

**AN OVERVIEW - ITS PERSPECTIVE MANAGEMENT STRATEGIES AND INITIATIVES FOR WILDLIFE PROTECTED AREAS (PAs) IN SIKKIM.**

**1. OVERVIEW**

- The term wildlife encompasses all uncultivated flora and undomesticated fauna. Every species has the right to live and every threatened species must be protected to prevent extinction.
- Water, wilderness and wildlife are irrevocably interlinked. With mounting industrial and demographic pressures, wilderness areas, which are the richest repositories of wildlife and biodiversity have either shrunk or disappeared their continued existence is crucial for the long term survival of the biodiversity and the ecosystems supporting them.
- Effective ecosystem conservation is the foundation of long-term ecological and economic stability. Conservation of biodiversity is directly linked with conservation of ecosystems and thus with water and food security.
- Habitat loss caused by developmental infrastructural developmental projects for short term economic gains undermining ecological security.

**2. PERSPECTIVE MANAGEMENT STRATEGIES**

The Department of Forest, Environment & Wildlife Management in the state has been adopting and implementing following strategies for smooth and effective management of Protected Areas ie Sanctuaries and National Parks which are oriented towards protection, conservation and preservation of pristine flora and unique Himalayan fauna in the state.

**( i).Strengthening and Enhancing the Protected Areas Network.**

There are 8 (Eight) PAs comprising of 7 (seven) Sanctuaries and 1 (one) National Park. Efforts have been made to increase the extents of PAs in the state to strengthen and enhance the biodiversity as the main strategy for conservation and protection of most of the rare and threatened wildlife species and biodiversity in the state. Proposal for creation of inviolate areas within the sanctuary under Critical Wildlife Habitats had been selected and submitted in the ministry and will be authenticated after the through scientific study.

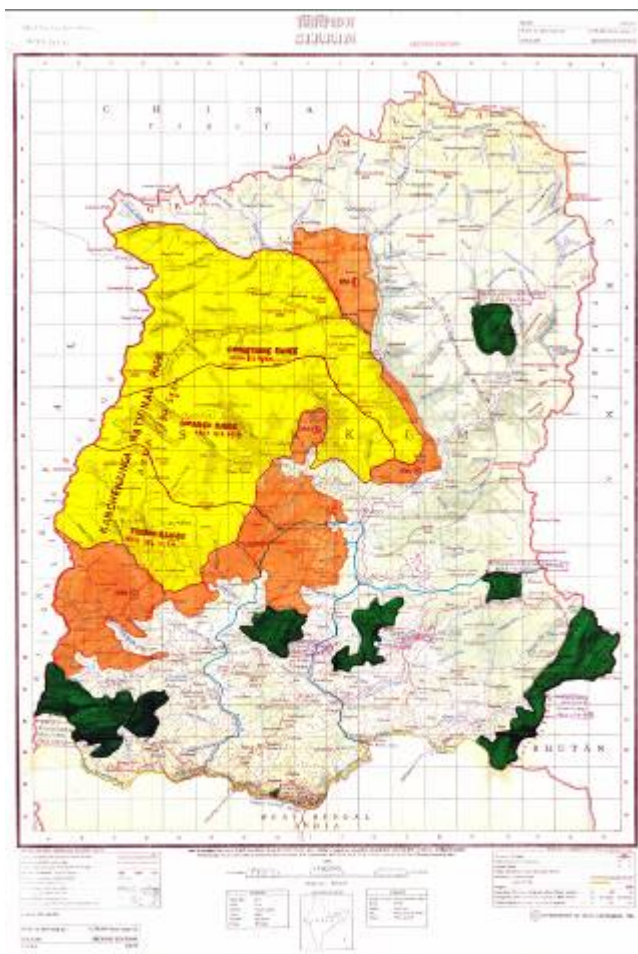
**MAP OF PROTECTED AREAS**



State flower  
Nobile Orchid  
(*Dendrobium nobile*)



State Animal  
Red Panda  
(*Ailurus fulgens*)



State Tree  
R.arboreum ( *campbellii*)



State Bird  
Blood Pheasant  
*Ithaginis cruentus*

## SIKKIM: WILDLIFE PROTECTED AREAS

SN	Name	Area (sq. km)	District	Bio-geographic Province	Altitude (m)	Notification No. & Date	Co-ordinates	
							Long	Lat
1	Barsey Rhododendron Sanctuary	104.00	West	2 C	2110 - 4100	50/WL/F/95/269 /F & WL dt: 08.06.96	88° 02' to 88° 11'	27° 10' to 27° 13'
2	Fambonglho Wildlife Sanctuary	51.76	East	2 C	1524 - 2749	34/WL/82 dt: 02.04.84	88° 29' to 88° 35'	27° 10' to 27° 23'
3	Kyongnosla Alpine Sanctuary	31.00	East	2 C	3292 - 4116	45/WL/83/625 dt: 29.08.84 Extended vide 45/WL/F/92/158 5/F & WL dt: 05.12.1992	88° 44' to 88° 45'	27° 22' to 27° 24'
4	Maenam Wildlife Sanctuary	35.34	South	2 C	2000 - 3263	63/WL//F/86 dt: 09.03.87	88° 21' to 88° 25'	27° 21' to 27° 25'
5	Pangolakha Wildlife Sanctuary	128.00	East	2 C	1760 - 4390	26/WL/F/89 dt: 07.11.00	88° 35' to 88° 51'	27° 09' to 27° 22'
6	Shingba Rhododendron Sanctuary	43.00	North	2 C	3048 - 4575	46/WL/F/92/158 5/F&WL dt: 05.12.92	88° 43' to 88° 46'	27° 43' to 27° 48'
7	Khangchendzonga National Park	1784.00	North/ West	1 B & 2 C	1400 - 8598	95/KNP dt: 26.08.07	88° 03' to 88° 39'	27° 27' to 27° 53'
8	Kitam Bird Sanctuary	6.00			320 - 875	39/FEWM/2005 dt: 03.02.05	88° 20' to 88° 22'	27° 06' to 27° 07'
	<b>Total area (A)</b>	<b>2183.10</b>		-	-	-	-	-
9	KNP Buffer zone	836.00	North/ West	-	-	-	-	-
10	Khangchendzonga Biosphere Reserve (KNP+Buffer =1784+836)	2620.00	North/ West	1 B & 2 C	2725 - 5537	1/KNP/WL/27 dt: 17.05.1997	88° 27' to 88° 33'	27° 33' to 27° 40'
11	Total Geographic area (Sikkim)	7096.00	-	-	-	-	-	-

- Note:
- Protected Area Network does not include area under buffer zone of a biosphere reserve
  - Total area admn by FEWM Deptt (RF i/c PAs) + Khasmals+Gaucharan =5452+285+104=5841 Sq km)
  - Territorial Sector [RF + Khasmals + Gaucharan = 3268.90 + 285 +104 = 3657.90 Sq. km] i.e. 51.55% of State's Geog area
  - Wildlife Sector [ KNP + Sanctuaries = 2183.10 Sq. km] i.e. 30.77 % of State's Geog Area.

### *( ii ) Effective Management of Protected Areas:*

The maximum efforts have been made for effective management of PAs in the state by adopting suitable management techniques based on scientific and ecological data viz:

- Improvement of degraded habitat by suitable management practices under CSS scheme.
- Restriction of thoroughfare in core zone and development of eco-tourism including trekking by the adventure tourists only in buffer areas.
- Control of forest fire, grazing, disease, poaching and trade of wildlife and its derivatives.
- Intensive management through organization of anti-poaching activities, trap demolition and patrolling by the wildlife officials with the active participation of Eco-Development Committees.
- Intensive measures have been taken up for mitigation of man-animal conflicts in and around the PAs
- Scientific and ecologically sound management plans for all PAs are in the final stages of preparation.

### *( iii ) Conservation of Wildlife and Endangered Species and their Habitats:*

- The conservation of Wildlife and Endangered Species and their habitats has been proposed to be initiated in all PAs in the state by way of conducting status surveys of all endangered species covering all groups of rare and threatened species of flora and fauna. The logistic

and financial resources from the Ministry GOI are required for conducting such studies. Inviolable areas for such species have also been proposed and identified within the PAs to declare them as CWLH for intensive protection and conservation of rare and threatened species. The field survey and study of Red Panda habitats and its population in all PAs has been taken up in the state in close coordination of WWF-India, Sikkim.

- There is a dire need of developing capabilities for planned *ex-situ* conservation such as captive breeding of Red Panda, Musk Deer and Snow Leopard in accordance with IUCN guidelines.
- Need to strengthen the techniques of capture, translocation by tranquilization of displaced and problem herbivores considering the growing trend of crop depredation by wild boar, porcupine, barking deer, monkeys and occasionally Himalayan Black Bear.

#### **( iv) Restoration of Degraded habitats outside Protected Areas:**

- Habitat improvement within the PAs has been taken up under the fund provided under 100 % CSS.
- There is a dire need to develop, restore and manage degraded habitats outside PAs vital for spatial movement of spill-over animal population and requirement of basic biological resources of fringe forest dwellers living in around the PAs.
- Need to identify and develop degraded habitats around each PAs and in potential 'Wildlife corridors'. Fund for implementation of such schemes has been provided by the Ministry, GOI.

#### **( v) Control of Poaching and Illegal Trade in Wild Animal and Plant Species:**

Efforts have been made by the department for effective prevention of poaching and illegal wildlife trade in the state by conducting intensive patrolling, surveillance, and vigilance by the territorial and wildlife officials with the help of EDCs. But the manpower resource is poor due to shortage of frontline staff which needs to be addressed during the meeting for special Wildlife Crime Cell and enforcement agencies for combating such activities to be funded under CSS.

- Efforts have been made for providing adequate professional skills in prosecution matters related to wildlife offences for the frontline staff.
- Efforts have been made for requisite information and database on wildlife offences to devise suitable strategies to combat wildlife crime and detection .
- Maximum efforts have been made to secure and prohibit smuggling of wildlife along the International borders by setting up check post and patrolling by wildlife and territorial staff.
- The wildlife personnel must have a status at par with the police in the use of weapons and the equipment to enable them to combat the poaching and illicit trade effectively. Secret Fund is to be provided for intelligence gathering in cases of illegal trade of animals and their derivatives.

#### **( v) Monitoring and Research**

- Survey and studies of wildlife population are being carried out for preparation of Management Plans, but field efforts are hampered due to lack of proper field equipments for tracking/monitoring/documentation due to paucity of funds for the purpose.
- Other issues like research and regular, long-term monitoring using reasonably sophisticated field equipments needs to be strengthened.

#### **( vi) Human Resource Development and Personnel Planning :**

- Efforts have been made for posting of wildlife trained and skilled manpower for better management of Protected Area and its habitat. Maximum people participation using EDCs, Panchayats, Pokhari Sanrakshan Samitis and communities has been ensured for planning and management of PAs in the state.
- The department is deputing ACFs and Range Officers for training every year for Diploma and Certificate courses to Wild Life Institute of India, Dehradun to ensure better management of wildlife within and outside PAs as well.

***( vi) Ensuring Peoples' Support & Participation in Wildlife Conservations.***

- Initiated orientation programmes for PA staff, local youth, panchayats, and EDC members and Para-military forces in close co-ordination with WWF-India, Sikkim for developing local capacities to implement developmental activities by the local communities and EDCs around PAs.
- Developed guidelines and passed resolution for EDCs for effective implementation of programme and protection and conservation of PAs.
- Employment opportunities are provided to the local communities for various protection measures and conservation works such as fire protection, improvement of habitats, water holes, distillation of wet lands etc.

***( vii) Conservation Education and Protected Area Interpretation.***

- Time to time capacity building programme has been organized for different level of frontline staff and target groups like para-military forces, BRTF, EDCs member, local youth to educate them on wildlife conservation, illegal trade of animals and trade in derivatives.
- Prepared and developed wildlife conservation brochures and leaflets both in English and local languages highlighting the needs of conservation , role of forest and wildlife resources in the environment

***( viii) Tourism in Protected Areas***

- Eco-tourism in PAs and outside PAs as well are fast growing in the state to inculcate in visitors an empathy for nature, both animate and inanimate and to provide a communion with nature rather than to merely ensure sightings wild animals.
- Necessary strict guidelines and rules for protection and conservation of the natural resources, waste disposal have been laid down and implemented for tourism in PAs. Trekking rules have also been extended and implemented for adventure tourism to prevent bio-piracy and other illegal activities by the tourists and visitors.
- Local Tourism Development Committees by involving local stakeholders and members of the Eco-Developments have been constituted for formulation of environment friendly eco-tourism implementation, regular monitoring the impacts , ecological effects on wildlife habitats.
- All the development and promotion if eco-tourism projects within and outside the PAs have been prescribed in the wildlife Management Plan and implemented by the Forest Department in close coordination of Tourism Dept and local tourism development committee. .
- Time to time capacity building programme for tour operators, local stake holders for bringing awareness to them for rules and regulations governing eco-tourism are emphasized.

***( ix) Domestic Legislation and International Conventions:***

- The management of PAs, conservation of floral and faunal bio-diversity, protection of existing fauna-avifauna etc have been done under the strict provision of Wildlife (Protection) Act, 1972 and other Acts related with the environment.
- Time to time review of the Acts is required at the Centre with a view to make them more oriented and relevant to the realities of the present day which is imperative while rules in various issues related to environment and wildlife should be prepared in consultation with the states

***( x) Enhancing Financial Allocations for Ensuring Sustained Fund Flow To the Wildlife Sector.***

- The fund provided by the ministry under CSS is not sufficient for effective management of PAs specially for infrastructure like Office and residential quarter of the frontline staff.
- There are growing trends of crop depredation by the wild animals like Wild boar, porcupine, barking deer, monkeys even some cases by Himalayan Black Bear Fund for provisions for procurement of tranquilizer Gun and drugs are inadequate and this sector needs to strengthened in order to capture and translocation of displaced animals and release in suitable habitats.

- Funds are inadequate for filling up vacancies and creating new posts in wildlife sector especially for combat forces in area facing severe poaching, check post guards and sufficient equipments.
- Special provision of fund needs to be provided for restoration and improvement of habitats in outside PAs and animal corridor .

**( xi) Integration of National Wildlife Action Plan with Other Sectoral Programme.**

- Integration of various Central and State Government schemes have to be made for development of areas outside PAs

**3. Progress Report of the Implementation of the Management Plan of PAs.**

The preparation of Management Plan for all PAs in the state has been completed. The inordinate delays are due to difficulty in procuring relevant maps as most of Sikkim falls under Restricted Area and Protected Area, under the custody of the military. So far correspondence is being pursued with the SOI for procuring the maps. The Management Plan has been prepared on the basis of the guidelines issued by the ministry.

**4. Man and animal conflicts:**

The state is rich in floral and faunal diversity. There is no distinct population of tiger and other super predators except Snow Leopard in the alpine habitats. But there is scattered population of common leopard (*Panthera pardus*) and occasional predation of domestic livestock. Low density of large predators seems to indicate thriving and abundant population of prey species like Wild boar (*Sus scrofa*), porcupines (*Hystrix indica*), Macaques (*Macaca assamensis*) which have been reportedly raiding the standing agricultural and horticultural crops in the fringe villages causing damages to public property.

The threat of Himalayan Black Bear (*Selenarctos thibetanus*) in many fringe villages is quite serious with considerable destruction of cardamom and maize crops in some areas. In some cases killing and preying on poultry, domestic bee-hives, and domestic pigs by the bear are reported.

The conflicts of domestic livestock with wild ungulates are reduced to minimum due to ban on grazing in Reserve Forests for last ten years resulting into low mortality, restriction in hunting and increase in welfare factors like resting, breeding and feeding grounds, leading to considerable increase in wildlife population .The Department has conducted detailed survey of the different location and area where the agriculture crop of the fringe villagers have been damaged by wild animals during 2008-09.

The state Government has issued notification for scheduled rate for crop compensation and granted Rs.15.50 lakhs ex -gratia/relief to the affected families through crop assessment committee. in different parts of the state.

**Determination of Critical Wildlife Habitat:**

The Department has identified inviolate areas within the Wildlife Protected Areas and proposed to declare them as Critical Wildlife Habitats (CWLH). These areas needs to validated by scientifically backed investigations with strong logistic and financial resources for conducting such studies from the Ministry, GOI. The State Government has constituted State Level Committee as per the directives issued by the ministry vide letter No. D.O. No.1-39/2007-WL-I (Pt) dated 30<sup>th</sup> August, 2007

### *Other initiatives*

- ❖ Introduced participatory management of PAs involving active people participation of through Eco-Development Committees ( EDCs)
- ❖ Declaration of “Sling-Dong Fairreanum Conservation Reserve at Upper and Lower Tinkitam, Omchu, Sanganath and Nardang, South Sikkim vide notification no. 24/CWLW/GoS/FEWMD/308/WLC/08 dated 05.11.2008.
- ❖ Construction of Sidkeong Tulku Bird Park at Rabdentse, West Sikkim covering an area of 18.85 Hectares at a total cost of Rs. 6,52,59000.00 (Rupees six crores fifty two lakhs fifty nine thousand) only.
- ❖ Construction of Butterfly Park at Rangrang, North Sikkim covering an area of 26.5 Hectares at a total cost of Rs. 1,24,42,000.00 (Rupees one crores twenty four lakhs forty two thousand) only under the scheme Wildlife Management Plan under Teesta Stage -V- NHPC.

### **NUMBER OF WILDLIFE OFFENCES CONVICTED AND PENDING IN THE COURT**

<b>Sl. no.</b>	<b>Year</b>	<b>No. of cases</b>	<b>Compounded</b>	<b>Settled through court</b>	<b>Pending</b>
1	<b>2003-04</b>	3	2	0	1
2	<b>2004-05</b>	3	0	3	0
3	<b>2005-06</b>	4	2	1	1
4	<b>2006-07</b>	3	0	3	0
5	<b>2007-08</b>	3	1	0	2
6	<b>2008-09</b>	4	0	0	4
<b>Total</b>		<b>20</b>	<b>5</b>	<b>7</b>	<b>8</b>