	Kanchajunga (2,612.92)	07.02.2000	Parts of North and West Sikkim
13	Agasthyamalai (3,500.36)	12.11.2001	Parts of Thirunelveli and Kanya Kumari Districts in Tamil Nadu and Thiruvanthapuram, Kollam and Pathanamthitta in Kerala.
14	Achanakmar Amarkantak (3833.51)	30.03.2005	Parts of Anuppur and Dindori District of M.P. and Bilaspur District of Chattisgarh.
15	Kachchh (12,454)	29.01.2008	Part of Kachchh, Rajkot, Surendra Nagar and Patan Civil Districts of Gujarat State
16	Cold Desert (7,770)	28.08.2009	Pin Valley National Park and surroundings; Chandratal and Sarchu and Kibber Wildlife Sanctuary
17	Seshachalam (4,755.99)	20.09.2010	Seshachalam hill ranges in Eastern Ghats encompassing part of Chittoor and Kadapa districts in Andhra Pradesh.
18	Panna (2,998.98)	25.08.2011	Part of Panna and Chhattarpur districts in Madhya Pradesh

Four biosphere reserves namely Nilgiri, Nanda Devi, Sunderbans and Gulf of Mannar have been recognized by UNESCO on World Network of Biosphere Reserves.

**Source:** State Forest Departments and Ministry of Environment and Forests, Government of India

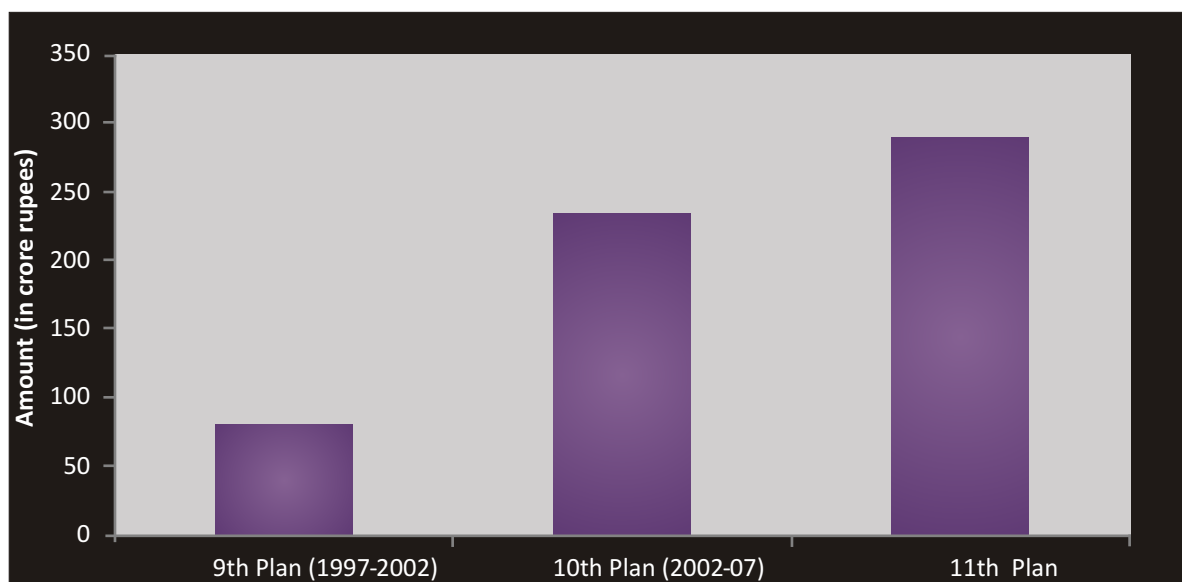


**Table 4.10: Amount released in different Plans under Wildlife scheme**

Plan Year	Amount Released (in crores)
9th Plan (1997-2002)	82.795
10th Plan (2002-07)	236.85
11th Plan <b>Total</b>	<b>291.429</b>
2007-08	64.00
2008-09	79.475
2009-10	73.574
2010-11	74.38

Source: Ministry of Environment and Forests, Government of India

**Fig 4.1: Comparative release in different plans under wildlife Scheme**



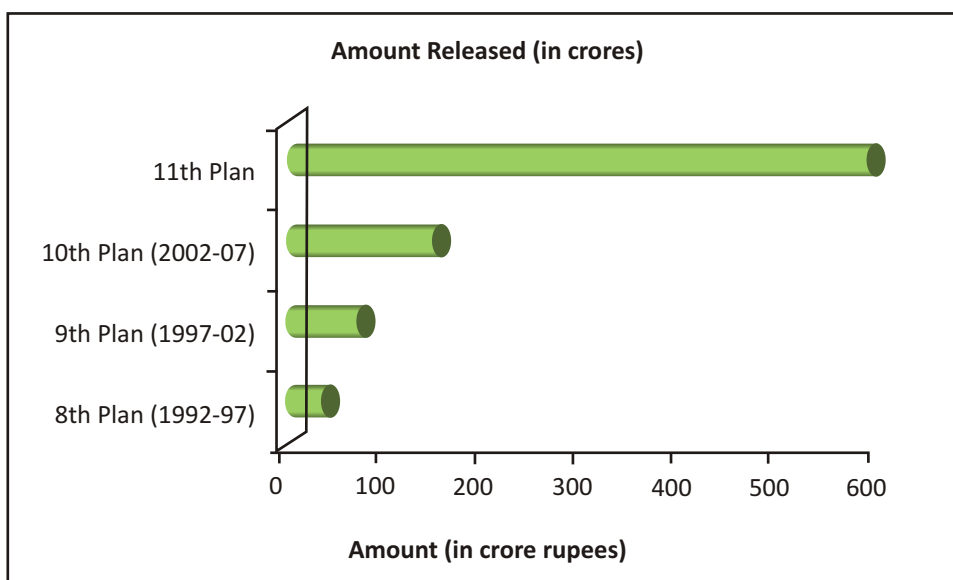


**Table 4.11: Amount released in different 5 Year Plans under the Tiger Project**

Plan Year	Amount Released (in crores)
8th Plan (1992-97)	38.90
9th Plan (1997-02)	75.00
10th Plan (2002-07)	150.00
11th Plan <b>Total</b>	<b>597.67</b>
2007-08	62.70
2008-09	154.73
2009-10	201.52
2010-11	178.72

Source: Ministry of Environment and Forests, Government of India

**Fig: 4.2: Comparative release in different plans under Project Tiger**





**Table 4.12: Amount released in different Plans under the Project Elephant**

Plan Year	Amount Released (Rupees in crore)
9th Plan (1997-2002)	30.48
10th Plan (2002-2007)	63.83
11th Plan	
2007-08	16.76
2008-09	21.48
2009-10	21.16
2010-11	22.48
<b>Total</b> 4yrs	<b>81.88</b>

The annual allocation of fund is about Rs 20 crore.

*Source:* Ministry of Environment and Forests, Government of India

**Table 4.13: Year-wise outlay and expenditure during 10th Five year plan, Integrated Forest Protection Scheme**

Year	Approved budget	Released/Expenditure (Rupees in crore)
2002-03	65.00	46.60
2003-04	66.00	25.40
2004-05	100.00	54.53
2005-06	Nil	33.42
2006-07	71.65	48.64
<b>Total</b>	<b>302.65</b>	<b>208.59</b>

*Source:* Ministry of Environment and Forests, Government of India

**Table 4.14: Year-wise expenditure during 11th Five year plan, Intensification of Forest Development Scheme**

Year	Expenditure (Rupees in crore)
2007-08	67.78
2008-09	75.57
2009-10	67.82
2010-11	80.26
2011-12 (proposed outlay)	183.65
<b>Total</b>	<b>475.08</b>

*Source:* Ministry of Environment and Forests, Government of India