

STATUS REPORT ON ORANG WILDLIFE SANCTUARY
ASSAM FOREST DEPARTMENT

1. INTRODUCTION

1.1. BACKGROUND

The Orang Wildlife Sanctuary is located within the geographical limits of 92° 16' E to 92° 27' E longitude and 26° 29' N to 26° 40' N latitude. The sanctuary falls under two civil districts viz. Darrang and Sonitpur, State of Assam, on the northern bank of the Brahmaputra Rver.

The Orang Wildlife Sanctuary can be approached from NH 52 through gravel roads running from Orang town and Dhansiri Mukh. It is 65 kms (approx.) from Tezpur town and about 120 kms from Guwahati City.

1.2. PAST HISTORY

The area was previously an abandoned village where 26 manmade ponds still exist. Some of the areas were covered with various species of grasses, which invited some wildlife and for conservation and protection of these wildlife in this area, the area was declared as "Orang Game Reserve" covering an area of 8054.0 hectare, vide O. No. 2276 / R, dtd, 31.05.1951.

During 1931, an area of 1729.0 hectare had been de-reserved from the Northern side of the reserve to settle farmers under the grow more food campaign- vide O. -No. 3378/R, Dtd. 30.11.1931. Again, an area of 873.0 hectare had been added to the Game Reserve as 1st addition on 18.06.1969. Thus total area of the Game Reserve came to an area of 71.98 km².

i.e. =	a. No. 2276/R, Dtd. 31.05.1915	-	80.54 km ²
	b. No. 3378/R, Dtd. 39.11.1931	-	17.29 km ²
	(De-reserved):		
	c. 1st addition, Dtd 18.06.1969	(+)	8.73 km ²
	Total	=	71.98 km²

Later, during 1985 covering an area of 75.60 km² was notified as Wildlife Sanctuary 'vide Govt. notification - Frs.133 / 85 / 5, Dtd. 20th September, 1985. Again, during Feb / 90 an area of 320 hectare had been included into the sanctuary in the western boundary.

As a part of the afforestation programme during 1960-62, Orang Game Reserve was taken up by afforestation Division and from 1962 to 1965 a total area of 1328.03 hectare of the game reserve was planted species like *Gmelima arborea*, *Albezia procera*, *Lagerstromea flosreganae*, *Bombax ceiba*, *Dalbergia sissoo*, *Terminalia myriocarpa*, *Acacia catechu*, *Antyhirocephalus cadamba*, *Tectona grandis*, *Eucalyptus spp*, *Mischelia champaca* etc. Due to presence of additional staff engaged for planting works, led to better surveillance of the area indirectly resulted a better protection of wildlife, specially the precious Great Indian One-horned Rhinoceros, in other wildlife. Attempts to raise further plantation were ultimately given up in 1965 and completely dedicated to the cause of wildlife conservation and managed as wildlife sanctuary. The Orang Game Reserve Sanctuary was managed under the project tiger as an auxiliary reserve area from 1972 to 1981.

2. SURROUNDING AND THE STATUS OF BOUNDARY

The northern boundary runs along the de-reserved portion done during 1931 and is now in the form of a forest road up to Borsola crossing the Panchnoi River. The southern and eastern boundaries comprises the channels, and islands of the Brahmaputra River. The western boundary is also an artificial boundary demarcated by a trench from the villages.

The villages surround the entire area almost from its all sides. Even in the southern also, the islands of the Brahmaputra River are now inhabited by human habitation and the sanctuary is under constant biotic pressures.

3. GEOLOGY ROCK AND SOIL

The area comprised of alluvial flood plains of the Brahmaputra river. Two distinct alluvial terraces, the lower portion of mere recent origin along the river Brahmaputra and older upper portion to its North are separated by a high bank transgressing the sanctuary from East to West.

4. CONFIGURATION

The sanctuary on the whole is a flat land. The terrain is gentle slope from North to South. The altitude is 45 to 70 mt above MSL.

5. CLIMATE

The area enjoys typical subtropical monsoon climate. The major precipitation being during the period from May to September. The average rainfall is approximately 2000 mm. The temperature varies from 7° C to 35° C. The relative humidity ranges between 60% to 90%.

6. DRAINAGE

Both the Dhansiri and Pachnoi Rivers originate from the Bhutan hills and flow by the side and through the sanctuary respectively. The area is dotted by a number of abandoned course of river (channels) and artificial ponds.

7. FLOOD

The Orang Wildlife Sanctuary experiences annual flooding as the area is being situated in the flood basin of the Brahmaputra River. The higher northern terrace remains free from floods. The flush flood caused by the Dhansiri and Pachnoi Rivers causes damage to the higher layer of the area. The effect of flood in Orang is not much due to the northern higher terrace, as a result of no death to rhinos has so far been reported due to flood in the area. The Brahmaputra and the Dhansiri Rivers are eroding the southern as well as western parts of the area every year, which is one of the threat to the sanctuary.

8. VEGETATION TYPE

The vegetation of Orang Wildlife Sanctuary is basically 1) Eastern Wet Alluvial Grass Lands - 4d /2.5.2 (Chapman and Seth) and 2) Man-made Deciduous Forests.

9. FLORA AND FAUNA

9.1 FLORA AND VEGETATION COVERAGE

Table 1. Vegetation cover of Orang Wildlife Sanctuary

Habitat	Area in km ² (Approx.)
1. Thatch area	13.62
2. <i>Arundo donax</i> and <i>Erianthus revenae</i> area	12.98
3. Wetland area	09.53
4. Pure Forest area	14.27
5. Natural area	09.98
6. Plantation area	09.38
7. Brahmaputra char area	09.04
Total	78.8

The details of vegetation cover are as shown in table no. 1. From the table it is seen thatch and grasses cover major portion of the sanctuary. In the grasslands several tree species are occasionally found. The common grasses are *Saccharum spp.*, *Imperata cylindrica*, *Themeda arundinae*, *Fragmities kakra*, *Erianthus ravanae* etc. In fresh alluvial deposit areas, the *Saccharum spp.* dominated with *Tamarix dioca* and colonizer. A little further away, association of *Erianthus ravanae*. *Saccharum spp.*, *Arundo donax* is seen. The shorter grasses, *Imperata cylindrica* predominate along the banks of Dhansiri and Pachnoi.

Along the edges of water bodies, on the seasonally inundated area contain shorter grasses like *Cynodon dactylon*, *Hemarthia compressa*, such grass land areas are favorite foraging sites for herbivores.

The Water bodies support a variety of aquatic vegetation, some of which are predominated by water hyacinth. Other species seen in these areas are *Andropogon spp.*, *Ipomea spp.*, *Enhydra fluctuans*, *Pistia spp.*, *Lemna spp.*, *Nymphaea spp.* etc. The main waterbeds of the higher terrace contain *Nelumbo spp.*

In addition to plantations, woodlands are mostly confined to the high land only. There are few natural patches of miscellaneous formation containing mainly *Acacia catechu*, *Bombax ceiba*, *Albezzia procera*, *Trewa nudifera*, *Biscofia javanica*. *Dalbergia sissoo* etc.

9.2 FAUNA

The Great Indian One-horned Rhinoceros *Rhinoceros unicornis* is the dominant species of the Sanctuary. The other species sharing the habitat are Royal Bengal Tiger (*Panthera tigris*), Asiatic Elephant (*Elephas maximus*), Hog Deer (*Axis porcinus*), Wild Boar (*Sus scrofa*) etc. Besides these there are other small mammals like Civet cats, Leopard Cat, Hare, Porcupine etc.

There is no full-fledged survey of the genetical resources with regards to the fish fauna. However, common fishes available in the sanctuary are *Labeo rohita*, *Labeo bata*, *Labeo nandina*, *Heteropneustes fossilis*, *Calisa faciatus*, *Clarius batracus*, *Channa striatus*, *Channa punctatus*, *Channa marulius*, *Catla catla*, *Pmhipnous cushia*, *Mystus seenghala*, *Mistus vittatus*, *Notopterus notopterus*. *Ompok pabo*, *Wallago attu* etc.

Among the reptiles, *Lissemys punctata*, Genus *Python*, *Kachuga tecta*, *Ophiophaqua hanna* is common.

The Orang Wildlife sanctuary is also rich in butterflies and honeybees. among the butterflies available are *Danus crysippus*, *Danus limniace*, *Danus plexippus*, *Badamia exclamation*, *Coprana ransemnsti*, *Harsora chromas*, *Pamara mathis*, *Amblypodia anita*, *Castalius resimen*, *Euchryseps cnvusy* *Jamides colene*, *Lampides beaticus*, *Syntarucus plinius*, *Virachola isocretes*, *Zizeeria maha*, *Zizina otis*, *Acraea vesta*, *Acraea tersicora*, *Ariande ariadne*, *Cethosia biblis*, *Charaxes bernardus*, *Charaxes solon*, *Euthalia garuda* etc. Among the honey bees *Apis dorsata*, *Apis cerna*, *Maffia spp.* are available (study required).

The Orang Wildlife Sanctuary is also rich in avifauna. There is a breeding colony of spot bill pelican, called -"Bhelajar". According to the BNHS, after Manas National Park, Orang Wildlife Sanctuary is the most important habitats of Bengal Florican in Assam. Estimated population is 30 - 40 nos. Regarding other species of birds in the sanctuary, a checklist has been prepared by Sri B. N. Talukdar, and Sri P. Sarma.

10. ANIMAL CENSUS

The first-ever detailed census in Orang Sanctuary was conducted during 1985 covering an area of about 61.70 km². A total of 65 rhinos were counted in the area which are shown below:

RESULTS OF THE 1985 RHINO CENSUS

Adult			Sub-adult			Total
M	F	U/S	M	F	U/S	
23	23		7	2	10	65

Another detailed census in Orang Wildlife Sanctuary was carried out during 1991 covering an area of about 80 sq. km. including the islands of the Brahmaputra River. The Sanctuary was divided into 20 census blocks and counted the number of rhinos. The result are shown as below:

RESULTS OF THE 1991 RHINO CENSUS

Adult			Sub-adult			Total
M	F	U/S	M	F	U/S	
28	41	5	7	14	8	98

The Other mammals counted during the 1991 census are :

1	Hog deer	897
2	Wild boar	421
3	Royal Bengal Tiger (sighted)	9
4	Asiatic Elephant	5

And 8 Bengal Floricans were sighted during census. During the year 1997 tiger census was carried out and the estimated population is 28 (not declared).

11. ADMINISTRATIVE SET UP

The Chief Conservator of Forest cum Chief Wildlife Warden heads the Wildlife organization of the state of Assam. All matters relating to the policy, planning and budget etc. looked after by him, and his office is at Guwahati.

The Orang Wildlife Sanctuary is under the Mangaldoi Wildlife Division, with the headquarters at Mangaldoi. The actual extension of works in the field, supervision of patrolling duties, etc., are carried out by the Range Officer, Orang Wildlife Sanctuary. Whose office is at Silbori, inside the Sanctuary. At present there are staff of different categories in the control of Range Officer who are engaged for field works like supervision of developmental works, anti-poaching, anti-depredation and other official

works. Forest Staff of Orang Wildlife Sanctuary under different categories are shown in the table below.

12. PATROLLING ROADS AND PATHS

During winter season all camps of Orang Wildlife Sanctuary can be approached by jeep or light vehicle. A total of 90 kms (Approx.) Jeepable roads are available in the sanctuary which gives a good network for supervision of the sanctuary.

Sl. No.	Categories of Staff	Number
1	Ranger	1
2	Dy. Ranger	1
3	Forester-I	3
4	Forester-II	1
5	Forest Guard	16
6	Game Watcher	5
7	Boat Man	10
8	Mahout	10
9	Grass Cutter	4
10	Driver	2

13. ANTI-POACHING CAMPS

The Sanctuary has an established network of anti-poaching camps spreading all over the sanctuary. Altogether there are 21 such camps spreading over the area which give effective protection from the poachers. Most of the anti-poaching camps are temporary thatch huts. More camps are required for effective anti-poaching and anti-encroachment drive. The mortality of rhinos in Orang since 1980 is shown below

14. WIRELESS COMMUNICATION NETWORK

The Orang Wildlife Sanctuary has good network of wireless communication. There are two (2) Fixed station and fifteen (15) walkie-talkie in the sanctuary. Of course the wireless network, will have to be improved further in near future, which is very important from communication point of view.

Year	Natural Death	Death Due to Poaching	Total
1980	2	3	5
1981	3	2	5
1982	8	5	13
1983	9	4	13
1984	7	3	10
1985	1	8	9
1986	1	3	4
1987	3	4	7
1988	2	5	7
1989	3	3	6
1990	1	0	1
1991	2	1	3
1992	3	2	5
1993	2	1	3
1994	4	6	10
1995	8	9	17
1996	4	10	14
1997	3	11	14
1998	3	12	15

15. ARMS AND AMMUNITION

The staff of Orang wildlife Sanctuary is equipped with ".315" rifles and shot guns. There are four (4) SBBL gun, two (2) DBBL gun and sixteen (16) .315 rifle in the sanctuary. More improvement is required for effective protection of rhinos, tigers and other precious wildlife of the sanctuary by acquiring more numbers of arms and ammunition.

16. VEHICLES

There are two light vehicles in Orang WLS for discharging patrolling duties and other works of the sanctuary. Some more vehicles are required for carrying out effective patrolling duties and other developmental works.

17. BOATS

Boats are required for patrolling duties carrying ration and anti-poaching staff posted in remote places specially during flood season. Only few camps are equipped with country boats. There are two (2) OBM and nine (9) country boats for patrolling. Some faster moving motor boats are required for apprehending smugglers who come to the sanctuary through rivers and *nallahs* specially during the flood period.

18. ELEPHANTS

There are 21 elephants including out of which 12 matured individuals are working while the rest are calf. The working elephants are used patrolling duties and carrying rations for anti-poaching staff posted in the remote areas of the sanctuary.

19. FINANCIAL INPUT

The fund flow from the year 1989-90 to 1993-94 is summarised below which has been categorised as plan schemes and non plan schemes.

Year	Name of Schemes	Plan Scheme	Non-Plan	Total
1989-90	Rhino Conservation Scheme (Centrally Sponsored Scheme)	7,76,000.00	-	7,76,000.00
	Other Wildlife Area	-	-	
1990-91	Rhino Conservation Scheme (CSS)	13,04,000.00	-	19,47,000.00
	Other Wildlife Area	6,43,000.00	-	
1991-92	Rhino Conservation Scheme (CSS)	9,18,000.00		29,79,000.00
	Other Wildlife Area	6,36,000.00	14,25,000.00	
1992-93	Rhino Conservation Scheme (CSS)	6,93,000.00		29,79,000.00
	Other Wildlife Area	4,20,000.00	16,30,000.00	
1993-94	Protected Areas	5,96,000.00		31,78,000.00
	Other Wildlife Area	7,02,000.00	18,80,000.00	

The fund flow from the year 1994-95 to 1997-98 is summarized below which has been categorized as plan schemes and non plan schemes.

Year/Heads	Pay	Wages	Other	Total
1994/95				
Non-Plan	14,10,021.00	30,679.00	1,71,800.00	16,12,500.00
R.C.S.	5,13,730.00	0	0	5,13,730.00
Other WL area/PA	0	2,59,302.00	5,26,989.00	7,86,291.00
1995/96				
Non-Plan	11,69,320.00	1,20,034.00	2,49,958.00	15,39,312.00
R.C.S.	7,42,433.00	0	0	7,42,433.00
Other WL area/PA	0	2,57,740.00	1,63,008.00	4,20,748.00
1996/97				
Non-Plan	18,12,220.00	36,018.00	2,52,730.28	21,01,562.00
R.C.S.	5,30,839.00	0	0	5,30,839.00
Other WL area/PA	0	34,018.00	3,75,380.00	4,09,398.72
1997/98				
Non-Plan	18,73,686.00	1,65,111.35	2,08,367.00	22,47,164.30
R.C.S.	4,68,646.00	0	0	4,68,646.00
Other WL area/PA	42,944.00	6,14,668.00	0	6,57,612.00

19. CONCLUSION

The protection measures in Orang have to be improved further and it has been realised that the sanctuary needs more forest staff, arms and ammunition and other infra-structure to enhance anti-poaching initiatives. Poaching of rhinos and encroachment are the main threats to the sanctuary at present. Some Non-Governmental Organizations (NGOs) namely Rhino Foundation and Aranyak Nature Club of Guwahati, Green Society of Mangoldoi are helping the department in various ways to enhance conservation of flora and fauna in Orang.

The Orang has been already finally notified as Orang Wildlife Sanctuary in the year 1998 vide Govt. Notification No. FRW.28/90/116, dtd 17/3/98. To conserve and protect the important and endangered species, both flora and fauna, specifically the rhinos and tigers, a proposal has been submitted to the Govt. of Assam to declare Orang as a National Park to upgrade the conservation measures. The proposal is under consideration of the state government.

