MANAGEMENT PLAN

OF

TRAL WILDLIFE SANCTUARY (2024-2034)

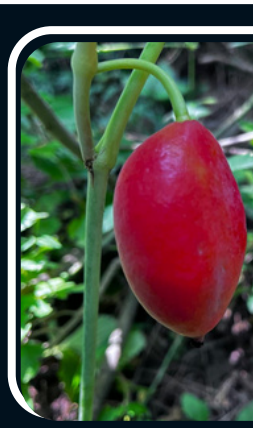




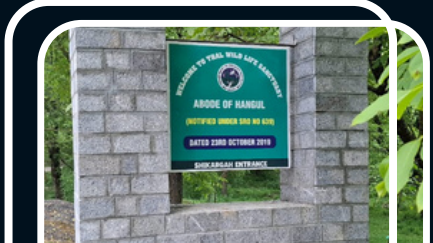












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CHAPTER 1

INTRODUCTION TO THE AREA

1.1 Name, location, constitution and area

1.1.1 Name and History of the Sanctuary

The Tral Wildlife Sanctuary is newly formed wildlife sanctuary which came into existence on 23 October 2019 through the government notification No. FST/WL/07/2018 (SRO-639) (Annexure I). The Tral Wildlife Sanctuary is named after the nearest historical town Tral that is one of the oldest and largest towns of Jammu and Kashmir. The wildlife sanctuary came in to existence by merging the Shikargah, Khangund and Khiram conservation reserves along with the five compartments of territorial forest areas of Awantipora Forest Division. Historically, the Shikargah (which in kashmiri means 'Hunting Reserve') and Khangund are having privilege of being one of the oldest protected areas of the country, which were used by the then Maharaja of Jammu and Kashmir for the Hunting purposes. Their notification dates back to 1945, when they were governed by the 'game laws' of the Maharajah of the erstwhile princely state of Jammu & Kashmir. Recently (2019) these Conservation Reserves along with the adjoining areas comprising of territorial forest compartments were upgraded to the status of Wildlife Sanctuary.

1.1.2 Location and accesses of the Tral Wildlife Sanctuary

The Tral Wildlife Sanctuary is located 45 Km to South – East to Srinagar the summer capital of the UT of Jammu and Kashmir. It falls in the Pir Panjal range of the Greater Himalayas and its latitude and longitude extends from 33°49 25.897 to 34° 06 35.809 North latitude and 75° 02 55.911 to 75° 14 00.051 East longitude. It falls within the civil jurisdiction of Pulwama and Anantanag district. The nearest airport is Sheikh – ul – Alam International Airport, Srinagar which is 50 Km away from the sanctuary, while the nearest railhead is Awantipora which lies at a distance of 15 Km from the wildlife sanctuary. Wildlife Warden Shopian Division administers the Sanctuary.

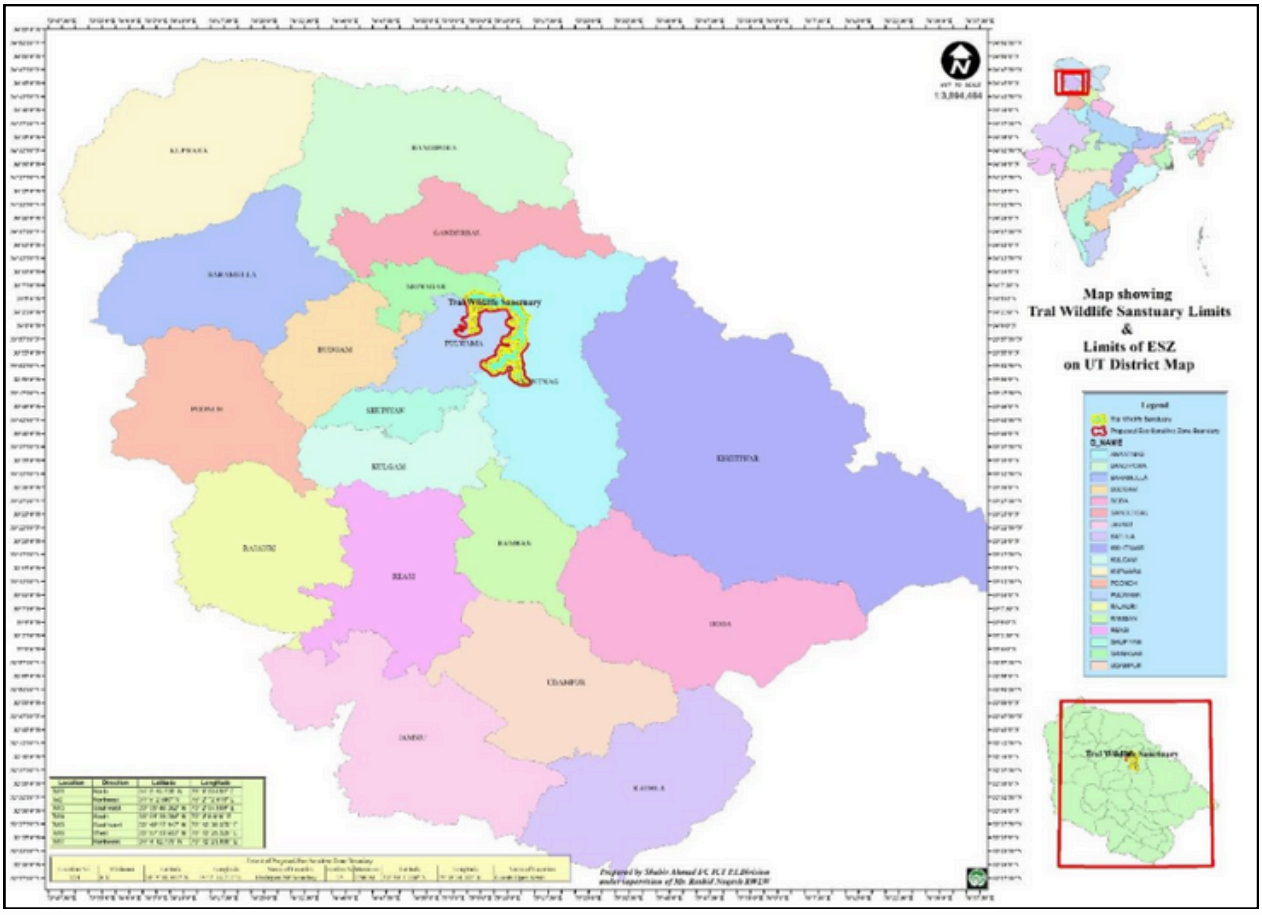
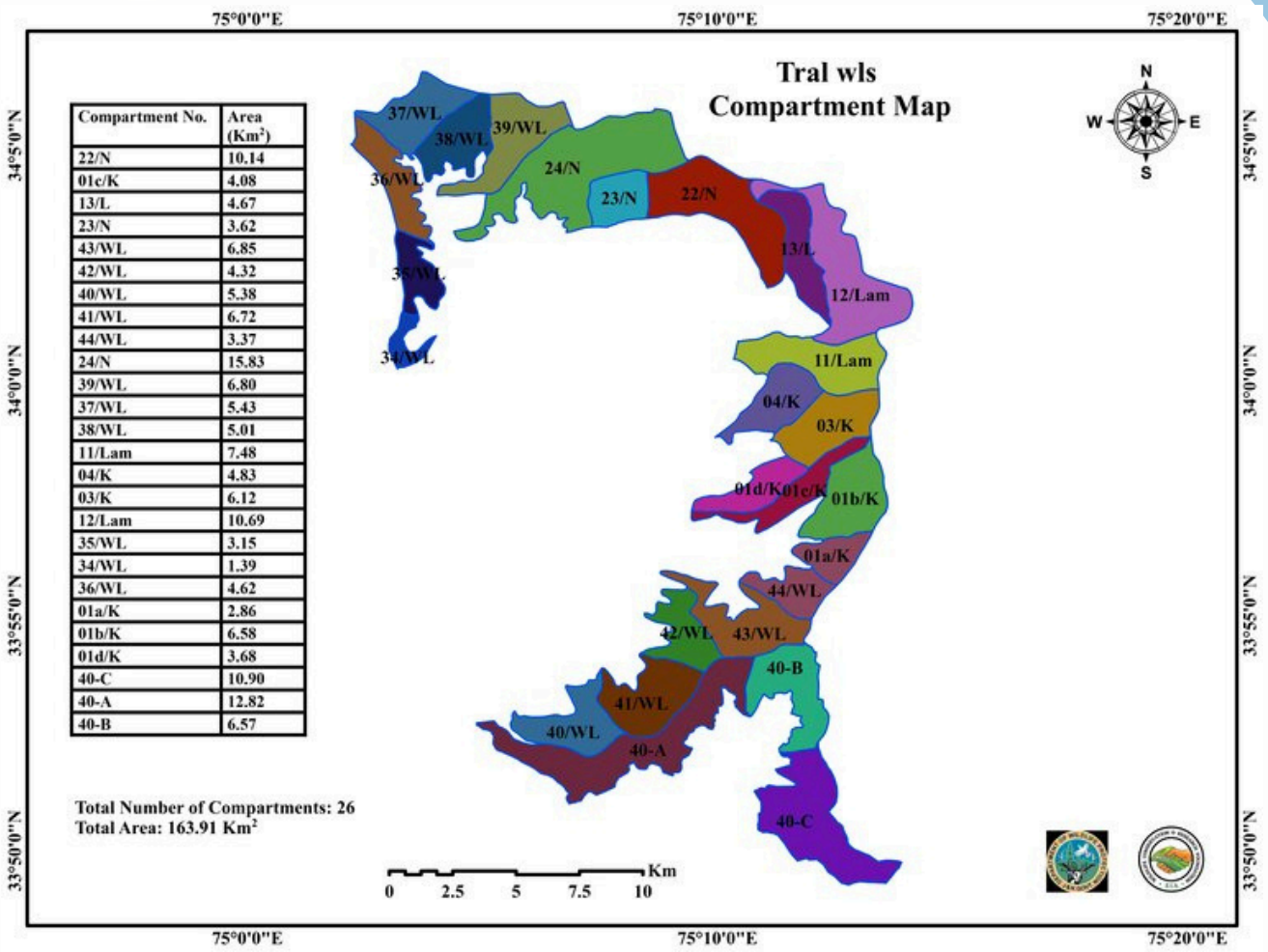


Plate 1 Location map of Tral Wildlife Sanctuary

1.1.3 Constitution of the Tral Wildlife Sanctuary

The areas of the Tral Wildlife sanctuary used to be the hunting reserve or 'Rakh' of the Maharaja of the erstwhile State of Jammu and Kashmir owing to rich diversity in the flora and fauna.

The Tral wildlife Sanctuary is latest addition to the vast network of the protected area network of Kashmir Valley. The sanctuary was constituted in 2019 through the government notification No. FST/WL/07/2018 (SRO-639, Annexure I) by merging Panyar–Shikargah, Khangund and Khiram Conservation Reserves and few compartments of Awantipora Forest Division. The Tral wild life sanctuary is having the distinction of harboring the relic Hangul population existing outside the Dachigam National Park. The declaration of the Tral Wildlife Sanctuary will be game changing scenario particularly for the "Critically Endangered" Hangul residing outside the Dachigam National Park, it will also ensure the sustainable conservation of the native and endemic flora and fauna of the UT of Jammu and Kashmir. The sanctuary will boost the conservation effort being employed for the conservation of Hangul by acting as buffer around the Dachigam National Park and Overa – Aru Wildlife Sanctuary leading to the suitable, secure and viable habitat for the last viable population of the Hangul.



Compartment No.	Area (Km²)
22/N	10.14
01c/K	4.08
13/L	4.67
23/N	3.62
43/WL	6.85
42/WL	4.32
40/WL	5.38
41/WL	6.72
44/WL	3.37
24/N	15.83
39/WL	6.80
37/WL	5.43
38/WL	5.01
11/Lam	7.48
04/K	4.83
03/K	6.12
12/Lam	10.69
35/WL	3.15
34/WL	1.39
36/WL	4.62
01a/K	2.86
01b/K	6.58
01d/K	3.68
40-C	10.90
40-A	12.82
40-B	6.57

Plate 2 Map showing Compartment boundary of the Tral Wildlife Sanctuary





Land scape Tral Wildlife Sanctuary (Autumn)

Name of the area	Area (Sq.Km)	Date of notification	Section Under Which Notified
Tral Wildlife Sanctuary	154.15	23th October, 2019 Vide No. FST/WL/07/2018 (SRO-639)	Section 18 of Wildlife Protection (Act), 1972 amended upto 2022

1.1.4 Area and Extent of the Sanctuary

The Tral Wildlife Sanctuary encompasses an area of 154. 15 sq Km . The current area of Wildlife sanctuary comprises of 19 compartments including 14 compartments of the Panyar – Shikargah and Khiram Conservation Reserves and 5 compartments added from the Territorial Forest of the Awantipora Forest Division.

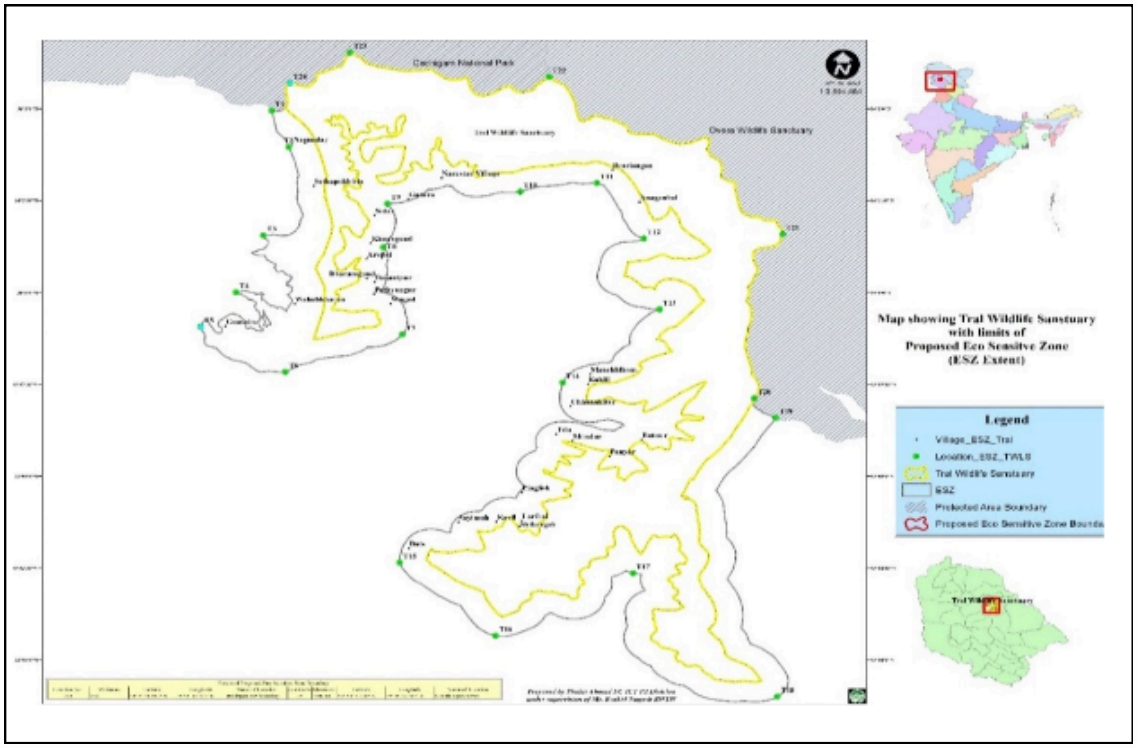


Plate 2 Map showing area and Extent of the Tral Wildlife Sanctuary

1.2 The Statement of Significance

The UT of Jammu and Kashmir has significance of having some of the unique and distinct forest areas, endemic and native flora and fauna, the glittering lakes and gushing streams of the Western Himalayas. A new gem has been added to the jewel of the protected area network of the Jammu and Kashmir on 23 October 2019 – **Tral Wildlife Sanctuary**. The Tral Wildlife Sanctuary is one of the areas having a special and unique charm because of its unspoiled landscape. The sanctuary is hilly, with forest – covered mountains, gurgling streams and meandering rivers. The Tral wildlife sanctuary has distinction of harboring the relic population of the "*Critically Endangered*" Hangul outside the Dachigam National Park. The Tral Wildlife sanctuary will essentially act as safe, secure and protected habitat and corridor to RET species (Rare and Endemic) of the area, which give the new lease of life to the flora and fauna of the Kashmir valley particularly, will enhance the protection and conservation of the endemic Kashmir Stag or Hangul. The area of the Tral wildlife sanctuary is a sort of corridor connecting the relic habitats of the Dachigam National Park, Khrew Conservation Reserve and Overa – Aru Wildlife Sanctuary and therefore is of enormous importance for the linkage of Hangul populations found across various habitats of the protected areas. The Tral Wildlife Sanctuary has a great deal of floral and faunal diversity. The floral diversity ranges from the charismatic riverine forests, deciduous forests, pure coniferous forest eventually leading to alpine scrub forests and alpine pastures. It harbors more than 15 mammalian species both rare and endemic, the most famous being Hangul (Cervus hanglu hanglu). The other important species found in Tral Wildlife Sanctuary include Himalayan Black Bear (*Ursus thibetanus*), Common Leopard (*Panthera pardus*), Kashmir Musk Deer (*Moschus cupreus*), Kashmir Grey Langur (*Semnopithecus ajax*) and the Wolf (*Canis lupus*). The Tral Wildlife Sanctuary has great avian diversity and more than 150 species have been documented so far from the sanctuary. Tral Wildlife Sanctuary is also home to "Kashmir flying Squirrel" and "Kashmir Agama"- the endemic species of Kashmir Valley.



Hazle Nut(*Corylus Jacquemonti*) Forest Tral Wildlife Sanctuary

CHAPTER 2

BACK GROUND INFORMATION AND ATTRIBUTES OF THE SANCTUARY

2.1 Boundaries

Tral Wildlife sanctuary is the newest addition to the protected area network of Kashmir formed in 2019. Being declared very recently, there has been a proper boundary demarcation of the wildlife sanctuary, the draft notification for Eco sensitive zone of the sanctuary has been notified. In the North, it shares boundary with Dachigam National Park, Overa -Aru Wildlife Sanctuary forms the North – East boundary of the sanctuary. In the Eastern side the wildlife sanctuary is bounded by the Kulur forests of the Awantipora Forest Division, while as Lidder Nallah demarcates the sanctuary on South – Eastern side. The famous and historical Wusturwan Forests bound the sanctuary from the western side, while as the Nagendar forest area of the Khrew conservation reserve forms the north – western boundary of the Tral Wildlife Sanctuary. As the Tral wildlife sanctuary is newly formed there are 808 demarcated pillars inscribed for the purpose of demarcation.



Plate 3 Demarcation pillar at Tral Wildlife Sanctuary

2.2 Geology, Soil & Rock

A very diverse geological record ranging from the pre – Cambrian era to recent epoch (Wadia, 1975), characterizes the valley of Kashmir. The geology of the recently formed sanctuary is dominated by the upper Paleozoic era overladen by the upper Pleistocene era and recent sedimentation. The upper Paleozoic era rocks consist agglomerate slates and Pir Panjal traps occur at marginal places. The Paleozoic era rocks overladen by Triassic limestone consists of compact blue limestone, argillaceous limestone and dolomite. The soil and rocks mostly comprise of mica schist, Quartzite, paragneiss and leucograni.

2.3 Terrain

The areas of Tral wildlife sanctuary falls in the Great Himalayan Mountain range of the Western Himalayas. The terrain of the sanctuary is rugged and undulated and the overall terrain is mountainous. The sanctuary includes moderate to high slopped mountain peaks, deep valleys, lush green meadows and pristine forests. The altitudinal gradient of Tral Wildlife Sanctuary ranges from 2035m ASL (Kamla) to 4338m ASL (Pambagai).

2.4 Climate

2.4.1 Rainfall Pattern & Distribution

The climate of Tral wildlife sanctuary is sub–Mediterranean type with bixeric regime having two spells of dryness in April – June and September–November (Singh and Kachroo, 1978). The area observes an irregular weather condition with a considerable variation for precipitation. Snow is the main source of precipitation and in some parts, it melts until June.

2.4.2 Temperature Pattern of the Sanctuary

Four seasons spring, summer, autumn and winter are distinct in the valley of Kashmir. The spring season is cool with light to moderate showers. Summer is hottest of all four seasons and is mostly dry, as monsoons does not cross the mountain barriers of Kashmir. Autumn is cool and dry while winter is severely cold, frosty and areas does experience heavy to very heavy snowfall. The Tral wildlife Sanctuary is comparatively drier compared to other parts of the valley.

2.4.3 Drought

The Sanctuary is bestowed with perineal water resources in the form of springs, rivers, and nallahs. Due to the presence of these water sources drought has not been reported in the recent times. Besides the water streams and other water resources, Tral wildlife sanctuary has an amazing network of waterholes at critical habitats since the time of Maharaja, which quench the water requirements of the wild animals.



Land scape of Tral Wildlife Sanctuary (Summer)

The table below displays max and min temperature and rain data for the whole year as an average taken from last 12+ years of historical data for Tral. (Source: IMD, New Delhi)

Month	Average Day temperature	Average Night temperature	Number of rainy days
January	5°c	-4°c	10
February	7°c	-2 °c	10
March	12°c	2 °c	9
April	17°c	6°c	7
May	22°c	11°c	14
June	25°c	14°c	14
July	27°c	17°c	6
August	26°c	16°c	3
September	25°c	13°c	6
October	20°c	7°c	3
November	13°c	2°c	4
December	9°c	-2°c	5

Plate 4 Average Rainfall received at Tral Wildlife sanctuary

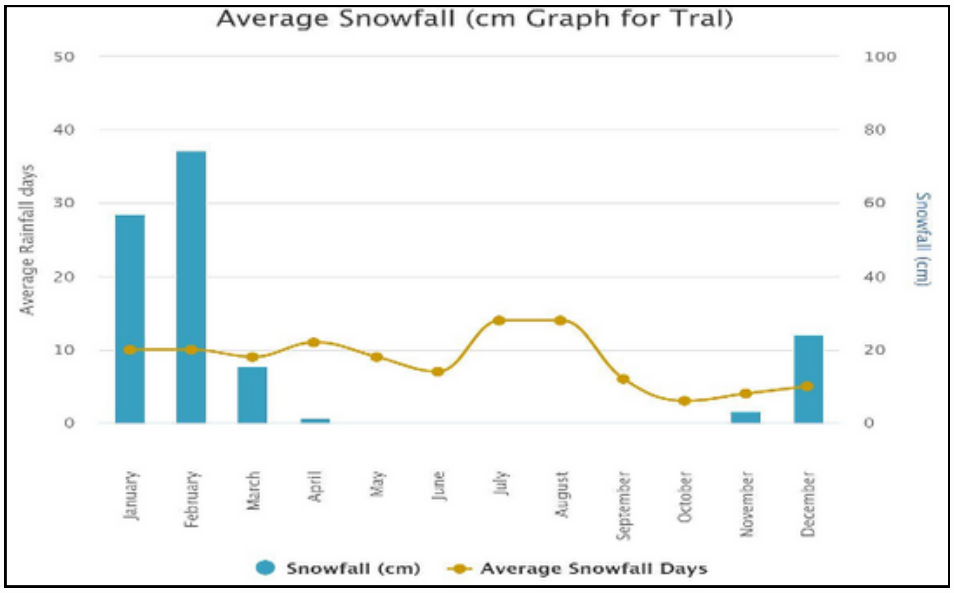


Plate 5 Average snowfall received at Tral Wildlife sanctuary

2.4.4 Water Resources

The Nature has bestowed the Tral wildlife sanctuary with perennial water sources such as rivers, nallahs originating from the snow cladded mountains, springs, which provide the water throughout the seasons. The Aripal, Naristan and Saraibonard nallah are the main streams flowing through the sanctuary, which not only provide water to wild fauna but also are important for the agricultural and horticultural fields for the people living in close vicinity of sanctuary.

2.5 The Status, Distribution & Range of Wildlife in Tral Wildlife Sanctuary

2.5.1 Vegetation of Tral Widlife Sanctuary

The altitudinal gradient of the Tral Wildlife Sanctuary ranges from the 1600 m to 4500m. With change in such a magnanimous altitudinal gradient, the vegetation of the sanctuary changes from the riverine forests to coniferous forests giving way to alpine scrubs and ultimately alpine pastures of the sanctuary. The riverine forests have luxuriant broadleaved vegetation such as Horse chestnut (*Aseculas indica*), *Juglans regia, Fraxinus hookeri, Parrotiopsis jacquemontiana* intercepted by many shrubs, herbs and grass species such as *Indigofera heterantha, Viburnum grandiflorum, Viburnum cotinifolium, Lonicera quinquqinqularis, Jaminum humile, Skimmia anquitelia* and many others. The lush green coniferous forests dominate the sanctuary from the altitude 2300 m up to 3000 m, which are mainly dominated by the Blue Pine (*Pinus wallichiana*) and Fir (*Abies pindrow*) which are associated with Spruce. The lower elevations have few crops of *Cedrus deodara* (Deodar), (*Picea smithiana*). Dwarf evergreen shrubs such as *Juniperus recurva, Rhododendron anthopogon* and many other grass species dominate the alpine pastures. A detailed checklist of flora of tral Wildlife Sanctuary is enclosed as Annexure II.

2.5.1.1 Biogeographic Classification of the Sanctuary



Rajesh and Panwar classified and outlined a scheme to classify India Zoo geographically in 1988 while planning a protected area network for India. The Tral Wildlife sanctuary falls under Zone II – The Himalayas of the Biogeographic zone as per the Rajesh and Panwar Zoo- geographic Classification.

Land scape of Tral Wildlife Sanctuary (Summer)

2.5.1.2 The Forest Classification, Forest Cover and Food Availability

As per the new and revised forest classification by Champion and Seth (Champion and Seth, 1938), the forest area of the Tral wildlife sanctuary falls under Himalayan Moist Temperate Forest, Sub – Alpine Forest and Alpine Forest. The following subtypes of the forests are being reported from the Tral wildlife sanctuary:

- Riverine Forest
- Coniferous Forest
- Alpine scrub & Pastures

Riverine Forest Areas

This type of forest occurs at lower altitudes and is dominated by broad-leaved species of *Aesculus indica, Fraxinus hookeri, Parrotiopsis jacquemontiana, and Juglans regia.* The dominant shrubs include *Indigofera heterantha, Lonicera species, Viburnum contifolium, Skimmia anquetela, Jasminum species, Prunus cornuta, Corylus jacquemontiana, Rhamus purpuna, Ulmus wallachiana* etc. The Sanctuary also contains excessive growth of obnoxious weed "*Isodon regosus*" locally called as Solai in Kashmir

Coniferous Forest Areas

This type of forest consists of Blue Pine (*Pinus wallichiana*) and Fir (*Abies pindrow*) as dominant species, found in association with Spruce (*Picea smithiana*) at an altitude of 2300m. The woodland also occupies sides of nallahs at some places. The middle and lower areas constitute pure deodar crops (*Cedrus deodara*).

Alpine scrub & Pastures

This type of forest consists of treeless pastures having scattered scrub vegetation. Birch (*Betula utilis*) is the most dominant species of this area near the tree line associated with *Juniperus recurva, Rhododendron species, Lonicera species* and *Primula* at shady places The extensive alpine meadows above the tree line known as 'Margs' bear a luxuriant growth of perennial herbs and grasses. The dominant herb species here are *Myosotis species, Cynoglossum, Iris,Rumex species* etc. *Betula utilis* is found dotted at some places.

Rocky Faces

Dwarf evergreen shrubs including *Juniperus recurva, Rhododendron anthopogon* etc. associated with herbs, *Stachys sericea, Sieversia elata* and *Veronica melissifolia, Onosma hispida, Bunium persicum* dominate the rocky cliffs and hilltops.

Medicinal Plants

The Greater Himalayas are a storehouse of medicinal and aromatic plants that are used in pharmaceutical and perfume industries. The Tral forests are blessed with numerous plant species of great medicinal value. Some medicinal plants growing wild in the area include *Aconitum heterophyllum, Arnebia benthamii, Artemisia absinthium, Berberis lycium, Bergenia ciliata, Datura stramonium, Dioscorea deltoidea, Lavatera cashmeriana, Saussurea costus, Fritillaria imperialis, Tripatri (Trillium govanianum),Taxus wallichiana, Onosma hispidum, Gentiana kurroo* etc.

Ethno-Botanical and Economic Value points: -

The main species with historical significance and used by the locals for their day-to-day activities are:

1. *Bunium pisium*- Jangli Zeera (a spice)
2. Ded (Vegetable)
3. *Parotia*- for wicker work, sticks and tool handles
4. *Berberis and Viburnum* - for fencing and thatching purpose/ medicines.



Vibernum cotinifolium



Frittilaria imperials



Podophylum hexandrum



Vibernum grandiflorum



Pinus wallichinia



Onosma hispidum

Plate 6 Glimpse of the flora of Tral wildlife sanctuary

2.5 Fauna of Tral Wildlife Sanctuary

Tral Wildlife sanctuary is abode to Rare and threatened (RET) species with varying degree of endemicity. It is only second place in the valley of Kashmir after Dachigam National Park, which harbours the last viable wild population of Kashmir Stag or Hangul. It is home to almost 15 mammalian species, which include rare, endangered and vulnerable species such as Kashmir Grey Langur (*Semnopithecus ajax*), Kashmir Musk Deer (*Moschus cupreus*), Kashmir flying squirrel and many others. A detailed checklist of the mammals of Tral Wildlife sanctuary is given in Annexure III. Large number of birds, mammals, and reptiles represents the vertebrata phylum. Besides mammals, the sanctuary is home to glorious avian diversity represented by both resident and migratory bird species. So far, more than 150 bird species have been documented from the Tral Wildlife sanctuary, (e.Bird Data,2024)

Mammals- Status & Distribution

The Hangul

The Kashmir stag or Hangul (*Cervus hanglu hanglu*) is one of the charismatic species endemic to the valley of Kashmir. The Tral wildlife sanctuary is the only place after Dachigam National Park, which holds the last viable wild population of this endemic species. The Hangul comes under Schedule-I of Indian Wildlife (Protection) Act, 1972- amended upto 2022 and Critically Endangered in IUCN Red List (IUCN 2024).



Hangul deer

The IUCN's Red list has classified it as "Critically Endangered" and similarly listed under Species Recovery Program of Wildlife Institute of India (WII) and the Environmental Information System (ENVIS) of the MoEF&CC. The Hangul Conservation and Breeding center set at Shikargah area of Tral Wildlife Sanctuary can be a game changing scenario in this prospect and will help in the recovery of this species, whose population is on the verge of extinction.

The Hangul is a not only a mixed feeder, but it ingests disproportionate amounts of browse in almost all seasons, and also feeds on bark by – stripping woody species. The Hangul feeding habits vary according to food resource availability in different seasons and constitutes mainly dicotyledonous shrubs and trees, forbs and herbs, monocotyledonous grasses and herbs in spring and winter, respectively (Ahmad et al., 2015). The winter diet mainly constitutes browse (trees and shrubs) respectively. During spring, the diet of Hangul deer comprises mainly forbs, beside grasses/sedges, and browses. Among the monocots, the species consumed by Hangul in maximum sightings were *Carex cernua, Panicum crusgalli, Poa annua and Hemerocallis fulva.* Also, debarking on *Prunus ceracifera* and *Parrotiopsis jacquemontiana* has been reported in autumn and on *Pinus wallichiana, Lonicera quinquelocularis and Parrotiopsis jacquemontiana* during winter, and root knelling (debarking) by Hangul in both spring and winter on the introduced *Robinia pseudoacacia* is also reported (Ahmad et al., 2015).

Threats for the Survival of Hangul

- Low breeding, Female biased sex distortion and lower fawn to female ration is one of the major threats Hangul is currently facing and is one main causes of concern in the long – term conservation of Hangul.
- Predation and the problem of survival of the young, which may add to the demographic stochasticity and may produce a further future decline in the Hangul population.
- Poaching earlier considered as one of paramount forces of Hangul has significantly decreased due to tireless efforts of the Department of Wildlife Protection J & K, yet the major Hangul corridors need extra bit of safety for safe and secure movement of the Hangul throughout its relic habitat.
- Grazing competition particularly during summer season in the upper meadows is worrisome situation which not only increases the competition for food and shelter but may be a source and transmit zoonotic diseases which may adversely hamper the conservation efforts put in for the survival and long – term conservation of this Critically Endangered species.
- Habitat fragmentation and subsequent degradation may render the species in geographical isolation, which may erode the genetic viability of the Hangul.

Long-term Conservation Plans

The Tral wildlife Sanctuary harbors the Hangul conservation and Breeding Centre, which can be torchbearer in the long – term conservation of Hangul. The CBC is part of the long – term goal to save this *Critically Endangered* endemic species. The Hangul conservation action plan was developed by the Department of Wildlife Protection

The main aim of the plan is the recovery of the declining Hangul population to bring this to the endangered category from existing critically endangered status. Under this broad aim, the plan has following specific objectives.

- To improve the recruitment in the adult population
- To restore the shrinking habitat range of species
- Conservation breeding program



Chestnut-eared Bunting

Major Proposed Outcomes

- The action plan proposes four major outcomes for the conservation of the species: -
- Improved survival rate of the young fawns to ensure their recruitment into adult population
- Reduction of disturbance in the summer habitat range of the species so that the animals could use wider range of habitats, particularly during breeding season.
- The identification and prioritization of relic habitats based on their ecological status/ suitability and connectivity with the existing habitat.
- Operational awareness programmes for different stakeholders concerning conservation of this species.

Hangul Recovery Programme

The current National Wildlife Action Plan (NWAP, 2017-31) advocates for the status surveys, preparation of recovery plans and identification and protection of critical habitats of critically endangered species. Although, in situ conservation has to be given the highest priority but it needs to be backed by conservation breeding (ex-situ conservation). The aim of the Conservation Breeding Programmme is to conserve the genetic diversity of the species and restock or re-introduce the species to re-establish self-sustaining population in its natural wild habitat. Also, Central Zoo Authority (CZA) has listed as many as 73 species of fauna for conservation breeding, out of which 26 species has been listed as priority and Hangul falls in the category of high priority.

The then state of Jammu & Kashmir initiated the recovery programme for the Hangul in 2008-09, based on the Action Plan developed by the MoEF&CC, with technical inputs from the Wildlife Institute of India (WII). Dehradun. The Action Plan was revised in 2014 by the Group constituted by the Ministry of Environment, Forests & Climate Change as per the directions of the National Board for Wildlife. The Plan envisages the objective of Hangul conservation and the actions needed to accomplish it. The Ministry of Environment, Forests & Climate Change (MoEF&CC), Government of India under the scheme Recovery of Critically Endangered Species provided some financial and technical assistance to the erstwhile state through the Centrally Sponsored Scheme of "Integrated Development of Wildlife Habitats for the conservation of wildlife and their habitats. However, funding has been irregular and insufficient. The inadequate and late release of funds by MoEF&CC and erstwhile State Government was the major cause of delay in implementation of the project Government of Jammu and Kashmir. Department of Wildlife Protection is committed to save this important and endemic species. The sustainability of a good population of Hangul will be an indicator of a healthy ecosystem and in tum will help other biodiversity to sustain This Annual Plan of Operation proposed under species recovery plan for the financial year 2024-25 will be beneficial in protecting and conserving large landscapes and associated biodiversity of the Western Himalayas.

Kashmir Musk Deer

Tral Wildlife sanctuary harbors a good and viable population of Kashmir Musk Deer (*Moschus cupreus*) due to the presence of preferential habitat, food availability and secured and safe wildlife corridors. The Kashmir Musk Deer is categorized as “Endangered” as per IUCN category of threatened animals (IUCN, 2024). It is Schedule I species as per Indian Wildlife Protection Act, 1972 and falls under Appendix I as per CITES thus giving highest level of protection and prohibiting its trade.



Kashmir Musk Deer

The Kashmir Musk Deer species usually inhabit area in the alpine scrub lands and above the tree line in the alpine meadows with an average altitude of 2600 – 4000 m. The Kashmir Musk Deer is one of the least studied species of the all musk deer as it has a limited fragmented zoo – geographical distribution. Even the baseline information on the distribution, ecological studies and genetic analysis are still not available. Tral Wildlife sanctuary being one of the major and potential secured habitats of the Kashmir Musk Deer, there is need to carry out the scientific study and population estimation of this shy Himalayan endemic species to have a baseline data to formulate the long term conservation plans to safeguard it from any adversity.

Threats

- Illegal poaching for musk is one of the major causes of concern for the conservation of Kashmir Musk Deer.
- Habitat fragmentation and degradation
- Competition from nomadic and seasonal grazers for food and shelter

Common Leopard

Leopard is the most widely distributed of all the wild cats in the world and is most common among the big cats (Nowell and Jackson, 1996). Leopard (*Panthera pardus*) is the top most carnivore in the valley of Kashmir. Common Leopard falls under Appendix I of CITES because extensive hunting had depressed populations in several parts of the world. In India it figures in the Schedule I of the Indian Wildlife Protection Act, 1972. Leopard is categorized “Vulnerable” as per IUCN Red List of threatened animals (IUCN, 2024).



Common Leopard

Leopard has distribution in all forest areas of Kashmir up to tree line. It is the most common wild animal after Himalayan Black Bear in Jammu and Kashmir. As Tral has been newly notified wildlife sanctuary, there is dire need to have scientific study on Common Leopard

Threats

The ever – increasing human – wildlife Interaction particularly Leopard – Human conflict cases in the catchment areas of the sanctuary has become most common threat to the survival of Leopards. There are instances of retaliatory killing of leopards by local villagers to reduce conflict in the state. There is a need for long-term study on leopard population, abundance, habitat use. It is the need of time to have an elaborated population estimation, which can give important information about the predatory relationship with Hangul in this wildlife sanctuary.

ecology inside the sanctuary under which ecological aspects such as population, habitat uses, ranging and foraging, movement patterns and more importantly prey – predator relationship particularly with Hangul should be covered.

Himalayan Black Bear

The UT of Jammu and Kashmir possess and holds one of the best populations of Himalayan Black Bear (*Ursus thibetanus*) with its ubiquitous and cosmopolitan distribution in the valley of Kashmir. The Himalayan Black Bear is listed as “Vulnerable” as per IUCN Red Data Book (IUCN, 2024). It is listed in Appendix I as per CITES and placed in Schedule I as per Indian wildlife Protection Act 1972, amended up to 2022. Himalayan Black Bear is one of the major species involved in the Human-wildlife Interaction in Kashmir valley particularly in the proximity of forests and other protected areas. The current management plan suggests carrying annual regular population estimation exercise of the Himalayan Black Bear in the sanctuary to estimate population trends and ecological parameters of the animal to effectively mitigate the Human – Wildlife Interaction.

Threats

- The ever – increasing conflict resulting in loss of property and lives and retaliatory killing is currently becoming a cause of concern.
- Poaching for gall bladder, skin and nails.
- Habitat fragmentation and degradation in the prime habitats of Himalayan Black Bear.
- Black bear-human Interaction is an important managemental issue that needs to be addressed on priority basis as depredation of agricultural/ horticultural produce by black bears have resulted in the resentment of the local people, who suffer such losses leading to retaliatory killings and animosity with the government departments



Himalayan Black Bear

Kashmir Grey Langur

The Kashmir Grey Langur (*Semnopithecus ajax*) is a species of langur formerly considered as sub – species of Semnopithecus entellus. The Himalayan grey langur belongs to the family of Cercopithecidae and the sub – family Colobinae that includes all the old-world monkeys having the folivorous habit. All the primate taxa including the Kashmir grey langur are under severe threats. The common and major threats, which Kashmir grey langur faces throughout its habitat range include the habitat loss and degradation through illegal and unethical encroachment, overgrazing, building of roads through its home range and lopping of forest trees for domestic cattle, thus depriving them of food, deforestation, forest fires. The unchecked and unregulated expansion of agricultural lands at the cost of forest ecosystems, unavailability of food during certain periods of the year, predation by large carnivores and several bacterial and viral diseases are also contributing factors hampering the long – term conservation of this Kashmir endemic primate. The present and future threats are mainly due to ever-increasing expansion of agricultural land at the cost of forest ecosystems and other developmental activities. Thus, International Union for Conservation of Nature and



Kashmir Grey Langur

Natural Resources (IUCN) has classified the Kashmir grey langur (*Semnopithecus ajax*) as "Endangered" in 2008 (IUCN, 2018). This species is listed on CITES Appendix I, and Schedule I, of the Indian Wildlife Protection Act, 1972 amended up to 2022 (Molur et al., 2003).

There are evidences that the Kashmir Grey Langur are falling prey to the dogs due to the boom in the dog population. The Kashmir Grey Langur are the most relished food of the dogs. These dogs frequently venture inside PAs and kill them.

Other Animal Diversity

Apart from the above large charismatic animals, the Tral Wildlife sanctuary is abode to large number of small and medium sized mammals, reptiles, butterflies and insects, which add to the glory of sanctuary. The other mammals reported in sanctuary include Himalayan Brown bear (*Ursus arctos isabellinus*), Himalayan yellow Throated Marten (*Martes flavigula*), Serow (*Nemorhaedus sumatraensis*), Himalayan weasel (*Mustela sibirca*), Red fox (*Vulpes vulpes*), Jackal (*Canis aureus*), Small Indian civet (*Viverricula indica*), Leopard cat (*Felis bengalensis*), Common Mongoose (*Herpestes edwardsi*) and long tailed marmot (*Marmota caudata*). Besides the invasive species of Wild boar (*Sus scrofa*) is also reported from the sanctuary.

The endemic squirrel "Kashmir flying squirrel" is the main rodent found in the Sanctuary and Shikargah is the best habitat for Kashmir flying squirrel.

The status, distribution and habitat for the invertebrates requires a detailed studies/observation in the sanctuary as it harbors a good reptilian diversity. No systematic research work for invertebrates has been done yet and it is suggested to conduct a detailed and systematic inventory of the reptile species to have baseline data for managemental interventions, which can be boon for their conservation. Among snakes, five species are reported from the sanctuary, which includes Himalayan pit viper, Levantine viper, Himalayan Trinket, Eastern Cliff Racer and Rat snake. In the squamate reptiles, the two widely distributed species Tral harbors include Kashmir Rock Agama (*Laudakia tuberculate*) and Himalayan Ground skink (*Asymblepharus himalayanus*).



Kashmir Agama



Wild Boar



Rhesus Macaque



Red Fox



Hangul



Grey Wolf



Common Leopard



Himalayan Fritillary



Himalayan Ratsnake

Plate 7 Glimpse of the Faunal Diversity of Tral Wildlife sanctuary

Avian Diversity of the Sactuary

The Tral Wildlife Sanctuary holds great avian diversity, which includes both resident and migratory bird species. The data retrieved from birding software e-bird highlights the enormous diversity the sanctuary holds. There are more than 200 bird's species documents from the vicinity of Tral Wildlife sanctuary. A detailed checklist of the bird species is given in **Annexure IV**. Some of the important species found in sanctuary include Golden Eagle (*Aquila Christos*), Bearded Vulture (*Gypaetus barbatus)*, Himalayan Griffon Vulture (*Gyps himalayensis)*, Kashmir Flycatcher (*Ficedula subrubra*), Black-throated Accentor (*Prunella atrogularis*), Orange Bullfinch (*Pyrrhula aurantiaca*), and Kashmir Nuthatch (*Sitta cashmirensis*), Himalayan Monal etc.



Himalayan woodpecker



Orange Bullfinch (male)

Limiting Factors

Factors limiting the range, movement, food, shelter otherwise affecting the general well-being of the wildlife population may be stated as absent as the protected areas are well managed and maintained keeping in mind the daily needs of the wild fauna. Habitat loss is the main limiting factor for the survival of wild animal species such as black bear, Hangul, leopards. The increasing rise in Human – wildlife scenario had put department under the hammer head particularly in the areas of influence of the PAS, which need to tackled and managed tactfully to mitigate and minimize the impact on both the people and wild fauna. Besides, there is increasing pressure of livestock particularly during the summer season in upper areas of sanctuary, which increases competition in food, shelter and can be potential carriers of diseases, which may adversely affect the wildlife of the sanctuary.

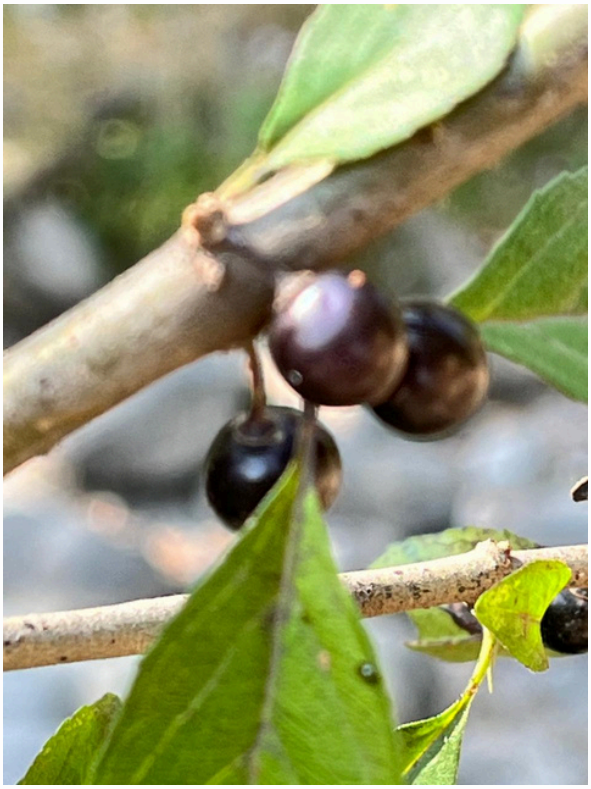




Lonicera quinqinqullaris



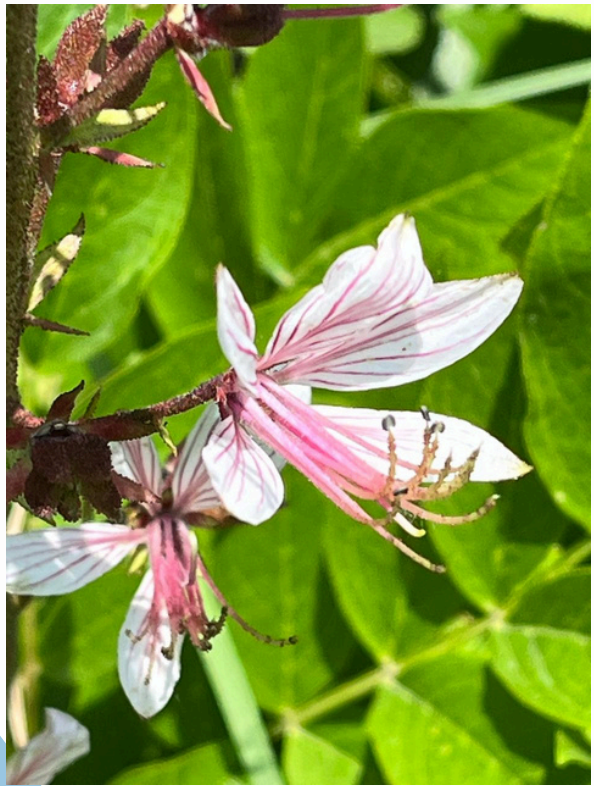




Rhamnus purpurea



Taxus bacata



Dictamus albus



Sorbus lanata



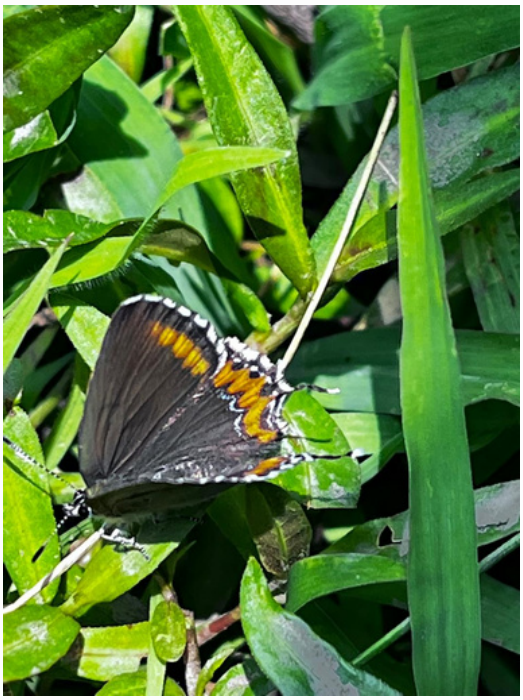
Kashmir Stag



Himalayan Black Bear



Water pond



Sorrel saphire



White-edged rock brown

CHAPTER 3

HISTORY OF MANAGEMENT AND PAST PRACTICES

3.1 General Practices and History of Management

The Tral wildlife sanctuary is the new addition to the vast network of the protected areas in the UT of Jammu and Kashmir and has been conferred as status of Wildlife sanctuary on October 23, 2019 through Government notification No. FST/WL/07/2018 (SRO-639) with an extensive area of 154.15 Km2. The sanctuary falls under the civil jurisdiction of Pulwama and Anantanag districts and is being managed by the Wildlife Warden, Wildlife Division Shopian. Tral does not have long history of management as it was formed recently but has long history of being one of the oldest protected areas. Before being conferred the status of Wildlife sanctuary, part of it was managed by Forest Department and parts such as Shikargah, Khangund, Panyar and Khiram were managed by Department of Wildlife Protection with status of Conservation reserves. Historically, parts of the protected area, namely the Shikargah and Khangund (previously having the status of Conservation Reserves) have a distinction of being one of the oldest notified PAs of the country. Their notification dates back to 1945, when they were governed by the 'game laws' of the Maharajah of the erstwhile princely state of Jammu & Kashmir. The management of the Conservation reserves of Khangund, Shikargah, Panyar and Khiram were historically executed through Annual Plan of Operations or (APOS).

This will be first extensive management plan of the Tral wildlife sanctuary for 10 years period (2024 – 2034) formulated on the scientific guidelines. It will be for the first time that the management of Tral Wildlife Sanctuary will be done through a well – documented management plan with budget strategies for a period of ten years, while it will be scientifically evaluated and a comprehensive financial plan formulated.

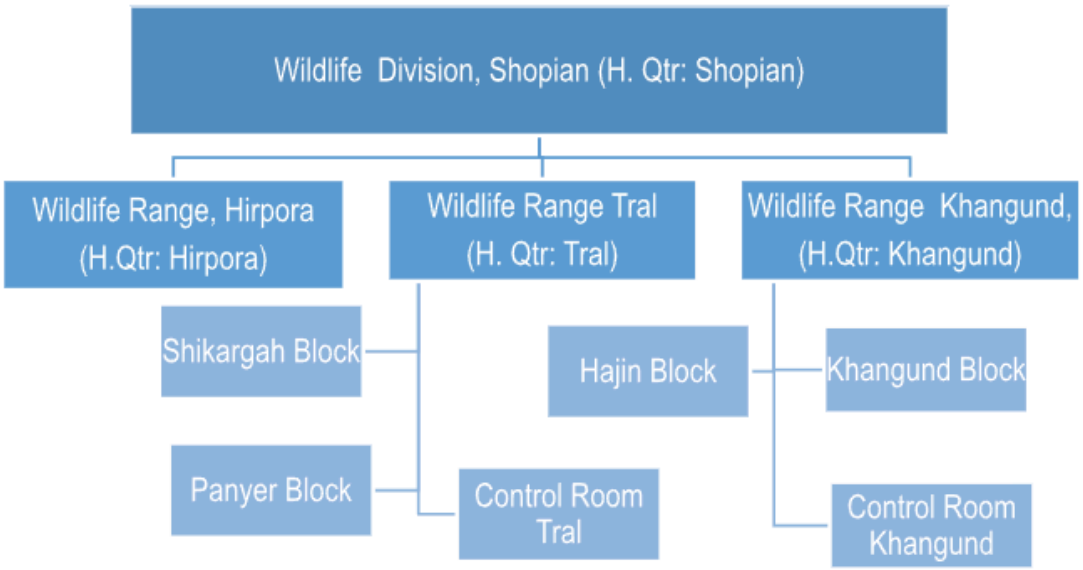
3.2 The Present Management

3.2.1 Administrative set up, Organizational structure & Human Resource

The Sanctuary is under the control of the Wildlife Division Shopian. There are two Wildlife Ranges, namely Tral Wildlife Range and Khangund Wildlife Range and two blocks in each Range, namely Shikargah Block and Panyer Block of Tral Range and Hajin Block and khangund Block in Khangund Range. The Sanctuary area comprises of 11 beats. In addition to it there are notified 08 Compartments of Territorial Forest yet to be taken over from the Awantipora Forest Division and Khiram Conservation Reserve yet to be taken from Wildlife division, South Kashmir.

The frontline staff exclusively deployed to manage the Sanctuary comprises of just 25 individuals which is grossly inadequate to protect, monitor and manage the whole area, current position of staff in Tral Wildlife Sanctuary is given below:

S. No.	Designation	Sanctioned	Posted as on 27.09.2024	Remarks
1.	Range officers	01	00	
2.	Forester	02	0	
3.	Field Assistant	00	01	Working as I/c Range officer
4.	Deputy Foresters	02	0	
5.	Wildlife Guards	26	13	06 of them working as I/C Foresters
6.	Watchers / Helpers	8	08	
7.	Rehbar e janglat	0	04	



The management of Tral Wildlife Sanctuary is at a critical juncture due to the shortage of frontline staff. Addressing this challenge is essential for the conservation of biodiversity and the sustainability of local ecosystems. By implementing strategic recruitment, training, and community engagement initiatives, it is possible to enhance the sanctuary's management and ensure the protection of its invaluable natural resources.

Subsequently following front line staff is proposed for better management of the Tral wildlife Sanctuary in addition to the existing sanctioned strength.

S. No.	Designation	Proposed Strength	Remarks
1.	Range officers	01	
2.	Forester	06	
3.	Deputy Foresters	06	
4.	Wildlife Guards	45	
5.	Watchers / Helpers	15	

Staff Ameneties

The work of field staff is very stiff, they are supposed to work under constrictions and in every odd situation like squall weather, confronting wild animals, and continuous patrolling of park through day and night. The climatic condition in the landscape becomes very harsh in winter season for which devotion and hard work of the field staff has been recognized by all quarters in the hierarchy of the department.

The basic amenities required to provide for smooth functioning in field are:

- Regular supply of uniform, trekking shoes and gumboots.
- Provision of raincoats and pullover at convinced time.
- Provision for regular supply of flashlights and solar lanterns.
- Regular supply of solar lamps
- Provision of winter gears in extreme cold conditions and summer gears

Other than, above mentioned equipment's and gears few more amenities shall be provided to the staff so that their round the clock presence in the national park is made convenient and sustainable and an account of same is given below: Free ration should be provided as they are scantily paid so that financial stresses on the field staff are relieved.

- Regular health checks up with some lifesaving drugs and a registered medical practitioner should be provided.
- All the medical treatments should be provided by the government for the workers who are injured in the time of their duty.
- Possible, ex-gratia grant should be provided to the immediate relatives of the staff who succumb to death, while on duty due to illness, any accident.
- Construction of housing complex in every range head quarter for the staff families will be helpful in turn, it will enhance the work output of the staff. Incidence of unauthorized absence will also be checked.
- Guard books (newly designed) with compartment maps shall be provided to every beat guard for effective monitoring of his beat.

3.2.2 The Present Mnagement Practices

- The current managemental practices followed in the management and conservation of wild flora and fauna in Tral wildlife sanctuary as flows:
- Habitat enrichment: - The habitat enrichment shall be done by way of plantation of native indigenous fruit bearing varieties and dibbling of seeds to augment the food resources to the wild animals.
- Soil conservation measures: - The soil conservation measures include conserving soil and habitat by way of DRSM and crate wire bunds.
- Pasture development: - development of degraded pastures particularly in the upper reaches of the sanctuary by way of artificial seeding of native nutritious and palatable grass species.
- Forest fire control: - construction of fire lines, establishment of fire control rooms, involvement of locals and tribal people in participatory fire management and control.
- Management of Human-Wildlife interaction: - Includes activities of preventive and remedial measures of Human-Wildlife interactions occurring both inside and outside the Wildlife Sanctuary. The main activities are Habitat enrichment, fencing, Plantation, Establishment of Control rooms, awareness drives etc.
- Capacity Building of Staff: - Regular training and other capacity building programmes are done so the staff is efficient and capable for all assignments.

3.2.3 The Planned Strategies

The current strategies in the management plan will mainly focus on protection, conservation and habitat improvement. This management plan will have specific central theme regarding the fully functional and operational Hangul Conservation and Breeding Centre (HCBC). The strategies for conservation, education, eco development, where in emphasis shall be laid on alternative livelihood generation, mitigation of man animal Interactions, compensation schemes and last but not the least research, monitoring and training shall be brought to the central focus for the effective management plan of the newly created wildlife sanctuary. It will be for the first time that a well-documented management plan, budget strategies for a period of ten years, while scientifically evaluated and a comprehensive financial plan shall be formulated. The key managemental practices, interventions and strategies proposed by this management plan are as under:

- The fully functional and operational Hangul Conservation and Breeding Centre, which will be a mile stone and game changing act for the conservation of the last viable population of Critically Endangered Hangul.
- Formulation and implementation of the plans in-terms of dividing the area in to core buffer and tourism zone.
- Regulation of Eco – tourism.
- Development of theme plans were proposed for the following:

1. Control of poaching and grazing particularly in the upper reaches of the Hangul core area.
2. Weed control and control of Invasive Alien species as major chunk of the sanctuary was handed over to Wildlife Protection Department by Territorial Forest department.
3. Raging pattern of wild animals outside managed area.
4. Soil erosion monitoring.
5. Animal health surveillance.
6. Man, animal coexistence.
7. Development of infrastructure and communication.
8. Management of quarantine areas for captivity centers of rescued animals

3.4 Timber operations and Collection of Firewood from the sanctuary

The Tral wildlife sanctuary came into being for the conservation, protection and preservation of the native endemic flora and fauna. The sanctuary being centrally located connects the important corridors of Overa – Aru Wildlife sanctuary, Dachigam National Park and the Khrew and Khonmoh conservation reserves of the RET species particularly Hangul. Before the declaration and getting the status of wildlife sanctuary, the areas of Shikargah, Khangund, Panyar and Khiram used to be conservation reserves and had privilege of being one of the oldest protected areas of the valley. After the declaration of sanctuary, five additional compartments were handed over to the Department of Wildlife Protection from the Forest Department. Currently all sorts of felling, whether green or felled are completely prohibited.

Non – Timber Forest Product (NTFP) Collection

Since the area is being notified as a Wildlife sanctuary and is legally protected, the practice of any sort of NTFP collection has to be completely abolished.

Leases in the Sanctuary

No lease has been given for any sort of activity under the jurisdiction of the manager of the Tral Wildlife sanctuary in the area under the control of Wildlife Warden Shopian.

Other Activities & Programmes Executed in the Sanctuary

Tral wildlife sanctuary is on the few protected areas, which does not have disturbance within its boundary area. However, being declared very recently boundary delineation and demarcation needs consolidation. The presence of Hangul Conservation Breeding Centre (HCBC) adds much value to the sanctuary as it is only Conservation Breeding Centre for Hangul in the whole country. The wildlife sanctuary is bounded by the territorial forest areas, there needs to be a strong coordination, communication and understanding between the departments so that long – term conservation plans could be executed with ease. Besides the protection and conservation of wildlife flora and fauna, other activities include carrying out of awareness programs pertaining to all wildlife aspects, wherein local population, school children, colleges and university scholars are involved.

Protection of Forest Area & Forest Land

3.4.1 Legal Status of the Sanctuary

The wildlife sanctuary is legally protected and falls under the protected forests and thus having paramount legal shield. The wildlife sanctuary was created in 2019 details of which are given under the heading 1.5. Creation of the wildlife sanctuary.

3.4.2 Hunting

Being a wildlife sanctuary any sort of hunting, trapping or snaring of any animal or bird species whether rare or common is strictly prohibited and there is zero tolerance towards any untoward harming activity to the wild flora and fauna.

3.5 Illegal Activities

3.5.1 Poaching and other illegal activities

There is complete blanket ban on any sort of hunting and the Wildlife warden Shopian under whose jurisdiction the sanctuary falls has given no permission to any person to hunt in last 15 years.

The hunting in protected areas has steeply fallen to zero owing to increased vigilance and patrolling by the frontline staff of Department Wildlife Protection.

3.5.2 Livestock Grazing

The livestock grazing by the migrant herders and pastorals particularly during the summer months in upper area of the sanctuary remains the challenge to be accomplished to the frontline staff of the sanctuary. The excessive grazing beyond the carrying capacity of the alpine and sub – alpine pastures will have detrimental effect on the endemic species particularly to the survival of Hangul.

3.5.3 Forest Fires in the Sanctuary

Fire is one of the catastrophic forces, which dilapidate the forest ecosystem and forest health. The natural fires are uncommon in area but there can accidental man ignited fires in woodland and grassland areas of the sanctuary. The Khangund range is particularly more vulnerable to fires owing to intrusion of people and nomadic grazers in the area. The contraction and maintenance of the fire line in fire prone areas, construction of fire watchtowers and procurement of essential firefighting equipment's are strongly proposed by this current management plan. Besides there will be increased vigilance and extensive patrolling in the fire prone areas of the sanctuary during most vulnerable time when the chances of fire are maximum.

3.6 Forest and Wildlife Health (Pathological problems, insect, pest infestations)

The sanctuary has not reported any major case regarding the insect, pest infestations in the area and overall health of ecosystem is very good, which is evident from the young regeneration of both broadleaved and coniferous forest areas. The sanctuary has maintained a positive ecological balance, as there have been no significant reports of insect pest infestations affecting the area. Overall, the health of the ecosystem appears robust, demonstrated by the vibrant regeneration of both broadleaved and coniferous forest regions.

However, it is important to note that the localized presence of the fall webworm, *Hyphantria cunea*, which has been specifically attacking the *Parrotiopsis Jacquemontiana* shrubs. The larvae have caused noticeable skeletonization of the leaves, impacting the overall appearance and vitality of these plants.



Pest infestation





While this localized infestation does not currently threaten the overall health of the ecosystem, it warrants attention to monitor its impact and ensure that the ongoing regeneration and biodiversity remain unharmed. Continued observation and management strategies will be essential to address this situation and maintain the sanctuary's ecological integrity. The presence of the Hangul Conservation and Breeding Centre (HCBC) adds the splendor shine and glory to the Tral Wildlife sanctuary, there needs to be strong coordination between the Department of Wildlife Protection and Sheep and Animal Husbandry departments. The reach of immunization to livestock of nomadic grazers and people living in the fringe areas needs to be increased to curtail any chances of diseases spread from the livestock to Hangul and other animals.

Eco-tourism

The eco – tourism or responsible tourism can be viable alternative to conventional tourism methods and protected areas attract a good number of people who are interested in wildlife or nature-based tourism. The Tral Wildlife sanctuary lacks a comprehensive eco – tourism plan and current management plan will have a detailed chapter and special focus on the eco – tourism plan. The Eco–park at Shikargah to be developed on model basis to serve the dual purpose of limiting the activity of people to tourism zone only and serve as premier eco – tourism destination in the Tral Wildlife sanctuary. Besides Nature Interpretation Centre (NIC) to be constructed and developed in the eco – tourism zone to serve as information dissemination center for the students, researchers and general people.

Research & Monitoring

For the effective management of the Tral Wildlife sanctuary and to document its well established and unique biodiversity, it requires scientifically driven data, behavioral studies, ecological information on the RET species, its flora and fauna. The research and monitoring can act as managemental tool for the long – term conservation of wildlife and its habitat. Being established recently, the current management plan proposes a rapid biodiversity assessment of the sanctuary to evaluate the status of wildlife in the sanctuary, which will act as tool to devise the managemental tools and strategies for the effective conservation of species particularly Hangul.

Communication

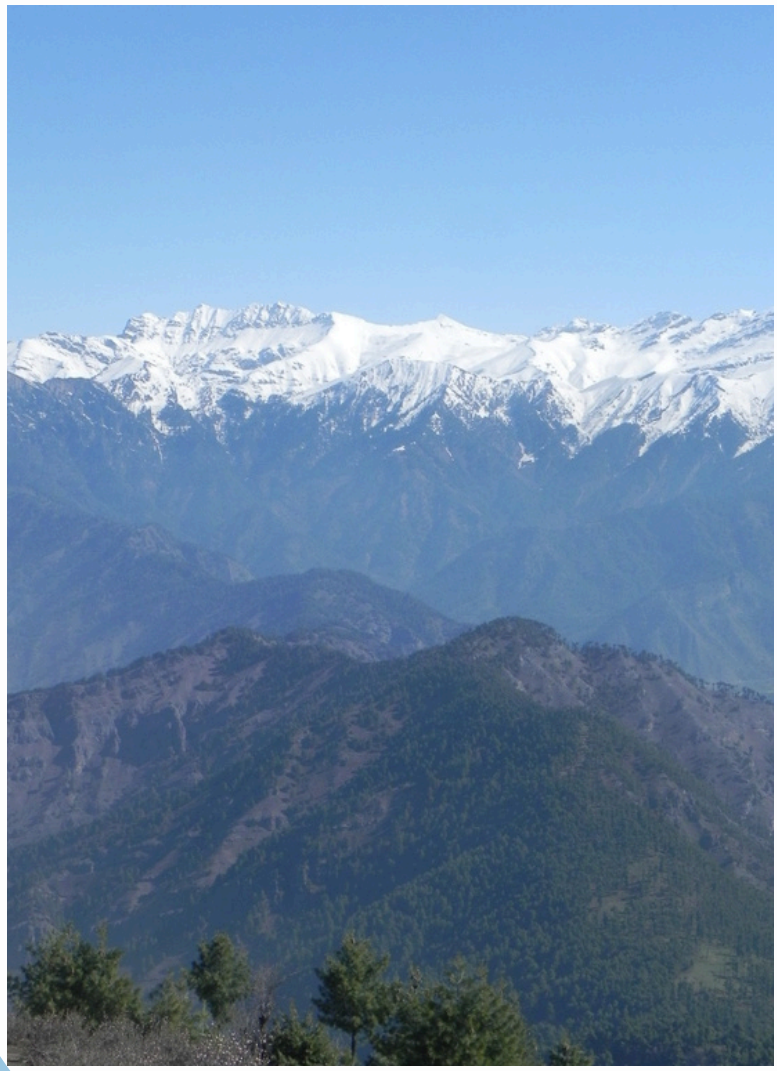
Communication is the critical factor for the protection of any protected area. Main source of communication remains the mobile phone network, which does not offer a reliable mode of communication due to lack of connectivity in upper reaches. Wireless sets are highly recommended for the frontline staff of the sanctuary being an important corridor of Hangul and other RET species, which can greatly enhance the protection of sanctuary and will maximize the efforts of the frontline staff.

The overall threats to Wildlife in the sanctuary

The Tral Wildlife sanctuary being a major corridor of the wildlife faces certain threats, grazing being one of them. Grazing by the nomadic migrant herders in summer season particularly in the upper reaches of the sanctuary increases the competition with respect to shelter, food and habitat. These cattle can be also source of infectious and communicable diseases, which can transmit to wild animals and pose a major threat for their survival and conservation. The forest fires, Human – wildlife Interactions are other threats wildlife is currently facing.

Hangul Population estimation / Hangul census

Tral wildlife sanctuary being an important habitat of the Hangul, there should be regular monitoring of the population dynamics of this critically endangered species. Ranging from the field staff to NGO's, students, scholars and volunteers shall be made part of it in a well – organized manner. The feasible time for this activity remains the month of February and early March.



Tral Landscape



Bunium persicum



Delphinium ajacis



Isodan regosus



Monotrapa Uniflora



Dioscorea deltoidea



Bird Nest Fungus



Luna moth



Morchella esculenta



Parrotiopsis Jacquemontiana



Allium sps



Chesnuteared bunting



Leaf Warbler



Red Flanked Bluetail

CHAPTER 4

THE PROTECTED AREA AND THE INTERFACE LANDUSE SITUATION

4.1 The Existing Situation in the Zone of Influence (Eco-Sensitive Zone)

The Tral wildlife sanctuary has huge zone of influence with 26 villages with population estimation of 4500 individuals as per census 2011 (Source: India stat.) surrounding the sanctuary. The livelihood and occupation of the most people living in the proximity of sanctuary is mainly agriculture and horticulture with dairy farming. In the past fringe communities used to be dependent on forest resources such as grazing, fire wood collection, collection of NTFPs etc. ever since the notification of the wildlife sanctuary came all such activities which affect the wildlife and hamper their habitat have been completely stopped and banned. Traditionally, the people of the zone of influence have been very positive regarding the protection of wild flora and fauna, however with increase in Human – wildlife conflict resulting in the livestock depredation, crop raiding and human injuries and fatalities this perception may change drastically which affects both wildlife and wildlife managers.

4.2 Location, extent, boundaries, natural attributes of the zone of influence

There are 26 villages falling under the zone of influence of Tral wildlife sanctuary extending from the Kavil Shikargah, Butnur, Naristan, and Aripal in the Tral sub – division up to Wahabkhar, Seth Pokhran and Nagendar villages touching the boundaries of Khrew and Khonmoh conservation reserves. In the North, it shares boundary with Dachigam National Park, Overa-Aru forms the North – East boundary of the sanctuary. In the Eastern side the wildlife sanctuary is bounded by the Kulur forests of the Awantipora Forest Division, while as Lidder Nallah demarcates the sanctuary on South – Eastern side. The famous and historical Wasturwan Forests bound the sanctuary from the western side, while as the Nagendar forest area of the Khrew conservation reserve forms the north – western boundary of the Tral Wildlife Sanctuary. The detailed list of villages falling in the zone of influence of Tral Wildlife sanctuary is given in Annexure VI.

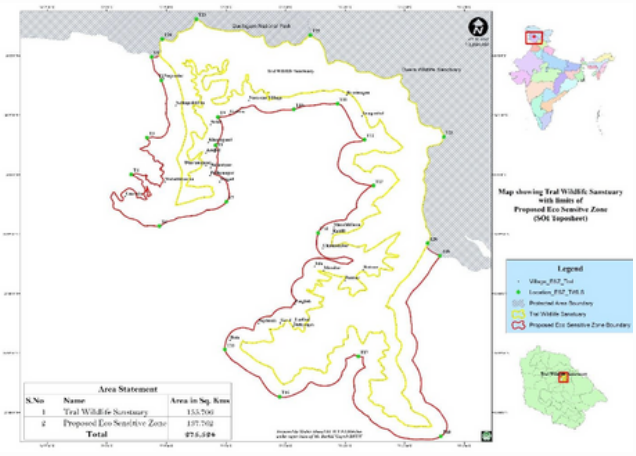


Plate 8 The villages in the zone of influence falling under Tral Wildlife Sanctuary

Villages inside and outside the protected areas

There are no settlements of any sort inside the wildlife sanctuary currently. Prior to declaration of wildlife sanctuary, the areas of Shikargah, Khangund and Panyar used to be the hunting reserves or 'Rakh' of the Maharaja of the princely state of erstwhile state of Jammu and Kashmir. There are no records of any settlements in the areas currently falling in jurisdiction of Tral Wildlife Sanctuary. The increase in the incidences and surge in the Human – wildlife Interaction, livestock depredation and crop raiding in the zone of influence is one of the negative impacts in view of the people living in fringe areas and if not mitigated meticulously may severely affect the harmonious relation between the protected area manager and the people of fringe communities.

State of the people's economy

The occupation of the villagers falling in the zone of influence of Tral Wildlife sanctuary mostly comprise of agriculture, horticulture, animal husbandry and other agro related activities. The livestock grazing practices is one of the main sources of livelihood of the locals, which is the cause of disagreement between the protected area managers and the local people owing to the grazing within the protected areas or the reserve forest. The villagers are mostly marginal farmers with small to medium land holdings. A significant proposition of the population in the zone of influence comprises of SC and ST communities.

Implications of the land use and resource dependency for the conservation of the protected area

The most of the farmers living in the zone of influence of the sanctuary are marginal holding small land proportions and most of the people rear livestock to supplement their income. Agriculture and horticulture are main sources of economy. The change in LULC in the zone of influence shifting from the traditional agriculture practices to the fruit orchards have changed the scenario as it has increased the human – wildlife Interaction.

4.3 Forest / protected area management practices and their implications for locals

The major implications of the management practices for the people of the area are listed as under:

- Livestock Grazing: -The villagers, who used the areas of the sanctuary before being declared as wildlife sanctuary are prevented from cattle grazing, hunting, fishing and collection of timber, NTFPs etc. Now they have to graze their cattle elsewhere or illegally in the protected areas. The upper areas of the sanctuary will be under huge livestock grazing pressure in spite of the fact that the area falls now under the protected area being declared as Wildlife sanctuary.
- Delayed and inadequate compensation for crop damage: - Today Human – wildlife Interaction has become one of the major concerns for the department of wildlife protection. The increase in number of conflict cases in zone of influence has become a major problem for the locals as well as the wildlife managers. The livestock killing and human injuries by wild animals such as black bear and leopard, crop raiding by black bear and Himalayan Grey Langur have become common in the zone of influence. The chances of increase in killing and damage by animals in the area leading to retaliatory killing of species such as black bear and leopard by local villagers is increasing. The factor of suitable compensation and fast relief from damage by wild animals to crop, livestock and human is very important to the well-being of the protected area. There should be some efficient mechanism immediately worked out which includes rise in compensation amount, faster release of funds and there is need of inclusion of some orchard crops in the compensation scheme to reduce the negative impact of such incidences on wild animals.

4.4 The development programmes and conservation issues

The Government agencies such as Forest department, Rural development department, Jal Shakti, Education, Agriculture, Animal husbandry, social welfare, R & B and other line departments should be implementing various development activities such as construction of roads and other infrastructures, increasing the livelihood opportunities and economic status of the people in conformity with the department of wildlife protection so that the dependency on the sanctuary resources is decreased. These developmental practices are likely to influence the socio-economic condition of the locals, which are living in the zone of influence. The improvement in the socio-economic condition of the local people will definitely help in conservation of the resources of the wildlife sanctuary.

Summary of problem faced by people that affect the management of the protected area and the zone of influence:

- Shrinkage of area for cattle grazing.
- Abolition of traditional access to forest resources in the wildlife sanctuary.
- Poor conditions of the local villagers' resulting in considerable illegal activities such as timber felling and grazing in reserved forest areas in zone of influence.
- Poor education and awareness, which results in lack of sensitivity among the people towards wildlife protection as observed during forest fire time. In conflict situations, people harass the animals, which some time comes out of the forest in human habitations.
- Damage because of different types of conflicts by Human-animal interaction, which includes crop damage, livestock killing and sometimes-human mortality, and retaliatory killing of animal.



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CHAPTER 5

VISION PLAN OBJECTIVES AND PROBLEMS

5.1 Vision

The current management plan is the first scientifically driven management plan based on the guidelines provided by the MOEF&CC and its wildlife wing. The vision of current management plan is to conserve the biodiversity particularly the endemic RET species, safeguard the important wildlife corridors connecting the relic habitat of Hangul and to enhance the Hangul population via captive breeding at Hangul conservation Breeding Centre, Shikargah. The current management plan aspires to conserve all in a way to ensure the ecosystem services are render in a sustainable way.

5.2 Plan Objectives

The following are the main objectives, which are being formulated around the set values recognized and will be implemented on the priority basis: -

- To formulate conservation strategies and policies for the long – term conservation of endemic RET species of both flora and fauna.
- To enhance the Hangul population through captive breeding at HCBC
- To enhance the habitat through various methods of improvement for providing safe shelter, water and food to wild fauna
- To formulate the strategies and management practices to mitigate the Human – wildlife Interaction.
- To facilitate and undertake long term and short – term research programmes particularly significant towards managemental interventions.
- To ensure capacity building of frontline staff for effective enforcement and effective implementation of strategies in the field.
- To device, a strong and effective fire management plan.
- To strengthen the protected area management – people relation especially people of fringe areas, NGOs and other stakeholders in the management.
- To device effective strategies to deal with the menace of invasive alien and unpalatable species.
- Consistent with the above objectives in the zone of influence with sensitivity to cultural and economic well-being of the communities, reduce the dependency on forest – based resources.

5.3 Problems in achieving the objectives

- Shortage of staff and ill – equipped staff, inadequate infrastructure to carry out the daily routine activities.
- Late and inadequate budgetary allocations.
- Inadequate tourist facilities.
- Lack of co-operation between various line departments for carrying out various developmental activities.
- Lack of DPR for Hangul conservation and breeding center, Shikargah, Tral
- High security zone.
- Lack of internal zonation which current management plan strongly recommends.

5.4 Swot Analysis for Tral Wildlife Sanctuary

The SWOT analysis provides an overview of the protected area's inherent assets and weaknesses while also identifying the opportunities and the challenges created by external factors. The strengths, weaknesses, Opportunities and Threats to the Tral Wildlife Sanctuary have been worked out as follows:

Strengths

- Being located centrally among the protected areas of Kashmir, Tral wildlife sanctuary harbors extremely rich biodiversity and ecosystem services.
- An important wildlife corridor Tral connects Overa– Aru wildlife sanctuary with Dachigam National Park and Khrew and Khonmoh conservation Reserves thus connects all important relic habitats of Hangul.
- The presence of endemic threatened species of wild flora and fauna is characteristic feature of Tral wildlife sanctuary.
- The establishment of Hangul Conservation and Breeding Centre (HCBC) at Shikargah is the peculiar characteristic of Tral Wildlife sanctuary.

Weaknesses

- Being declared recently Tral wildlife sanctuary is being managed without any scientific management plan. (The current management plan will cater the need).
- Shortage of the staff, lack of trained and well skilled staff.
- Lack of coordinated research between the department and various research organizations.

Opportunities

- Tral wildlife sanctuary has the opportunity to be a game changer in Hangul conservation via captive breeding program at Hangul Conservation and Breeding Centre.
- Tral can act as safe heaven for the RET species by acting as a protected corridor connecting the important wild faunal habitats.
- Ample scope for coordinated research to convert weakness into strengths.
- Increase the Hangul population via conservation breeding program.

Threats

- Human – wildlife Interaction which on one hand results in crop raiding, human injuries and sometimes death and on other hand retaliatory killing and serious injuries to the wild animals.
- Grazing in the alpine pastures particularly during the summer season resulting in increased competition in both food and space are potent threat or source of communicable diseases.
- Apprehensions of poaching of RET species in Tral Wildlife sanctuary.
- Uncontrolled forest fires.
- High security zone, which affects proper managemental activities in Tral Wildlife Sanctuary.



Corylus jacquemontii, hazle nut

CHAPTER 6

THE MANAGEMENT STRATEGIES

6.1 Boundaries

The details of boundaries of Tral wildlife sanctuary are discussed in the Chapter two.

Ecological Boundaries

- **Boundary delineation and demarcation:** Being declared recently the boundaries of the Tral wildlife sanctuary should be rechecked, confirmed and digitized. Compartment, Beat and Block boundaries should be marked through rings on trees or physical features in order to create a clear distinction between the jurisdictions so that it is easier for field staff to be aware about their jurisdictional areas. The properly demarcated area will enable the frontline staff of the department to check the magnitude of management practices beneficial for the survival of wildlife species and their dilapidated habitat. Properly demarcated area will be helpful to eradicate the menace of illegal encroachment. Under this dispense, the boundary demarcation will be carried out by erecting concrete cement pillars depicting name, date of demarcation, demarcation code, department emblem etc. By raising chain link mesh along the actual demarcated area of the protected areas, so that impact in terms of biotic interference and menace of Grazing will be minimized and besides eradication of illegal encroachment will become easier. Presently Tral WLS is fully demarcated by fixing of 808 No's of boundary pillars.

The boundary consolidation of by way of erection of chain link fencing is being carried out and upto end of 2023-24 fiscal year a total of around 3.30 km fencing has been erected, while during current fiscal year 3200 rfts will be carried out.

- **Maintenance and regular monitoring:** Name of block, compartment number and number of pillar should be inscribed on the pillars and record maintained in the office. Wildlife warden, Range officers and all concerned block officers and field staff should regularly check these boundaries during their routine inspection of the area.

- **Inter-departmental coordination:** Liaison should be established with the Revenue authorities, forest department for proper correction of records relevant to lands allotted to the wildlife department. Liaison with Revenue department will be helpful in clarifying the confusions on the protected area boundaries. In addition to this the status of land around the wildlife sanctuary should also be evaluated in order to monitor the activities in adjoining areas.

6.2 Zonation of the sanctuary and Zone Plans

As the, Tral wildlife sanctuary is newly formed protected area, its zonation and zone plans are of paramount importance and will be taken on the priority basis for ease in the management of the sanctuary. The current management plan proposes the zonation of sanctuary into core zone, buffer zone and Eco- tourism zone. The extent of buffer zone will be site specific and care of which will be taken by declaration of Eco Sensitive Zone. Proposal for Formulation of Eco sensitive around the Tral Wildlife sanctuary has already been forwarded to concerned division of MoEF & CC and in this regard and draft notification has been issued which is enclosed as Annexure V.

GIS allows for precise mapping of different zones within the sanctuary, such as core, buffer, and eco-tourism areas. By demarcating these zones with scientific accuracy, we ensure that sensitive habitats and species are protected while also allowing for sustainable human activities like tourism and resource use.

Ecotourism in the Eco Park Shikargah and Naristan Khangund of the Tral Wildlife Sanctuary will be promoted in alignment with their eco-tourism potential by focusing on conservation, education, and sustainable tourism practices. These areas will serve as models of sustainable tourism that shall protect the natural environment while offering unique, enriching experiences for visitors, while the process of demarcating buffer and core zone is under process.

The zonation of the sanctuary into various zones will provide a geographical framework for management, indicate management priorities in various zones of the sanctuary, which will help in minimizing the potential conflicts between uses and activities and the protection of protected area values and to provide a basis for assessing the suitability of future activities and development proposals.

Core Zone

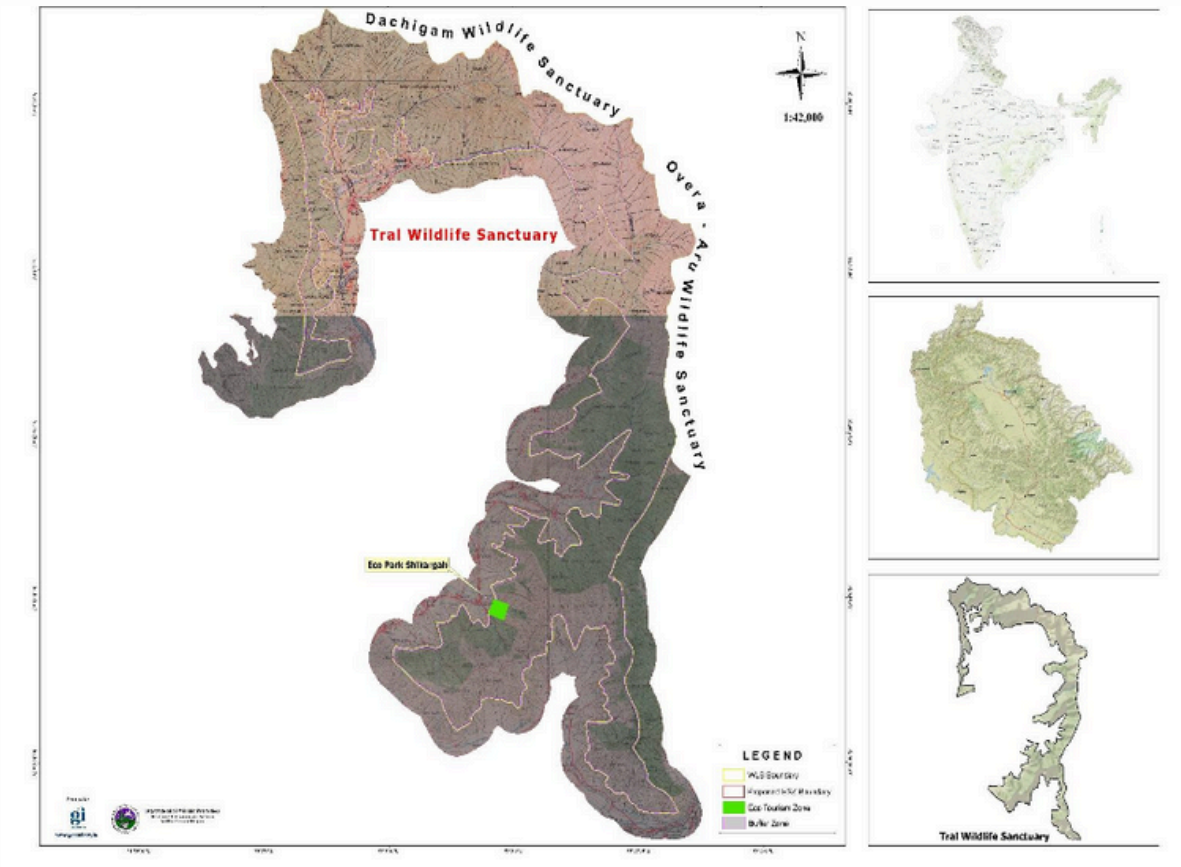
The core zone is essentially inviolate area where all sorts of human activities shall be prohibited. It is the Sanctum Santorum of the Protected area. The focus of the management shall be the conservation of last viable population of Hangul and protection and safeguard of the wildlife corridors connecting the important protected areas of the landscape.

Buffer Zone

It will be demarcated such that it can absorb all sorts of pressures and safeguard the core zone from all sorts of disturbances.

Eco-tourism Zone

It is the zone where ecotourism will be allowed to certain extent without compromising for the integrity of the natural ecosystem. In this context Eco Park Shikargah can be developed not only for the ecotourism activities but can be hub for nature learning and information decimation center and can play a crucial role for the education, awareness and long-term conservation of the RET species of the area.



Map Showing Tral Wildlife Sanctuary along with Buffer Zone and Eco-tourism area

Eco-sensitive Zone

Tral Wildlife Sanctuary and the adjoining areas fall in the distributary range of the Kashmir Red Deer (Hangul), *Cervus hanglu*, a schedule I species as per the Wildlife (Protection) Act, 1972 & designated as `critically endangered` as per the IUCN's Red Data Book. The distribution of Hangul is restricted to Dachigam National Park and a few adjoining areas only. The Tral Wildlife Sanctuary is among the few areas outside Dachigam National Park where a population of this critically endangered deer still survive. Besides Dachigam, the sanctuary is connected with other important wildlife areas, like iOvera-Aru Wildlife Sanctuary and Khrew Conservation Reserve. These protected areas together form a landscape of rich biodiversity and hold good population of some of the important and endemic species of animals, birds and vegetation. In this landscape, Tral Wildlife Sanctuary forms an important corridor for movement of Hangul. The declaration of the eco-sensitive zone shall help in creating a buffer around the sanctuary area leading to a secure, suitable and viable habitat for the last remnant Hangul population.

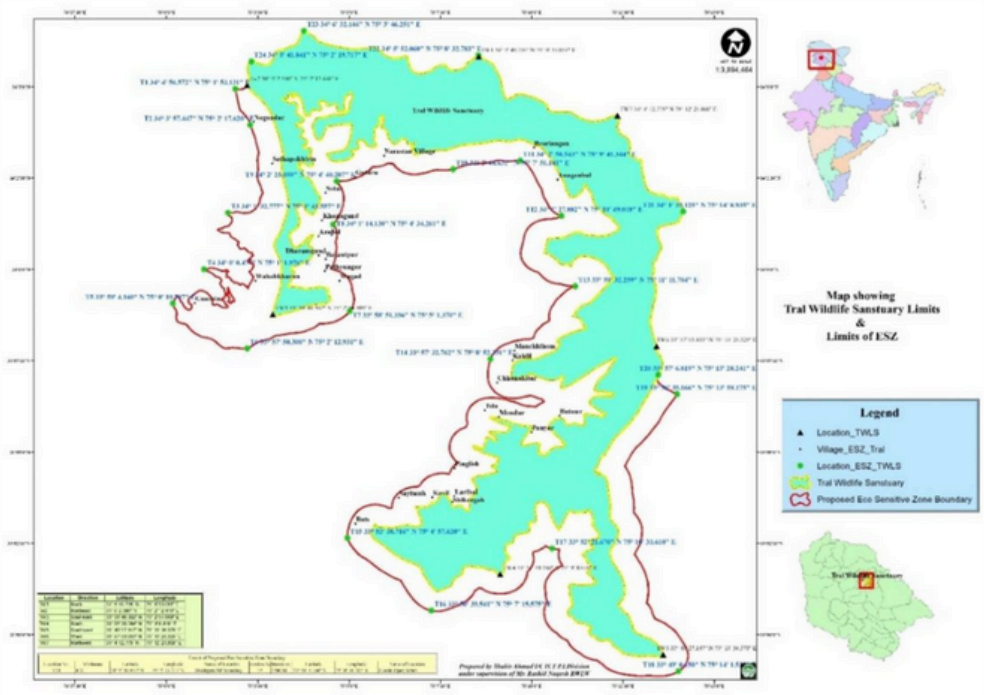


Plate 9 Map showing the proposed Eco sensitive zone of the Tral Wildlife sanctuary

6.3 Theme Plans for the Sanctuary

The managemental interventions and strategies applicable to whole Tral Wildlife sanctuary irrespective of the zones in which they fall are discussed under the following theme plans:

- Habitat management and improvement
- Control of grazing and other biotic pressures
- Control of poaching and other illegal activities
- Rescue, rehabilitation and animal health monitoring
- Management of Human – wildlife Interaction
- Watershed development and management
- Fire management
- Capacity building and human resources development
- Communication and infrastructure development
- Ecotourism development

6.3.1 Theme plan for habitat management and improvement

As a part of habitat management, improvement and development of the following strategies shall be employed so that the habitat remains in its pristine conditions and all the life supporting conditions with regard to shelter, food and water are available throughout the seasons all along the year.

- Water, which is key to the survival of wildlife, will be made available throughout the year by constructing artificial waterholes in the areas with less or no availability of water. The waterholes will be constructed based on the movement of animals through that area or based on other activities such as resting, feeding or rutting of Hangul. The older waterholes will be made functional through periodical repair and maintenance.
- Identification, protection, improvement and maintenance of important wildlife corridors running through the Tral Wildlife sanctuary.
- Fencing up of boundaries wherever required to avoid apprehensions of encroachment and restrict movement of animals outside national park to avoid Human – wildlife Interaction. The nature and type of fencing should be site specific.
- Plantation of the trees particularly the fruit bearing in the areas devoid of such plantation or less regeneration rate

The broadleaved tree will be planted in mixture with the coniferous plants. The plantations shall be scientifically managed and plantation Journal to be maintained. This will be particularly helpful in restricting animals inside the sanctuary and will of immense significance in reducing the human – wildlife Interaction.

- Heavily eroded and degraded alpine pastures need to be protected on temporary basis in order to allow recovery and facilitate regeneration of native grasses, herbs and shrubs.

6.3.1.1 Invasive species management

Controlling Invasive alien Species and Restoring Native Vegetation

Invasive Alien Species Management: We will actively manage invasive species that threaten local biodiversity. This will involve identifying invasive plant removing them through responsible and effective methods, and implementing long-term monitoring strategies to ensure their control, such as patch sowing.

Native Vegetation Restoration: Our efforts will focus on restoring native vegetation by replanting indigenous species and removing non-native plants. We will prioritize planting species that are vital for wildlife habitats and that contribute to ecosystem stability.

Habitat restoration action plan to include planting, seed sowing, eater hole creation and salt lick augmentation

Habitat Enrichment Programs

Water Hole Creation: We will strategically create artificial waterholes in areas that are dry or have limited access to natural water sources, ensuring that both wildlife and vegetation have reliable water resources throughout the year.

Salt Lick Augmentation: By enhancing or introducing salt licks, we will ensure herbivorous species have access to essential minerals required for their health, reproduction, and overall well-being.

Native Species Plantations: Eradication of the weeds, unpalatable grasses an Invasive Alein Species such as Solenanthus circinatus, Stipa siberica, Euphorbia spp., Isodon regosus and other such species in the Hangul habitat and corridors, which are unpalatable. Planting of indigenous nutritive grass species such as Red and white clover in place of unpalatable species in the prime grasslands of Hangul habitat. Identification and planning for removal of Invasive Alien Species.

- The department shall ensure evaluation and monitoring the health of ecosystem through plant health evaluation and periodic plant disease assessment through regular surveying and monitoring.

We will establish plantations of native species to restore ecosystems, enhance biodiversity, and provide food and shelter for wildlife.

Implementation:

Launching Habitat Restoration Drives: Once corridors are mapped, we will launch habitat restoration programs in degraded areas, focusing and planting native vegetation to promote ecological recovery.

Collaboration with Researchers: Work with ecologists, biologists, and researchers to monitor wildlife movement and the effectiveness of corridor protection. This data will inform future restoration efforts and enable us to make data-driven decisions.

6.3.2 Site-specific management interventions

Critical Habitats shall be identified for targeted conservation efforts

Identifying Critical Habitats for targeted conservation efforts is a key part of preserving endangered species like the Hangul in the Tral Wildlife Sanctuary. Critical habitats are areas that are essential for the survival of a species because they provide the necessary resources for feeding, breeding, shelter, and migration.

The process of identifying these critical habitats is ongoing and involves several steps:

Ecological Surveys and Monitoring: Comprehensive surveys are conducted to assess the quality and extent of different habitats within the sanctuary. This includes evaluating vegetation types, water sources, food availability, and shelter for the Hangul.

Habitat Mapping: Using advanced techniques like GIS (Geographical Information Systems) and remote sensing, the team maps areas that are particularly important for Hangul. This allows for a detailed understanding of habitat distribution and identifies areas of overlap with human activities or threats.

Behavioural Studies of the Hangul: Observing the movement patterns, feeding habits, and breeding sites of Hangul helps in pinpointing areas that are used most frequently or have particular significance for the species' life cycle.

Analysis of Threats: The study also looks at factors like deforestation, human encroachment, pollution, and hunting, which can lead to the degradation of critical habitats. By understanding the threats, conservationists can prioritize habitats that need immediate protection or restoration.

Collaborative Efforts: Local communities, forest officials, and conservation groups may also be involved in the identification process. Their knowledge of the land and wildlife behaviours can provide valuable insights.

Ongoing Process

Currently, this process of identifying critical habitats for Hangul within the sanctuary is still underway. It involves continuous field studies, consultations with experts, and the use of modern technology to ensure that the most vital areas for conservation are identified and protected. Once these critical habitats are pinpointed, targeted conservation efforts such as habitat restoration, protection, and monitoring can be implemented to safeguard Hangul and other wildlife in the sanctuary.

6.3.3 Grazing regulation

Unregulated grazing poses significant threats to biodiversity by degrading habitats, reducing vegetation cover, and contributing to soil erosion. In Tral Wildlife Sanctuary, we recognize the importance of managing grazing to protect the sanctuary's ecosystems while also ensuring that local pastoral communities can sustain their livelihoods.

To effectively manage grazing within the sanctuary, a comprehensive livestock census shall be carried out. This will allow us to gather data on the number of, family and livestock, and distribution of livestock in and around the sanctuary, which will help assess the level of grazing pressure on key habitats and resources.

Data-Driven Decision Making: The results from the livestock census will guide our grazing management strategies. By understanding the grazing dynamics, overgrazed areas shall be identified, as well as those where grazing pressure is sustainable. This information will also help us set appropriate grazing limits to reduce the risk of habitat degradation and ensure the health of both wildlife and pastures.

Implement Rotational Grazing Systems to Prevent Overgrazing

Rotational Grazing Systems: To avoid overgrazing and allow vegetation to recover, implementation of rotational grazing system shall be introduced. This involves dividing the available grazing areas into sections and rotating livestock through these sections in a planned manner, giving each area time to rest and regenerate.

Rest Periods for Pastures: The rotational system will be designed to ensure that pastures are not overused, helping to maintain soil fertility, reduce erosion, and ensure that livestock have a steady supply of quality forage. It will also allow vegetation to recover after grazing, contributing to habitat restoration for wildlife.

Critical Habitats: Declaring critical areas within a sanctuary as zero grazing zones means prohibiting livestock grazing in these sensitive regions. To reduce damage caused by grazing, herders will be relocated to other areas where livestock grazing is permitted. This strategy helps protect the environment by preventing overgrazing, soil degradation, and disturbances to wildlife. It ensures that these ecosystems can thrive without the negative impacts of livestock, supporting biodiversity conservation while promoting sustainable land-use practices.

Engagement with Pastoral Communities for Participatory Decision-Making

Community Involvement in Grazing Management: Engaging local pastoral communities in decision-making is a cornerstone of our approach. Consultations, workshops, and community meetings to discuss grazing management strategies and solicit feedback on potential solutions have been already held.

Continuous Monitoring and Adaptation Based on Grazing Impact Studies

Ongoing Grazing Impact Studies: Regular grazing impact assessments on biodiversity within the sanctuary shall be carried out. These studies will include monitoring soil quality, vegetation cover, and wildlife populations in relation to grazing pressure.

6.3.4 Theme plan for Control of poaching and other illegal activities

Tral wildlife sanctuary being one of the abodes of the Hangul population and an important corridor for the rare and endemic species area is under constant threat. Owing to the tireless efforts of the Department of Wildlife protection, regular patrolling by the frontline staff together with the proactive role of the protected area management, the poaching has come down to zero. Therefore, the department needs to equip itself adequately to meet the challenges.

To curb the menace of poaching and other illegal activities, the following prescriptions are to be followed during the plan period: -

- Anti – poaching camps will be setup at most strategic and critical points to enhance the protection of the sanctuary. The core area of the sanctuary and important Hangul and other RET species corridors will be prioritized.
- Camping for 4–5-day duration will be regularly carried out in the core and buffer areas. At least 3 to 4 camps will be arranged in the critical areas each month to ensure proper protection.
- Providing all basic logistic facilities to field staff such as wireless equipment, if possible, flashlights and cells, GPS, binoculars, cameras, summer and winter gears etc.
- All existing patrolling paths will be cleared once a year at least to provide safe movement to the field staff for patrolling. Proper mapping of these paths will be done and if required new alignment of patrolling paths for effective patrolling will be done.
- All villagers, who are living in the zone of influence of Tral Wildlife Sanctuary and having firearms, will be made to register with the concerned police stations. Effort is on to enlist the names of such persons for registering such arms with the park authority as per the existing Wildlife protection rules. There is strong need to create database of all those persons who own firearms. This will serve as great check on poaching apprehensions. There is a need for strict compliance of provisions suggested in different sections of the Indian Wildlife Protection Act, 1972.
- Use of modern technology such as thermal cameras, GSM camera traps and drones, which will of immense significance for enhancing the surveillance and protection of this critically, valued wildlife sanctuary.

6.3.5 Theme plan for Rescue, rehabilitation and animal health monitoring

- All protected areas of the valley exist in close proximity with the village hutments. Natural calamities like heavy snowfall, incessant rains, floods, heavy biotic interference or sometime scarcity of food etc. force the wild animals to approach the crop fields and invade human settlement. By doing so animals render heavy damage to their crop fields, orchards and livestock and inflict heavy injuries to the human beings too, who sometimes succumb due to injuries. In retaliation, the angry mobs also kill many animals and inflict heavy injuries to them. These animals are rescued by the department and rehabilitated accordingly.
- The department had launched a program to establish Rescue and Rehabilitation Centers in each wildlife-protected area so that animals will be treated by local veterinarians, field staff and shall accordingly be released in their respective protected areas. These animals are to be rescued from far off areas and that too in trauma conditions, their easy transportation without causing further concussions, is possible if a rescue van is available with the department. Priority has also been given to purchase a rescue van including its fuel emoluments.

- It becomes very difficult for field staff to trap any injured animal manually without tools/devices as animals sometimes render heavy casualties to the field staff deployed for the job. To avert such incidents and without causing more distress to the wild animals, proper trapping/tranquilizing tools are essential in operations.
- Animals rescued need rearing, carriage, treatment and engagement of additional, skilled Animal Keepers becomes essential constituent of Rescue and Rehabilitation Program. Theserescued animals are sometimes rescued from far off areas and outside protected area need private transportation. Expenditure on this account has been emphasized in the action plan. Proper provision for vaccination, medicine, bait, feed and due publicity regarding vaccination camps, animal handling, and precautionary measures needed be taken and to be displayed through print and electronic media.

6.3.6 Theme plan for Human – wildlife Interaction

Human – wildlife co – existence and conflict to be discussed in detail in separate chapter Human – wildlife Interactions.

6.3.7 Theme plan for watershed management, development, and control of soil erosion

The Tral wildlife sanctuary being nestled in the young mountain ranges is bestowed with the vast network of the perineal water streams, springs and other natural water resources. Being surrounded by the newly formed young Himalayas, Soil erosion in this protected area is attributed to cloud bursts and heavy rainfall in upper elevations of the sanctuary. Erosion is not a regular process but constant monitoring with the use of multi – date satellite data to ascertain the fluvial dynamics and trend of erosion is required.

The watershed unit holds now key position in the development and has been described as “Unit of Development”. The following procedures will be adopted in plan period for the watershed management and development:

- DRSM works should be used to create bunds in order to prevent the divergence of water into high vegetation zones of the Tral wildlife Sanctuary.
- Construction of check dams – the check dams will be constructed using the locally available materials in the high priority areas.
- To conduct a detailed survey / study on the soil structure, composition and pH to evaluate the response of the biological communities to the long-term treatments and associated changes in soil pH. Since this is very technical study, therefore involvement of relevant research wings and the relevant line departments shall be ensured. Budgetary provision with regard to such studies has been kept under the head research and survey.

6.3.8 Fire Management

The fire management will be dealt in separate specialized chapter named the fire management Plan.

6.3.9 Landscape level conservation approach

A landscape-level conservation strategy is essential for maintaining ecological connectivity and ensuring the survival of species across broader regions. It recognizes that the Tral Wildlife Sanctuary does not exist in isolation but must be linked to neighbouring protected areas, allowing for species movement, gene flow, and ecosystem health. By taking a larger, integrated view of conservation, we ensure that the sanctuary's ecological integrity is preserved and enhanced over the long term. Focus shall be on identifying and protecting key wildlife corridors that connect Tral Wildlife Sanctuary to adjacent protected areas. These corridors are essential for ensuring safe wildlife movement, especially for Hangul. The planned study to enhance the **Hangul** (also known as the Kashmir stag) corridors within the Tral Wildlife Sanctuary shall be a significant step in promoting the conservation of this endangered species.
This deep study will likely focus on several key areas:

- Habitat Mapping and Assessment: Detailed mapping of the existing corridors and the surrounding habitats to understand their condition. This would involve identifying areas where the corridors might be fragmented or degraded due to human activities, deforestation, or climate change.

- Identifying Potential Threats: The study will assess the threats faced by Hangul populations, such as poaching, habitat destruction, and human-wildlife conflict. It will also consider how these threats affect the connectivity between different parts of the sanctuary.

- Ecological Restoration: Based on the findings, strategies for restoring and enhancing these corridors may be proposed. This could include reforestation, the removal of barriers (like roads or fences), and the creation of buffer zones to protect the corridors.

- Monitoring and Data Collection: Implementing new technologies, such as camera traps or satellite tracking, to monitor the movement of Hangul populations and better understand their needs.
- Community Involvement: The study might also involve local communities in conservation efforts, helping to build awareness about the importance of maintaining wildlife corridors for the survival of Hangul deer.

6.3.10 Infrastructure and equipment

Effective infrastructure is essential for the success of conservation and wildlife protection efforts. To ensure the safety of both wildlife and local communities, we are committed to enhancing the infrastructure that supports monitoring, patrolling, and resource management within Tral Wildlife Sanctuary. By upgrading critical infrastructure and introducing new technologies, we will enhance our ability to detect threats, respond to incidents quickly, and improve overall sanctuary management.

Proposed Infrastructure Enhancements & Our Commitment

- **Upgrade Patrolling Infrastructure, Including Watchtowers, Ranger Stations, and Surveillance Systems**

1. Enhanced Patrolling Infrastructure: We will upgrade existing patrolling infrastructure by improving watchtowers, ranger stations, and surveillance systems across the sanctuary. Watchtowers will be strategically located to improve visibility over key areas and provide rangers with vantage points to monitor wildlife movement and detect potential threats, such as poaching or illegal encroachment.
2. Ranger Stations: We will ensure that ranger stations are adequately equipped, well-maintained, and positioned in key areas for rapid response. These stations will serve as operational hubs where rangers can plan patrol routes, respond to incidents, and store necessary equipment.
3. Surveillance Systems: In addition to physical infrastructure, we will strengthen our surveillance capabilities through the integration of cameras, motion sensors, and other monitoring tools. These systems will enable continuous surveillance of sensitive zones, and real-time data will be used to inform patrolling teams about emerging threats.

- Introduce Drone-Based Monitoring for Better Surveillance

1. Use of Drones for Enhanced Monitoring: Drones will be deployed to provide a bird's-eye view of the sanctuary and areas that are difficult to access by foot or vehicle. This technology will allow us to cover large areas quickly, especially in remote regions, and gather high-resolution images and videos for surveillance, wildlife tracking, and habitat monitoring.
2. Real-Time Data Collection: Drones equipped with infrared cameras and other sensors will help identify wildlife, poachers, or signs of fire in real-time. This will provide an additional layer of intelligence for patrolling teams, enabling them to respond to incidents much faster and more effectively.

- Strengthen Firefighting and Anti-Poaching Equipment

1. Upgraded Firefighting Equipment: To mitigate the risk of wildfires, we will invest in advanced firefighting equipment, such as portable pumps, fire retardant materials, and firebreaks. Training for staff on how to use these resources effectively will be prioritized to ensure a quick and coordinated response during fire outbreaks.
2. Anti-Poaching Gear: Poaching remains one of the most significant threats to wildlife in many sanctuaries. We will provide rangers with state-of-the-art anti-poaching equipment, including night-vision goggles, GPS tracking devices, and mobile communication tools to improve their ability to detect and respond to poaching incidents. Additionally, we will ensure that anti-poaching efforts are supported by effective legal frameworks and enforcement systems.

- Infrastructure Assessment Reports Will Guide Phased Upgrades

1. Comprehensive Infrastructure Assessments: A thorough assessment of existing infrastructure will be conducted to identify areas that require improvement or replacement. This assessment

will focus on the condition of watchtowers, ranger stations, surveillance equipment, and other key infrastructure.

2.Phased Implementation: Based on the assessment, we will develop a phased plan to upgrade infrastructure, prioritizing areas of greatest need and ensuring that improvements are made progressively over time. This approach will allow for cost-effective upgrades and minimize disruption to ongoing operations.

Proposed Infrastructure Enhancements

S. No.	Type of infrastructure	Existing	No Required	Remarks
1	Range office	02	02	Two existing Range offices need to be dismantling
2	Staff Quarter	01	02	
3	Nature Interpretation	00	01	
4	Guard Hut	05	06	Two out 05 need upgradation and repair
5	Watch Tower	01	08	
6	Shelter Shed	00	06	
7	Inspection Hut	01	01	
8	Entry Gate	01	01	
9	Rescue Van	01	01	
10	Field Vehicle/Ambulance	00	01	
11	Motor Bike	00	07	
12	Surveillance Centre	00	01	
13	Animal Rescue & Treatment Centre	00	01	
14	Rehabilitation centre at CBC	00	01	
15	Veterinary and Health Care Facilities	00	01	

6.3.11 Capacity building and human resource development

- The following activities regarding the capacity building and human resource development activities are planned in the current plan period: -
- Training shall be given to patrolling staff in unarmed combat, survival skills, usage of tranquillizing guns, first aid, swimming, driving etc. These trainings can be imparted in collaboration with many departments including police and armed forces.
- Training shall be given in the preparation of offence reports. Selected staff will be trained as 'handlers' as part of intelligence gathering.
- Police should be approached for giving short-erm trainings on intelligence gathering at regular intervals.
- It is proposed to procure field equipment such as Tents, Compass, GPS, Binoculars, Range finder, Digital camera, Rain Gauge, Thermometer, Hygrometer, Camera trap, field kits, etc. for all camping stations manned. In addition, the staff will be provided with field uniform once a year during the plan period.
- Exposure training to staff in identification of plants and animals shall periodically provide to staff working in the national park as part of building their capacity.
- Local persons from the communities from the fringe areas with aptitude will be identified and trained in basics of wildlife crime detection.

Roads/ bridges/ culverts

Access is key for the conservation; improved access will ensure strict and enhanced patrolling of the staff in the national park. Tral wildlife sanctuary and adjacent areas has a small network of roads inside the protected area, which require renovation, and there is a need to construct some new roads during the plan period. These roads are to be repaired annually after the winter season to make them motorable for emergency services. Besides there are several wooden, iron bridges and culverts on these roads. These are also to be periodically repaired and some of these are to be reconstructed.

Communication

Wireless communication

There is no wireless network system at present used in Tral wildlife sanctuary for communication and staff is largely dependent on mobile networks, which sometime do not have coverage in all areas of the park. There is an immediate need of wireless network in the sanctuary for better communication to enhance efforts for conservation of flora and fauna of the sanctuary.

Though the prescriptions for development of infrastructure and communication are given above, a detailed plan involving proper survey and alignment of roads, present status of buildings, new requirement and their locations, estimates etc. will be prepared during the first year of the plan.

Vehicles

Currently there is one vehicle in use at the Tral wildlife Sanctuary. It is proposed during the plan period to procure a four – wheeled jeep for effective management of the wildlife sanctuary.

6.3.12 Ecotourism Development

The theme plan for ecotourism has been discussed under a separate chapter Ecotourism Development.









Cleaneliness drive cum awareness programme








Painting Competition during Wildlife Week celebration

CHAPTER 7

THE FIRE MANAGEMENT PLAN

7.1 Introduction

The Tral wildlife sanctuary is protected area of paramount importance not only it harbors the critically endangered Hangul and other native distinguished flora and fauna but is an important connecting link between various protected areas forming a major axis and chain of protected area network. As fire is one of the most destructive agents of the wildlife throughout the world, therefore fire management has given special focus in order to mitigate its contagious effects it poses on the wild flora and fauna.

7.2 Guidelines for the formulation of supplementary fire management plan

- Fire management Plans are to prepare with area specific and need based.
- Identification of the causes and consequences of the forest fires.
- The frequently fire prone areas are to be prioritized and digitized used GPS and GIS techniques.
- Providing adequate training and facilities to the staff involved in the firefighting.
- Procurement of necessary equipment's and materials essential for firefighting.
- Maintenance of records at range and division level.
- Maintenance of whether Station Maps

7.3. Stratergy for Fire Management

7.3.1 Fire risk assessment system

Satellite Data for Fire Risk Assessment: To manage fire risks effectively, we will create a fire risk assessment system using satellite data and remote sensing tools. This will allow us to predict areas at high risk of fires based on environmental factors like vegetation type, fuel loads, and climate conditions, providing valuable data for planning fire prevention and control.

Monitoring and Early Detection: The data collected will be used to map fire-prone zones and implement early warning systems, ensuring rapid detection and response to fire threats.

Establishing Fire Lines and Equipping Staff

Fire Lines and Firebreaks: We will establish fire lines and firebreaks—cleared zones devoid of vegetation that help contain fires—around vulnerable areas to prevent fires from spreading. These firebreaks will be strategically placed to protect both wildlife and important habitats.

Staff Training and Equipment: Our fire management teams will be equipped with the necessary tools and resources, such as fire-resistant clothing, portable pumps, and firefighting equipment. We will also provide comprehensive training to ensure that our teams can act swiftly and safely in the event of a fire.

Vulnerable Areas: Few identified vulnerable areas of Tral WLS include Shikargarh, Bhatnoor, Aripal, Satoora A &B, Hajin, Nagwardi Pinglish and Kamla beats

7.3.2 Proposal for Installation of Weather Stations at Tral Wildlife Sanctuary

To enhance the monitoring and early detection of fire incidents, this division proposes the installation of weather stations at strategic locations within the Tral Wildlife Sanctuary. These weather stations will be equipped with state-of-the-art technology to monitor and record key environmental parameters such as temperature, wind flow, humidity, precipitation, and others. The data gathered from these stations will play a crucial role in the identification of potential fire-prone areas and help mitigate the risk of wildfires in vulnerable regions of the sanctuary.

Early Detection of Fire Risk

By continuously monitoring temperature, humidity, wind speed, and other environmental parameters, these weather stations will provide real-time data on environmental conditions that are conducive to wildfire occurrences. Temperature anomalies, combined with low humidity and high wind speeds, are significant indicators of increased fire risk. This proactive approach will help in early detection and prompt response to fire threats.

Fire-Prone Area Identification

Data from the weather stations will allow the identification of areas within the sanctuary that are most vulnerable to fires. These areas will be declared as **fire-prone zones** and monitored more closely, ensuring that preventive measures are taken, and resources are allocated efficiently to manage these high-risk regions.

Compartment Risk Rating

Once the data collected from the weather stations indicates that a particular area is more fire-prone than others, it will be marked accordingly on a map. The compartments of the sanctuary will be color-coded based on their fire risk, with the following classifications:

Red: High-risk areas with a significantly greater likelihood of fire outbreaks. These will require immediate attention and regular monitoring.
Yellow: Moderate-risk areas where conditions are favourable for fire but not immediate.
White: Low-risk areas that are less likely to experience fire incidents.
Green: Very low-risk areas that are generally safe from fire threats.
This compartmentalized mapping system will allow fire response teams to focus efforts and allocate resources more effectively.

Fire Alerts and Rapid Response

The weather stations will be integrated with fire alert systems, triggering automatic notifications to relevant authorities whenever conditions surpass predetermined risk thresholds. This will ensure that fire response teams are alerted swiftly, enabling faster action to combat fires and prevent their spread.

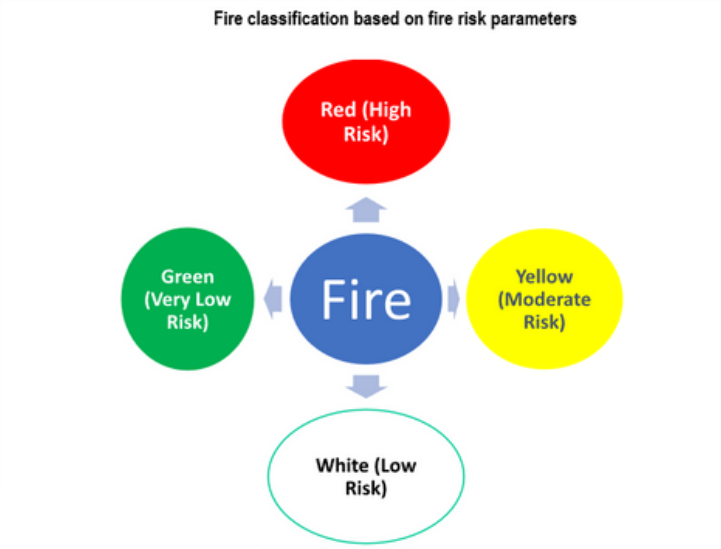
Comprehensive Data for Long-Term Monitoring

-Over time, the continuous collection of data will provide invaluable insights into seasonal trends, helping in the long-term analysis of fire risk patterns in the sanctuary. This data will also contribute to refining fire management strategies, aiding in better preparedness for future wildfire seasons.

Fire Risk Parameters and Thresholds

The table below shows the key weather parameters and their corresponding thresholds that would indicate a higher susceptibility to wildfires. The compartments will be categorized into Red, Yellow, White, and Green based on the following parameters:

Parameter	Green (Very Low Risk)	White (Low Risk)	Yellow (Moderate Risk)	Red (High Risk)
Temperature (°C)	< 20°C	20°C - 25°C	26°C - 30°C	> 30°C
Humidity (%)	> 70%	60% - 70%	40% - 59%	< 40%
Wind Speed (km/h)	0 - 5 km/h	6 - 10 km/h	11 - 20 km/h	> 20 km/h
Precipitation (mm/day)	> 5 mm/day	3 - 5 mm/day	1 - 2 mm/day	< 1 mm/day
Soil Moisture (%)	> 30%	20% - 30%	10% - 19%	< 10%
Drought Index (SPI)	SPI > 0.5	SPI = 0 to -0.5	SPI = -0.5 to -1.5	SPI < -1.5





weather Monitoring system

Once the data is collected and color coding is completed based on the parameters specific action plan will be implemented for each category. This will ensure a targeted, efficient approach to fire prevention and response across the affected areas. The action plan is as:

1. Red – High-Risk Areas:

- **Fire Combating Camps:** In these areas, dedicated fire-fighting camps will be established to facilitate immediate response to any fire outbreaks. These camps will be strategically located close to the most vulnerable regions, ensuring rapid deployment of resources. Fire-fighting teams will be stationed with all necessary equipment, including, fire suppression tools, fire retardant chemicals,pumps and communication systems.

- **Preventive Measures:** Regular fire breaks will be cleared around these areas, and controlled burns may be conducted to reduce accumulated dry fuel. The establishment of early warning systems with high-precision weather stations will provide constant monitoring, allowing authorities to respond even faster to any changes in conditions that might increase the risk of fire To proactively reduce fire risk, fire breaks will be strategically widened and maintained year-round, especially around areas with dense vegetation and dry underbrush. Public awareness campaigns and community engagement programs will also be implemented to educate nearby populations on fire prevention, including safe practices like proper waste disposal and avoiding outdoor burning during dry spells.

2. Yellow – Moderate-Risk Areas:

- **Fire Combating Camps:** Temporary or mobile fire-fighting units will be set up in these zones. These units will be on standby and prepared to deploy in case of a fire incident, although immediate response teams from the nearby high-risk areas may also assist if needed, to ensure a quick response in case of a fire outbreak. These units will be equipped with all necessary firefighting tools and will coordinate closely with the permanent teams stationed in the red-risk areas.
- **Preventive Measures:** Preventive measures in these regions will focus on the clearance of undergrowth and the maintenance of fire breaks.Public awareness campaigns on fire safety will be conducted in nearby communities, and regular patrols will ensure that potential fire hazards are mitigated.

3. White – Low-Risk Areas:

- **Fire Combating Camps:** While the need for permanent camps in these areas will be limited, a mobile fire-fighting unit may be deployed during peak fire seasons as a precaution. These units will be stationed near the boundary of these areas for quick deployment if the conditions shift.

- **Preventive Measures:** Routine monitoring and occasional maintenance of fire breaks will be performed to ensure that the risk remains low. Proactive measures will include removing dead vegetation and ensuring that surrounding areas are kept clear to prevent the spread of fire from more vulnerable zones.

4. Green – Very Low-Risk Areas:

- **Fire Combating Camps:** Given the very low risk of fire in these areas, no permanent or temporary fire-fighting camps will be established. However, occasional monitoring and surveillance will be maintained as part of the broader sanctuary fire management strategy.
- **Preventive Measures:** Minimal intervention is required in these areas, but periodic checks will ensure that no build-up of dry fuel occurs. The sanctuary's general fire safety measures, such as fire break maintenance in surrounding zones, will extend into these areas as an added precaution.

These enhanced strategies will ensure that not only are immediate responses and fire management protocols in place, but also that preventive actions are actively being taken to reduce the likelihood of a fire outbreak before it happens.

Explanation of parameters

Temperature: Areas with temperatures above 30°C are considered high risk as they significantly increase the chance of fire ignition, especially when paired with low humidity and dry conditions.

Humidity: Low humidity levels (below 40%) are a major risk factor, as they cause vegetation to dry out, making it more susceptible to catching fire. High humidity (above 70%) is generally safe and reduces fire risk.

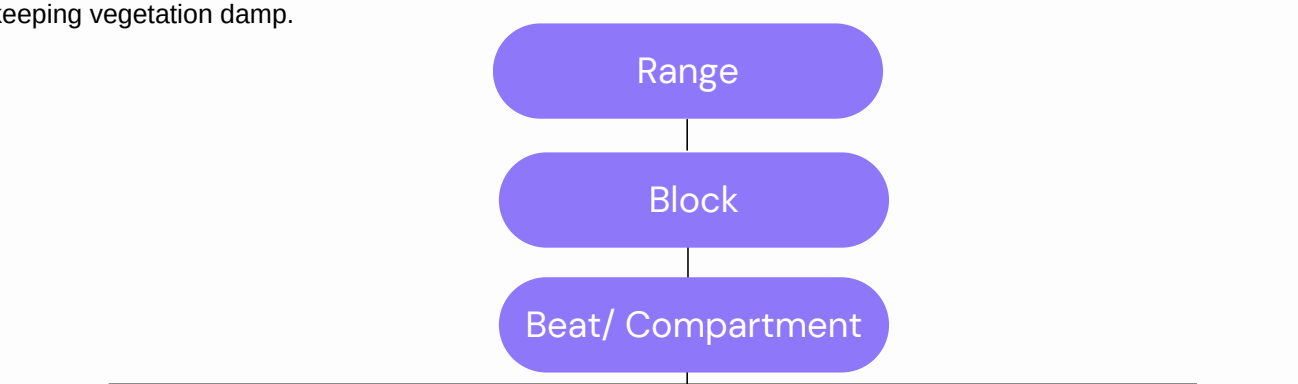
Wind Speed: Winds above 20 km/h can rapidly spread fires, especially when conditions are already dry. Areas with winds less than 5 km/h are considered low risk for fire spread.

Precipitation: Areas receiving less than 1 mm of precipitation per day are at high risk due to dry conditions. Areas with more than 5 mm of rain/day are less likely to experience fires.

Soil Moisture: Low soil moisture (below 10%) indicates dry ground, which is more likely to support fire ignition and spread. Higher soil moisture (above 30%) reduces the fire risk by keeping vegetation damp.

Drought Index (SPI): The Standardized Precipitation Index (SPI) helps monitor drought conditions. A negative SPI value (below -1.5) indicates severe drought, increasing fire risk. Positive values indicate wetter conditions with less fire risk.

Moreover, entries and observations related to potential fire hazards shall be recorded in the concerned guard books by the forest staff. These records should include detailed descriptions of any signs of increased fire risk, such as dry conditions, presence of combustible vegetation, or other unusual occurrences that could lead to fire outbreaks. The concerned range officers will regularly check these records, verifying the accuracy of the observations and conducting field inspections to assess the situation. Based on these inspections and documented observations, areas identified as high-risk may be declared as fire-prone or fire-risk zones. This will allow for timely and informed decision-making to address fire hazards and manage the sanctuary's fire safety effectively.



Beat	Date	Humidity	Precipitation	Wind Speed	Soil Moisture

Table 1 Existing Firelines in the Tral WLS

Existing Fire lines in Tral Wildlife Sanctuary				
S.No.	Name of the Fire Line	Geolocation		Distance
		Starting	End	
1	Construction of 10 m wide permanent fire line of standard specification from Googidar to Zeergandan	33°53'.21.50"N 75°08'44.50"E	33°53'27.01"N 75°08'41.10"E	3.00 km
2	Construction of 10 m wide permanent fire line of standard specification from Zeethnard to Fakirdalav Shikargah	33°55'.238"N 75°09'164"E	33°55'.247"N 75°08'178"E	2.70 km
3	Construction of 10 m wide permanent fire line of standard specification from Wataldund to khatward Pannyer	33°55'.245"N 75°09'710"E	33°55'.287"N 75°08'745"E	2.09 km
4	Construction of 10 m wide permanent fire line of standard specification from Tulkhut to manigah Haffo Panyer	33°54'.945"N 75°08'526"E	33°54'.987"N 75°08'536"E	2.21 km
5	Construction of 10 m wide permanent fire line of standard specification from Sathpakhri to Wangalgul Kamla Tral	33°52'47.70"N 75° 6'46.08"E	33°52'39.84"N 75° 6'23.82"E	2.00 km
6	Construction of 10 m wide permanent fire line of standard specification from Tangnah to Masthung Tral	33°52'38.46"N 75° 6'7.02"E	33°52'41.58"N 75° 6'17.52"E	2.00 km
7	Construction of 10 m wide permanent fire line of standrad specification from Chesangri to Brad Tral	33°53'21.60"N 75° 8'32.40"E	33°53'31.58"N 75°08'32.58"E	1.50 km
8	Construction of 10 m wide permanent fire line of standrad specification from Tasleem Buth to Kandernard Satoora B Beat	34°2'38.76"N 75° 3'39.18"E	34° 2'48.70"N 75° 3'50.18"E	1.50 km
9	Construction of fire lines from Fresnard to Darbal Top Satoora A Beat	34°2'32.82"N 75° 3'34.14"E	34° 2'42.82"N 75° 3'14.14"E	2.00 km
10	Construction of 10 m wide permanent fire line of standrad specification from Khardaji to Mochwan Top Aripal, Khangund	34°00'50.06"N 75° 3'51.05"E	34° 00'36.93"N 75° 3'08.11"E	2.5 km
11	Construction of 10 m wide permanent fire line of standrad specification from Kawgund to Bugmud , Bathnur beat, Panyer Block Tral	33°56'036"N 75° 11'324"E	33° 55'3861"N 75° 11'603"E	2.3 km
12	Construction of 10 m wide permanent fire line of standrad specification from Chana Paden to Haqwan top	34°04'15.53"N 75°03'02.26"E	34°04'17.13"N 75°03'14.14"E	3.00 km
13	Construction of 10 m wide permanent fire line of standrad specification from bragdoori to verni Gullu	34°04'41.10"N 75°03'40.80"E	34°04'57.13"N 75°03'14.80"E	3.00 km
14	Construction of 10 m wide permanent fire line of standrad specification from Sunderkoot to Pannad	34°04'20.09"N 75°04'49.39"E	34°04'57.13"N 75°03'14.80"E	3.00 km
15	Construction of 10 m wide permanent fire line of standrad specification from Darwan yari to bod Nallah	34°04'03.63"N 75°04'08.50"E	34°04'57.13"N 75°03'14.80"E	3.00 km
16	Construction of 10 m wide permanent fire line of standrad specification from Sarndag to Naggul Top	34°04'24.16"N 75°05'04.72"E	34°04'57.13"N 75°03'14.80"E	3.00 km

Table 2. List of proposed fire lines in Tral Wildlife sanctuary for the year 2024-25

S. No.	Name of Fire line	Length of Fire line	GPS Coordinates
01	Construction of 10 m wide permanent fire line of standrad specification Hajinard to Tragbal Pannyer Block, Tral Range	2.0 Km	Start: 33°55'02.05"N 75°10'58.08"E, End: 33°55'13.08"N 75°11'13.06"E,
02	Construction of 10 m wide permanent fire line of standrad specification Gurlamb to Gurlamb Top, Pannyer Block, Tral Range	2.0 Km	Start: 33°55'20.00"N 75°10'31.05"E, End: 33°55'16.00"N 75°11'04.00"E,
03	Construction of 10 m wide permanent fire line of standrad specification Fresnard to Wagungul, Kamla Beat, Shikargah Block Tral Range	1.5 Km	Start: 33°52'48.93"N 75°06'04.21"E, End: 33°52'16.67"N 75°06'22.80"E,
04	Construction of 10 m wide permanent fire line of standrad specification Goornard to Halinard Kamla Beat, Shikargah Block Tral Range	2.0 Km	Start: 33°52'47.80"N 75°06'40.19"E,
05	Construction of 10 m wide permanent fire line of standrad specification Tangnard to Fakirdalay, Shikargah Block Tral Range	2.0 Km	Start: 33°54'05.41"N 75°08'24.49"E, End: 33°53'49.76"N 75°08'58.20"E,
06	Construction of 10 m wide permanent fire line of standrad specification Zamalnag to Tangpathri, Shikargah Block Tral Range	2.0 Km	Start: 33°53'21.14"N 75°08'11.29"E, End: 33°53'07.98"N 75°07'51.44"E,
07	Construction of 10 m wide permanent fire line of standrad specification Gulabagh to Brimji, Shikargah Block Tral Range	2.0 Km	Start: 33°52'49.06"N 75°06'31.91"E, End: 33°52'23.60"N 75°06'16.53"E,
08	Construction of 10 m wide permanent fire line of standrad specification Nelwan to Gangwan Trag, Shikargah Block Tral Range	2.0 Km	Start: 33°53'26.25"N 75°06'50.73"E, End: 33°53'07.98"N 75°07'51.44"E,
09	Construction of 10 m wide permanent fire line of standrad specification Sathainpathri to Khambrie Beat Zoistan Block Hajin, Range Khangund	2.0 Km	Start: 34° 4'13.93"N 75° 4'54.96"E, End: 33°53'07.98"N 75°07'51.44"E,

In addition to above proposed fire lines new fire lines can be created depending up on field requirements.

- The fire protection camps will be used for the camping of firefighting squad and fire protection committee members (in case it exists) during the fire season. In addition, temporary structures will be set up in all fire vulnerable areas to detect and prevent the spread of fire from the human habitation around the wildlife sanctuary.
- The equipment like gumboots; fire resistant suit etc. may be procured and made available to the fire management groups.
- The fire watchtowers shall setup in all the fire prone areas and shall be maintained periodically.
- Firefighting squads will be engaged throughout the season for efficient fire protection activities.
- The members of the participatory fire management will be from the fringe areas and will be involved in participatory fire management.
- Awareness campaigns are essential for preventing fire. Wildlife Warden will arrange awareness and training programmes for the staff, local dependents before the fire season every year. Awareness campaigns may be arranged for fringe area people, schools, colleges, and people's representatives on the impact of fires on forests and wildlife. This may be done by mass involvement of people in procession, talks, information display boards hoardings, banners, street play etc. The awareness campaigns highlighting fire preventive and containment measures among children and youth in the localities shall be held during the fire season.

CHAPTER 8

HUMAN WILDLIFE INTERACTION

8.1 Introduction

Human – wildlife interaction refers to interaction between wild animals and people and resultant negative impact on people or their resources, or wild animals or their habitat. Human-Wildlife Conflict (HWC) occurs when wildlife requirements overlap with those of human populations, creating costs to both residents and wild animals (IUCN World Parks Congress). Human – wildlife conflict particularly the Human – carnivore conflict has increased particularly in the recent past in all over the places. With increasing human population and pressure on forest areas, human-wildlife interaction and resultant conflict is also increasing. Today Human –wildlife conflict management has become a challenging task for the managers of wildlife sanctuary. The number of conflict cases have increased to such an extent that even patrolling in these areas have become difficult because of less number of employees in department. Increase in Human – wildlife conflict cases have resulted in antagonism towards wildlife conservation and have become another management problem for the authorities of the wildlife sanctuary.

8.2 Objectives to be achieved

The objectives to be fulfilled during the plan are as follows:

- Formation of rapid response team/Control Rooms entirely meant to deal with the Human – wildlife conflict equipped with all the necessary and latest equipment.
- Fencing of the areas with the animal proof wires and bio fencing wherever the human habitations are in close proximity.
- To grant ex-gratia in case of mortality or injuries without much hiccups.
- Encourage people to go for crop insurance
- Education and awareness, which will be crucial in mitigating the HWC.

8.3 Strategies to address Human – wildlife Interaction

Human-wildlife conflict is a significant challenge that undermines conservation efforts and threatens both wildlife and local communities. As human populations grow and encroach on wildlife habitats, the risk of conflict between humans and animals increases. The urgent need is to address and commit in adopting proactive, data-driven strategies to mitigate human-wildlife conflict. Approach shall focus on preventing conflict, minimizing its impacts, and ensuring the safety and livelihoods of affected communities while safeguarding wildlife populations.

Mapping of Conflict Hotspots

Identifying Conflict Zones: Geographic Information System (GIS) tools shall be used to map areas where human-wildlife conflicts are most likely to occur. By analysing historical data on conflict incidents, animal movement patterns, and

human activities, identifying high-risk zones and predict where future conflicts may arise.

Preventive Measures: Once conflict hotspots are identified, targeted preventive measures, such as better land use planning, creation of wildlife corridors to avoid human settlements, and improving barriers (fencing) between communities and wildlife habitats shall be implemented. This proactive approach will help reduce the frequency of conflict incidents and mitigate potential risks before they escalate.

Keep Ex-gratia: Injury and death compensation cases shall be disposed on top priority in a hasle free manner

Crop insurance: People living in the fringe areas to be encouraged going for crop insurance through Pradhan Mantri Fasal Bima Yojana (PMFBY)

Deploy Early Warning Systems in High-Risk Areas Real-Time Alerts: Establishment of early warning systems in high-risk areas prone to human-wildlife encounters. These systems will use technology such as sensors, GPS tracking devices, and mobile applications to detect wildlife movements near human settlements and alert communities in real time.

Community Response Protocols: The early warning systems will be designed to provide communities with alerts about potential wildlife movements and allow for timely intervention to reduce the risk of encounters. These alerts can prompt preventative actions, such as closing gates, securing crops, or keeping livestock indoors during high-risk periods.

Strengthen Rapid Response Teams to Handle Wildlife Encounters

Trained Response Teams: Establishment of trained and dedicated rapid response teams that can be quickly mobilized when human-wildlife conflicts occur. These teams will be equipped with the necessary tools and skills to safely handle wildlife encounters, remove animals from human settlements, and de-escalate tense situations without harming wildlife or people.

24/7 Availability: The response teams will be on call around the clock, ensuring that conflicts can be addressed immediately. They will work closely with local communities to quickly assess situations, take action, and ensure both human and wildlife safety.

Real-Time Monitoring of Conflict Cases and Adaptive Mitigation

Conflict Monitoring System: Setting up a real-time monitoring system to track and record all human-wildlife conflict cases. This system will allow us to collect data on the types of incidents, the animals involved, and the locations of conflict events. By analysing this data, we will be able to quickly identify trends, assess the effectiveness of mitigation measures, and adapt our strategies to prevent further conflicts.

Continuous Improvement: Using the information gathered through monitoring, we will continually refine and adapt our mitigation efforts. This adaptive management approach will ensure that we remain responsive to emerging conflict scenarios and continuously improve our conflict resolution strategies.

Engagement with Local Communities to Raise Awareness

Community Education Programs: Engaging local communities is key to reducing human-wildlife conflict. Conduct of awareness campaigns and educational programs to inform people about the risks of human-wildlife conflict, the importance of wildlife conservation, and best practices for coexisting with wildlife.

Community-Driven Solutions: By incorporating local knowledge and perspectives, design more effective, culturally appropriate strategies for preventing conflict and promoting peaceful coexistence between humans and wildlife.

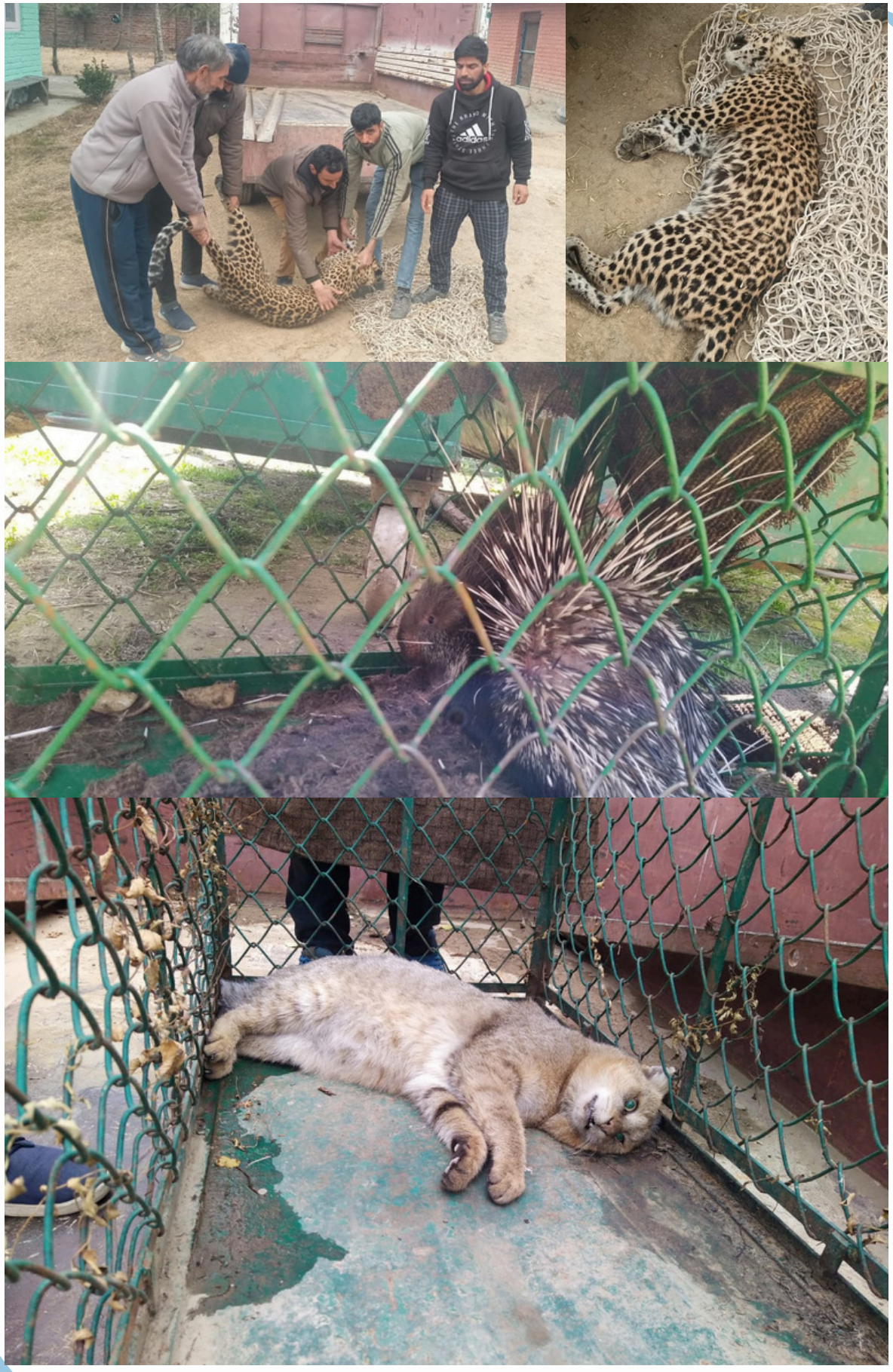
Strengthening Patrolling and Surveillance in Conflict-Prone Zones

Increased Patrols: To mitigate conflicts before they occur, we will strengthen patrolling and surveillance efforts in conflict-prone zones. Our patrol teams will monitor wildlife movements, ensure that fences or barriers are intact, and help deter poaching or illegal activities that can increase the likelihood of conflict.



Collaboration with Local Authorities: Collaboration with local law enforcement, wildlife rangers, and community volunteers to enhance surveillance efforts. This will help ensure that human-wildlife conflict prevention is integrated into broader law enforcement and conservation activities, maximizing the effectiveness of our mitigation efforts.





Wildlife Rescue Operations

CHAPTER 9

HANGUL CONSERVATION AND BREEDING CENTRE

9.1 Introduction

Hangul (*Cervus hanglu hanglu*) is "critically endangered" species endemic to the valley of Kashmir. Hangul is placed in Schedule I as per Indian Wildlife Protection Act, 1972 and CITES Appendix I, thus imparting highest category of protection to the species. The species is under threat on the vulnerability of population due to population viability, population structure, dwindling sex ratio and habitat fragmentation. Its population has drastically decreased from around 5000 in 1945-47 to few odd individuals and have remained steady during past few decades at about 220 to 260 individuals.

The recent studies attribute the decline to low breeding and problem of young survival, inadequate recruitment of fawns to adults due the factors such as considerable predation from common leopard (*Panthera pardus*) and meso – carnivores such as Jackal, Red fox, and Yellow throated martin besides stray dogs. Currently, the Hangul population is restricted to less than 500 sq Km of Kashmir valley in central and southern districts. Demographically viable population of Hangul at present is only 289 (as per the census report of 2023).

9.2 Need of Hangul Conservation Breeding Centre – Ex situ conservation

There have lot of in – situ efforts to protect and conserve this 'Critically Endangered' species in its natural habitat across its distribution range for decades, the time is ripe to put some extraordinary conservation efforts to conserve this species whose population is dwindling very fast. There is need for developing strategies for ex – situ conservation which was seriously felt due the following reasons:

- Hangul is found only in the Kashmir valley and nowhere else in the world.
- Hangul is Critically Endangered and its population is dwindling.
- Only viable population is found in single restricted area.
- Not a single individual exists in captivity in the world.
- Low male – female and female – fawn ratio which is one the main reasons of the population decline

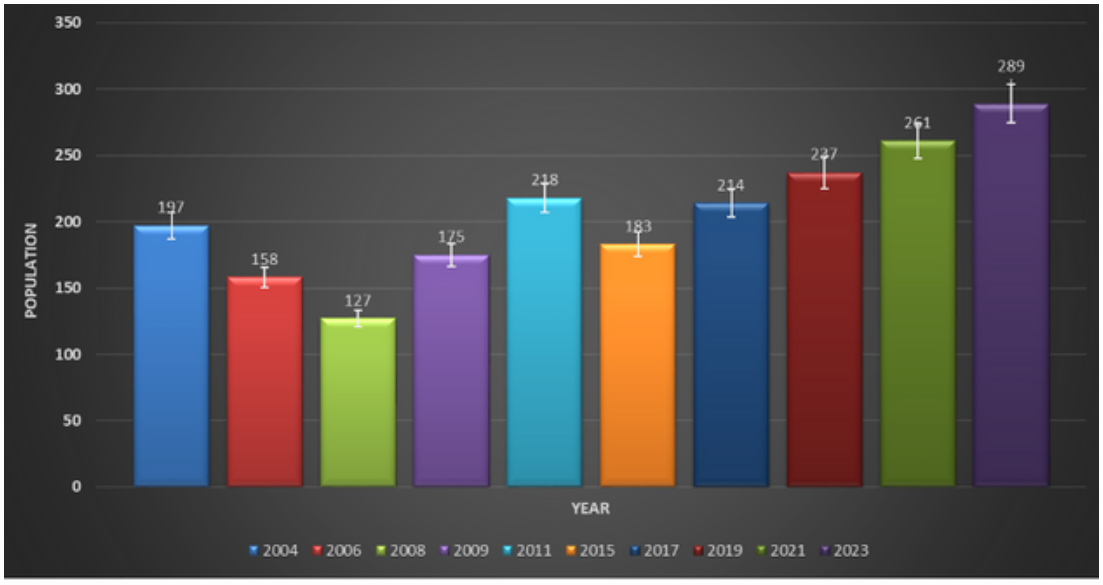
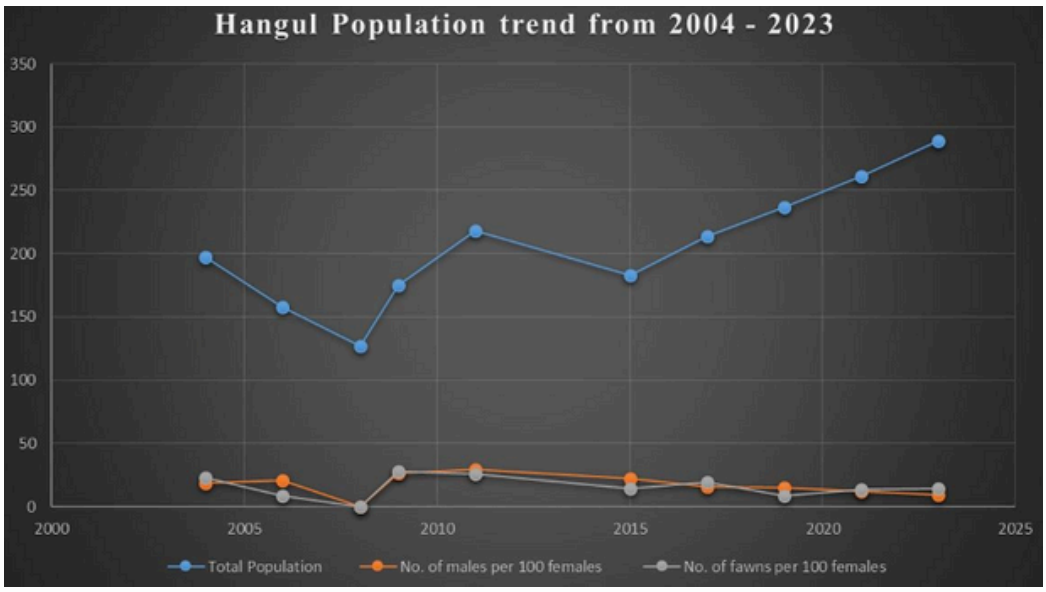


Fig.10. Hangul population trend in population monitoring in Hangul distribution range

The following table shows the male – female and fawn – female ratio across the years from 2004 to 2023.

Year	Total Population	No. of males per 100 females	No. of fawns per 100 females
2004	197	19	23
2006	158	21	9
2008	127	-	-
2009	175	26.52	27.82
2011	218	29.52	25.80
2015	183	22.33	14.33
2017	214	15.8	19.1
2019	237	15.3	9
2021	261	12.6	13.4
2023	289	9.6	14.4



Graphical Representation

9.3 Background of the Hangul Conservation and Breeding center

The main objective of the HCBC was to augment the Wild population through conservation breeding programme at Shikargah by way of securing the availability of founder animals of desired number and sex ratio through habituation and capture from free ranging population of Hangul for initiation of conservation breeding and their recruitment to the main population.

In this matter in July, 2008 the Central Zoo Authority of India (CZA) accorded the approval for the construction of Conservation Breeding Centre (CBC) for Hangul at Shikargah, Tral which was at that time a conservation reserve.In 2009, CZA granted an amount of 42.50 Lakhs to start the work on phase I and the project officially commenced. In 2010 – 11 an amount 0f 10.47 Lakh was released by CZA and one unit of chain – link and power fenced paddock covering an area of 5.5 hectares was completed and made fit for housing the breeding stock and initiating the conservation – breeding programme. In July 2011, an abandoned Hangul fawn rescued from the Dachigam landscape was brought to the facility.



Fig.11. Hangul Conservation and breeding center Shikargah, Tral

On 30 – 07 – 2011, a three – member committee of the CZA conducted detailed inspection of the CBC to forth their recommendations for implementation of conservation breeding plan and release of funds for phase II of the project.

For the safety of the animals inside the paddock, the CZA monitoring team suggested the following recommendations:

- Raising the paddock fencing with providing of overhead predator proof inclined steel sheet protection to keep predators at bay.
- Anti – grip tin cladding of tree trunks for additional number of identified trees that were closer to the paddock fence from outside to deprive of grip to the possible predators.
- Pruning and lopping of trees that too close to the chain – link fence from inside and outside of paddock so that the branches of closer trees do not touch each other at the top canopy.
- Providing sand – filled pathway along the paddock perimeter from inside to provide a soft ground to the founder animals.
- Wood cladding of angle iron diagonal (supporting paddock fence from inside) to minimize the chances of injuries to the housed founder animals.
- Widening of the release gate.
- Installation of concertina wire over the chain – link fencing for extra protection.
- Making water reservoir and water holes.
- Installation of CCTV system for real time monitoring.

9.4 Executing Agency

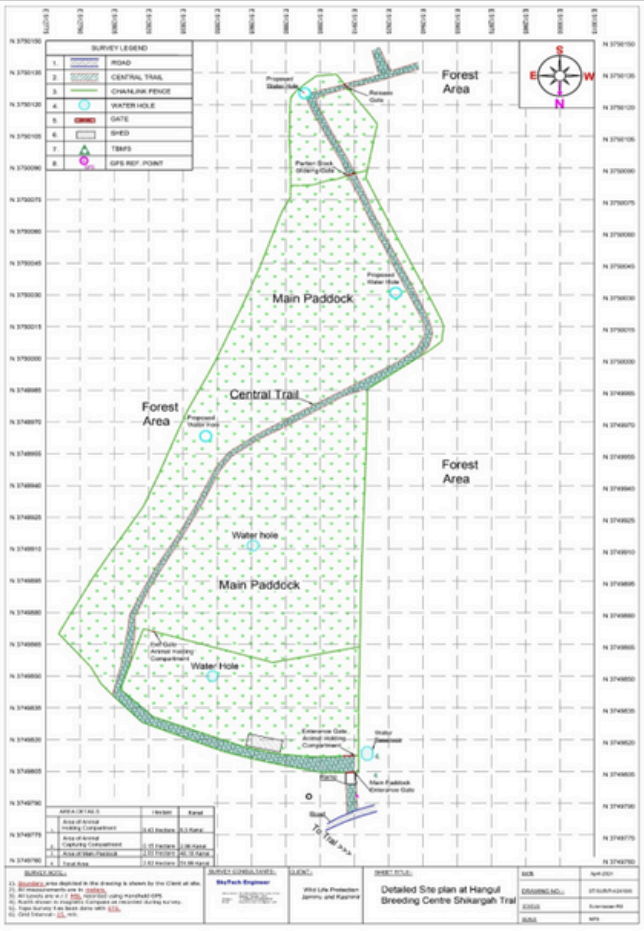
The executing agency for the HCBC is the Department of Wildlife Protection, Jammu and Kashmir.

9.5 Future Planning for CBC

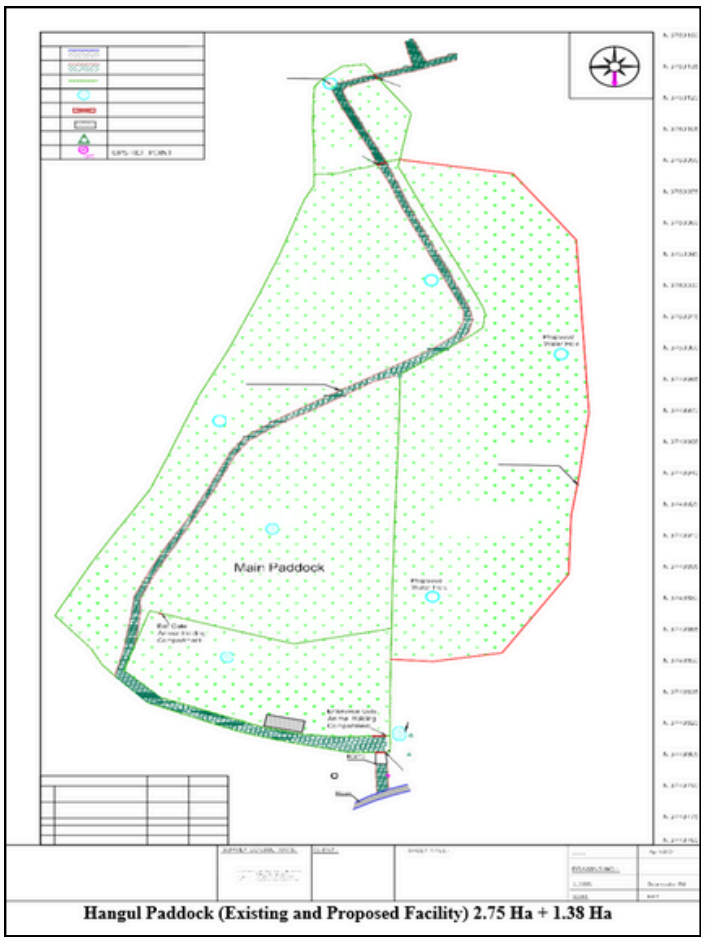
- DPR for CBC to be prepared.
- The formation of a Core Monitoring Committee for the CBC Shikargah is proposed
- Double Chain Link Fencing along the existing Chain link fencing.
- Improvement of Paddock by way of adding more area to the existing paddock area.
- Power fencing to protect the existing Hangul.
- Bush clearance/ removal of unwanted weeds, lopping of leaning trees within and outside the paddock.
- Wood/ Tin cladding of trees adjacent to the paddock.
- Providing of water holes within the paddock.
- Concertina wire on projected fencing and around trees as a protection from natural predators.
- Construction of Watch towers around Paddock.
- Providing supplementary vegetables/feed / salt licks during lean period.
- Development of inspection path inside paddock for monitoring of Hangul.
- Deployment of one Veterinarian for CBC.
- Engagement of two wildlife biologists.
- Engagement and Training of already working Animal care takers (05 No,s) on permanent basis.
- Procurement of Veterinary and other equipment for CBC.
- Shade nets around paddock as camouflage to protect hangul population.
- Purchase of Tranquilizing gun/ net gun/ blowpipes for CBC Shikargah.
- Purchase of portable leopard / Bear cages for CBC.
- Purchase of Herbivore transport cage.
- Engagement of caretakers properly trained in animal handling and care for CBC.
- Establishment of High-tech veterinary cum laboratory facility for CBC.
- Construction of Chowkidar Hut etc.
- Procurement of Eco-friendly four-wheeler
- Procurement of ambulance.
- Establishment of High-resolution Monitoring Unit.
- Procurement of Wireless equipment.
- Underground wiring for CCTV setup.
- Scientific Research and monitoring cell.

The formation of a Core Monitoring Committee for the CBC Shikargah is proposed with the following composition.

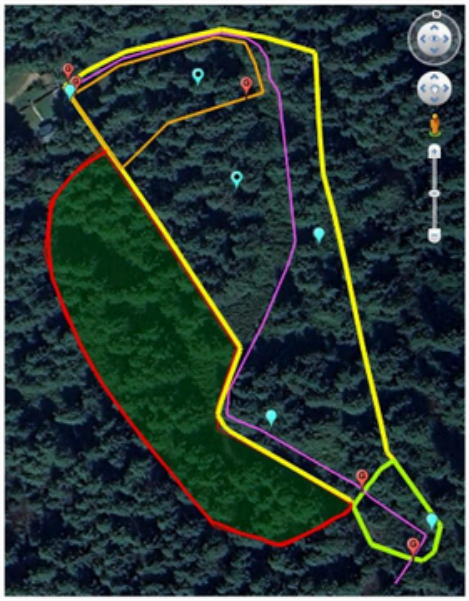
S. No.	Constituent of Monitoring Committee	Designation
1.	Chief Wildlife Warden, J&K /Regional Wildlife Warden, Kashmir region, Srinagar	Chairman
2.	Representative from the Central Zoo Authority	Member
3.	Representative from the Wildlife Institute of India (WII)	Member
4.	Wildlife Biologist	Member
5.	Departmental Veterinarian	Member
6.	Wildlife Warden (Research)	Member
7.	Wildlife Warden Concerned	Member secretary



Hangul Paddock (Established Facility) 2.75 Ha



Hangul Paddock (Existing and Proposed Facility) 2.75 Ha + 1.38 Ha



MEASURING DETAILS

Particular of Item	Unit	Quantity
Perimeter of Existing Boundary	Rft	2676
Area under Existing Boundary	Hectares	2.80
Perimeter of Animal Holding Compartment	Rft	548
Area of Animal Holding Compartment	Hectares	0.48
Perimeter of Animal Capturing Compartment	Rft	486
Area of Animal Capturing Compartment	Hectares	0.15
Length of Central Trail	Km	0.5
Perimeter of Proposed new Boundary	Rft	1100
Area under new Boundary	Hectares	1.38

MAP LEGEND

- Entrance Gates
- Water hole
- Proposed Water hole
- Existing Boundary
- Animal Holding Compartment
- Animal Capturing Compartment
- Proposed Extension
- Central Trail

DEPARTMENT OF WILDLIFE PROTECTION
JAMMU & KASHMIR

Imagery of Hangul Conservation Breeding Centre- Shikargah





Fig.12. Founder animals inside the paddock of HCBC, Shikargah Tral wildlife sanctuary

CHAPTER 10

RESEARCH, MONITORING AND TRAINING

10.1 Introduction

Research and monitoring are important components of the wildlife conservation and management. Being declared as protected area under the category of wildlife sanctuary, the managers of the wildlife sanctuary have to be equipped with all scientific data on exact status on park resources, ongoing ecological process, nature of threats and opportunities, etc. which will help in proper decision making and adopting effective strategies to deal with various management challenges. The wildlife managers must have the exact data on wildlife resources, dependence of local people on forest resources, ongoing ecological process, climate change and its impact, nature of threats and opportunities.

This data help in the proper decision making and adopting effective strategies to deal with the various management challenges. It is desirable to have a well-organized research base, which would help the Protected Area Management in the following areas:-

- Scientific based management strategies
- Improvement and update of bench mark knowledge
- Landscape level and species level planning
- Understanding ecosystem values for better management
- Evaluation and assessment of threats
- Public awareness and community participation in conservation

10.2 Research and monitoring activities

Tral wildlife sanctuary can be a central area of attraction for carrying out long – term biodiversity studies owing to its location, position and presence of varied and rich flora and fauna. The long – term ecological studies need to be conducted to understand the biodiversity values and ecological aspects for devising management strategies. Inadequate scientific data on various management aspects is becoming problem in decision-making. The research works needs to be carried out on ecological aspects of Hangul, Asiatic black bear, Common leopard, Kashmir Musk deer and Himalayan grey langur. Studies related to bird community structure, floristic composition and invasive Alian species have been to be carried out

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10.3 Proposed research and monitoring

Develop a Detailed Biodiversity Database, Including Rare, Endangered, and Threatened (RET) Species

Comprehensive Biodiversity Survey: We will create a comprehensive biodiversity database that includes detailed information on species present in Tral Wildlife Sanctuary, with a focus on Rare, Endangered, and Threatened (RET) species.This database will serve as a foundation for tracking the status and distribution of key species over time, guiding conservation priorities and actions.

Species-Specific Monitoring: The database will include data on population trends, habitat preferences, and threats faced by RET species,

helping to ensure that conservation strategies are tailored to the specific needs of these species. This approach will also help us track the effectiveness of conservation interventions and make data-driven decisions.

Implement Long-Term Monitoring Programs Using Camera Traps and Remote Sensing

Camera Traps for Wildlife Monitoring: To monitor wildlife populations and their behavior, we will deploy a network of camera traps throughout the sanctuary. These traps will capture images of animals in their natural habitats, providing valuable data on species presence, distribution, and activity patterns.

Remote Sensing for Habitat Assessment: We will utilize remote sensing technologies, including satellite imagery and drone surveys, to monitor habitat changes, such as deforestation, degradation, and the health of vegetation. Remote sensing will also help in monitoring land use changes, fire-prone areas, and illegal activities, offering an efficient way to gather large-scale environmental data.

Collaborate with Research Institutions for Data-Driven Conservation

Partnerships with Experts: To enhance the depth and quality of our research, we will collaborate with national and international research institutions, universities, and wildlife conservation organizations. These partnerships will bring expertise, resources, and advanced methodologies to support our monitoring efforts and ensure that our conservation strategies are grounded in sound scientific principles.

Research for Adaptive Management: Through these collaborations, we will develop data-driven conservation strategies, refine monitoring techniques, and engage in joint studies on the behaviour, health, and ecology of species in the sanctuary. The findings will help inform management decisions, allowing for the continuous improvement of our conservation efforts.

Regular Biodiversity Survey

Regular Biodiversity Surveys: Each year, we will conduct biodiversity assessments to evaluate the state of wildlife populations, including RET species. These assessments will be comprehensive, involving field surveys, camera trap data analysis, and remote sensing to obtain a complete picture of biodiversity trends and threats.

Monitoring of Species Health: The annual assessments will focus not only on population numbers but also on the health and condition of species, identifying any emerging threats or trends, such as disease outbreaks or habitat degradation. This data will be vital for adjusting management strategies and ensuring that conservation efforts remain effective.

10.3 Monitoring

Regular monitoring of wildlife populations is a way to assess the success/failure/intervention of wildlife management in an area. Estimating abundance and monitoring populations are important aspects of species conservation and management and a common goal in ecology. The spatial and temporal patterns of abundance depict the spatio-temporal patterns of abundance and thus windows into community, ecosystem, and evolutionary processes. The information on abundance/presence and change in abundance is important for the effective management of endangered species. A need of reliable Population estimates and trends governed by effective methods to make these estimates is required for the decisions in conservation practices.

This fact has been emphasized by an accelerated loss of biodiversity in recent decades, which has reinforced the urgent need for monitoring programs, and the necessity of studies relating habitat and species occurrence and abundance worldwide. Regular monitoring of wildlife populations is a way to assess the success/failure/intervention of wildlife management in an area. Hangul being a flagship species has been monitored regularly. However, this regular monitoring of Hangul if done as per scientific methodology can help in monitoring of various other species. If no precise population, estimates are expected by this kind of monitoring but it may give occupancy (presence/absence) data. However, in addition to this data, regular population monitoring of indicator species is much needed. The general response of various species in the park to the present management practices, which is primarily protection oriented is very encouraging. However, the inter-specific relationship, their impact on habitat, ecological problems, and status of habitat also needs to be ascertained.

10.4 Trainings

The trained work force is among the key components for the effective management of the protected areas and for any conservation strategy to be successful. Trainings at regular intervals is compulsory to update and upgrade the basic knowledge and delivering capabilities of the ground staff. Staffs are also to be made physically fit through regular training and include handling modern arms, combat, etc. to deal effectively against the adversity in the managerial processes. It is realized that there is inadequacy of training at all levels.

Basic skill development will be targeted for the field staff. The front-line staff will be exposed to other wildlife areas outside the state on regular basis for development of the skills and to bring competitive attitude among them. It is proposed to carry out regular training programs on matters of wildlife protection, conservation and relevant subjects of wildlife management in the field as well as reputed specialized institutes of the country.

Training Areas

- Wildlife and forest protection laws.
- Handling arms and modern combat.
- Management and handling of Human – wildlife interaction situations.
- Management of ranging patterns of animals especially large carnivores.
- Nature interpretation.
- Population dynamics and wildlife estimation.
- Animal health monitoring and nutrition.
- Participatory rural appraisal and micro planning.
- Ecology and population biology.
- First Aid.
- Intelligence gathering.
- Management of captivity animals.
- Basic wildlife forensics.

This fact has been emphasized by an accelerated loss of biodiversity in recent decades, which has reinforced the urgent need for monitoring programs, and the necessity of studies relating habitat and species occurrence and abundance worldwide. Regular monitoring of wildlife populations is a way to assess the success/failure/intervention of wildlife management in an area. Hangul being a flagship species has been monitored regularly. However, this regular monitoring of Hangul if done as per scientific methodology can help in monitoring of various other species. If no precise population, estimates are expected by this kind of monitoring but it may give occupancy (presence/absence) data. However, in addition to this data, regular population monitoring of indicator species is much needed. The general response of various species in the park to the present management practices, which is primarily protection oriented is very encouraging. However, the inter-specific relationship, their impact on habitat, ecological problems, and status of habitat also needs to be ascertained.

10.5 Infrastructure

At present basic facility such as accommodation, field equipment, laboratory, museum, vehicle, library and computer facility etc. for conducting research are virtually nonexistent. There is need for providing some facilities for augmenting research works in Tral wildlife sanctuary such as dormitory and laboratory.

10.6 Prescription and the way forward

The Research, monitoring and capacity building should be given a due priority. The main thrust will be collection of routine scientific data, compilation of data, population dynamics and census, vegetation sampling, threats to wildlife and identifying research areas, which needs immediate, and future attention and a well – designed study. The research wing should be strenghtened and entrusted with proper documentation of scientific data. There should be an active participation and co-ordination with the research organizations/NGOs which are working in the area. Efforts need to be made so that the management related research/academic institutions take up research studies.

10.7 Identification of research thrust areas and research topics

- Basic ecological studies of key indicator species viz., Hangul, Common Leopard, Asiatic Black bear, Kashmir flying Squirrel, Kashmir Grey Langur, meso-carnivores and small mammals.
- Invasive Alien species- floral and faunal, identification, documentation, impact and remedies.
- Understanding reasons for dwindling population of hangul and devising management strategies.
- Occupancy estimates, population abundance and regular monitoring.
- Wildlife diseases monitoring.
- Socio-economic studies of the local forest dwellers and population of fringe areas
- Human- wildlife interactions, conflicts and the reasons- thereof.
- Genetic structuring of endangered/ vulnerable species (RET species).
- Study on herpato fauna, insects, butterflies and micro fauna of the Tral Wildlife Sanctuary to understand the community structure.
- Floristic and vegetation composition – change detection (Vegetation sampling).
- Movement patterns of long ranging species for corridor establishment and landscape level planning.

Camera trap monitoring





Camera trap monitoring





CHAPTER 11

ECO – DEVELOPMENT

The Eco – development and need of the people is to be studied in consultation with experts. The help of Government agencies like Tribal Affairs Department, Agriculture department, Agriculture University, education and research institution and reputed NGOs are to be taken onboard in order to fulfill the eco developmental needs and thus achieving protected area and wildlife sanctuary management objectives.

11.1 Objectives

- To develop effective and extensive support for Eco-development.
- To improve capacity of protected area management to conserve resources of the Sanctuary and to achieve local co – operation for achieving Sanctuary management objectives.
- To create a congenial relation between the managers of the wildlife sanctuary and the people, this will act as an effective barrier against attempt of poachers and miscreants.
- Facilitate Forest Rights Settlement including community rights

11.2 Issues in achieving Objectives

- Alternative livelihood strategies.
- Dependence of villagers on forest resources.
- Improvement of living condition.
- Mitigating negative impact arising out of Human – wildlife conflict.
- Community development work.
- Non-consumptive use of protected area through eco – tourism.

11.3 Strategies

To strengthen the People – PA interface, the following strategies and activities are proposed:

- Improve people – PA relationship through eco development.
- Facilitate Forest Rights Settlement including community rights
- Facilitate certification and organic farming in the fringe area
- Utilize all available funds for Eco development
- Develop and improve inter wing and inter departmental co-operation
- Vaccination of the cattle in fringe areas.
- Training of young and enthusiastic people from these fringe communities as Eco – guides

11.4 Activities to be taken in Eco – development

- Identify the eco development needs through micro planning and studies
- Make available educational, social and medical assistance in fringe areas by facilitating coordination between people, NGOs and line departments
- Assist the tribal people in enhancing the income from agriculture by facilitating workshops involving relevant departments
- Encourage the idea of crop insurance.
- Implementation of Eco development programmes in fringe areas in relevant groups and NGOs.
- Explore all fund possibilities from various schemes for holistic eco development
- Ensure the participation of sanctuary management in planning and implementation of projects by the line departments in the fringe areas of the sanctuary.

11.5 Strategies for specific issues

11.5.1 Firewood Collection

Since firewood collection always remains a challenge to deal with due to dependence of fringe communities on resources of protected areas, therefore this is too dealt with as a part of eco development initiatives. Therefore, following strategies shall be adopted:

- Study extent and impact of firewood collection. Regular surveys shall be conducted to study extent and impact of firewood collection and hence comparative analysis should be generated in order to evaluate if there is any change in the pattern from the current situation.
- Encourage fuel wood cultivation of indigenous species
- Providing energy saving devices, supply of gas connection on subsidized rate by the department and explore the possibility of alternate fuel sources.

11.5.2 NTFP collection

NTFP collection does not offer a great deal of challenge as such however, persistent monitoring shall be maintained and as major strategy regeneration of NTFP and medicinal plant species shall be encouraged among fringe communities in their proprietary lands, in line with recommendations laid down by Medicinal Plant Board.

11.6 Strategies for alternate income to dependent community

- Explore the potential of ecotourism programmes to improve the employment generation for the local dependent communities.
- Explore the possibility of enhancing opportunities in visitor management activities to create more employment for the local dependents.
- Concept of home stay should be introduced

11.7. Consultation with Local Communities as Mandated Under Section 33B of the Wildlife Protection Act, 1972

As per the provisions of Section 33B of the Wildlife Protection Act, 1972, consultations with local communities have been undertaken to ensure that their perspectives, concerns, and insights are integrated into the formulation of zonation, habitat management, and eco-tourism strategies. The intent of this consultation process is to promote sustainable conservation efforts while respecting the rights, needs, and aspirations of the local communities living in and around wildlife habitats.

Consultation Process:
A series of consultations were held with stakeholders from local communities, including village leaders, local NGOs, wildlife experts, and environmentalists, across key locations identified for conservation purposes. These consultations were designed to ensure broad-based participation and transparency. Various methods were employed, such as Public Meetings and Focus Group Discussions: Engaging community members in discussions to hear their views on the current state of wildlife conservation and their suggestions for improvement.

Workshops and Training Sessions: Educating stakeholders on the principles of zonation and habitat management, as well as the benefits of eco-tourism.

Field Visits and Interactive Sessions: Conducting site-specific meetings in proximity to wildlife habitats to encourage direct feedback from the community on the ecological challenges and opportunities.



1. **Feedback from stakeholders**

The fedback received from local communities was invaluable in refining the strategies for zonation, habitat management, and eco-tourism. Key takeaways from the consultations include:
Zonation:

- Communities emphasized the need for clear delineation of core and buffer zones, with careful consideration of local livelihoods and traditional practices.
- There was a strong call for creating buffer zones around sensitive habitats to minimize human-wildlife conflict while maintaining access to resources essential for local communities, such as grazing and water sources.
- Participants stressed the importance of community-driven participatory planning in zonation decisions.

2. Habitat Management:

- Local stakeholders expressed concerns regarding habitat degradation due to overgrazing, poaching, and climate change.
- Communities advocated for the restoration of degraded habitats through reforestation, soil conservation, and sustainable agricultural practices.
- There was a consensus on the need for enhancing wildlife corridors to ensure connectivity between fragmented habitats, which is crucial for the survival of key species.



- The integration of indigenous knowledge in managing natural resources was highlighted as essential for ensuring long-term ecological sustainability.

3. Eco-Tourism:

- Local communities were keen on eco-tourism as a means to generate income while fostering awareness about wildlife conservation.
- Feedback highlighted the importance of developing eco-tourism infrastructure (e.g., trails) that is aligned with community interests and preserves the local environment.
- Many stakeholders proposed the establishment of community-run eco-tourism ventures, such as guided tours and homestays, to empower local people and provide them with a direct stake in conservation efforts.
- Concerns were raised regarding the potential negative impacts of mass tourism, and participants called for the establishment of sustainable tourism practices that balance conservation goals with community needs.

Integration of Feedback into Strategies:

Based on the input gathered during the consultations, the following actions are being integrated into the zonation, habitat management, and eco-tourism strategies:

Zonation Strategy:

The zonation plan will be revised to ensure clear communication between core areas, buffer zones, and community-use zones.

- Traditional resource usage practices will be respected while minimizing impact on sensitive habitats.
- Joint management committees will be established, involving local community representatives, wildlife authorities, and conservation organizations to oversee the implementation of zonation plans.

Habitat Management Strategy:

- A collaborative approach to habitat restoration will be adopted, combining modern scientific methods with traditional ecological knowledge. Local communities will be actively involved in the restoration of wildlife corridors and areas that are ecologically degraded.
- Sustainable land-use practices will be promoted in areas adjacent to protected zones, including the adoption of agroforestry and organic farming methods that contribute to habitat preservation.

Eco-Tourism Strategy:

- The eco-tourism model will prioritize low-impact, community-centered tourism that supports conservation goals. Local communities will be involved in the planning, management, and operation of tourism facilities and services.
- Capacity-building programs will be developed to train local residents in eco-tourism management, guiding, hospitality, and environmental education.
- Monitoring systems will be established to track the environmental and socio-economic impacts of eco-tourism, ensuring that tourism benefits the community while minimizing harm to the ecosystem.

CHAPTER 12

ECO – TOURISM, INTERPRETATION AND CONSERVATION EDUCATION

12.1 Introduction

The Wildlife sanctuaries or the national parks now a day have become an integral part of nature – based tourism. Now a day's wildlife works as a magnet for the tourists, and hence creates positive impacts such as raising awareness among the people, on stern role and overt function in the biosphere. Nature awareness programmes are conducted for the students, clubs, and other interested groups and which is the main activity related to conservation.

12.2 Strategies for environmental conservation awareness

- To Conduct nature awareness camps for schools, colleges, nature clubs, reputed NGOs and other interested groups
- Give priority to the Educational Institutions and organizations around the wildlife sanctuary in awareness programmes.
- Creation of Nature Interpretation Centre and facilities at Shikargah.
- Develop education and awareness materials like leaflets, brochures, pamphlets, posters, Coffee table books etc. for various target groups.
- Impart training to the staff engaged in awareness programmes.
- An official not less than the rank of forester shall be designated as Nature Education Officer whose mandate shall be to monitor and report on all ecotourism activities inside the Sanctuary.
- Engage officials with good knowledge of biodiversity in the Sanctuary shall be encouraged and trained further who in turn can be used for information dissemination and visitor management
- Maintenance of existing facilities of nature education and interpretation
- Conduct study tour for staff to other PAs in and outside of the Union Territory.
- Develop conference hall, library, and toilet block at a feasible location inside tourism zone.
- Creation of Professional short movies and documentaries based up on nature education shall be encouraged. This always serves as most effective mode for information dissemination.
- The permissions granted for various purposes such as Birdwatching, Research would be time specific. The wildlife warden to have competence of issuing the permissions.

12.3 Facilitating nature-based regulated tourism

As part of the regulated ecotourism, the following activities shall be taken up during the plan period:

- Engaging local dependent communities for managing the ecotourism programmes.
- To Prepare and implement a supplementary visitor management plan for tourism and awareness Zone and other ecotourism programmes
- Prepare site specific micro plans for ecotourism packages for the buffer zone (mainly the conservation reserves)
- Monitor the implementation and revise the supplementary visitor management plan once in 2 years if needed.
- Develop and implement interpretation packages as part of visitor management plan for all ecotourism programmes.
- Conduct periodic impact assessment of tourism areas once in 5 years with the help of scientific community.
- Develop and implement system for collection of feedback from visitors to the sanctuary where in besides the field staff NGO members and volunteers can be utilized.
- A closure period for the sanctuary should be clearly defined as per requirement of habitat for instance as is required in case of Hangul rutting season. Studies should be allowed to conduct to determine need and span of closure periods.
- Create and maintain basic amenities to visitors in the tourism areas for ecotourism programmes based on approved micro plan or supplementary visitor management plan
- Explore the possibility of imposing fine for littering, plucking of flowers, teasing of animals etc. in the Sanctuary based on Wildlife (Protection) Act 1972.
- Capacity building and training to staff on human behavior, identification of flora and fauna, bird watching, visitor management, interpretation of Sanctuary values etc.
- Conduct carrying capacity study and regulate the visitors to the tourism and awareness zone. Visitor permissions shall be issued strictly in accordance with carrying capacity worked out by this management plan.
- Conduct review/ seminar / workshop annually on tourism programmes and publish the annual report.
- Develop theme-based information displays in the tourism and awareness zone.
- Make available more information to the visitors on the Hangul and other endangered flora and fauna by making available literatures and publications by establishing a museum in the tourism zone.
- Action plan for existing trekking routes shall be put in action and identification of new ones along with the camping sites should be done.
- To develop camping sites.

12.4 Eco-tourism development and strategies

Develop an Eco-Tourism Plan with Regulated Visitor Entry

Sustainable Visitor Management: We will create a comprehensive eco-tourism plan that ensures regulated visitor access to Tral Wildlife Sanctuary. This plan will include visitor caps to prevent over-tourism, reduce human impact on sensitive areas, and ensure that the number of visitors remains manageable. The plan will also include visitor guidelines and a booking system that controls access to prevent overcrowding and degradation of the sanctuary's ecosystems.

Controlled Entry to Sensitive Areas: We will identify areas within the sanctuary that are particularly sensitive, such as breeding grounds, critical habitats, or endangered species' home ranges. Access to these areas will be strictly regulated to ensure that tourism does not negatively affect the environment or wildlife.

Establish Nature Trails, Viewing Decks, and Visitor Interpretation Centres at Eco Park Shikargah and Naristan Khnagund)

Nature Trails and Guided Tours: To allow visitors to experience the sanctuary's natural beauty responsibly, we will establish well-marked nature trails and designated viewing areas. These trails will be designed to minimize environmental impact while offering a variety of eco-tourism experiences, such as bird watching, wildlife observation, and nature walks.

Viewing Decks and Scenic Spots: We will build viewing decks at carefully selected locations that provide visitors with breathtaking views of the sanctuary while minimizing disruption to wildlife. These structures will be designed to blend into the natural landscape and be constructed using sustainable materials.

Nature Interpretation Centres: We will establish visitor centres or interpretation hubs to educate visitors about the sanctuary's biodiversity, conservation efforts, and eco-tourism principles. These centres will provide information through interactive displays, exhibits, and local storytelling to deepen visitors' understanding and engagement with the sanctuary's ecosystem.

Promote Local Community Participation

Community-Based Tourism: To ensure that the local community benefits from eco-tourism, we will integrate community participation at all levels of tourism activities. This includes training local residents to become tour guides, providing hospitality services, and involving them in the sale of locally made handicrafts and products.

Skill Development and Capacity Building: We will offer training programs to equip community members with the skills needed for guiding, hospitality management, and artisanal craftsmanship. This will help local people gain employment, enhance their livelihoods, and foster a sense of ownership and responsibility toward the sanctuary.

Support for Local Enterprises: We will encourage the growth of local businesses that align with sustainable tourism practices, such as eco-friendly accommodations, locally sourced food, and traditional craft markets. This will not only create economic opportunities for the community but also ensure that the benefits of eco-tourism stay within the local economy.

Implement Waste Management and Sustainability Measures

Eco-Friendly Infrastructure and Operations: We will implement waste management practices across the sanctuary, focusing on reducing, reusing, and recycling waste generated by visitors and tourism activities. This will include providing waste disposal bins in key areas, introducing composting and recycling programs, and ensuring that the sanctuary's infrastructure is built using eco-friendly, sustainable materials.

Sustainable Water and Energy Use: Eco-tourism infrastructure, such as visitor centres, accommodation facilities, and eco-lodges, will be designed to minimize environmental footprints. Solar panels, rainwater harvesting systems, and low-energy lighting will be integrated into the infrastructure to reduce the use of non-renewable resources and promote sustainability.

Educational Programs on Sustainability: We will develop programs and materials that promote eco-conscious behaviours among visitors, such as waste reduction, water conservation, and energy efficiency. These programs will encourage visitors to be mindful of their environmental impact and help foster a culture of sustainability within the tourism sector.

New Innovative initiative to be implemented in Tral Wildlife Sanctuary

The Tourist Information System (TIS) aims to revolutionize both the way tourists experience Tral Wildlife Sanctuary and how the Wildlife Department manages the increasing number of visitors. This integrated system consists of an Android mobile application and a comprehensive web portal. The system will provide tourists with tools to explore the sanctuary, obtain permits, book tickets, and learn about the local wildlife and plants. The web portal for administrators will facilitate real-time management of visitors, tracking revenue, permissions, and providing detailed reports that will help improve both tourism experiences and conservation efforts. The key goal of the system is to provide a seamless, informative, and interactive experience for tourists, while also supporting the sanctuary's sustainability and the Wildlife Department's conservation efforts.

The proposed Tourist Information System (TIS) is a technological solution that aims to enhance the experience for tourists and ease the management process for the administrators. By digitizing various aspects of the sanctuary visit — from permit applications to ticketing and real-time information — the TIS will reduce manual processes, provide valuable insights, and streamline tourism operations, ultimately contributing to better management of the sanctuary's natural resources and promoting responsible tourism.

System Overview

The mobile app will offer the following functionalities:

Interactive 3D Maps: Tourists can explore 3D maps of the sanctuary, which will showcase trails, viewpoints, and key amenities. These maps will provide real-time information about available routes, points of interest, and current conditions within the sanctuary.

Video Tours: Tourists can watch pre-recorded video tours highlighting scenic areas, wildlife, and other key locations within the sanctuary, giving them an immersive preview before their visit.

Online Permit Application: The app will allow tourists to apply for entry permits digitally by submitting an online form and uploading the required ID proof. This reduces the administrative burden and ensures a smooth and quick approval process.

Ticket Booking & Payments: The system will allow tourists to securely book tickets through UPI or other online payment methods. Once tickets are booked, tourists will receive e-tickets for their visit.

Real-Time Information: Tourists will receive live updates about the weather, safety protocols, and restricted areas within the sanctuary. In addition, they will get alerts on eco-tourism zones, making their visit safer and more enjoyable.

Offline Maps: In areas with limited internet connectivity, tourists can download trekking maps, ensuring they can navigate the sanctuary even when they lose network coverage.

Public Amenities Guide: The app will provide useful information on available public amenities, such as hotels, ATMs, transportation, and emergency helplines.

Flora and Fauna Database: A rich collection of information on the sanctuary's wildlife and plants, including rare species like the Hangul deer, snow leopards, and medicinal plants. The database will include images, descriptions, conservation status, and even audio clips of animal sounds and bird calls for an immersive experience.

Emergency Helplines: Direct access to emergency services for rescue operations, medical assistance, or any other urgent support needed during the visit.

Web Portal Features

The web portal for administrators will include the following features:

Sanctuary Information: Detailed information about the sanctuary, its geography, fauna, flora, and eco-tourism zones. Administrators will have access to detailed maps and video tours.

Online Permit Management: Admins will have the ability to review and approve/reject tourist permit applications, ensuring that all entry requirements are met.

Ticketing Management: The portal will allow administrators to track ticket sales, monitor available slots, and generate revenue reports. Secure payment gateways will be integrated to facilitate smooth transactions.

Reporting & Data Analytics: The system will offer robust reporting capabilities. Administrators can generate reports on visitor footfall, ticket sales, revenue generation, and other tourism metrics. The data will be presented in easy-to-read graphs and charts.

Permission Management: Administrators can review, approve, and reject tourist entry applications. The system will automate notifications to inform tourists about the status of their permit application.

Tourist/User Workflow

Download the App or Visit the Web Portal: Tourists download the mobile app on their Android devices or access the web portal on a browser.

Explore the Sanctuary: Tourists can browse information, including interactive maps, wildlife guides, and video tours.

Apply for Permit: Tourists submit an application form along with required ID proof for permit approval.

Ticket Booking & Payment: Tourists select their visit dates, book tickets, and complete payment securely through UPI or other available methods.

Visit the Sanctuary: Upon confirmation, tourists can visit the sanctuary and enjoy a smooth experience with real-time alerts, location-based information, and easy access to amenities.

Admin Workflow
Admin Login: Administrators log in to the portal using secure credentials.

Permit Review & Management: Admins review incoming permit applications and approve or reject them based on predefined criteria.
Monitoring Ticket Sales: Admins can track ticket sales and ensure the sanctuary's capacity limits are respected.

Generate Reports: Admins can generate detailed reports on visitor activity, footfall, revenue, and permit statistics to aid in planning and conservation efforts.

Key Deliverables

Mobile Application: A fully functional Android app for tourists that includes all interactive features, online permit applications, ticketing, and the flora/fauna database.

Web Portal: A central administration platform for managing tourist data, applications, payments, and generating insightful reports.

Training: Training sessions for the Wildlife Department staff on how to use the system, understand data reporting, and maintain security protocols.

Documentation: Comprehensive user manuals for both tourists and administrators, as well as technical documentation for system maintenance and future upgrades.

Project Timeline: The development and implementation of the Tourist Information System will be carried out in multiple phases:

Phase	Duration	Deliverables
Data Generation	2 months	Creation of a comprehensive database with geo-tagged sanctuary assets, infrastructure, and scenic spots. Secure storage with role-based access controls.
App & Portal Development	3 months	Development of the Android app and web portal, integrating maps, ticketing, and permits.
Security Integration	1 month	Penetration testing, SSL/TLS setup, implementation of 2FA, and database encryption.
Payment Gateway Integration	1 month	Integration of PCI-DSS compliant payment gateway for secure payments via UPI, credit/debit cards, and net banking.
Security Audit & Compliance	1 month	Security audit, ISO 27001 certification, PCI-DSS compliance, GDPR data protection alignment.
Staff Training	2 weeks	Training Wildlife Department staff on the usage of the app and portal, and cybersecurity best practices.
Soft Launch & Testing	2 weeks	Beta testing with stakeholders to identify and fix any issues before the full launch.
Full Launch	2 weeks	Public release, marketing campaign, and 24/7 support services.

Security Considerations

To ensure the security and privacy of both tourists and administrative users, the following security measures will be implemented:
Penetration Testing: A thorough testing process to identify vulnerabilities and address them before the system goes live.

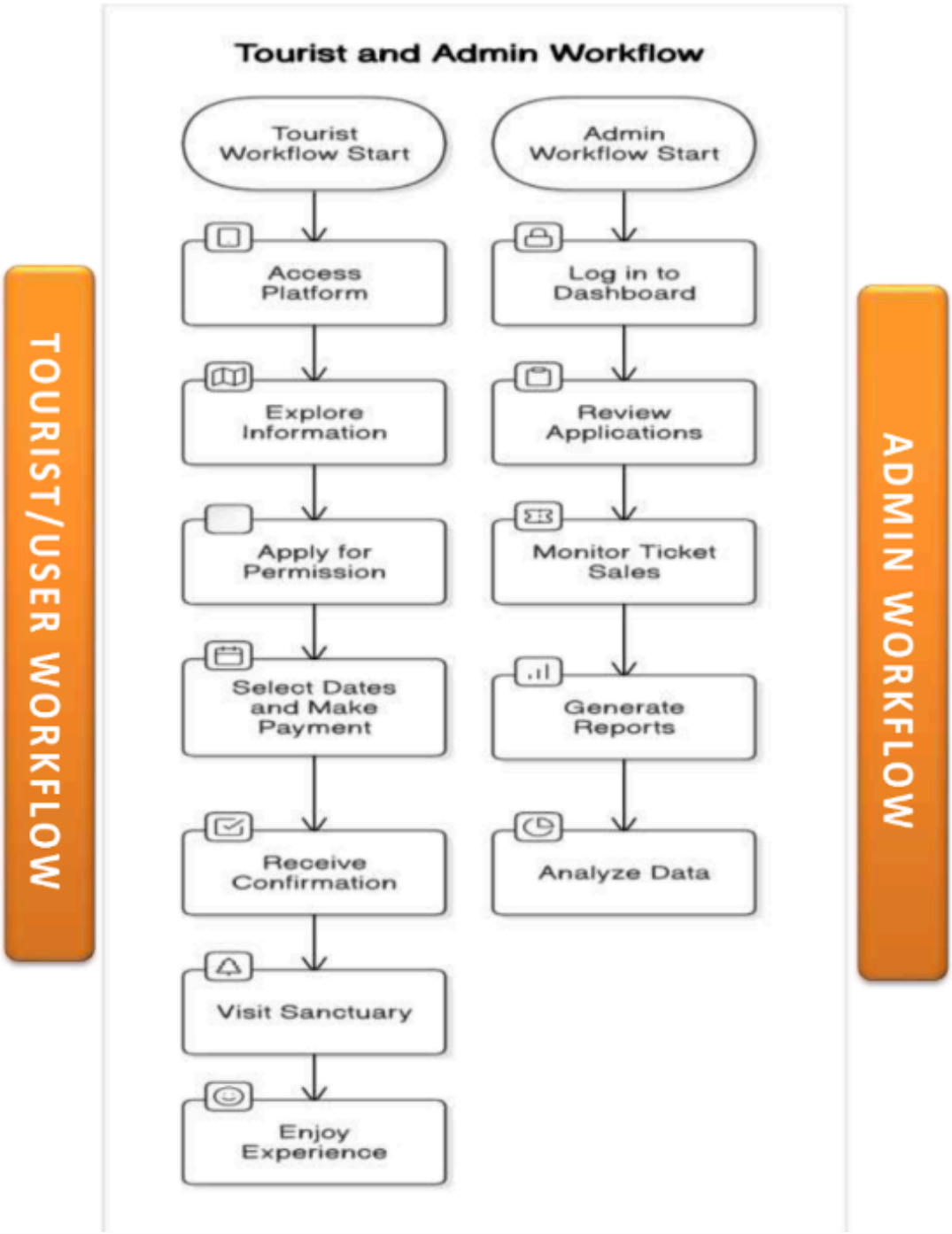
Data Encryption: All data, including sensitive tourist information and payment details, will be encrypted both during transmission and while stored in the database.

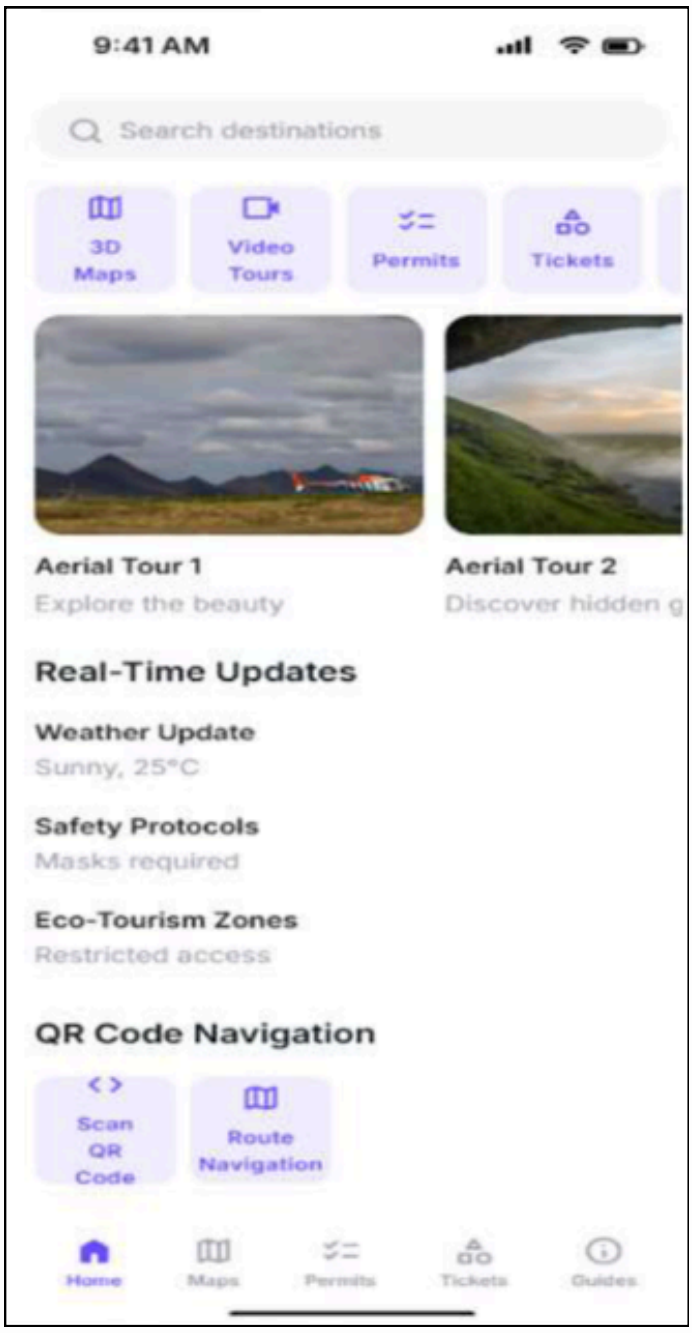
Two-Factor Authentication (2FA): To enhance the security of user accounts, both tourists and administrators will be required to use 2FA for logging in.

PCI-DSS Compliance: PCI-DSS (Payment Card Industry Data Security Standard) is a set of security standards designed to ensure that all companies handling credit card information maintain a secure environment. The standard is intended to protect sensitive payment card data from fraud and breaches. The payment gateway integration will adhere to PCI-DSS standards, ensuring that all financial transactions are secure.

Training and Support
Training: Wildlife Department staff will undergo comprehensive training on using both the mobile app and the web portal. Topics will include permit approval, ticketing, data reporting, and maintaining security protocols.

Ongoing Support: 24/7 support will be available to both tourists and administrators for technical issues. Regular system updates and patches will also be provided to ensure smooth operation.


Tourist and Admin Workflow
Tourist Workflow Start
Access Platform
Explore Information
Apply for Permission
Select Dates and Make Payment
Receive Confirmation
Visit Sanctuary
Enjoy Experience
Admin Workflow Start
Log in to Dashboard
Review Applications
Monitor Ticket Sales
Generate Reports
Analyze Data
TOURIST/USER WORKFLOW
ADMIN WORKFLOW



Proposed interface of the android app from user side

12.5 Problems related to Tourism

A few identified problems pertaining to the Tourism inside Sanctuary are:

- Lack of comprehensive tourism plan.
- Lack of proper maintenance of tourism infrastructures.
- Lack of facilities of Interpretation center to educate visitors.
- Inadequate staff deployed for controlling and regulating tourism in the wildlife sanctuary.



Tral Landscape



Polygonatum verticillatum



Polygonatum multiflorum



Epipactis helliborine

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Budget for 10 Year Plan Tenure (Amount in INR Lacs)														
S. No	Activity	1st Year	2nd Year	3rd Year	4th Year	5th Year	Total (1st 5 Yrs)	6th Year	7th Year	8th Year	9th Year	10th Year	Total 2nd 5 Yrs	Grand Total	% of Grand Total
1	Habitat Management	67.81	69.31	67.79	63.55	68.77	337.230	72.87	71.47	78.29	73.8	75.369	371.799	709.029	**17.94**
2	Protection & Surveillance	58.14	53.42	59.4	52.54	59.11	282.610	60.9	63.26	59.74	64.07	59.74	307.71	590.32	**14.94**
3	Infrastructure Development	25.00	86.00	79.00	65.00	52.00	307.00	16.00	40.00	30.00	16.00	31.00	133.00	440.00	**11.13**
4	Human-wildlife Conflict Management	40.15	38.15	53.4	40.4	38.4	210.50	38.4	53.9	38.9	40.9	38.9	211.00	421.50	**10.66**
5	Wildlife Health Management	59.00	57.50	58.00	31.50	28.00	234.00	29	31.5	29	29	31.5	150.00	384.00	**9.72**
6	Eco-Development	10.00	10.00	10.00	10.00	10.00	50.00	10.00	10.00	10.00	10.00	10.00	50.00	100.00	**2.53**
7	Publicity & Awareness	11.00	11.00	11.00	11.00	11.00	55.00	11.00	11.00	11.00	7.50	12.50	53.00	108.00	**2.73**
8	Research & Monitoring	17.00	17.00	17.00	17.00	17.00	85.00	17.00	17.00	17.00	17.00	17.00	85.00	170.00	**4.30**
9	Eco-tourism	17.50	30.00	67.50	20.00	17.50	152.50	17.50	15.00	10.50	15.00	10.50	68.50	221.00	**5.59**
10	CBC Shikargah Tral Wildlife Sanctuary	132.12	106.56	141.89	72.33	153.89	606.79	38.16	48.16	38.16	34.16	43.16	201.80	808.59	**20.46**
	Total	**437.72**	**478.94**	**564.98**	**383.32**	**455.67**	**2320.630**	**310.83**	**361.29**	**322.59**	**307.43**	**329.669**	**1631.809**	**3952.439**	**100.00**

1. HABITAT MANAGEMENT																								
Micro activity	Unit	Rate (Rs.)	Year-wise Physical & Financial Targets (Amount in Rs Lacs)																					
			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10		Total 10 Yrs	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
A. Raising of Plantations																								
1. Plantation of Fruit-bearing Species	No	23.17	6000	1.39	8500	1.97	9000	2.08	5000	1.16	6500	1.50	6500	1.50	5000	1.16	8500	1.97	7000	1.62	6500	1.50	**68500**	**15.85**
2. Plantation of Conifer saplings	No	29.34	2000	0.59	0	0	2500	0.73	0	0	0	0	2000	0.59	0	0	2000	0.59	0	0	0	0	**8500**	**2.50**
3. Dibbling of Horse Chestnut, Oak	No	7.18	5000	0.36	0	0	7000	0.50	0	0	3000	0.22	5000	0.36	5000	0.36	0	0	5000	0.36	0	0	**30000**	**2.16**
4. Formation of Barbed Wire Enclosures on Angle	Rft	272	1600	4.35	2250	6.12	2400	6.53	1350	3.68	1720	4.68	1750	4.76	1470	4.00	2270	6.18	1880	5.11	1750	4.76	**18440**	**50.17**
5. Cost of Plantation of Fruit Bearing Species	No	7.44	6000	0.43	8500	0.64	9000	0.67	5000	0.37	6500	0.47	6500	0.47	5500	0.39	8500	0.64	7000	0.50	6500	0.47	**69000**	**5.05**
B. Soil Conservation																								
1. Check dams in DRSM	Cums	1099	165	1.82	230	2.53	250	2.75	280	3.08	290	3.19	240	2.64	250	2.75	270	2.97	245	2.70	280	3.08	**2500**	**27.51**
2. Crate Wire Bunds	Cums	1700	174	2.96	180	3.06	120	2.04	170	2.89	160	2.72	180	3.06	195	3.32	210	3.57	178	3.02	180	3.06	**1747**	**29.70**
C. Pasture Development		LS		7.50		7.50		7.50		7.50		7.50		7.50		7.50		7.50		7.50		7.50		**75.00**
Pasture development in CBC paddock		LS		3.00		3.00		3.00		3.00		3.00		3.00		3.00		3.00		3.00		3.00		**30.00**
D. Fire Control																								
1. Making of New Fire lines	Km	29250	25	7.31	15	4.39	15	4.39	18	5.27	15	4.39	15	4.39	15	4.39	18	5.27	15	4.39	15	4.39	**166**	**48.58**
1a. Maintenance of old fire lines			10	1.50	10	1.50	10	1.50	10	1.50	10	1.50	10	1.50	10	1.50	10	1.50	10	1.50	10	1.50	**100**	**15.00**
2. Deployment of Fire-fighting Squads	MD	311	1800	5.60	1800	5.60	1800	5.60	1800	5.60	1800	5.60	1800	5.60	1800	5.60	1800	5.60	1800	5.60	1800	5.60	**18000**	**56.00**
3. Provision for part-removal of fallen, dried,		LS		2.50		2.50		2.50		2.50		2.50		2.50		2.50		2.50		2.50		2.50		**25.00**
3. Procurement of Fire-fighting Equipment		LS		11.00		10.50		10.50		10.00		12.00		13.00		12.00		15.00		15.00		15.00		**124.00**
4. Running of Fire-fighting Control Rooms (logistics & Staff Amenities)		LS		3.50		4.50		3.00		3.50		4.00		4.00		4.00		4.00		4.00		4.00		**38.50**
E. Food & Water supplements																								
1. Providing of Supplementary Food during Leans		LS		4.00		6.00		6.00		6.00		7.00		7.00		7.00		7.00		7.00		7.00		**64.00**
2. Providing of salt/mineral licks		LS		2.00		2.50		2.50		2.50		2.50		4.00		4.00		4.00		4.00		4.00		**32.00**
3. Making of Water Holes	No	100000	8	8.000	7	7.000	6	6.000	5	5.000	6	6.000	7	7.000	8	8.000	7	7.000	6	6.000	8	8.000	**68**	**68.00**
				67.81		**69.31**		**67.8**		**63.6**		**68.77**		**72.87**		**71.47**		**78.29**		**73.80**		**75.36**		**709.02**

2. PROTECTION & SURVEILLANCE

Micro activity	Unit	Rate (Rs.)	Year-wise Physical & Financial Targets																					
			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10		Total 10 Yrs	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1. Consolidation of Boundaries by Chain-link	Rft	1621	2150	34.85	1950	31.61	2250	36.48	1850	30	2230	36.19	2350	38.09	2450	39.71	2230	36.19	2500	40.52	2230	36.19	2	**359.82**
2. Construction of Patrolling Paths	Km	36971	6	2.22	2	0.74	5	1.85	4	1.48	5	1.85	2	0.74	4	1.48	4	1.48	4	1.48	4	1.48	2	**14.80**
3. Deployment of Seasonal Labors to assist the staff	MD	311	2600	8.07	2600	8.07	2600	8.07	2600	8.07	2600	8.07	2600	8.07	2600	8.07	2600	8.07	2600	8.07	2600	8.07	2	**80.70**
4. Procurement of Protection/Surveillance Equipment (Binoculars, Search Lights, Field Gear, Tents, Sleeping Bags)		LS		9.50		9.50		9.50		9.50		9.50		10.50		10.50		10.50		10.50		10.50		**100.00**
5. Running of Anti-poaching/Anti-grazing Camps) &				3.00		3.00		3.00		3.00		3.00		3.00		3.00		3.00		3.00		3.00		**30.00**
6. Law Charges & Documentation				0.50		0.50		0.50		0.50		0.50		0.50		0.50		0.50		0.50		0.50		**5.00**
				58.14		**53.42**		**59.40**		**52.5**		**59.11**		**60.9**		**63.26**		**59.74**		**64.07**		**59.74**		**590.32**

3. INFRASTRUCTURE DEVELOPMENT

Micro activity	Unit	Rate	Year-wise Physical & Financial Targets																					
			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10		Total 10 Yrs	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1. Nature Interpretation Centre	No.	APE	0	0	0.50	30.00	0.50	30.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**60.00**
2. Inspection Hut	No.	APE	0	0	0	0	0	0	0.5	25.00	0.5	25.00	0	0	0	0	0	0	0	0	0	0	1	**50.00**
3. Entry Gate	No.	APE	0	0	0	0	0	0	1	9.00	0	0	0	0	0	0	0	0	0	0	0	0	1	**9.00**
4. Staff Quarter	No.	APE	0	0	1	25.00	1	25.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	**50.00**
5. Guard Hut	No.	APE	0	0	1	15.00	0	0	1	15.00	1	15.00	0	0	1	15.00	1	15.00	0	0	1	15.00	6	**90.00**
6. Watch Tower	No.	APE	1	9.00	0	0	1	9.00	1	9.00	0	0	0	0	1	9.00	0	0	1	9.00	0	0	5	**45.00**
7. Shelter Shed	No.	APE	1	9.00	1	9.00	0	0	0	0	1	9.00	1	9.00	1	9.00	0	0	0	0	1	9.00	6	**54.00**
8. Check-post	No.	APE	0	0	0	0	1	8.00	0	0	0	0	0	0			1	8.00	0	0	0	0	2	**16.00**
9. Foot Bridge	No.	APE	1	4.00	1	4.00	1	4.00	1	4.00	0	0	1	4.00	1	4.00	1	4.00	1	4.00	1	4.00	9	**36.00**
10.Equipment (Office/Field/Photographic)		LS		3.00		3.00		3.00		3.00		3.00		3.00		3.00		3.00		3.00		3.00	0	**30.00**
				25.00		**86.00**		**79.00**		**65.00**		**52.00**		**16.00**		**40.00**		**30.00**		**16.00**		**31.00**		**440.00**

4. HUMAN-WILDLIFE CONFLICT																								
Micro activity	Unit	Rate	Year-wise Physical & Financial Targets																					
			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10		Total 10 Yrs	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1. Procurement of equipment for chemical restrain				15.50		15.50		15.50		15.50		15.50		15.50		15.50		15.50		15.50		15.50		**155.00**
2. Procurement of equipment for physical restrain				8.00		8.00		8.00		8.00		8.00		8.00		8.00		8.00		8.00		8.00		**80.00**
3. Mobility (Rescue Van, Motor-bikes)			1	2.00			1	15.0	1	2.00					1	15.0			1	2.0			5	**36.00**
4. Provision for Fuel for Rescue Vehicles				1.75		1.75		2.00		2.00		2.00		2.00		2.50		2.50		2.50		2.50		**21.50**
5. Provision for hiring of private transport for				2.50		2.50		2.50		2.50		2.50		2.50		2.50		2.50		2.50		2.50		**25.00**
6. Deployment of personnel to assist the regular	MD	311	2700	8.40	2700	8.40	2700	8.40	2700	8.40	2700	8.40	2700	8.40	2700	8.40	2700	8.40	2700	8.40	2700	8.40	**27000**	**84.00**
7. Running of Control Rooms/Camps (Provision for				2.00		2.00		2.00		2.00		2.00		2.00		2.00		2.00		2.00		2.00		**20.00**
				40.15		**38.15**		**53.40**		**40.40**		**38.40**		**38.40**		**53.90**		**38.90**		**40.90**		**38.90**		**421.50**

5. ECO-TOURISM																								
Micro activity	Unit	Rate	Year-wise Physical & Financial Targets																					
			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10		Total 10 Yrs	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1. Training of Local Youth as Nature/Eco-guides		LS		2.50				2.50				2.50		2.50				2.50				2.50		**15.00**
2. Procurement of Camping Gear (High end Tents,		LS		8.00		8.00		8.00		8.00		8.00		8.00		8.00		8.00		8.00		8.00		**80.00**
3. Construction of Souvenir Stall					1	12.00			1	12.00													2	**24.00**
4. Construction of View Points using locally available		LS	1	7.00			1	7.00			1	7.00	1	7.00	1	7.00			1	7.00			6	**42.00**
5. Development of TIS in Tral Wildlife Sanctuary						10.00		50.00																
				17.50		**30.00**		**67.50**		**20.00**		**17.50**		**17.50**		**15.00**		**10.50**		**15.00**		**10.50**		**42.00**

Wildlife Health Management

6. WILDLIFE HEALTH MANAGEMENT																											
			Year-wise Physical & Financial Targets																								
Micro activity	Unit	Rate	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10		Total 10 Yrs	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1. Disease investigation & collection of baseline		LS		5.00		5.00		5.00		5.00		5.00		5.00		5.00		5.00		5.00		5.00		50.00
2. Vaccination of domestic livestock of nomadic		LS				2.50				2.50						2.50						2.50		10.00
3. Procurement of Drugs & Medicines		LS		8.00		9.00		9.00		9.00		9.00		9.00		9.00		9.00		9.00		9.00		89.00
4. Procurement of treatment equipment &		LS		16.00		16.00		14.00		15.00		14.00		15.00		15.00		15.00		15.00		15.00		150.00
5. Construction of Animal Rescue & Treatment		LS	1	30.00																			1	30.00
6. Construction of Rehabilatation Centre at CBC		LS					1.00	30.00															1	30.00
7. Procurement of Ambulance for CBC						25.00																	1	25.00
				59.00		57.50		58.00		31.50		28.00		29.00		31.50		29.00		29.00		31.50		384.00

Eco-development

7. ECO-DEVELOPMENT																								
			Year-wise Physical & Financial Targets																					
Micro activity	Unit	Rate	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10		Total 10 Yrs	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1. Distribution of fuel-efficient devices in the fringe		LS		4.00		4.00		4.00		4.00		4.00		4.00		4.00		4.00		4.00		4.00		40.00
2. Livelihood development		LS		2.00		2.00		2.00		2.00		2.00		2.00		2.00		2.00		2.00		2.00		20.00
3. Conducting of awareness & Capacity Building		LS		4.00		4.00		4.00		4.00		4.00		4.00		4.00		4.00		4.00		4.00		40.00
				10.00		10.00		10.00		10.00		10.00		10.00		10.00		10.00		10.00		10.00		100.00

Awareness & Publicity

8. AWARENESS & PUBLICITY

Micro activity	Unit	Rate	Year-wise Physical & Financial Targets																			
			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10		Total 10 Yrs	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1. Provision for Equipping the NIC		LS		2.00		2.00		2.00		2.00		2.00		2.00		2.00		2.00		2.00		**20.00**
2. Guided Tours & Awareness Workshops for		LS		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		**10.00**
3. Printing of Publicity material (Pamphlets, Posters,		LS		4.50		4.50		4.50		4.50		4.50		4.50		4.50		4.50		4.50		**45.00**
4. Observation of Foundation Day & Wildlife Week		LS		1.50		1.50		1.50		1.50		1.50		1.50		1.50		1.50		1.50		**15.00**
5. Hoardings & Signages		LS		2.00		2.00		2.00		2.00		2.00		2.00		2.00		2.00		2.00		**20.00**
				11.00		**11.00**		**11.00**		**11.00**		**11.00**		**11.00**		**11.00**		**11.00**		**11.00**		**110.00**

Research & Monitoring

9. RESEARCH & MONITORING

Micro activity	Unit	Rate	Year-wise Physical & Financial Targets																			
			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10		Total 10 Yrs	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1. Survey/Census of Key Wildlife Species		LS		8.00		8.00		8.00		8.00		8.00		8.00		8.00		8.00		8.00		**80.00**
2. Procurement of Survey/Census Equipment		LS		9.00		9.00		9.00		9.00		9.00		9.00		9.00		9.00		9.00		**90.00**
				17.00		**17.00**		**17.00**		**17.00**		**17.00**		**17.00**		**17.00**		**17.00**		**17.00**		**170.00**

Budget for CBC Shikargah Tral Wildlife Sanctuary

Budget for CBC Shikargah Tral Wildlife Sanctuary																								
Micro activity	Unit	Rate	Year-wise Physical & Financial Targets																					
			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10		Total 10 Yrs	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Double chain link fencing along the existing chain link fencing, CBC Shikaragah	rfts	1621	600	9.73	600	9.73																	1200	19.46
Improvement of paddock by way of adding more area to the existing paddock area for hangul population, CBC Shikaragah	rfts	1621	1100	17.83			1100	17.83			1100	17.83											3300	53.49
Power Fencing to protect the existing free ranging Hangul Popolation, CBC Shikaragah		2900	1100	31.90			1100	31.90			1100	31.90											3300	95.70
Bush Clearence/removal of unwanted weeds, Lopping of leaning trees within and outside the Paddock, CBC Shikaragah		APE		3.83		2.5		3.83		2.5		3.83		3.83		3.83		3.83		3.83		3.83	0	35.64
Wood tin cladding/wrapping of Vertical / diagonal angle iron posts for interior/exterior side of the Paddock at CBC Shikargah Tral		APE		7.00				7.00				7.00											0	21.00
Providing of Water holes within the Paddock, CBC Shikaragah		APE			3	9.00			3	9.00	3	9.00	3	9.00		9.00	3	9.00			3	9.00	18	63.00
Concertina wire on projected fencing and around trees as a protetction from natural predators, CBC Shikaragah		APE				5.50		5.50				5.50											0.00	16.50
Construction of Watch Tower at CBC Shikargah Tral		APE			1	15.00	1	15.00			1	15.00											3	45.00
Providing of Supplementary vegetbales/ Feed/salt licks during lean period, CBC Shikaragah		APE		8.50		8.50		8.50		8.50		8.50		8.50		8.50		8.50		8.50		8.50	0	85.00
Development of inspection path inside Paddock for monitoring of animals, CBC Shikaragah		APE		7.50		7.50		7.50		7.50		7.50				5.00							0	42.50
Procurement of veterinary and other equipments for CBC Shikaragah		APE		20.00		20.00		20.00		20.00		20.00		10.00		10.00		10.00		10.00		10.00	0.00	150.00
Surveillance and monitoring system by way of upgradation of CCTV setup		APE				20.00						10.00											0.00	30.00
Prucurement Hi tech Ambulance for CBC Shikargah		Nos							1.00	16.00													1.00	16.00
Shade Net around Paddock as a comoflouge to protect Hangul Population, CBC Shikaragah		APE		5.00				5.00				5.00				5.00				5.00		5.00	0.00	30.00
Purchase of Tanquilizing gun/Net Gun/ Blow pipe for CBC Shikargah		APE		6.00				7.00															0.00	13.00
Purchase of portable leopard/ bear cage for CBC shikargah		APE	1	6.00			1	6.00			1	6.00											3	18.00
Purchase of Herbivore Transport Cage, CBC Shikargah		APE		2.00		2.00				2.00													0.00	6.00
Enagement of CBC care Takers		311	5	6.83	5	6.83	5	6.83	5	6.83	5	6.83	5	6.83	5	6.83	5	6.83	5	6.83	5	6.83	50	68.30
				132.12		106.56		141.89		72.33		153.89		38.16		48.16		38.16		34.16		43.16		808.59

Form 1. Restoration of Habitat: Weed Control, Initial Operation

Sl. no	Location & name of site	Year	Extent of area(ha)	Species of weed	Operation	Total cost	Cost per ha	Remarks
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

Note: Location: By compartment, site name or land feature
Operation: Uprooting, cutting, burning, ploughing, manual or by using animals or machinery
Remarks: Measure of success and/or problem faced.

Form 2. Restoration of Habitat: Weed Control, Subsequent Operation

Sr. no	Location & name of site	Year	Extent of area(ha)	Complete or partial coverage	Species of weed	Operation	Total cost	Cost per ha	Remarks
1	2	3	4	5	6	7	8	9	10

Note:
Location: By compartment, site name or land feature
Operation: Uprooting, cutting, burning, ploughing, manual or by using animals or machinery.
Remarks: Percent cover of weed/s before operation, problems, if any

Form 3. Restoration of Habitat: Soil Conservation Measures- Initial Operation and Subsequent Maintenance

Sr. no	Location & name of site	Year	Extent of area(ha)	Area treated	Operation	Total cost	Cost per ha	Remarks
1	2	3	4	5	6	7	8	9

Note:

Location: By compartments, name of site or landmarks and marking of geo coordinates
Extent of area: Total area identified for such treatment. In case of streams or gullies, the length involved.
Area Treated: If linear feature then quote length; otherwise area.
Operation: Structures involved such as gully plugs, trench-cum-mound, terracing, spurs and bunds etc. quote quantity nos. and cmt. of earthwork.
Remarks: Mention if initial work or maintenance.

Form 4. Restoration of Habitat: Planting, Sowing – Initial Operation

Sl. no	Location	Year	Extent of area(ha)	Species	Planting stock	Spacing	Operation	Total cost	Cost per ha	Remarks
1	2	3	4	5	6	7	8	9	10	11

Note: Location: By compartments, or landmarks and describe the site factors e.g. vegetation cover, soil, perturbations etc.

Planting Stock: Kind and condition e.g. root shoot, naked root seedling, seedlings in polythene bags, age or average size.

Operation: Mention site preparation if any, crowbar holes, pits and pit size, trench, seed sowing (rate), tussock planting (norms), protection measures.

Remarks: Mention operational problems if any.

Form 5. Restoration of Habitat: Response of Plantings, Sowing and Subsequent Operations

Sr. no	Location	Year	Extent of area(ha)	Species	Survival%	Casualty replacement	Operation	Total cost	Cost per ha	Remarks
1	2	3	4	5	6	7	8	9	10	11

Note: Location: By compartments, or landmarks.
Casualty replacement: Mention planting stock by species, number & kind (polythene bag, root shoot, rhizome etc.).
Operations: Planting, sowing technique, protection measures.
Remarks: Operational problems, protection problems, any other useful information.
Assess & mention survival percentage & growth before taking up casualty replacement.

Form 6. Restoration of Habitat: Area under Protection/Closure

Sl. no	Location	Year	Extent of area(ha)	Description of site	Regulations or protection measures	Response	Remarks
1	2	3	4	5	6	7	8

Note:

Location:	By compartment or landmarks
Description of site:	% tree, shrub, ground cover, main species, impact of factors causing perturbations.
Regulations &:	Social fencing, power or other kind of fencing, enforced protection by patrolling, protection measures fire protection etc.
Response:	To be recorded annually. Consider trend of regeneration, vegetation cover, change in structure and composition, wildlife use index.
Remarks:	State problems or any other useful information, including alternatives if area is being used by people for specific purposes.

Form 7. Animals: Measuring Trends in Populations (Year)

Sl. No	Species	Population estimation methodology	Adult		Sub-adults		Yearlings	Fawns	Cubs	Total	Remarks
			Male	Female	Male	Female					
1	2	3	4	5	6	7	8	9	10	11	12

Note: Population: e.g. pugmark, line transect, scan, roadside counts etc., area covered, sampling intensity, estimation data treatment, extrapolation where involved. In case of indices of density or dung, count mention those figures under the remarks' column; use details as pertinent. Describe age classes for each species.
Remarks: Operational problems, protection problems, any other useful information. Indices of density or dung count details to be recorded here.

Form 8. Animals: New Records

Sl. no	Species	Location	Year	How discovered	Details of age, number, sex	Habitat description	Remarks
1	2	3	4	5	6	7	8

Note: Animals will include vertebrates and invertebrates.
How discovered: Sighting, dead specimen, reliability of sighting, captured specimen, incontrovertible other evidence.
Number, age, sex etc: As applicable to vertebrates.
Habitat description: Broad habitat description such as vegetation, and elements such as water, large old trees, den trees, snags, down log material. Use microhabitat descriptors only if relevant.
Remarks: Any other useful information.

Form 9. Animals: Mortality other than that Attributable to an Offence

Sl. no	Species	Location	Year	Sex& age	Number	Discovered in what condition	Cause of mortality	Remarks
1	2	3	4	5	6	7	8	9

Note:
Location: By compartment, landmark etc.
Sex & age: As per parameters for age class. Sex, if possible to identify.
Discovered in what condition: Carcass, complete or partial. Skull or any other recognizable remains collected where only some remains of an animal are found.
Cause of mortality: If known e.g. territorial fight, accident, possible disease (following post-mortem results), old age, cause difficult to determine, predation etc.
Remarks: Any other useful information.

Form 10. Animals: Mortality Attributed to Poaching or an act of Vandalism

Sr. No	Species	Location	Cause of Mortality				Remarks
1	2	3	Number	Sex	Age	Class	5
			4				

Note: Location: By compartments or landmarks.
Cause of mortality: Whether the animal was intact or remains found, article or trophy to be recorded. Cause if known e.g. animal snared, shot or poisoned etc.
Remarks: Any other useful information, especially matters of illegal trade.

Form 11. Animals: Predation on Domestic Livestock by Wild Carnivores

Sr. no	Range	Month	Category of livestock killed	Location	Numbers	Ex gratia payment (Rs.)	Carnivore involved	No. of cases undecided	Remarks
1	2	3	4	5	6	7	8	9	10

Note: Category of livestock killed: Buffalo, cow, bullock (adult, sub-adult, and calf), camel, horse, donkey, sheep, goat, poultry etc.
Location: Comptt. no. or landmark where killed and the village of the owner.
Carnivore involved: Indicate species responsible for the kill if identity is confirmed.
No. of cases undecided: Either in progress or dropped.
Remarks: Record observations like - attended or unattended animal, killed in forest or waterhole or in the pen/shed, field and whether kill was in area closed to livestock trespass

Form 12. Animals: Killing of a Human by Wildlife or Injury caused

Sl. no	Range	Month	No. of incidents	No. of people killed sex& age	Location circumstances &species	No. of people injured sex& age	Location circumstances &species	Ex gratia payment (Rs.)
1	2	3	4	5	6	7	8	9

Note:

Location: Location by comptt no., the village to which the person belongs and a description of the circumstances and activity such as - open grassy patch, cutting grass; or under a mahua tree collecting and species flowers etc. Mention species responsible on proof.

Form 13. Animals: Wildlife Damage to Private or Public Property

Sl. no	Range	Month	The category of property	Extent of damage	Species involved and number	Remarks
1	2	3	4	5	6	7

Note: Location: By comptt. no., village survey no., name of village or landmark.
Category of property: e.g. agriculture field-wheat, huts in a village, any kind of vehicle.
Extent of damage: Crop damage by area, estimated loss of produce and monetary loss. Similar yardsticks for other items like partial or total destruction of huts and belongings with estimated monetary loss.
Remarks: Any relevant information or circumstances e.g. a wild elephant was provoked by people.

Form 14. Plants: New Records

Sl. no	Family	Species	Years	Location	Habitat	Status	Remarks
1	2	3	4	5	6	7	8

Note: Habitat: Description by vegetation associates at various levels, % canopy closure if relevant, soil/site, microhabitat elements such as higher level of moisture, woody debris or humus etc.
Status: A broad idea on its frequency, national status e.g. endangered, rare, endemic etc.
Remarks: Any specific information

Form 15. Plants: Disease and Mortality

Sl. no	Species	Location	Year	Particulars of disease morbidity and mortality	Area affected	Remarks
1	2	3	4	5	6	7

Note:

Location: By compartment or landmarks.

Particulars of disease: In case of trees, the mortality by diameter classes and number, symptoms, insect pest activity or any other external indicators if visible, none if not seen. No mortality but infestation detected, mention that as morbidity.

Area affected: In hectares.

Remarks: Any specific environmental condition or site factors you may suspect as being related to the problem or any other useful information.

Form 16. Plants: Illegal and Legal Collection

Sl. no	Species	Years	Location	Details of material	Habitat	Status	Remarks
1	2	3	4	5	6	7	8

Note: Location: By compartments or landmarks.
Details of material: To include timber, firewood, bamboo, NWPs. Plants collected could be of local significance or of trade significance on a national or international scale. Distinguish between legal and illegal activity in the remarks' column.
Quantity: In appropriation units.
Trade particulars: What is traded? Portions partially processed or processed material and where are the major trade centres, known or suspected to be?
Remarks: Any other useful information. Legal collection applies to PA, if permitted for research; to TUZ or to the buffer zone.

Form 17. Grazing of Domestic Livestock

Sl. no	Grazing unit no.	List of villages in the unit	Village wise listed population of cattle	Capacity of the unit (cattle units) and number of cattle grazed	Total cattle units grazed		Remarks
					Legal	Illegal	
1	2	3	4	5	6	7	8

Note:

Remarks:(i) Mention number of cattle immunized against FMD, RP, anthrax as the case might be and the number of cattle without the prophylactic cover.

(i) If grass is allowed to be cut for cattle being stall-fed, mention the village and number of such cattle.

Form 18. Inter-Agency Programs: Agencies and Schemes

Sl. no	No. of agency	Central or State	Number and name of scheme operated	Physical and financial targets		Area& Location	Remarks
				Given	Achieved		
1	2	3	4	5	6	7	8

Note: Name of the scheme: To include all activities in the Govt. sector, i.e. construction, use of resources, development processes etc. mention names of schemes, projects or normal operations. This will address all departments in the management area and those activities outside but capable of influencing the management area.
Remarks: Success, adverse impacts, incompatibility with PA management objectives or failures should be mentioned. Detailed notes too go in the PA book.

Form 19. Programs of NGOs

Sl. no	No. of agency	HQ location	Number of scheme operated	Physical and financial targets		Area& Location	Remarks
				Given	Achieved		
1	2	3	4	5	6	7	8

Note: Remarks: Success or adverse impacts, incompatibility with PA management objectives or failures should be mentioned. Detailed notes to go in the PA book. These programs and activities could be within the management area or those that are outside the management area but are capable of influencing the state of the management area - either complementing the efforts or adversely impacting.

FORM – 20 Developing Infrastructure: Construction of boundaries Fences, CPTs, exclosures, enclosures (New)

Sl. No	Year	Category of construction	Location	Length (Mt)	Number	Specification	Remarks
1	2	3	4	5	6	7	8

Location: By compartment or suitable landmark.
Number: In case of enclosures, exclosures, number of pillars etc. as applicable.
Specification: As applicable to the construction: dry rubble, chain linl, local material, height, area, depth width etc.
Remarks: Any other relevant information

FORM – 21 Developing Infrastructure: Construction of boundaries Fences, CPTs, exclosures, enclosures (Existing)

Sl. No	Year	Category of construction	Location	Length (Mt)	Number	Specification	Remarks
1	2	3	4	5	6	7	8

Location: By compartment or suitable landmark.
Number: In case of enclosures, exclosures, number of pillars etc. as applicable.
Specification: As applicable to the construction: dry rubble, chain linl, local material, height, area, depth width etc.
Remarks : Any other relevant information

FORM – 22 Developing Infrastructure: Fire lines (New)

Sl. No	Year	Fire line Category or width	Name of points connected	Length (Mt)	Cost	Remarks
1	2	3	4	5	6	8

FORM – 23 Fire out breaks

Outbreaks of fires	Year	Location	Extant (ha)	Dates	Reason	Estimated loss	Remarks
Detected				**Controlled**			
1	2	3	4	5	6	7	

location : By compartment
Reason : Established or suspected
Estimated Loss: e.g. no. of trees damaged, stacked firewood/timber/bamboo destroyed/damaged by volume and cost, wild animals dead, particulars of sensitivity sites affected, other property or life destroyed.
Remarks: State particularly problems encountered in detection and suppression and any other useful information. State also whether the extent of fire has been mapped.

Form 24: Offence cases detected Dachigam National Park

Sl. No.	Year	Category	Numbers	No. of cases detected	No. of cases under process	No. of cases compounded	Remarks
Successful				Failure			
1	2	3	4	5	6	7	8

non PA status under management which do not involve an endangered species.(Schedule-I)

FORM – 25 Incentives and awards: Dachigam National Park

Sl. No		Year		No. of recipients of incentives for detecting offences	Amount paid(Rs)		Kind of award	No. of recipient	Remarks
1		2		3	4		5	6	8
No	Year	Title	Completed	Ongoing	New	Status	Financial outlay (Rs)	Expenditure incurred (Rs)	Remarks
1	2	3	4	5	6	7	8	9	10

FORM – 26 Survey and inventories: Dachigam National Park

Sl. No	Year	Title of survey, inventory activity	Completed	Ongoing	New	By PA	By other agency	Remarks
1	2	3	4	5	6	7	8	9

FORM– 27 The Monitoring programmes:

Sl. No	Year	Title of the programme	Date of initiation	Responsible agency	Technique	Status of collaboration and analysis of data	Remarks
1	2	3	4	5	6	7	9

FORM – 28 Eco development programmes: Targets and implementation

Sl. No	Year	Nature of the programme	Sector (Central/State) or NGO sponsored	Target set	Achievements	Village (buffer/enclaved)	Remarks
Physical		Financial		Physical		Financial	

Biogas plants, livestock improvement, establishment and development of sericulture, revival of local skills such as handicraft, water-harvesting systems, adult education. Etc.
Village: Site where programmes is being implimented-whether buffer or inside PA.
Remarks: State problems, state failures and thereof, reasons for not attaining targets, for non-implementation or deviation etc. State whether it is on the right tracks in context of achievement of objectives

Form 29. Construction*/Maintenance* Of Infrastructure: Roads & Bridges

Sl. no	Category	Range	Surface	Name & Number	Length covered (km)	Cross drainage works, bridges or culverts with types	Total costs and status
1	2	3	4	5	6	7	8

Note: Category of road: National highway, State highway, district road etc. public road, forest road or open only to managers should be stated. Surface type: Black topped metal, earth etc. Applies to roads.
Name or nmber: As the case may be.
Cross drainage type: e.g. for culverts - box, hume pipe culverts etc.
Bridge type: Wooden trestle, suspension, metal multi span, masonry arch etc.
Status: Work completed or ongoing. State also the agency responsibility; state whether operational or non-operational.
Strike out which is not applicable. Use separate forms as required; for construction & for maintenance details.

Form 30. Connecting Multi-Agency Programs In Landscape Based Planning Partners During Year:

Sr. No.	District	Sector/Central/State/ Other (Specify)	Agency & Work area/speciality	Program coverage	Agreed input and mechanism	Financial implications /investment & source
1	2	3	4	5	6	7

Note: Col 4: Main agency agenda e.g. livestock production, health, education, irrigation etc.

Col. 5: Indicate by either administrative unit e.g. tehsil, or number of villages i.e. target

Col. 6: what has the agency agreed on to deliver? How? through agency plan/ scheme?

Form 31. Monitoring Extent and Quality of Multi-Agency Programs Year

Sr. No.	District	Sector/Central/State/ Other (Specify)	Agency	Objectives & targets	Achievement & standard	Constraints	Extent of Investment	Remarks
1	2	3	4	5	6	7	8	9

Note: Col 6. The standard of achievement to be based on (i) verification of targets (ii) perception of satisfaction of people and their own assessment

Col. 7 (i) as reported by agency (ii) as perceived by people concerned

ANNEXURE I

Government of Jammu and Kashmir
Forest, Environment & Ecology Department.
Civil Secretariat.

Notification

Srinagar, the 23rd Oct, 2019

SRO 639 :- Whereas the area specified in Annexure "A" to this notification has adequate ecological, faunal, floral, geomorphological and natural significance for the purpose of protecting, propagating and developing wildlife and its environment.

Now therefore, in exercise of powers conferred by sub-section(1) of section 17 of the Jammu & Kashmir Wildlife (Protection) Act, 1978, the Government hereby declares its intention to constitute the said area as Tral Wildlife Sanctuary.

By order of the Government of Jammu and Kashmir.

Sd/-

(Manoj Kumar Dwivedi) IAS
Commissioner/Secretary to Government
Forest, Ecology & Environment Department.

N:o:- FST/WL/07/2018 **Dated: 23.10.2019**

Copy to the :-

1. Secretary to Government of India, MoEF&CC, New Delhi.
2. Pr. Secretary to his Excellency the Governor, J&K State.
3. Secretary to Government General Administration Department.
4. Secretary to Government, LJ&PA Department.
5. Commissioner/Secretary to Government, Revenue Department.
6. Secretary to Government, Higher Education Department.
7. Pr. Chief Conservator of Forests, J&K, Srinagar.
8. Chief Wildlife Warden, J&K, Srinagar.
9. Chief Conservator of Forests, Kashmir.
10. Divisional Commissioner Kashmir, Srinagar.
11. OSD to Hon'ble Advisor (K) for information of Hon'ble Advisor.
12. General Manager, Government Press, Kashmir for publication of the SRO in next Government Gazette.
13. Pvt. Secy. to the Chief Secretary J&K State.
14. Pvt. Secy. to Commissioner/Secretary to Government, Forests, Env. & Ecology Department.
15. Pvt. Secy. to Secretary(Technical) Forests, Env. & Ecology Department.
16. Government Order file (w.2.s.c)/Stock file.

Under Secretary to Government
Forest, Ecology & Environment Department.
23/10/2019

ANNEXURE I

Annexure to Notification SRO 639 dated 23-10-2019

Name	Tral Wildlife Sanctuary
District	Pulwama
Forest Division	Awantipora Forest Division
Tehsil	Tral
Forest Range	Tral
Area	15415 Hectares or 154.15 Sq. Kms.
Total Compartments	19
Total Forest compartments already under Wildlife Deptt.	14
Total Forest compartments presently under Awantipora Forest Division	5
Map	Annexed as annexure 'B'

The proposed Protected Area shall be named as Tral Wildlife Sanctuary after the nearest town Tral, located to its south-west. Tral is one of the oldest and largest Tehsils of Kashmir.

The proposed area lies between 33^0 49' 25.897" to 34^0 06' 35.809" North Latitude and 75^0 02' 55.911" to 75^0 14' 00.051"' East Longitude, about 45 km south-east of Srinagar. It falls in the Pulwama district of Kashmir region. The proposed sanctuary is situated at a distance of about 30 km from the nearest district head quarter, Pulwama. The nearest railhead, Awantipora is about 15 km and the nearest airport, Srinagar about 50 km away.

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B (i) Boundaries: The proposed area of Tral Wildlife Sanctuary is currently under control and jurisdiction of Department of Wildlife Protection and Forest Department, falls in Awantipora Forest Division, Tral Range. The boundaries of the proposed Tral Wildlife Sanctuary are:

		Compartments
East	Gandpathar (34^0 01' 17.364" N Latitude & 75^0 14' 00.051" E Longitude)	11, 12, 13
West	Zampathar (34^0 00' 27.029" N Latitude & 75^0 10' 20.771" E Longitude)	34, 35, 36, 37, 38, 39
North	Gagyari (34^0 06' 35.809" N Latitude & 75^0 03' 42.376" E Longitude)	22, 23, 24
North- East	Veha Gul (34^0 04' 10.313" N Latitude & 75^0 12' 15.215" E Longitude)	11, 12, 13
South	Ashidar (33^0 49' 25.897" N Latitude & 75^0 13' 37.829" E Longitude)	Wildlife Area
South-East	Tsuru Pantsal (33^0 57' 17.826" N Latitude & 75^0 13' 36.699" E Longitude)	Wildlife Area
South-West	Kamla (33^0 52' 44.508" N Latitude & 75^0 05' 35.923" E Longitude)	40, 41

(ii) Compartment-wise details are:

S.No.	Compartment No.	Area (in hectares)
1	22	10.1354718
2	1abcd	17.20168845
3	13	4.670781954
4	23	3.620592231
5	43	6.852722104
6	Wildlife	19.86060864
7	42	4.319923886
8	40	5.379877561
9	41	6.718462627
10	44	3.372659421
11	24	16.1504621
12	39	6.722564382
13	37	5.717995482
14	38	5.016106601
15	Wildlife	4.840627994
16	11	7.475950161
17	3	6.119473793
18	12	10.68812334

ANNEXURE I

19	35	3.15092638
20	34	1.388014809
21	36	4.751237339
	Total	154.1542711

C. A brief account of the Flora, Fauna, Slope and altitude of the proposed area is as follow:

Flora:

On varied physical variations the following forest types are found:

Riverian Vegetation: (1600-2300 m asl)

The most dominating tree species of the area is Kail (*Pinus griffithi*). The other species in association with this includes the Cedar (*Cedrus deodara*) and the broad leaved species of *Aesculus indica*, *Fraxinus hookeri*, *Parrotiopsis jacqumentiana*, *Juglanos regia* dotted Kail is also interspersed towards the upper limits and on ill drained sites. The constituents of the understory include *Indogofera heterantha*, *Lonicera* species, *Vibernum*, *Skimmia laurel*, *Jasminium* species etc.

Coniferous Forests: (2300-3000m asl)

Fir (*Abies pindrow*) is the dominating species of this area and is also found in association with Spruce (*Picea smithiana*) at 2300m. Birch (*Betula utilis*) occurs along the upper reaches. The woodland also occupies sides of nallahs at someplaces.

Alpine Scrubs and Pastures: (Beyond 3000-3500m ASL)

This type of forests contains mostly of treeless pastures having scattered scrub vegetation. This area is mostly dominated by Birch (*Betula utilis*) near the tree line supported by *Juniperous recura*, *Rhododeindron* species, *Viburnum* species, *Lonicera* species and with *Primula* at shady places.

The extensive alpine pastures above the tree line bear a luxuriant growth of perennial herbs and grasses. They are known as 'Margs'. The dominant shrub species are *Myostotis* species, *Cynoglossum compounalutun* species. *Betuala utilis* is found dotted at some places.

Rock Faces: (Beyond 3500m ASL)

The rocky cliffs and hill tops are dominated by dwarf evergreen shrubs including *Juniperus recurva*, *Rhododendron anthropogon* etc. associated with herbs, *Stachya sericea*, *Sieversia elata* and *Veronica melissaefolia*.

ANNEXURE I

Medicinal Plants:

The Greater Himalayas are a store-house of medicinal and aromatic plants. Some medical plants growing wild in the area include *Aconitum heterophyllum, Arnebia benthamii, Artemisia absinthium, Berberis lycium, Bergenia lingulata, Datura stramonium, Dioscorea deltoidea, Lavatera cashmeriana, Saussurea costus* and *Taxus wallichina*.

Fauna:

13 species of mammals, including some rare ones are found within the limits of the proposed & adjoining areas. These mammal species include:

1. Kashmir Musk Deer, *Moschus cupreus* (Endangered/Schedule I) Occurs in broad-leaved, conifer and sub-alpine forests.
2. Kashmir Red Deer, *Cervus hanglu* (Critically Endangered/Schedule I) occurs in moist broad-leaved and coniferous forests and grasslands.
3. Common Leopard, *Panthera Pardus* (Vulnerable/Schedule I): Occurs in almost all types of forests including conifer, scrub and grasslands.
4. Leopard Cat, *Prionailurus bengalensis* (Schedule II): Occurs in grassland, scrub and deciduous forests.
5. Jungle Cat, Felis chaus (Schedule II): Occurs everywhere, prefers dry scrub, grassland and deciduous forests.
6. Tibetan Wolf, *Canis lupus chanco* (Schedule I): Occurs in forested areas, moderate hill slopes, and open valleys.
7. Red Fox, *Vulpes vulpes* (Schedule II): Occurs mainly in open, bushy areas and around human habitations.
8. Golden Jackal, *Canis aureus* (Schedule II): Occurs mainly in forests, grasslands, karewas and around human habitations.
9. Yellow-throated Marten, *Martes flavigula* (Schedule II) Occurs in coniferous and broad-leaved forests in hilly terrain.
10. Mountain Weasel, *Mustela altaica* (Near Threatened/Schedule II): Occurs around meadows and fields, on bushy valley floors, semi-desert areas or boulder-srewn soft slopes and loosely erased stone walls around villages.
11. Asiatic Black Bear, *Ursus thibetanus* (Vulnerable/Schedule II): occurs in forested areas and around human habitations.
12. Royle's Pika, *Ochotona roylei* (Schedule IV): Occurs in rubble fields, slopes covered by rock scree and bushes.
13. Indian Crested Porcupine, *Hystrix indica* (Schedule IV): Occurs along rocky hillsides, karewas and dry scrub lands.

ANNEXURE I

The proposed area is also home to around 100 species of birds which notably include Golden Eagle, Bearded Vulture, Himalayan Griffon Vulture, Kashmir Flycatcher, Black-throated Accentor, Orange Bullfinch, Kashmir Nuthatch, Chestnut Thrush, Black and Yellow Grosbeak, Common Rosefinch, European Roller, European Bee-eater, Chestnut-eared Bunting, Pine Bunting and Rock Bunting.

Geology &Topography:

The proposed area falls in the Greater Himalayan Mountain Range of Western Himalayas. The terrain is rugged and undulated and includes high to moderate slopped mountain peaks, valleys, meadows & forested areas. The altitude varies from 2035 m asl (Kamla) to 4338m asl (Pambagai). The rocks comprise of Mica Schist, Quartzite, Paragneiss, Migmatite and Leucograni.

Wildlife Warden
Shopian Division

ANNEXURE II

Checklist of the flora Tral Wildlife sanctuary

CHEKLIST OF TREES

S. No	Tree	Family	Local Name	Status
1.	*Aesculus indica*	Sapindaceae	Haan Doon	Common
2.	*Acer caesium*	Sapindaceae	Chaind, Tilpattar	Common
3.	*Abies pindrow*	Pinaceae	Silver fir, Budul, Taleesha	Common
4.	*Betula utilis*	Betulaceae	Bhojpater	Uncommon
5.	*Crataegus songarica*	Rosaceae	Ringkul, Shonth	Common
6.	*Celtis australis*	Cannabaceae	Brimij	Common
7.	*Celtis caucasica*	Cannabaceae	Brimij	Common
8.	*Euonymus fimbriatus*	Celastraceae	Tran, Lichhoi	Uncommon
9.	*Euonymus hamitonianus*	Celastraceae	Sheelkul, Chhalchhattar	Uncommon
10.	*Fraxinus hookeri*	Oleaceae	Sinnu, Soom, Hoom	Threatened
11.	*Juglans regia*	Juglandaceae	Doon	Common
12.	*Juglans nigra*	Juglandaceae	Doon	Common
13.	*Morus nigra*	Moraceae	Tul	Common
14.	*Morus indica*	Moraceae	Tul	Common
15.	*Morus alba*	Moraceae	Tul	Common
16.	*Parrotiopsis jacquemontiana*	Hamamelidaceae	Hatab	Common
17.	*Pinus wallichiana*	Pinaceae	Blue pine	Common
18.	*Populus cilita*	Salicaceae	Himalayan poplar	Common
19.	*Populus deltiodes*	Salicaceae	Eastern cotton wood	Common
20.	*Populus alba*	Salicaceae	White poplar	Common
21.	*Platanus orientalis*	Platanaceae	Chinar, Boone	Common
22.	*Platanus occidentalis*	Platanaceae	Safad Boone, Chinar	Common
23.	*Prunus cornuta*	Rosaceae	Bharath, wild cheery	Common
24.	*Prunus ceracifera*	Rosaceae	Chaier, wild apricot	Common
25.	*Prunus armeniaca*	Rosaceae	Apricot	Common
26.	*Pyrus malus*	Rosaceae	Apple	Common
27.	*Quercus robur*	Fagaceae	Oak, Vilaiti, Banj	Common
28.	*Robinia pseudoacacia*	Fabaceae	Kikar	Common
29.	*Rhus succedanae*	Anacardiaceae	Arkhor	Common
30.	*Salix alba*	Salicaceae	White willow	Common
31.	*Salix babylonica*	Salicaceae	Majno, weeping willow	Common
32.	*Salix tetrasperma*	Salicaceae	Indian willow	Common
33.	*Salix caprea*	Salicaceae	Goat willow	Common
34.	*Taxus wallichiana*	Taxaceae	Postul	Endangered
35.	*Ulmus wallichiana*	Ulmaceae	Bren	Vulnerable
36.	*Ulmus villosa*	Ulmaceae	Bren	Common

CHECKLIST OF SHRUBS

S. No	Shrub	Family	Local name	Status
1.	*Berberis aristata*	Berberidaceae	Kawdach	Common
2.	*Berberis lyceum*	Berberidaceae	Kawdach	Common
3.	*Chaerophyllum aromaticum*	Apiaceae	Chikmi, Neochha	Common
4.	*Daphne mucronate*	Thymelaeaceae	Kaapshadi, Kachlum	Common
5.	*Gaultheria trichophylla*	Ericaceae	Gandhpuri booti, Gandhpura	Common
6.	*Hydrangea macrophylla*	Hydrangeaceae	Himgainda	Common
7.	*Indigofera heterantha*	Fabaceae	Krass	Common

ANNEXURE II

8.	*Juniperus communis*	Cupressaceae	Bethri, Bethur, Hapusha	Common
9.	*Juniperus recura*	Cupressaceae	Palash, Bithur	Common
10.	*Lonicera quinquelocularis*	Caprifoliaceae	Bakkadu, Paakhar	Common
11.	*Rosa webbiana*	Rosaceae	Jungli gulaab	Common
12.	*Rosa antennifer*	Rosaceae	Jhaanshi, chhanchh	Common
13.	*Rubus pungens*	Rosaceae	Chhansh, Jhaansh	Common
14.	*Rubus ulmifolius*	Rosaceae	Jhaanshi, Chhansh	Common
15.	*Rubus niveus*	Rosaceae	Hill raspberry	Common
16.	*Rhododendron anthopogon*	Ericaceae	Nchhni, Inga	Common
17.	*Sorbaria tomentosa*	Rosaceae	Karukni, Kidsungal	Common
18.	*Viburnum grandiflorum*			
19.	*Vibernum cotinifolium*			

CHECKLIST OF HERBS

S. No	Herb	Family	Common name	Status
1.	*Anemone obtusiloba*	Rananculaceae	Rattan jot	Uncommon
2.	*Aquilegia pubiflora wallich*	Rananculaceae	Sita di panni	Uncommon
3.	*Aquilegia fragrance. Benth*	Rananculaceae	Maime hait, kalumb	Common
4.	*Clath alba camb.*	Rananculaceae	Tahool , Ashpmaar	Common
5.	*Clematis connata*	Rananculaceae	Hathkad bel, Dhanvati	Common
6.	*Clematis montana*	Rananculaceae	Dashraanth , Dudh chivara	Common
7.	*Delphinium denudatum wallich*	Rananculaceae	Nirbis , Nirvisha	Common
8.	*Delphinium roylei munz*	Rananculaceae	Nirbis ,Nirvisha	Common
9.	*Thalictrum minus L*	Rananculaceae	Peeli bani, Haichinsah	Common
10.	*Thalictrum pedunculatum Edqew.*	Rananculaceae	Mamira ,Pinjaari	Uncommon
11.	*Viola sylvatica*	Violaceae	Nunposh	Common
12.	*Arenaria serpylliofolia Linn.*	Cryophyllaceae	Letarluni	Uncommon
13.	*Lychnis cornaria (L.)Desr.*	Cryophyllaceae	Laltraukal, Angaarda	Threatened
14.	*Hypericum perforatum L.*	Hypericaceae	Basantadu, Basanti	Common
15.	*Tribulus terresteris L.*	Zygophyllaceae	Bhakhada, Tirkundi	Common
16.	*Impatiens bicolor Royle.*	Balsaminaceae	Trul, Hajlu,	Common
17.	*Lathyrus emodi (Wall.ex.Fritsch)Ali*	Fabaceae	Khukni, Triputa	Abundant
18.	*Lathyrus pratensis Linn.*	Fabaceae	Khukni	Common
19.	*Lotus corniculatus*	Fabaceae		Common
20.	*Genum elatum Wallich.*	Rosaceae	Gogji mool, Bhadrashaak	Common
21.	*Potentilla atrosanguina Lodd.*	Rosaceae	Bajardantu, Rolu	Threatened
22.	*Astilbe rivularis Buch.Ham.Ex.D.Don.*	Saxifragaceae	Pothi	Common
23.	*Sexifraga Sibirica*	Saxifragaceae		Common
24.	*Sedum adenotrichum Wall.Ex.Edgew.*	Crassulaceae	Dazanposh	Abundant
25.	*Epilobium parviflorum Schreb.*	Onagraceae	Mellu, Loontar jadi	Common
26.	*Bupleurum swatianum Nasir.*	Apiaceae	Zardzaari, Shashparni	Common

ANNEXURE II

27.	*Chaerophyllum acuminatum Lindley.*	Apiaceae	Chikmi, Neochha	Common
28.	*Chaerophyllum reflexum Lindley.*	Apiaceae	Jadgagari, Mukhach	Common
29.	*Ferula jaeschkeana Vatke.*	Apiaceae	Haput Kanphur, Hinga, Ghud-kaindal	Common
30.	*Heracleum lantum Michx.*	Apiaceae	Shuriyal, Phulao,	Common
31.	*Chaerophyllum villosum Wall.ex.DC.*	Apiaceae	Mukhach	Common
32.	*Pimpinella diversifolia DC.*	Apiaceae	Jehn,tirua	Common
33.	*Scandix pecten-veneris L.*	Apiaceae	Indusaag , Kachhidana	Common
34.	*Seseli libanotis (L)W.Koch.*	Apiaceae	Sappad gajari	Common
35.	*Vicatia coniifolia DC.*	Apiaceae	Shila dhaniya	Abundant
36.	*Asperrula oppositifolia Regal.&Schmalth.*	Rubiaceae	Machheet, Chhalmajeeth	Common
37.	*Gallium asperuloides edgew*	Rubiaceae	Machheetu	Common
38.	*Gallium vernum Linn.*	Rubiaceae	Peela machete	Common
39.	*Anaphalis margaritacea(L)Benth.*	Asteraceae	Bhojli,Kinja	Common
40.	*Anaphalis nepalensis (Sprengel)Hand.*	Asteraceae	Telgangi, Bhujli	Common
41.	*Artemisia dubia Wallich ex.Besser*	Asteraceae	Joon, krinidru	Common
42.	*Artemisia parviflora Roxb.*	Asteraceae	Joon, Tethwan	Common
43.	*Aster diplostephioids C.B.Clark*	Asteraceae	Tarakpushp, phullala	Abundant
44.	*Carpesium abrotanoides Linn.*	Asteraceae	Lihur	Common
45.	*Picris hieracioides Linn.*	Asteraceae	Trumbadu	Rare
46.	*Saussurea albescens (DC)Sch.Bip.*	Asteraceae	Baklol	Common
47.	*Saussurea atkinsonii C.B.Clark*	Asteraceae	Lokat, Baklol	Common
48.	*Saussurea heteromalla (D.Don)Hand-mazz*	Asteraceae	Batola, Dashund	Common
49.	*Solidago virgaaurea Linn.*	Asteraceae	Thanthaana, Sondandi, Kanakshalakha	Common
50.	*Tarracetum dolichophyllum(Kitam)Kitam*	Asteraceae	Lidd guggli, chinnparni	Abundant
51.	*Taraxacum officinale Webr.*	Asteraceae	Handri, Hand, Dullal	Common
52.	*Tragopogon dubius Scop.*	Asteraceae	Thulkal,Girginok	Common
53.	*Tussilago Farfara Linn.*	Asteraceae	Chilchiloti, Ghudkhura	Threatened
54.	*Asyneuma thomsonii (HK.f.et.Th.)Bornm*	Campanulaceae	Branzbooti,Branzh aak	Threatened
55.	*Campanula aristata Wall*	Campanulaceae	Padi-branz	Common
56.	*Campanula cachmeriana Royle.*	Campanulaceae	Kashir branz	Common
57.	*Campanula lotifolia L.*	Campanulaceae	Branz ghainti	Common
58.	*Codonopsis ovata Benth.*	Campanulaceae	Tokerkachh, Dodad	Threatened
59.	*Androsace rotundifolia Hardw.*	Primulaceae	Golpattri tuttan	Common
60.	*Androsace sempervivoids Jacquem ex Duby*	Primulaceae	Ashamkund	Abundant
61.	*Primula macrophylla D.Don*	Primulaceae	Kaangla-Naakla, Peetsevti	Common

ANNEXURE II

62.	*Primula rosea Royle.*	Primulaceae	Mundaal, peetsevti	Common
63.	*Cynanchum arnottianum Wight.*	Asclepiadaceae	Dudhad	Threatened
64.	*Cynanchum auriculatum Roly ex*	Asclepiadaceae	Dudhad	Threatened
65.	*Gantiana marginata (. Don) Griseb.*	Gentianaceae	Neelkanth, Shirkanth	Common
66.	*Nymphoides peltata (S. Gmelin)*	Menyanthaceae	Lidd khur	Common
67.	*Asperugo procumbens L.*	Boraginaceae	-	Common
68.	*Cynoglossum lanceolatum Forsk.*	Boraginaceae	Khitdi	Common
69.	*Onosma hispidum Wallich ex.G.Don.*	Boraginaceae	Ratanjot, loljad	Threatened
70.	*Veronica biloba Linn.*	Scrophulariaceae	Titni	Common
71.	*Veronica persica Poiret.*	Scrophulariaceae	Ashvashaak	Common
72.	*Pedicularis pectinata Wallich ex.Benth*	Scrophulariaceae	Kankatyukaparn, shaluth	Common
73.	*Orobanche solmsii C.B.Clark ex. Hook.f.*	Orobanchaceae	Lothus, Jadkhaar	Common
74.	*Petracanthus utricifolius (Kuntze) Bremek.*	Acanthaceae	Pardaad,Mauhwa, Kunchpushp	Common
75.	*Verbena officinalis Linn.*	Verbenaceae	Bareen	Abundant
76.	*Nepeta erecta (Benth) Benth.*	Lamiaceae	Neelpat, Bidaal Parnaas	Common
77.	*Nepeta lacvigata (D.Don.) Hand-Mazz.*	Lamiaceae	Neelpat, Gandhsoi	Common
78.	*Rumex acetosa Linn.*	Plygonaceae	Ulloh, Tsoktsin	Common
79.	*Rumex nepalensis Sprengel.*	Plygonaceae	Ubaj, Chooka	Abundant
80.	*Euphorbia helioscopia L.*	Euphorbiaceae	Dudhi, Gur sutchsul, Heerusi	Common
81.	*Euphorbia plorifera hook f. & Thomus*	Euphorbiaceae	Dudhli, Dudhi	Common
82.	*Parieteria lusitanica linn*	Urticaceae	-	Common
83.	*Epipactis royleana Lindley.*	Orchidaceae	Amarkand,phullcha mba	Common
84.	*Spiranthes sinensis (pers)ames.*	Orchidaceae	Muchhmarool, Amarkand	Abundant
85.	*Iris germanica L.*	Iridaceae	Majaarmund, Sosem	Common
86.	*Hemerocallis fulva Linn.*	Liliaceae	Riudd, Sunaari	Common
87.	*Juncos articulatus Linn.*	Juncaceae	Pranad, Tillar	Common

CHECKLIST OF CLIMBERS

S. No	Climbers and Twiner	Family	Local name	Status
1.	*Aralia cachmerica*	Araliaceae	Khori, Albo	Common
2.	*Dioscorea deltoides*	Dioscoreaceae	Kreensh, Krees	Threatened
3.	*Hedera nepalensis*	Araliaceae	Kateembri, Karoori, Agraanth	Common
4.	*Potentialla reptans*	Rosaceae	Creeping tormentil	Common
5.	*Rosa brunonii*	Rosaceae	Arwl, Kreech	Common
6.	*Sibbaldia cuneata*	Rosaceae	Sinja, chukadu	Common
7.	*Smilax vaginata*	Smilacaceae	Thir, Cheenmool	Common
8.	*Smilax aspera*	Smilacaceae	Kaldaaioon, Atkeer	Common

ANNEXURE II

CHECKLIST OF GRASSES AND SEDGES

S. No	Grasses & Sedges	Family	Common name	Status
1.	*Carex stenophylla*	Cyperaceae	Phikal	Common
2.	*Kobresia laxa*	Cyperaceae	Kubber	Threatened
3.	*Scripus setaceus*	Cyperaceae	Kaseru, Ghussad	Common
4.	*Eriocaulon cinereum*	Eriocaulaceae	Irka	Common
5.	*Agrostis pilosula*	Poaceae	Ghaas	Abundant
6.	*Datylis glomerata*	Poaceae	Trakkad, Panjaghaas	Common
7.	*Digitaria sanguinalis*	Poaceae	Chhal, Trakkad	Common
8.	*Phleum alpinum*	Poaceae	Jaamno gha	Common
9.	*Poa alpine Linn.*	Poaceae	Humulu, Shaadal ghass	Common

ANNEXURE III

Checklist of Mammal species

S.No	Common Name	Scientific Name	Status		
			IUCN Category	CITES Appendix	IWPA Schedule
01	Hangul (Kashmir Red deer)	*Cervus hanglu hanglu*	**CR**	I	I
02	Kashmir Musk Deer	*Moschus cupreus*	**EN**	I	I
03	Himalayan Brown Bear	*Ursus arctos*	LC	II	I
04	Asiatic Black Bear	*Ursus thibetanus*	LC	I	II
05	Kashmir Gray Langur	*Semnopithecus ajax*	**EN**	I	II
06	Rhesus Macaque	*Macaca mulatta*	LC	II	II
08	Golden Jackal	*Canis aureus*	LC	III	II
09	Red Fox	*Vulpes vulpes*	LC	III	II
10	Common Leopard	*Panthera pardus*	**NT**	I	I
11	Leopard Cat	*Prionailurus bengalensis*	LC	I	I
12	Jungle Cat	*Felis chaus*	LR	UL	II
13	Himalayan Palm Civet	*Paguma larvata*	LC	III	II
14	Yellow-throated Marten	*Martes flavigula*	LC	III	II
15	Siberian Weasel	*Mustela sibirica*	LC	III	II
16	Mountain Weasel	*Mustela altaica*	**NT**	III	II
17	Tibetan Wolf	*Canis lupus*	VU	I	UL
18	Grey Mongoose	*Herpestes edwardsii*	LC	III	II
21	Kashmir Flying Squirrel	*Eoglaucomys fimbriatus*	LC	III	UL
22	Indian Crested Porcupine	*Hystrix indica*	LC	III	IV

CR= Critically Endangered, EN=Endangered; NT=Near-Threatened, LR=Low Risk, LC=Least Concern; UL=Un-listed

ANNEXURE IV

Checklist of bird species recorded in Tral Wildlife Sanctuary

S.NO.	Name of Species	Scientific Name	Status (IUCN)
		Family Accipitridae	
1.	Black Kite	*Milvus migrans*	**LC**
2.	Eurasian Sparrow Hawk	*Accipiter nipus*	**LC**
3.	Golden Eagle	*Aquila chrysateous*	**LC**
4.	Booted eagle	*Hieraaetus pennatus*	**LC**
5.	Himalayan griffon vulture	*Gyps himalayensis*	**NT**
6.	Bearded vulture	*Gypaetus barbatus*	**NT**
7.	Oriental Honey Buzzard	*Pernis ptilorhynchus*	**LC**
8.	Shikra	*Accipiter badius*	**LC**
9.	Goshawk	*Accipiter genitilis*	**LC**
10.	Himalayan Buzzard	*Buteo burmanicus*	**LC**
		Family Falconidae	**LC**
11.	Common Kestrel	*Falco tinnunculus*	**LC**
12.	Eurasian hobby	*Falco subbuteo*	**LC**
		Family Phasianidae	**LC**
13.	Chukar	*Alectoris Chukar*	**LC**
14.	Koklas pheasant	*Pucrasia macrolopha*	**LC**
15.	Himalayan Monal	*Lophophorus impejanus*	**LC**
16.	Snow partridge	*Lerwa lerwa*	**LC**
		Family Columbidae	
17.	Snow Pigeon	*Columba leuconota*	**LC**
18.	Rock Pigeon	*Columba livia*	**LC**
19.	Oriental Turtle Dove	*Streptopelia orientalis*	**LC**
20.	Eurasian Collared Dove	*Streptopelia decaocto*	**LC**
21.	Speckled wood pigeon	*Columba hodgsonii*	**LC**
		Family Psittacidae	
22.	Rose-Ringed Parakeet	*Psittacula krameri*	**LC**
23.	Slaty-Headed Parakeet	*Psittacula himalayana*	**LC**
24.	Indian Cuckoo	*Cuculus micropterus*	**LC**
25.	Eurasian Cuckoo	*Cuculus canorus*	**LC**
		Family Strigidae	
26.	Eurasian Eagle Owl	*Bubo bubo*	**LC**
27.	Little Owl	*Athene noctuna*	**LC**
28.	Long-Eared Owl	*Asio otus*	**LC**
29.	Tawny owl	*Strix aluco*	**LC**
		Family Aodidae	
30.	Himalayan Swiftlet	*Aerodramus brevirostris*	**LC**
31.	Alpine Swift	Tachymarptis melba	**LC**
32.	Common Swift	*Apus apus*	**LC**
33.	House Swift	*Apus nepalensis*	**LC**
		Family Alcedinidae	
34.	Pied Kingfisher	*Ceryle rudis*	**LC**

ANNEXURE IV

35.	Common Kingfisher	*Alcedo atthis*	**LC**
36.	White-Throated Kingfisher	*Halcyon symrnensis*	**LC**
37.	Crested Kingfisher	*Megaceryle lugubris*	**LC**
	Family Coraciidae		
38.	European Roller	*Coracias garrulus*	**LC**
	Family Upupidae		
39.	Common Hoopoe	*Upupa epops*	**LC**
	Family Picidae		
40.	Eurasian Wryneck	*Jynx torquilla*	**LC**
41.	Scaly-Bellied Woodpecker	*Picus squamatus*	**LC**
42.	Grey-Headed Woodpecker	*Picus canus*	**LC**
43.	Himalayan Woodpecker	*Dendrocopos himalayensis*	**LC**
44.	Speckled piculet	*Picumnus innominatus*	**LC**
	Family Alaudidae		
45.	Crested Lark	*Galerida cristata*	**LC**
46.	Oriental Skylark	*Alauda gulgula*	**LC**
	Family Hirundinidae		
47.	Dusky Crag Martin	*Ptyonoprogne concolor*	**LC**
48.	Barn Swallow	*Hirundo rustica*	**LC**
49.	Striated Or Red rumped Swallow	*Cecropis daurica*	**LC**
	Family Oriolidae		
50.	Eurasian Golden Oriole	*Oriolus oriolus*	**LC**
	Family Surnidae		
51.	Common Starling	*Strunus vulgaris*	**LC**
52.	Common Myna	*Acridotheres tristis*	**LC**
53.	Jungle Myna	*Acridotheres fuscus*	**LC**
	Family Corvidae		
54.	Yellow-Billed Blue Magpie	*Urocissa flavirostris*	**LC**
55.	Rufous Tree pie	*Dendrocitta vagabunda*	**LC**
56.	House Crow	*Crovus splendenus*	**LC**
57.	Large-Billed Crow	*Crovus macrorhynchos*	**LC**
58.	Kashmir Nutcracker	*Nucifraga multipunctata*	**LC**
59.	Yellow-Billed Or Alpine Chough	*Pyrrhocorax graculus*	**LC**
60.	Eurasian Jackdaw	*Coloeus monedula*	**LC**
61.	Common Raven	*Covus corax*	**LC**
62.	Jungle Crow	*Crovus culminatus*	**LC**
63.	Carrion crow	*Crovus corone*	**LC**
64.	Red billed cough	*Pyrrhocorax pyrrhocorax*	**LC**
	Family Pycnonotidae		
65.	White-Cheeked Bulbul	*Pycnontus leucogenys*	**LC**

ANNEXURE IV

	(Himalayan Bulbul)		
66.	Black Bulbul	*Hypsipetes leucocephalus*	**LC**
67.	Jungle Babbler	*Argya striata*	**LC**
68.	Striated Laughing Thrush	*Grammatoptila striatus*	**LC**
69.	Variegated Laughing Thrush	*Trochalopteron varriegatum*	**LC**
70.	Streaked Laughing Thrush	*Trochalopteron lineatum*	**LC**
Family Muscicapidae			
71.	Kashmir Red breasted Flycatcher	*Ficedula subrubra*	**LC**
72.	Little-Pied Flycatcher	*Ficedula westermanni*	**LC**
73.	Ultra marine Flycatcher	*Ficedula superciliaris*	**LC**
74.	Slaty Blue Flycatcher	*Ficedula tricolor*	**LC**
75.	Verditer Flycatcher	*Emyias thalassinus*	**LC**
76.	Grey-Headed canary Flycatcher	*Culicicapa ceylonensis*	**LC**
77.	Indian Paradise Flycatcher	*Tersiphone paradisi*	**LC**
78.	Blue whistling Thrush	*Myophonus caeruleus*	**LC**
79.	Blue-Capped Redstart	*Phoenicurus coeruleocephala*	**LC**
80.	White-Winged Redstart	*Phoenicurus erythrogastrus*	**LC**
81.	Plumbeous Water Redstart	*Phoenicurus fuliginosus*	**LC**
82.	Orange-Flanked Bush Robin (Himalayan Blue tail)	*Tarsiger rufilatus*	**LC**
83.	Black Redstart	*Phoenicurus ochruros*	**LC**
84.	Little Fork tail	*Enicurus scouleri*	**LC**
85.	Spotted Fork tail	*Enicurus maculatus*	**LC**
86.	White-Capped Water Redstart	*Phoenicurus leucocephalus*	**LC**
87.	Blue Rock Thrush	*Monticola solitarius*	**LC**
Family Phylloscopidae			
88.	Plain Leaf Warbler	*Phylloscopus neglectus*	**LC**
89.	Tytler's Leaf Warbler	*Phylloscopus tytleri*	**LC**
90.	Tickell's Leaf Warbler	*Phylloscopus affinis*	**LC**
91.	Sulphur-Bellied Warbler	*Phylloscopus griseolus*	**LC**
92.	Yellow-Browed Warbler	*Phylloscopus inornatus*	**LC**
93.	Whistler's warbler	*Phylloscopus whistleri*	**LC**
94.	Lemon-Rumped Warbler	*Phylloscopus chloronotus*	**LC**
95.	Blyth's Leaf Warbler	*Phylloscopus reguloides*	**LC**
96.	Gold Crest	*Regulus regulus*	**LC**

ANNEXURE IV

97.	Common Chiffchaff	*Phylloscopus collybita*	**LC**
98.	Grey hooded warbler	*Phylloscopus xathoschistos*	**LC**
	Family Turdinae		
99.	Grey-Winged Blackbird	*Turdus boulboul*	**LC**
100.	Scaly Thrush	*Zoothera dauma*	**LC**
101.	Chestnut Thrush	*Turdus rubrocanus*	**LC**
102.	Mistle Thrush	*Turdus viscivorous*	**LC**
103.	Tickell's Thrush	*Turdus unicolor*	**LC**
104.	Alpine Thrush	*Zoothera mollissima*	**LC**
	Family Troglodytidae		
105.	Winter Wren	*Troglodytes hiemalis*	**LC**
	Family Cinclidae		
106.	White-Throated Dipper	*Cinclus cinclus*	**LC**
107.	Brown Dipper	*Cinclus pallasii*	**LC**
	Family Prunillidae		
108.	Alpine Accentor	*Prunella collaris*	**LC**
109.	Altai Accentor	*Prunella himalayana*	**LC**
110.	Black Throated accentor	*Prunella atrogularis*	**LC**
111.	Rufous breasted accentor	*Prunella strophiata*	**LC**
	Family Paridae		
112.	Grey Tit	*Melaniparus afer*	**LC**
113.	Green-Backed Tit	*Parus monticolus*	**LC**
114.	Crested Tit	*Lophophanes cristatus*	**LC**
115.	Himalayan Black lored Tit	*Machlolophus xanthogenys*	**LC**
116.	Yellow-Cheeked Tit	*Machlolophus spilonotus*	**LC**
117.	Fire-Capped Tit	*Cephalopyrus flammiceps*	**LC**
118.	White-Throated Bush Tit	*Aegithalos niveogularis*	**LC**
119.	Coal tit	*Periparus ater*	**LC**
120.	Cinereous tit	*Parus cinereus*	**LC**
121.	Black Throated Bush Tit	*Aegithalos concinnus*	**LC**
	Family Sittidae		
122.	European Nuthatch (Kashmir Nuthatch)	*Sitta cashmirensis*	**LC**
123.	White-Cheeked Nuthatch	*Sitta leucopsis*	**LC**
	Family Certhidae		
124.	Hodgson's Tree Creeper	*Certhia familiaris*	**LC**
125.	Himalayan Tree Creeper / Bar tailed tree creeper	*Certhia himalayana*	**LC**
	Family Motacillidae		
126.	Yellow Wagtail	*Motacilla flava*	**LC**
127.	Grey Wagtail	*Motacilla cinerea*	**LC**
128.	Pied Or White Wagtail	*Motacilla alba*	**LC**
129.	Large Pied Wagtail / White browed wagtail	*Motacilla maderaspatensis*	**LC**

ANNEXURE IV

130.	Citrine wagtail	*Motacilla citreola*	**LC**
131.	Rosy pipit	*Anthus roseatus*	**LC**
132.	Upland pipit	*Anthus Sylvanus*	**LC**
	Family Zosteropidae		
133.	Indian White Eye	*Zosterops palpebrosus*	**LC**
	Family Passerinae		
134.	House Sparrow	*Passer domesticus*	**LC**
135.	Russet Sparrow	*Passer cinnamomeus*	**LC**
136.	Eurasian Tree Sparrow	*Passer montanus*	**LC**
	Family Campephagidae		
137.	Scarlet Minivet	*Pericrocotus speciosus*	**LC**
138.	Long-Tailed Minivet	*Pericrocotus ethologus*	**LC**
139.	Small Minivet	*Pericrocotus cinnamomeus*	**LC**
	Family Emberizidae		
140.	Pine Bunting	*Emberiza leucocephalos*	**LC**
141.	White-Capped Bunting	*Emberiza stewarti*	**LC**
142.	Grey-Necked Bunting	*Emberiza buchanani*	**LC**
143.	Rock Bunting	*Emberiza cia*	**LC**
144.	Chestnut eared Bunting	*Emberiza fucata*	**LC**
	Family Fringillidae		
145.	Orange bullfinch	*Pyrrhula aurantiaca*	**LC**
146.	Spectacled Finch	*Callacanthis burtoni*	**LC**
147.	Black & Yellow grosbeak	*Mycerobas icterioides*	**LC**
148.	Blyth's Rose Finch	*Carpodacus grandis*	**LC**
149.	Common Rose Finch	*Carpodacus erythrinus*	**LC**
150.	Himalayan Gold Finch	*Carduelis carduelis*	**LC**
151.	Yellow Breasted Green Finch	*Chloris spinoides*	**LC**
152.	Pink Browed Rose Finch	*Carpodacus rodochroa*	**LC**
153.	Fire fronted serin	*Serinus pasillus*	**LC**
154.	Plain Mountain Finch	*Leucosticte nemoricola*	**LC**
	Family Ardeidae		
155.	Indian Pond Heron	*Ardeola grayii*	**LC**
156.	Grey Heron	*Ardea cinerea*	**LC**
	Family Muscicapidae		
157.	Siberian Stonechat	*Saxicola maurus*	**LC**
158.	Grey Bush chat	*Saxicola ferreus*	**LC**
159.	Blue throat	*Luscinia svecica*	**LC**
160.	Blue Fronted Redstart	*Phoenicurus frontalis*	**LC**
161.	Rufous bellied Niltava	*Niltava sundara*	**LC**
	Family Tichodromidae		
162.	Wall creeper	*Tichodroma muraria*	**LC**
	Family Scolopacidae		
163.	Green sandpiper	*Tringa ochropus*	**LC**
164.	Common sandpiper	*Actitis hypoleucos*	**LC**
	Family Dicruridae		
165.	Ashy Drongo	*Dicrurus leucophaeus*	**LC**
	Family Leiothrichidae		
166.	Red billed Leiothrix	*Leiothrix lutea*	**LC**

ANNEXURE V

रजिस्ट्री सं. डी.एल.- 33004/99 REGD. No. D. L.-33004/99

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अधिसूचना

नई दिल्ली, 3 अक्तूबर, 2024

का.आ. 4325(अ).—निम्नलिखित प्रारूप अधिसूचना, जिसे केंद्रीय सरकार पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (2) के खंड (v) और खंड (xiv) तथा उप-धारा (3) के साथ पठित उप-धारा (1) के द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए जारी करने का प्रस्ताव करती है, को जनता, जिसके इससे प्रभावित होने की संभावना है, की जानकारी के लिए पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उप-नियम (3) के तहत अपेक्षित अनुसार एतद्वारा प्रकाशित किया जाता है; और एतद्वारा सूचना दी जाती है कि उक्त प्रारूप अधिसूचना पर तारीख, जिसको इस अधिसूचना वाले राजपत्र की प्रतियां जनता को उपलब्ध कराई जाती हैं, से साठ दिन की अवधि की समाप्ति पर या उसके बाद विचार किया जाएगा;

प्रारूप अधिसूचना में निहित प्रस्तावों के संबंध में कोई आपत्ति या सुझाव देने में रुचि रखने वाला कोई भी व्यक्ति इन्हें लिखित रूप में यथा विनिर्दिष्ट अवधि के भीतर केंद्रीय सरकार के विचारार्थ सचिव, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, इंदिरा पर्यावरण भवन, जोर बाग रोड, अलीगंज, नई दिल्ली-110003 को या इन्हें मंत्रालय के ई-मेल पते esz-mef@nic.in पर भेज सकता है।

प्रारूप

अधिसूचना

जबकि, त्राल वन्यजीव अभयारण्य श्रीनगर शहर से लगभग 45 किमी दक्षिण-पूर्व में स्थित है। यह कश्मीर घाटी के पुलवामा जिले में जिला मुख्यालय पुलवामा सहित लगभग 30 किमी की दूरी पर पड़ता है। इस अभयारण्य से निकटतम हवाई अड्डा, श्रीनगर 50 किमी और निकटतम रेलवे स्टेशन, अवंतीपोरा 15 किमी दूर है।

ANNEXURE V

और जबकि, ऐतिहासिक रूप से, संरक्षित क्षेत्र के कुछ हिस्सों अर्थात् शिकारगाह और खानगुंड (पूर्व में संरक्षण रिजर्वों के रूप में नामित), को देश के सबसे पुराने अधिसूचित संरक्षित क्षेत्रों में से एक होने का गौरव प्राप्त है। उनकी अधिसूचना वर्ष 1945 की है, जब वे जम्मू और कश्मीर राज्य की तत्कालीन रियासत के महाराजा के खेल कानूनों द्वारा शासित थे। इसलिए, वर्ष 2019 में, इन संरक्षण रिजर्व को क्षेत्रीय वन खंडों वाले समीपवर्ती क्षेत्रों के साथ एक वन्यजीव अभयारण्य के रूप में उन्नत किया गया था। ग्रेटर हिमालयी पर्वतों के ऊबड़-खाबड़ और ऊंचे-नीचे इलाके में फैले इस अभयारण्य में लगभग 155 वर्ग किलोमीटर क्षेत्र शामिल है और यह राज्य सरकार की दिनांक 23 अक्टूबर 2019 की अधिसूचना संख्या एफएसटी/डब्ल्यूएल/07/2018 (एसआरओ-639) के माध्यम से अस्तित्व में आया है।

और जबकि, त्राल वन्यजीव अभयारण्य और समीपवर्ती क्षेत्र कश्मीरी लाल हिरण (हंगुल), जो वन्यजीव (संरक्षण) अधिनियम, 1972 के अनुसार एक अनुसूची-I प्रजाति है, की वितरण सीमा के भीतर आते हैं और आईयूसीएन रेड डेटा बुक में 'गंभीर रूप से विलुप्राय' के रूप में नामित है। हंगुल का विस्तार-क्षेत्र केवल दाचीगाम राष्ट्रीय उद्यान और कुछ समीपवर्ती क्षेत्रों तक ही सीमित है। त्राल वन्यजीव अभयारण्य, दाचीगाम राष्ट्रीय उद्यान, के बाहर के कुछ क्षेत्रों में से एक है जहां इस गंभीर रूप से विलुप्राय हिरण की आबादी अभी भी जीवित है। दाचीगाम के अलावा, यह अभयारण्य ओवरा-अरु वन्यजीव अभयारण्य और खेव संरक्षण रिजर्व जैसे अन्य महत्वपूर्ण वन्यजीव क्षेत्रों से जुड़ा हुआ है। ये संरक्षित क्षेत्र, समृद्ध जैव-विविधता का भू-दृश्य तैयार करते हैं तथा पशुओं, पक्षियों और वनस्पतियों की कुछ महत्वपूर्ण और स्थानिक प्रजातियों की पर्याप्त आबादी का आश्रय देते हैं।

और जबकि, त्राल वन्यजीव अभयारण्य कश्मीरी लाल हिरण (सरवस हंग्लू हंग्लू), कश्मीरी कस्तूरी मृग (मोस्कस कप्रेयस) और कश्मीर ग्रे लंगूर (सेमनोपिथेकस अजाक्स) जैसी विभिन्न स्थानिक प्रजातियों का आश्रय-स्थल है। जबकि इस अभयारण्य में पाई जाने वाली अन्य दुर्लभ, विलुप्राय और संकटग्रस्त प्रजातियां, साधारण तेंदुआ (पैंथेरा पार्डस), हिमालयी ग्रिफ़ॉन गिद्ध (जिप्स हिमालयेन्सिस), बीयर्डेड गिद्ध (जिपेटस बारबेटस) और कश्मीरी फ्लाईकैचर (फिसेडुला सुब्रुब्रा) हैं। त्राल के वनों में बडी संख्या में एकोनिटम हेटरोफिलम, अर्नेबिया बेंथामी, आर्टेमिसिया एब्सिंथियम, बर्बेरिस लाइकियम, बर्गनिया सिलियाटा, दतूरा स्ट्रैमोनियम, डायोस्कोरिया डेल्टोइडिया, लावाटेरा कश्मीरियाना, सौसुरिया कोस्टस और टैक्सस वालिचियाना जैसी औषधीय महत्व की अनेक पौध प्रजातियां मौजूद हैं।

और जबकि, त्राल वन्यजीव अभयारण्य रॉजर्स एट अल. द्वारा सुझाए गए जैव-भौगोलिक वर्गीकरण के 2क प्रांत के अंतर्गत आता है। चैंपियन एंड सेठ (1968) द्वारा किए गए वर्गीकरण के अनुसार, इस अभयारण्य की वनस्पति आमतौर पर हिमालयी नम समशीतोष्ण वन, उप-अल्पाइन वन और अल्पाइन वन प्रकार की है। त्राल वन्यजीव अभयारण्य के वनस्पति प्रकार, प्रमुख पुष्प प्रजातियों के आवास, रूप और घनत्व से निर्धारित होते हैं। इसके प्रमुख वनस्पति प्रकार हैं :

1. **नदीय: (1600-2300 मीटर):** इस प्रकार की वनस्पति कम ऊंचाई पर होती है और इनमें एस्कुलस इंडिका, फ्रैक्सिनस हुकेरी, पैरोटिओप्सिस जैक्विमोंटियाना और जुग्लांस रेजिया की चौड़ी पत्ती वाली प्रजातियां प्रमुख होती हैं। प्रमुख झाड़ियों में इंडिगोफेरा हेटरेंथा, लोनिसेरा प्रजातियां, वाइबर्नम, स्किमिया लॉरिल, जैस्मीनम प्रजातियां आदि शामिल हैं।

2. **शंकुधारी वन: (2300-3000 मीटर):** इस प्रकार के वन ब्लू पाइन (पीनस वालिचियाना) और देवदार (एबीज पिंडरो) प्रमुख प्रजातियों के रूप में होते हैं, जो 2300 मी. की ऊंचाई पर स्प्रूस (पिका स्मिथियाना) के साथ पाए जाते हैं। बुडलैंड कुछ स्थानों पर नालों के किनारों पर भी पाया जाता है।

3. **अल्पाइन झाड़ियां और चारागाह : (3000-3500 मीटर):** इस प्रकार के वन, बिखरी झाड़ीदार वनस्पति वाले वृक्षहीन चरागाहों से युक्त होते हैं। बिर्च (बेटुला यूटिलिस) इस क्षेत्र की सबसे प्रमुख प्रजाति है जो छायादार स्थानों पर जुनिपरस रिकर्वा, रोडोडेंड्रोन प्रजाति, वाइबर्नम प्रजाति, लोनिसेरा प्रजाति और प्रिमुला से जुड़ी वृक्ष रेखा के पास होती है। वृक्ष रेखा के ऊपर व्यापक अल्पाइन घास के मैदान, जिन्हें 'मार्ग' के रूप में जाना जाता है, में बारहमासी जड़ी-बूटियां और घास की बेहतर वृद्धि होती हैं। यहां की प्रमुख झाड़ीदार प्रजातियां, मायोसोटिस प्रजातियां, सिनोग्लोसम प्रजातियां आदि हैं। बेटुला यूटिलिस कुछ-कुछ स्थानों पर बिखरा हुआ पाया जाता है।

4. **रॉक फेसिस: (3500 मीटर से ऊपर):** पथरीली चट्टानों और पहाड़ की चोटियों पर जड़ी-बूटियों, स्टैचिस सेरिसिया, सिएवर्सिया एलाटा और वेरोनिका मेलिसिफोलिया से जुडी छोटी सदाबहार झाड़ियां व्यापक रूप से पाई जाती हैं, जिनमें जुनिपरस रिकर्वा, रोडोडेंड्रोन एंथोपोगोन आदि शामिल हैं।

ANNEXURE V

और जबकि, त्राल वन्यजीव अभयारण्य हंगुल की आवाजाही के लिए एक महत्वपूर्ण गलियारा बनाता है। पारिस्थितिकीय रूप से संवेदनशील क्षेत्र की घोषणा से अभयारण्य क्षेत्र के चारों ओर एक बफर बनाने में मदद मिलेगी जिससे अंतिम शेष हंगुल आबादी के लिए एक सुरक्षित, उपयुक्त और व्यवहार्य पर्यावास बन सकेगा।

अतः, अब, केन्द्रीय सरकार, पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उप-नियम (3) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) (जिसे इस अधिसूचना में इसके पश्चात पर्यावरण अधिनियम कहा गया है) की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) और खंड (xiv) तथा उप-धारा (3) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, एतद्वारा जम्मू और कश्मीर संघ राज्य क्षेत्र में त्राल वन्यजीव अभयारण्य की सीमा से शून्य से 03.26 किमी. तक के क्षेत्र को त्राल वन्यजीव अभयारण्य पारिस्थितिकी संवेदी जोन (जिसे इसमें इसके पश्चात् पारि संवेदी जोन कहा गया है) के रूप में अधिसूचित करती है, जिसका विवरण निम्नानुसार है, अर्थात् :-

1. **पारिस्थितिकी संवेदी ज़ोन का विस्तार और सीमाएं-**

(1) त्राल वन्यजीव अभयारण्य के आस-पास पारिस्थितिकी संवेदी ज़ोन का विस्तार इसकी सीमा से **0.00 किमी से 3.26 किमी** तक है, जिसमें 26 गांवों सहित **127.10 वर्ग किलोमीटर** का क्षेत्र शामिल है। विभिन्न दिशाओं में ईएसजेड की विशिष्ट सीमा नीचे दी गई है :

दिशा	विस्तार (किमी में)	निर्देशांक	
		अक्षांश	देशान्तर
उत्तर (टी22)	0	34° 5' 44.094" उ.	75° 8' 31.939" पू.
उत्तर-पूर्व (टी21)	0	34° 1' 35.515" उ.	75° 14' 10.813" पू.
पूर्व (टी19)	01	33° 56' 30.547" उ.	75° 13' 59.550" पू.
दक्षिण-पूर्व (T18)	01.38	33° 49' 0.150" उ.	75° 14' 1.532" पू.
दक्षिण (टी16)	01	33° 50' 38.734" उ.	75° 7' 15.598" पू.
दक्षिण-पश्चिम (टी15)	01	33° 52' 37.979" उ.	75° 5' 0.439" पू.
पश्चिम (टी4)	03.26	34° 0' 1.545" उ.	75° 1' 0.309" पू.
उत्तर-पश्चिम (टी2)	01	34° 3' 59.623" उ.	75° 2' 18.451" पू.

त्राल वन्यजीव अभयारण्य की सीमा से ईएसजेड की न्यूनतम शून्य किमी सीमा इस तथ्य के कारण है कि इसकी दाचीगाम राष्ट्रीय उद्यान और ओवेरा-अरु वन्यजीव अभयारण्य नामक अन्य संरक्षित क्षेत्रों के साथ साझा सीमा है।

(2) त्राल पारिस्थितिकी संवेदी ज़ोन का सीमा विवरण **अनुलग्नक-I** में दिया गया है।

(3) त्राल वन्यजीव अभयारण्य की सीमा के भू-निर्देशांकों के साथ-साथ विभिन्न दिशाओं में पारिस्थितिकी संवेदी ज़ोन का सीमा विवरण **अनुलग्नक-Iक** में दिया गया है।

(4) पारिस्थितिकी संवेदी ज़ोन के विभिन्न मानचित्रों को गूगल अर्थ इमेजरी, टोपोशीट पर **अनुलग्नक-II** से **अनुलग्नक-IIछ** के रूप में संलग्न किया गया है।

(5) पारिस्थितिकी संवेदी ज़ोन के अंदर आने वाले गांवों की सूची और जनसांख्यिकीय पैटर्न क्रमशः **अनुलग्नक-III** और **अनुलग्नक-IV** के रूप में संलग्न है।

(6) त्राल वन्यजीव अभयारण्य में पाए जाने वाले स्तनधारियों और पक्षियों की सूची **अनुलग्नक-V** के रूप में संलग्न है।

2. **पारिस्थितिकी संवेदी ज़ोन के लिए आंचलिक महायोजना –** (1) संघ राज्य क्षेत्र सरकार, पारिस्थितिकी संवेदी जोन के प्रयोजनों के लिए राजपत्र में इस अधिसूचना के प्रकाशन की तारीख से दो वर्ष की अवधि के भीतर, स्थानीय व्यक्तियों के परामर्श से और संघ राज्य क्षेत्र के सक्षम प्राधिकारी के अनुमोदन के लिए इस अधिसूचना में दिए गए अनुबंधों का पालन करते हुए आंचलिक महायोजना तैयार करेगी।

ANNEXURE V

(2) संघ राज्य क्षेत्र सरकार द्वारा पारिस्थितिकी संवेदी जोन के लिए आचंलिक महायोजना, ऐसी रीति से जो इस अधिसूचना में विनिर्दिष्ट की गई है, के अनुसार तथा सुसंगत केंद्रीय और राज्य विधियों तथा केंद्रीय सरकार द्वारा जारी दिशा-निर्देशों, यदि कोई हों, के अनुरुप तैयार की जाएगी।

(3) आंचलिक महायोजना, उक्त योजना में पारिस्थितिकीय और पर्यावरणीय तथ्यों को समाकलित करने के लिए संघ राज्य क्षेत्र सरकार के निम्नलिखित विभागों के परामर्श से तैयार की जाएगी:

(i) पर्यावरण;

(ii) वन;

(iii) कृषि

(iv) राजस्व;

(v) शहरी विकास;

(vi) पर्यटन;

(vii) ग्रामीण विकास;

(viii) सिंचाई और बाढ़ नियंत्रण;

(ix) प्रदूषण नियंत्रण बोर्ड;

(x) नगरपालिका;

(xi) पंचायती राज; और

(xii) लोक निर्माण विभाग।

(4) आंचलिक महायोजना के तहत अनुमोदित विद्यमान भू-उपयोग, अवसंरचना और क्रियाकलापों पर कोई निर्बंधन अधिरोपित नहीं किया जाएगा जब तक कि इस अधिसूचना में इस प्रकार विनिर्दिष्ट न हो और आचंलिक महायोजना, सभी अवसंरचना और क्रियाकलापों, जो अधिक दक्ष और पारिस्थितिकी अनुकूल हों, का संवर्धन करेगी।

(5) आंचलिक महायोजना में अनाच्छादित क्षेत्रों के जीर्णोद्धार, विद्यमान जल स्रोतो के संरक्षण, आवाह क्षेत्रों के प्रबंधन, जल-संभरों के प्रबंधन, भू-जल के प्रबंधन, मृदा और नमी संरक्षण, स्थानीय समुदायों की आवश्यकताओं तथा पारिस्थितिकी और पर्यावरण से संबंधित ऐसे अन्य पहलुओं, जिन पर ध्यान देना आवश्यक है, के लिए उपबंध होंगे।

(6) आंचलिक महायोजना में विद्यमान और प्रस्तावित भूमि उपयोग विशेषताओं के ब्यौरों से अनुसमर्थित मानचित्र के साथ सभी विद्यमान पूजा स्थलों, ग्रामों और नगरीय बस्तियों, वनों के प्रकार और किस्मों, कृषि क्षेत्रों, उपजाऊ भूमि, हरित क्षेत्र जैसे उद्यान और उसी प्रकार के स्थान, उद्यान कृषि क्षेत्र, फलोउद्यान, झीलों और अन्य जल निकायों का अभ्यकंन किया जाएगा।

(7) आंचलिक महायोजना, पारिस्थितिकी संवेदी जोन में विकास को विनियमित करेगी और पैरा-4 में सारणी में सूचीबद्ध प्रतिषिद्ध और विनियमित क्रियाकलापों का अनुपालन करेगी और स्थानीय समुदायों की जीविका को सुरक्षित करने के लिए पारिस्थितिकी अनुकूल विकास को सुनिश्चित और उसकी अभिवृद्धि भी करेगी।

(8) आंचलिक महायोजना, प्रादेशिक विकास योजना की सह-विस्तारी होगी।

(9) इस प्रकार अनुमोदित आंचलिक महायोजना, इस अधिसूचना के उपबंधों के अनुसार निगरानी के अपने कार्यों को करने के लिए निगरानी समिति के लिए एक संदर्भ दस्तावेज होगी।

3. **जम्मू-कश्मीर संघ राज्य क्षेत्र सरकार द्वारा किए जाने वाले उपाय –** संघ राज्य क्षेत्र सरकार इस अधिसूचना के उपबंधों को प्रभावी करने के लिए निम्नलिखित उपाय करेगी, अर्थात:-

ANNEXURE V

1. **भू-उपयोग:** (क) पारिस्थितिकी संवेदी जोन में वनों, उद्यान कृषि क्षेत्रों, कृषि क्षेत्रों, मनोरंजन के प्रयोजनों के लिए चिन्हित किए गए पार्कों और खुले स्थानों का वाणिज्यिक या आवासीय या औद्योगिक संबद्ध विकास क्रियाकलापों के लिए उपयोग या संपरिवर्तन नहीं होगा:

परंतु पारिस्थितिकी संवेदी जोन के भीतर उपर्युक्त भाग (क) में विनिर्दिष्ट प्रयोजनों से भिन्न प्रयोजनों के लिए कृषि और अन्य भूमि का संपरिवर्तन, निगरानी समिति की सिफारिश पर और यथा लागू और क्षेत्रीय नगर योजना अधिनियम और केन्द्रीय सरकार या राज्य सरकार के अन्य नियमों तथा विनियमों के अधीन सक्षम प्राधिकारी के पूर्व अनुमोदन से, और इस अधिसूचना के उपबंधों द्वारा स्थानीय निवासियों की निम्नलिखित आवासीय आवश्यकताओं को पूरा करने के लिए अनुज्ञात किया जाएगा, जैसे :-

i. मौजूदा सड़कों को चौड़ा और मजबूत बनाना और नई सड़कों का निर्माण;

ii. अवसंरचना और नागरिक सुविधाओं का निर्माण और नवीनीकरण;

iii. प्रदूषण न फैलाने वाले छोटे पैमाने के उद्योग;

iv. ग्रामीण उद्योगों आदि सहित कुटीर उद्योग; होम स्टे सहित पारि-पर्यटन को बढ़ावा देने वाले सुलभ दुकान और स्थानीय सुविधाएं; और

v. पैरा 4 के अधीन दिए गए संवर्धित क्रियाकलाप और संबंधित विनियमित क्रियाकलाप;

बशर्ते और भी कि संघ राज्य सरकार के पूर्व अनुमोदन के बिना और भारत के संविधान के अनुच्छेद 244 या वर्तमान में लागू किसी कानून जिसमें केअनुसूचित जनजाति और अन्य पारंपरिक वन निवासी (वन अधिकारों की मान्यता) अधिनियम, 2006 (2007 का 2)भी आता हैप्रावधानों के अनुपालन के बिना वाणिज्यिक और औद्योगिक विकास गतिविधियों के लिए जनजातीय भूमि के उपयोग की अनुमति नहीं दी जाएगी;

बशर्ते और भी कि पारिस्थितिकी संवेदी जोन के भीतर भू-अभिलेखों में दिखाई देने वाली किसी भी त्रुटि को संबंधित संघ राज्य सरकार द्वारा प्रत्येक मामले में एक बार निगरानी समिति के विचार प्राप्त करने के बाद ठीक किया जाएगा और उक्त त्रुटि के सुधार की सूचना केंद्रीय सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय को दी जाएगी;

बशर्ते कि उक्त त्रुटि सुधार के दायरे में इस उप-पैराग्राफ के अंतर्गत दिए गए प्रावधान को छोड़कर अन्य किसी भी मामले में भूमि-उपयोग में किया जाने वाला परविर्तन नहीं आएगा;

बशर्ते यह भी है कि हरित क्षेत्र, जैसे वन क्षेत्र और कृषि क्षेत्र में कोई परिणामगत कमीआनी चाहिए तथा अप्रयुक्त या बंजर कृषि क्षेत्रों में पुनः वनरोपण करने के प्रयास किए जाने होंगे।

(2) प्राकृतिक जल निकाय और झरने -सभी प्राकृतिक झरनों/नदियों/चैनलों के जलग्रहण क्षेत्रों को अभिज्ञात किया जाएगा और उनके संरक्षण तथा पुनरुद्धार योजनाओं को जोनल मास्टर प्लान में शामिल किया जाएगा और संघ राज्य सरकार द्वारा दिशानिर्देश इस तरह से तैयार किए जाएंगे कि इन क्षेत्रों में या इनके निकट ऐसी निर्माण गतिविधियों पर रोक लगाई जा सके जो ऐसे क्षेत्रों के लिए हानिकारक हो।

भूजल के दोहन की अनुमति केवल भूमि के स्वामी/कब्जाधारी के यथोचित कृषि और घरेलू उपभोग के लिए दी जाएगी। किसी भी वाणिज्यिक/कृषि या पशुधन संचालन से जल स्रोत के संदूषण या प्रदूषण को रोकने के लिए सभी उपाय किए जाएंगे।

(3) पर्यटन/पारि-पर्यटन- (क) पारिस्थितिकी संवेदी जोन के भीतर सभी नए पारि-पर्यटन, पर्यटन गतिविधियां या मौजूदा पर्यटन गतिविधियों का विस्तार पारिस्थितिकी संवेदी जोन के लिए पर्यटन मास्टर प्लान के अनुसार होगा।

(ख) पारि-पर्यटन मास्टर प्लान को संघ राज्य सरकार के पर्यावरण और वन विभाग के परामर्श से पर्यटन विभाग द्वारा तैयार किया जाएगा।

(ग) पर्यटन मास्टर प्लान जोनल मास्टर प्लान का ही एक घटक होगा और यह पारिस्थितिकी संवेदी जोन की वहन क्षमता अध्ययन पर आधारित होगा।

ANNEXURE V

(घ) पारि-पर्यटन की गतिविधि का विनियमन निम्नानुसार किया जाएगा, यथा: -

(i) वन्यजीव अभ्यारण्य की सीमा से एक किलोमीटर के भीतर या ईएसजेड की सीमा तक, जो भी नजदीक हो, नए होटलों और रिसॉर्ट्स के किसी भी निर्माण की अनुमति नहीं दी जाएगी।

बशर्ते कि संरक्षित क्षेत्र की सीमा से एक किलोमीटर की दूरी से दूर पारिस्थितिकी संवेदी जोन की सीमा तक, नए होटलों और रिसॉर्ट्स की स्थापना की अनुमति केवल पर्यटन मास्टर प्लान के अनुसार पारि-पर्यटन सुविधाओं के लिए पूर्व-निर्धारित और में ही किये जाने के लिए की जाएगी;

(ii) पारिस्थितिकी संवेदी जोन के भीतर सभी नई पर्यटन गतिविधियां या मौजूदा पर्यटन गतिविधियों का विस्तार पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय द्वारा 2018 में जारी पारि-पर्यटन दिशा-निर्देशों और राष्ट्रीय बाघ संरक्षण प्राधिकरण द्वारा जारी पारि-पर्यटन दिशा-निर्देशों (समय-समय पर संशोधित) के अनुसार होगा, जिसमें पारि-पर्यटन, पारि-शिक्षा और पारि-विकास पर जोर दिया जाएगा;

(iii) जब तक आंचलिक महायोजना को तैयार और अनुमोदित नहीं कर दिया जाता है, तब तक, पर्यटन के लिए विकास और मौजूदा पर्यटन गतिविधियों के विस्तार की कोई अनुमति संबंधित नियामक प्राधिकरणों द्वारा तथा वास्तविक स्थल-विशिष्ट जांच और निगरानी समिति की सिफारिश के आधार पर दी जाएगी।

(4) प्राकृतिक विरासत- पारिस्थितिकी संवेदी जोन में बहुमूल्य प्राकृतिक विरासत के सभी स्थल, जैसे जीन पूल रिजर्व क्षेत्र, चट्टान संरचनाएं, झरने, स्रोत, घाटियां, उपवन, गुफाएं, बिंदु, पैदल मार्ग, सैरगाह, चट्टानें आदि को अभिज्ञात किया जायेगा और उन्हें संरक्षित किया जाएगा तथा इस अधिसूचना के प्रकाशन की तारीख से छह महीने के भीतर उनकी सुरक्षा और संरक्षण के लिए योजना तैयार की जाएगी और ऐसी योजना आंचलिक जोनल मास्टर प्लान का हिस्सा बनेगी।

(5) मानव निर्मित विरासत स्थल- पारिस्थितिकी संवेदी जोन में ऐतिहासिक, स्थापत्य, सौंदर्य और सांस्कृतिक महत्व के भवनों, संरचनाओं, कलाकृतियों, क्षेत्रों और परिसरों की पहचान की जाएगी और आंचलिक मास्टर प्लान के भाग के रूप में उनके संरक्षण की योजना तैयार की जाएगी।

(6) ध्वनि प्रदूषण- पारिस्थितिकी संवेदी जोन में ध्वनि प्रदूषण की रोकथाम और नियंत्रण पर्यावरण (संरक्षण) अधिनियम, 1986 के अंतर्गत ध्वनि प्रदूषण (विनियमन और नियंत्रण) नियम, 2000 और उसके संशोधनों के अनुसार किया जाएगा।

(7) वायु प्रदूषण- पारिस्थितिकी संवेदी जोन में वायु प्रदूषण की रोकथाम और नियंत्रण भारत सरकार के पर्यावरण और वन मंत्रालय द्वारा जारी अधिसूचना संख्या जी.एस.आर. 351 (अ), दिनांक 15 मई, 1981 तथा पर्यावरण (संरक्षण) अधिनियम, 1986 तथा उसके अधीन बनाए गए नियमों के अर्थात् होगा।

(8) अपशिष्टों का निर्वहन- अशोधित अपशिष्टों तथा मलजल का निर्वहन निषिद्ध है। पारिस्थितिकी संवेदी जोन में शोधित अपशिष्टों का निर्वहन, भारत सरकार के पर्यावरण एवं वन मंत्रालय द्वारा अधिसूचना संख्या सा.का.नि. 58 (अ), दिनांक 27 फरवरी, 1975 द्वारा प्रकाशित जल (प्रदूषण निवारण एवं नियंत्रण) अधिनियम, 1974 (1974 का 6) तथा पर्यावरण (संरक्षण) अधिनियम, 1986 तथा उसके अधीन बनाए गए नियमों के प्रावधानों के अनुसार होगा।

(9) ठोस अपशिष्ट- ठोस अपशिष्टों का निपटान और प्रबंधन निम्नानुसार होगा: -

क. पारिस्थितिकी संवेदी जोन में ठोस अपशिष्ट निपटान और प्रबंधन ठोस अपशिष्ट प्रबंधन नियम, 2016 और समय-समय पर यथा संशोधित के अनुसार किया जाएगा। अकार्बनिक सामग्री को पारिस्थितिकी संवेदी जोन के बाहर अभिज्ञात किए गए स्थल पर पर्यावरण स्वीकार्य तरीके से निपटाया जा सकता है।

ख. पारिस्थितिकी संवेदी जोन में अभिज्ञात की गई प्रौद्योगिकियों का उपयोग करके मौजूदा नियमों और विनियमों के अनुरूप ठोस अपशिष्टों का सुरक्षित और पर्यावरण की दृष्टि से सुप्रबंधन (ईएसएम) की अनुमति दी जा सकती है।

(10) जैव-चिकित्सा अपशिष्ट- जैव चिकित्सा अपशिष्ट प्रबंधन निम्नानुसार होगा:

(क) पारिस्थितिकी संवेदी जोन में जैव-चिकित्सा अपशिष्ट निपटान जैव-चिकित्सा अपशिष्ट प्रबंधन नियम, 2016 और समय-समय पर यथा संशोधित के अनुसार किया जाएगा।

ANNEXURE V

(ख) पारिस्थितिकी संवेदी जोन के भीतर अभिज्ञात की गई प्रौद्योगिकियों का उपयोग करके मौजूदा नियमों और विनियमों के अनुरूप जैव-चिकित्सा अपशिष्टों का सुरक्षित और पर्यावरण की दृष्टि से सुप्रबंधन (ईएसएम) की अनुमति दी जा सकती है।

(11) प्लास्टिक अपशिष्ट प्रबंधन- पारिस्थितिकी संवेदी जोन में प्लास्टिक अपशिष्ट प्रबंधन प्लास्टिक अपशिष्ट प्रबंधन नियम, 2016 के प्रावधानों के अनुसार तथा समय-समय पर यथा संशोधित अनुसार किया जाएगा।

(12) निर्माण एवं विध्वंस अपशिष्ट प्रबंधन- पारिस्थितिकी संवेदी जोन में निर्माण एवं विध्वंस अपशिष्ट प्रबंधन निर्माण एवं विध्वंस अपशिष्ट प्रबंधन नियम, 2016 के प्रावधानों के अनुसार तथा समय-समय परयथा संशोधित अनुसार किया जाएगा।

(13) ई-अपशिष्ट- पारिस्थितिकी संवेदी जोन में ई-अपशिष्ट प्रबंधन पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय भारत सरकार के द्वारा प्रकाशित ई-अपशिष्ट प्रबंधन नियम, 2016 के प्रावधानों के अनुसार तथा समय-समय परयथा संशोधित अनुसार किया जाएगा।

(14) वाहनीय यातायात- वाहनों के आवागमन को पर्यावास अनुकूल तरीके से विनियमित किया जाएगा और इस संबंध में विशिष्ट प्रावधान आंचलिक मास्टर प्लानमें शामिल किए जाएंगे और जब तक आंचलिक महोयाजना तैयार नहीं कर लिया जाता है और राज्य सरकार में सक्षम प्राधिकारी द्वारा अनुमोदित कर दिया जाता है, तब तक निगरानी समिति संबंधित अधिनियमों और उनके अधीन बनाए गए नियमों और विनियमों के तहत वाहनों के आवागमन के अनुपालन की निगरानी करेगी।

(15) वाहन प्रदूषण- वाहन प्रदूषण की रोकथाम और नियंत्रण लागू विधियों के अनुसार किया जाएगा। सीएनजी, एलपीजी आदि जैसे स्वच्छ ईंधन के उपयोग के लिए प्रयास किए जाएंगे।

(16) औद्योगिक इकाइयां-

क. आधिकारिक राजपत्र में इस अधिसूचना के प्रकाशन के बाद या उसके बाद पारिस्थितिकी संवेदी जोन के भीतर कोई भी नया प्रदूषणकारी उद्योग स्थापित करने की अनुमति नहीं दी जाएगी।

ख. जब तक कि इस अधिसूचना में निर्दिष्ट न किया गया होफरवरी 2016 में केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी दिशा-निर्देशों में दिये गये उद्योगों के वर्गीकरण के अनुसार ईएसजेड के भीतर केवल गैर-प्रदूषणकारी उद्योगों को ही अनुमति दी जाएगी। इसके अलावा, गैर-प्रदूषणकारी कुटीर उद्योगों को भी बढ़ावा दिया जाएगा।

(17) पहाड़ी ढलानों का संरक्षण- पहाड़ी ढलानों का संरक्षण निम्नानुसार होगा:

क. जोनल मास्टर प्लानमें पहाड़ी ढलानों पर ऐसे क्षेत्रों को इंगित किया जाएगा जहां किसी भी निर्माण की अनुमति नहीं होगी।

ख. विद्यमान खड़ी पहाड़ी ढलानों या अत्यधिक कटाव वाली ढलानों पर निर्माण की अनुमति नहीं होगी।

4. पारिस्थितिकी संवेदी जोन के भीतर निषिद्ध या विनियमित की जाने वाली गतिविधियों की सूची - पारिस्थितिकी संवेदी जोन में सभी गतिविधियां पर्यावरण (संरक्षण) अधिनियम, 1986 के प्रावधानों, इसके तहत बनाए गए नियमों तथा पर्यावरण, वन और वन्यजीवन से संबंधित भारत सरकार के अन्य अधिसूचनाओं, विधियों और अधिनियमों, पूर्व पर्यावरण और वन मंत्रालय, संख्या 1533(ई), दिनांक 14 सितंबर, 2006 तथा नीचे दी गई तालिका में निर्दिष्ट तरीके से और समय-समय पर यथा संशोधित विधियों द्वारा शासित होंगी, यथा

क्रमांक (1)	क्रियाकलाप (2)	टिप्पणी (3)
	प्रतिषिद्ध क्रियाकलाप	
1.	वाणिज्यिक खनन, पत्थर उत्खनन और क्रशिंग इकाइयाँ।	(क) पारिस्थितिकी संवेदी जोन के भीतर घरों के निर्माण या मरम्मत के लिए मिट्टी खोदने सहित स्थानीय निवासियों की घरेलू जरूरतों को पूरा करने को छोड़कर; सभी नए और मौजूदा खनन (लघु और प्रमुख खनिज), पत्थर उत्खनन और क्रशिंग इकाइयों पर तत्काल

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		प्रभाव से प्रतिबंध लगाया गया है; (ख) खनन कार्य माननीय सर्वोच्च न्यायालय के आदेश (आदेशों) के अनुसार किया जाएगा, जो टी.एन. गोदावर्मन थिरुमुलपाद बनाम यूओआई के डब्ल्यू.पी.(सी) संख्या 202/1995 और गोवा फाउंडेशन बनाम यूओआई के डब्ल्यू.पी.(सी) संख्या 435/2012 और आईए संख्या 1000/2003 के निर्णय दिनांक 3 जून, 2022 और उसके बाद आईए संख्या 131377/2022 के निर्णय दिनांक 26 अप्रैल, 2023 और 28 अप्रैल, 2023 के हैं।
2.	प्रदूषण उत्पन्न करने वाले उद्योगों की स्थापना(जल, वायु, मृदा, ध्वनि, आदि)।	पारिस्थितिकी संवेदी जोन में नए उद्योगों और मौजूदा प्रदूषणकारी उद्योगों के विस्तार की अनुमति नहीं दी जाएगी: हालाकिजब तक कि इस अधिसूचना में निर्दिष्ट न होकि गैर-प्रदूषणकारी उद्योगों को केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा फरवरी, 2016 में जारी दिशानिर्देशों में उद्योगों के वर्गीकरण के अनुसार पारिस्थितिकी संवेदी जोन के भीतर अनुमति दी जा सकेगी, जैसा कि समय-समय पर संशोधित किया जाता है, और इसके अतिरिक्त गैर-प्रदूषणकारी कुटीर उद्योगों को बढ़ावा दिया जाएगा।
3.	प्रमुख जलविद्युत परियोजनाओं की स्थापना।	प्रतिषिद्ध।
4.	किसी भी खतरनाक पदार्थ का उपयोग, उत्पादन या प्रसंस्करण।	प्रतिषिद्ध।
5	प्राकृतिक जल निकायों या भूमि क्षेत्र में अशोधित अपशिष्टों का निर्वहन।	प्रतिषिद्ध।
6.	ठोस अपशिष्ट निपटान स्थल की स्थापना और ठोस और जैव चिकित्सा अपशिष्ट के लिए सामान्य भस्मीकरण सुविधा।	प्रतिषिद्ध के भीतर कोई भी नया ठोस अपशिष्ट निपटान स्थल और ठोस अपशिष्ट के शोधन/प्रसंस्करण सुविधा की अनुमति नहीं है। औद्योगिक प्रक्रिया और स्वास्थ्य प्रतिष्ठान/अस्पतालों आदि से उत्पन्न किसी भी प्रकार के ठोस अपशिष्ट के शोधन के लिए सामान्य या व्यक्तिगत भस्मीकरण सुविधा की स्थापना निषिद्ध है।
7.	नई आरा मिलों की स्थापना।	पारिस्थितिकी संवेदी जोन के भीतर किसी भी नई आरा मिल को लगाने या मौजूदा आरा मिल के विस्तार की अनुमति नहीं दी जाएगी।
8.	ईंट भट्टों की स्थापना।	सभी नई और मौजूदा ईंट भट्ठा इकाइयों पर प्रतिबंध लगा दिया गया है।
9.	फर्मों और कंपनियों द्वारा बड़े पैमाने पर व्यावसायिक पशुधन और पोल्ट्री फार्मों की स्थापना।	प्रतिषिद्ध। बशर्ते कि स्थानीय किसानों द्वारा अपनी आजीविका के लिए केवल छोटे पैमाने पर पोल्ट्री फार्म स्थापित किए जा सकते हैं।
10.	नये काष्ठ आधारित उद्योग।	पारिस्थितिकी संवेदी जोन की सीमाओं के भीतर किसी भी नए काष्ठ आधारित उद्योग की स्थापना की अनुमति नहीं दी जाएगी: बशर्ते कि मौजूदा काष्ठ आधारित उद्योग को कानून के अनुसार जारी रखा जा सके और मौजूदा आरा मिलों के लाइसेंस का नवीनीकरण उनकी समाप्ति पर नहीं किया जाएगा।
11	किसी एयरक्राफ्ट हॉट एयर बलून, हेलीकॉप्टर ग्लाडर, पैरासेलिंग,	प्रतिषिद्ध। हालाँकि, वन और वन्यजीव विभाग गैर-वाणिज्यिक उद्देश्य के लिए डॉक्यूमेंटरी बनाने के लिए वन, पर्यावरण और

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	माइक्रोलाइट्स आदि के द्वारा पारिस्थितिकी संवेदी जोन के ऊपर से उड़ान भरने जैसे पर्यटन संबंधी कार्यकलापों का निष्पादन।	वन्यजीव संरक्षण के संबंध में जागरूकता पैदा करने हेतु ड्रोन का उपयोग कर सकते हैं।
12.	विदेशी प्रजातियों को लाना।	प्रतिषिद्ध।
13.	ज्वलनोपयोगी लकड़ी का व्यावसायिक उपयोग।	प्रतिषिद्ध।
14.	किसी भी खतरनाक पदार्थ का उपयोग या उत्पादन।	प्रतिषिद्ध।
	विनियमित क्रियाकलाप	
15.	होटल और रिसॉर्ट की व्यावसायिक स्थापना।	संरक्षित क्षेत्र से एक किलोमीटर की सीमा के भीतर या पारिस्थितिकी संवेदी जोन की सीमा तक, जो भी निकटतम हो, केवल पारिस्थितिकी-पर्यटन संबंधी कार्यकलापों के लिए छोटे अस्थायी ढांचों को छोड़कर; नए वाणिज्यिक होटल और रिसॉर्ट तथा उनके विस्तार की अनुमति नहीं दी जाएगी, बशर्ते कि संरक्षित क्षेत्र की सीमा से एक किलोमीटर बाहर या पारिस्थितिकी संवेदी जोन की सीमा तक, जो भी निकटतम हो, सभी नई पर्यटन संबंधी कार्यकलाप या मौजूदा गतिविधियों में वृद्धि, पर्यटन संबंधी मास्टर प्लान और लागू दिशानिर्देशों के अनुरूप होगा।
16.	निर्माण संबंधी कार्यकलाप।	क. संरक्षित क्षेत्र की सीमा से एक किलोमीटर के भीतर या पारिस्थितिकी संवेदी जोन की सीमा तक, जो भी निकटतम हो, किसी भी प्रकार के नए व्यावसायिक निर्माण की अनुमति नहीं दी जाएगी: बशर्ते कि, स्थानीय लोगों को स्थानीय निवासियों की आवासीय आवश्यकताओं की पूर्ति के लिए भवन उप-नियमों के अनुसार पैराग्राफ 3 के उप-पैरा (1) में सूचीबद्ध कार्यकलापों सहित उनके उपयोग के लिए उनकी भूमि पर निर्माण कार्य करने की अनुमति होगी: ख. एक किलोमीटर बाहर इसे आंचलिक महायोजना के अनुसार विनियमित किया जाएगा।
17.	प्रदूषण न फैलाने वाले उद्योग।	फरवरी, 2016 में केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उद्योगों के वर्गीकरण के अनुसार केवल प्रदूषण न फैलाने वाले उद्योग और खतरा रहित, लघु और सेवा उद्योग, कृषि, पुष्प-कृषि, बागवानी या पारिस्थितिकी संवेदी जोन से स्वदेशी सामग्रियों से उत्पाद बनाने वाले कृषि-आधारित उद्योग को लागू नियमों और विनियमों के अनुसार सक्षम प्राधिकारी से पूर्व अनुमति से अनुमत किया जाएगा।
18.	वृक्षों की कटाई।	(क) राज्य सरकार में सक्षम प्राधिकारी की पूर्व अनुमति के बिना वन या सरकारी या राजस्व या निजी भूमि पर वृक्षों की कटाई नहीं की जाएगी। (ख) वृक्षों की कटाई संबंधी केन्द्रीय या राज्य अधिनियमों के

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		प्रावधानों तथा उनके अधीन बनाए गए नियमों के अनुसार विनियमित की जाएगी।
19.	वन उपज या काष्ठेतर वन उपज (एनटीएफपी) का संग्रहण।	लागू विधियों के अनुसार विनियमित।
20.	विद्युत एवं संचार टावरों का निर्माण तथा केबल बिछाना एवं अन्य अवसंरचनाएं।	लागू विधियों के अनुसार विनियमित। बिजली पारेषण लाइनों और केबलों, दूरसंचार टावरों और केबलों के निर्माण/संवर्द्धन और नवीनीकरण की अनुमति होगी। नई भूमिगत केबलिंग को बढ़ावा दिया जा सकता है।
21.	नागरिक सुविधाओं सहित अवसंरचना।	प्रयोज्य विधियों, नियमों और विनियमों तथा उपलब्ध दिशानिर्देशों के अनुसार न्यूनीकरण उपायों के साथ किया जाएगा।
22.	मौजूदा सड़कों को चौड़ा एवं सुदृढ़ करना तथा नई सड़कों का निर्माण।	प्रयोज्य विधियों, नियमों और विनियमों तथा उपलब्ध दिशा-निर्देशों के अनुसार न्यूनीकरण उपायों के साथ किया जाएगा। मौजूदा सड़कों को मजबूत बनाने के लिए समुचित पर्यावरणीय प्रभाव आकलन (राज्य वन विभाग और पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय को अनिवार्य रूप से शामिल करते हुए) और पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय द्वारा प्रकाशित मार्गदर्शन संबंधी दस्तावेज़ "वन्यजीवों पर रैखिक अवसंरचना के प्रभावों को कम करने के लिए पर्यावरण के अनुकूल उपाय" के अनुसार न्यूनीकरण उपाय किए जाएंगे।
23.	पहाड़ी ढलानों और नदी तटों का संरक्षण।	लागू विधियों के तहत विनियमित।
24.	रात्रि में वाहनों का आवागमन।	लागू विधियों के तहत विनियमित।
25.	प्राकृतिक जल निकायों या भूमि क्षेत्र में शोधित अपशिष्ट जल/बहि:स्रावों का विसर्जन।	शोधित अपशिष्ट जल/बहि:स्रावों को जल निकायों में जाने से रोका जाना चाहिए। शोधित अपशिष्ट जल के पुनर्चक्रण और पुनः उपयोग के लिए प्रयास किए जाने चाहिए। अन्यथा, शोधित अपशिष्ट जल/बहि:स्रावों के विसर्जन को लागू विधियों के अनुसार विनियमित किया जाएगा।
26.	शहरी एवं भूमिगत जल का व्यावसायिक निष्कर्षण।	(क) केवल कृषि के वास्तविक उपयोग और भूमि के अधिभोगी/स्वामी के घरेलू उपभोग के लिए ही सतही जल और भूमिगत जल के निष्कर्षण की अनुमति दी जाएगी। (ख) औद्योगिक या वाणिज्यिक उपयोग के लिए सतही जल और भूजल का निष्कर्षण, जिसमें निष्कासित की जा सकने वाली मात्रा भी शामिल है, के लिए संबंधित विनियामक प्राधिकरण से पूर्व अनुमति और अनुमोदित मास्टर प्लान के अनुसार अनुमति की आवश्यकता होगी। (ग) पारिस्थितिकी संवेदी जोन के बाहर किसी भी स्थान पर सतही जल या भूजल की बिक्री प्रतिबंधित है।
27.	कृषि या अन्य उपयोग के लिए कुआँ, बोरवेल आदि।	विनियमित किया जाना चाहिए और नियामक प्राधिकरण द्वारा गतिविधि की सख्ती से निगरानी की जानी चाहिए। दुर्घटनाओं की रोकथाम करने के लिए कुओं को ढकने के उपाय किए जाने चाहिए।

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28.	ठोस अपशिष्ट प्रबंधन.	लागू विधियों के अनुसार विनियमित।
29.	पारिस्थितिकी पर्यटन संबंधी कार्यकलाप	लागू विधियों के अनुसार विनियमित।
30.	वाणिज्यिक पशुधन और मुर्गीपालन फार्मों की स्थापना।	स्थानीय किसानों द्वारा अपशिष्ट प्रबंधन के समुचित सावधानियों के साथ लागू विधियों के अनुसार विनियमित।
31.	दुकानदारों द्वारा पॉलिथीन/प्लास्टिक थैलियों का उपयोग।	लागू विधियों के अनुसार विनियमित, जहां कैरी बैग की मोटाई 120 माइक्रोन से कम नहीं होनी चाहिए और बिना बुना प्लास्टिक कैरी बैग 60 ग्राम प्रति वर्ग मीटर (जीएसएम) से कम नहीं होगा।
	संवर्धित क्रियाकलाप	
32.	वर्षा जल एकत्रण।	सक्रिय रूप से बढ़ावा दिया जाएगा।
33.	जैविक खेती।	सक्रिय रूप से बढ़ावा दिया जाएगा।
34.	सभी कार्यकलापों के लिए हरित प्रौद्योगिकी को अपनाना।	सक्रिय रूप से बढ़ावा दिया जाएगा।
35.	स्थानीय समुदायों में प्रचलित कृषि और बागवानी संबंधी कार्य प्रथाएँ	सक्रिय रूप से बढ़ावा दिया जाएगा। हालाँकि, इनमें से कुछ कार्याकलापों के अत्यधिक विस्तार को मास्टर प्लान के अनुसार विनियमित किया जाना चाहिए।
36.	नवीकरणीय ऊर्जा और स्वच्छ ईंधन का उपयोग।	बायो गैस, सौर ऊर्जा, सीएनजी, एलपीजी आदि को सक्रिय रूप से बढ़ावा दिया जाएगा।
37.	कृषि वानिकी।	सक्रिय रूप से बढ़ावा दिया जाएगा।
38.	पर्यावरण-अनुकूल परिवहन का उपयोग।	सक्रिय रूप से बढ़ावा दिया जाएगा।
39.	अवक्रमित भूमि/वन/पर्यावास की पुन:बहाली।	सक्रिय रूप से बढ़ावा दिया जाएगा।
40.	पर्यावरण जागरूकता.	सक्रिय रूप से बढ़ावा दिया जाएगा।

5. निगरानी समिति:- केन्द्रीय सरकार द्वारा गठित एक समिति होगी जिसे निगरानी समिति के नाम से जाना जाएगा, जिसमें नीचे दी गई तालिका में विनिर्दिष्ट निम्नलिखित व्यक्ति शामिल होंगे, नामत:-

1.	कलेक्टर/उपायुक्त, पुलवामा	अध्यक्ष *'पदेन';*
2.	क्षेत्रीय अधिकारी, जम्मू और कश्मीर प्रदूषण नियंत्रण बोर्ड	सदस्य *'पदेन';*
3.	वन्यजीव/पर्यावरण (विरासत संरक्षण सहित) के क्षेत्र में काम करने वाले गैर-सरकारी संगठन का प्रतिनिधि, जिसे जम्मू और कश्मीर सरकार द्वारा हर तीन वर्ष में समय-समय पर नामित किया जाएगा।	सदस्य;
4.	कश्मीर सरकार द्वारा हर तीन वर्ष में समय-समय पर एक पारिस्थितिकी और पर्यावरण विशेषज्ञ को नामित किया जाएगा।	सदस्य;

ANNEXURE V

5.	प्रभागीय वन अधिकारी, अवंतीपोरा	सदस्य *'पदेन';*
6.	वन्यजीव वार्डन, शोपियां डिवीजन	सदस्य सचिव, *'पदेन'*

6. निगरानी समिति के कार्य - निगरानी समिति इस अधिसूचना के प्रावधानों के अनुपालन की निगरानी करेगी:

(1) निगरानी समिति, वास्तविक स्थल-विशिष्ट स्थितियों के आधार पर , भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना सं.का.आ. 1553 (ए), दिनांक 14 सितम्बर, 2006 की अनुसूची में शामिल तथा जो पारिस्थितिक रूप से संवेदनशील क्षेत्र में आने वाले हैं, कार्यकलापों की *जांच* करेगी, सिवाय इसके पैराग्राफ 4 के अंतर्गत तालिका में निर्दिष्ट निषिद्ध गतिविधियों के, तथा उक्त अधिसूचना के प्रावधानों के तहत पूर्व पर्यावरणीय मंजूरी के लिए, जैसा भी मामला हो, केन्द्रीय सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय या राज्य पर्यावरण प्रभाव आकलन प्राधिकरण को संदर्भित किया जाता है।

(2) भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना सं.का.आ. 1533 (ए), दिनांक 14 सितम्बर, 2006 की अनुसूची में शामिल न किए गए कार्यकलाप *और* पारिस्थितिकी संवेदनशील क्षेत्र में आने वाले कार्यकलाप, पैरा 4 के अंतर्गत तालिका में विनिर्दिष्ट प्रतिबंधित कार्यकलापों को छोड़कर, वास्तविक स्थल-विशिष्ट स्थितियों के आधार पर निगरानी समिति द्वारा जांच की जाएगी और संबंधित विनियामक प्राधिकरणों को भेजी जाएगी।

(3) निगरानी समिति का सदस्य-सचिव या संबंधित कलेक्टर या संबंधित उप वन संरक्षक, इस अधिसूचना के प्रावधानों का उल्लंघन करने वाले किसी भी व्यक्ति के विरूद्ध पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 19 के तहत शिकायत दर्ज करने के लिए सक्षम होगा।

(4) निगरानी समिति मामला-दर-मामला आधार पर आवश्यकताओं के आधार पर अपने विचार-विमर्श में सहायता के लिए संबंधित विभाग से प्रतिनिधि या विशेषज्ञ, उद्योग संघों या संबंधित सहभागियों से प्रतिनिधि को आमंत्रित कर सकती है।

(5) यह निगरानी समिति 31 मार्च तक की अवधि के लिए अपने कार्यकलापों की वार्षिक कार्रवाई रिपोर्ट उस वर्ष 30 जून तक राज्य के मुख्य वन्यजीव वार्डन को इस अधिसूचना से संलग्न **अनुलग्नक-V** में निर्दिष्ट प्रारूप में प्रस्तुत करेगी।

(6) केन्द्रीय सरकार, निगरानी समिति को उसके कार्यों के प्रभावी निष्पादन के लिए लिखित रूप में ऐसे निर्देश दे सकेगी, जो वह उचित समझे।

7. अतिरिक्त उपाय- केन्द्र सरकार और राज्य सरकार इस अधिसूचना के प्रावधानों को प्रभावी बनाने के लिए अतिरिक्त उपाय, यदि कोई हो, निर्दिष्ट कर सकती है।

8. सर्वोच्च न्यायालय आदि के आदेश- इस अधिसूचना के प्रावधान भारत के माननीय सर्वोच्च न्यायालय या उच्च न्यायालय या राष्ट्रीय हरित अधिकरण द्वारा पारित किए जा सके या पारित किए जाने वाले आदेशों के अधीन होंगे।

अनुलग्नक- I

त्राल वन्यजीव अभयारण्य के आसपास के पारिस्थितिकी संवेदी जोन का सीमा विवरण

बिंदु	अक्षांश	देशान्तर	विवरण
टी10	34° 2' 44.631" उ	75° 7' 51.141" पूर्व	वन परिसर 20एन
टी11	34° 2' 58.543" उ	75° 9' 41.344" पूर्व	सीओ 21/ त्राल वन क्षेत्र, पम्बाच खोड़
टी12	34° 1' 27.882" उ	75° 10' 49.018" पूर्व	सीओ 14/ त्राल वन क्षेत्र
टी14	33° 57' 32.762" उ	75° 8' 52.391" पूर्व	खलील गांव
टी17	33° 52' 21.670" उ	75° 10' 33.610" पूर्व	खिरम बंजर भूमि
टी18	33° 49' 0.150" उ	75° 14' 1.532" पूर्व	गुंड-ए-सिलिगोम लिद्दर नाला
टी22	34° 5' 44.094" उ	75° 8' 31.939" पूर्व	दाचीगाम एनपी सीमा
टी24	34° 5' 43.526" उ	75° 2' 16.668" पूर्व	दाचीगाम एनपी सीमा
टी1	34° 4' 51.714" उ	75° 1' 49.955" पूर्व	बुर्जावास वन

ANNEXURE V

टी23	34° 6' 25.798" उ	75° 3' 48.277" पूर्व	दाचीगाम एनपी सीमा
टी21	34° 1' 35.515" उ	75° 14' 10.813" पूर्व	ओवेरा-अरु WLS सीमा
टी -20	33° 57' 8.040" उ	75° 13' 32.532" पूर्व	ओवेरा डब्ल्यूएलएस सीमा
टी19	33° 56' 30.547" उ	75° 13' 59.550" पूर्व	कोलूर वन
टी16	33° 50' 38.734" उ	75° 7' 15.598" पूर्व	ओपन स्क्रब शालागुल
टी15	33° 52' 37.979" उ	75° 5' 0.439" पूर्व	स्क्रब एरिया बट्स
टी13	33° 59' 32.259" उ	75° 11' 11.704" पूर्व	निशात सी.आर.
टी7	33° 58' 50.663" उ	75° 5' 1.870" पूर्व	हुंडुर रोड
टी -4	34° 0' 1.545" उ	75° 1' 0.309" पूर्व	खुला स्क्रब वुस्टरवान
टी2	34° 3' 59.623" उ	75° 2' 18.451" पूर्व	नागंदर वन
टी3	34° 1' 32.777" उ	75° 1' 41.557" पूर्व	बादलाओ खेव सी.आर. सीमा
टी6	33° 57' 50.300" उ	75° 2' 12.931" पूर्व	खेव सी.आर. सीमा
टी8	34° 1' 14.497" उ	75° 4' 34.556" पूर्व	खानगुंड
टी9	34° 2' 24.485" उ	75° 4' 40.473" पूर्व	गुटुरु गांव
टी5	33° 59' 4.160" उ	75° 0' 10.787" पूर्व	गोसाईं ओपन स्क्रब

अनुलग्नक- I क

विभिन्न दिशाओं में पारिस्थितिकी संवेदी जोन का सीमा विवरण

दिशा	सीमा विवरण	पीए सीमा से दूरी (किमी में)	भू-निर्देशांक	
			अक्षांश	देशान्तर
उत्तर	दाचीगाम एनपी सीमा	0	34° 5' 44.094" उ	75° 8' 31.939" पू
उत्तर-पूर्व	ओवेरा-अरु WLS सीमा	0	34° 1' 35.515" उ	75° 14' 10.813" पू
पूर्व	कोलूर वन	01	33° 56' 30.547" उ	75° 13' 59.550" पू
दक्षिण-पूर्व	गुंड-ए-सिलिगोम , लिद्दर नाला	01.38	33° 49' 0.150" उ	75° 14' 1.532" पू
दक्षिण	शालगुल	01	33° 50' 38.734" उ	75° 7' 15.598" पू
दक्षिण-पश्चिम	बुट्स	01	33° 52' 37.979" उ	75° 5' 0.439" पू
पश्चिम	वुस्टरवान	03.26	34° 0' 1.545" उ	75° 1' 0.309" पू
उत्तर-पश्चिम	नागंदर वन	01	34° 3' 59.623" उ	75° 2' 18.451" पू

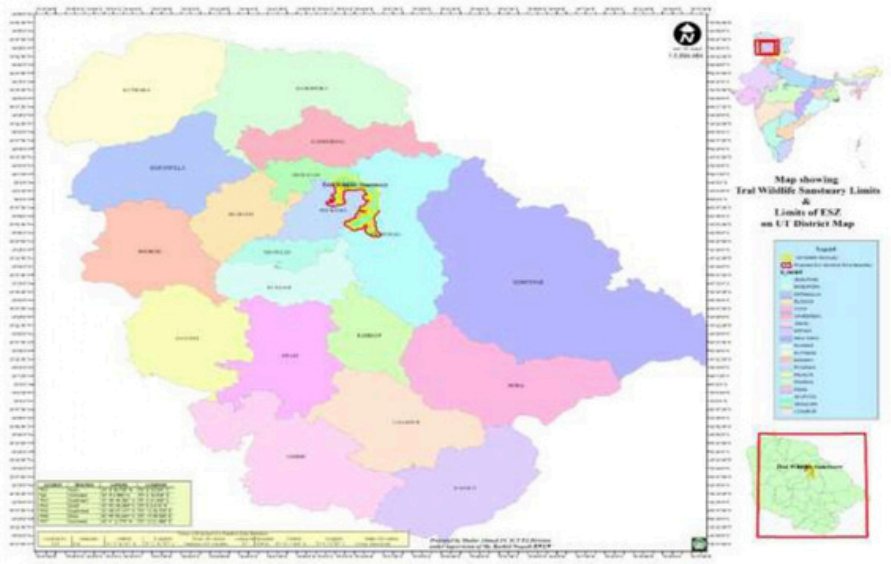
त्राल वन्यजीव अभयारण्य सीमा के भू-निर्देशांक

दिशा	स्थान	भू-निर्देशांक	
		अक्षांश	देशान्तर
उत्तर	गगयारी	34° 06' 35.809" उ	75° 03' 42.376" पू
उत्तर-पूर्व	वेहा गुल	34° 04' 10.313" उ	75° 12' 15.215" पू
पूर्व	गंडापाथर	34° 01' 17.364" उ	75° 14' 00.051" पू
दक्षिण पूर्व	त्सुरु पैंटसल	33° 57' 17.826" उ	75° 13' 36.699" पू
दक्षिण	अशदर	33° 49' 25.897" उ	75° 13' 37.829" पू
दक्षिण-पश्चिम	कमला	33° 52' 44.508" उ	75° 05' 35.923" पू
पश्चिम	ज़म्पाथर	34° 00' 27.029" उ	75° 10' 20.771" पू

ANNEXURE V

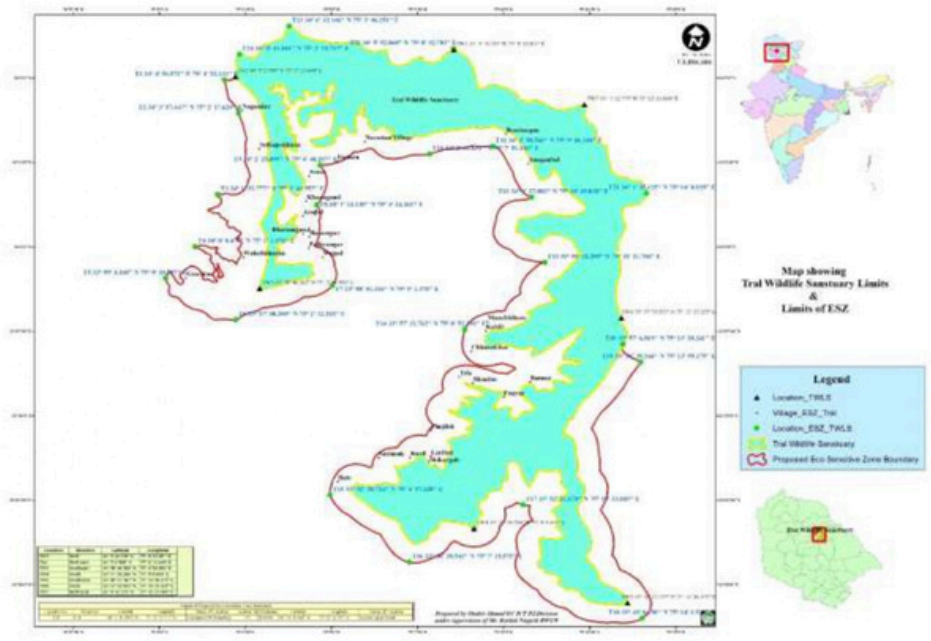
अनुलग्नक- II

प्रमुख स्थान के अक्षांश और देशांतर के साथ त्राल वन्यजीव अभयारण्य के पारिस्थितिकी संवेदी जोन का स्थान मानचित्र



अनुलग्नक-IIक

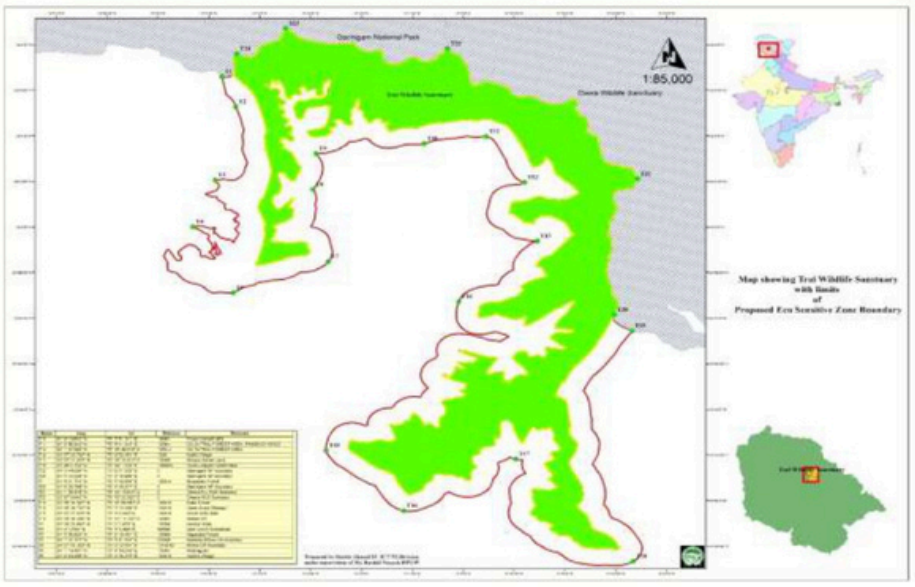
प्रमुख स्थानों के भू-निर्देशांक के साथ पारिस्थितिकी संवेदी जोन का मानचित्र



ANNEXURE V

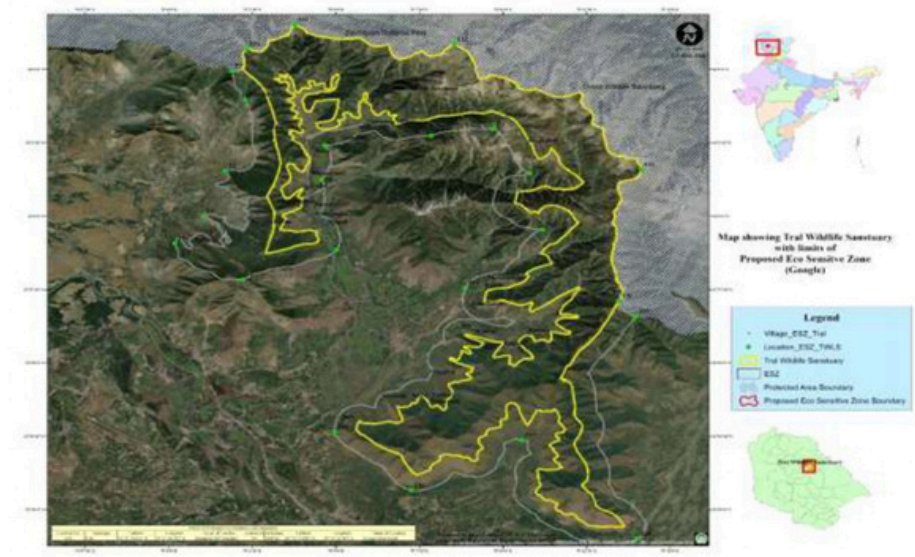
अनुलग्नक-IIख

प्रमुख बिंदुओं के भू-निर्देशांक और सीमा विवरण के साथ पारिस्थितिकी संवेदी जोन का मानचित्र



अनुलग्नक-IIग

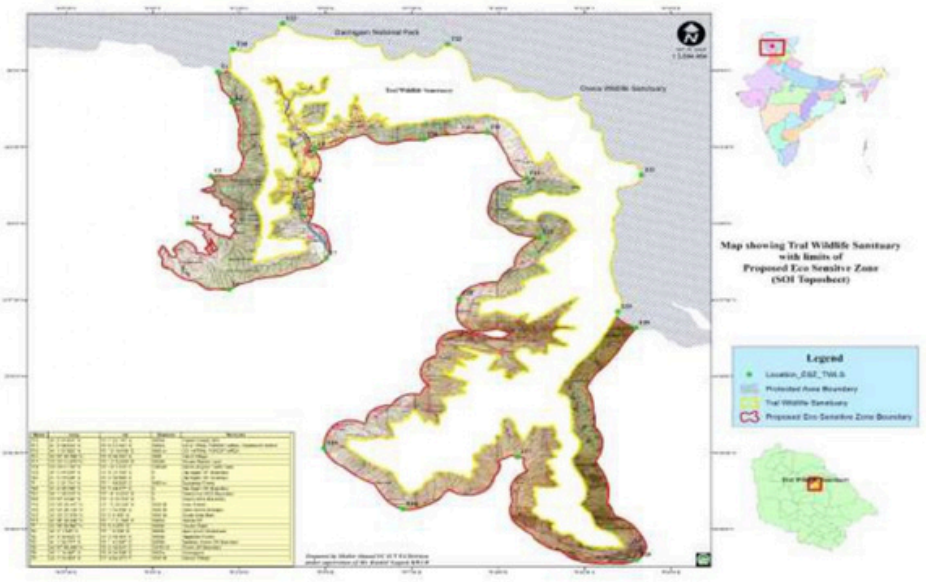
गूगल अर्थ मानचित्र पर ट्राल वन्यजीव अभ्यारण्य की सीमाएं और इसके पारिस्थितिकी संवेदी जोन के साथ-साथ प्रमुख बिंदु दर्शाए गए हैं



ANNEXURE V

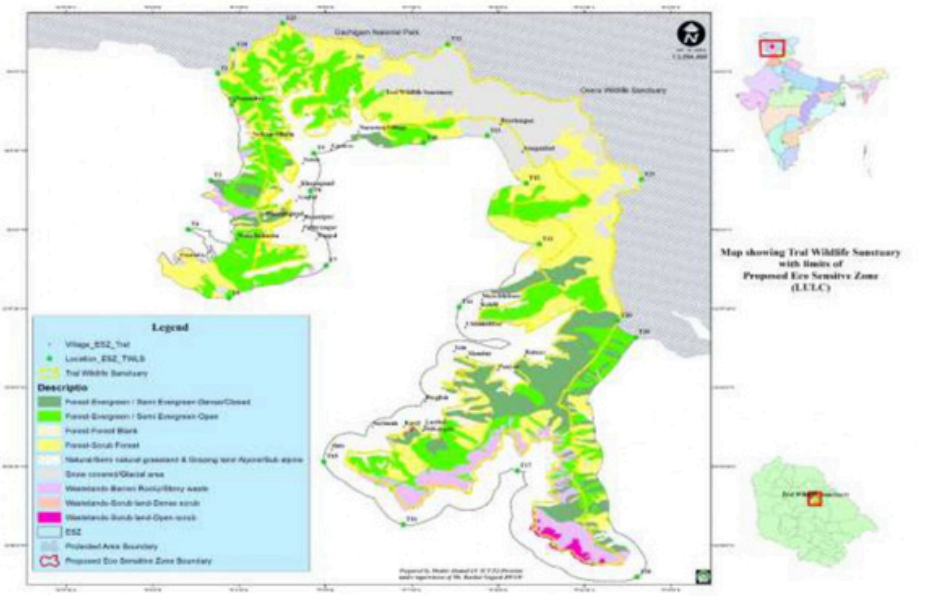
अनुलग्नक-II घ

प्रमुख बिन्दुओं के भू-निर्देशांक के साथ-साथ वन्यजीव अभ्यारण्य के आसपास के पारिस्थितिकी संवेदी जोन का टोपोशीट मानचित्र



अनुलग्नक-II ङ.

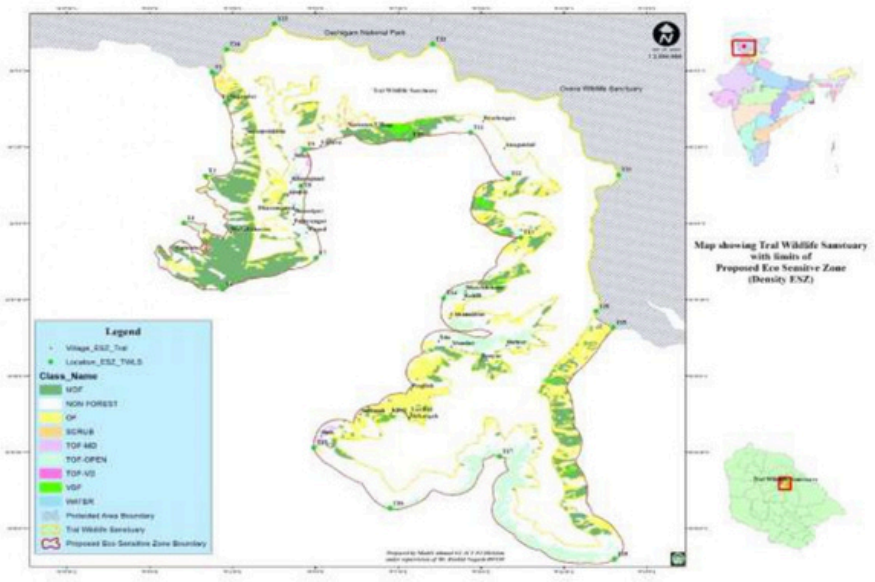
त्राल वन्यजीव अभयारण्य और उसके पारिस्थितिकी संवेदी जोन का भूमि उपयोग भूमि कवर मानचित्र



ANNEXURE V

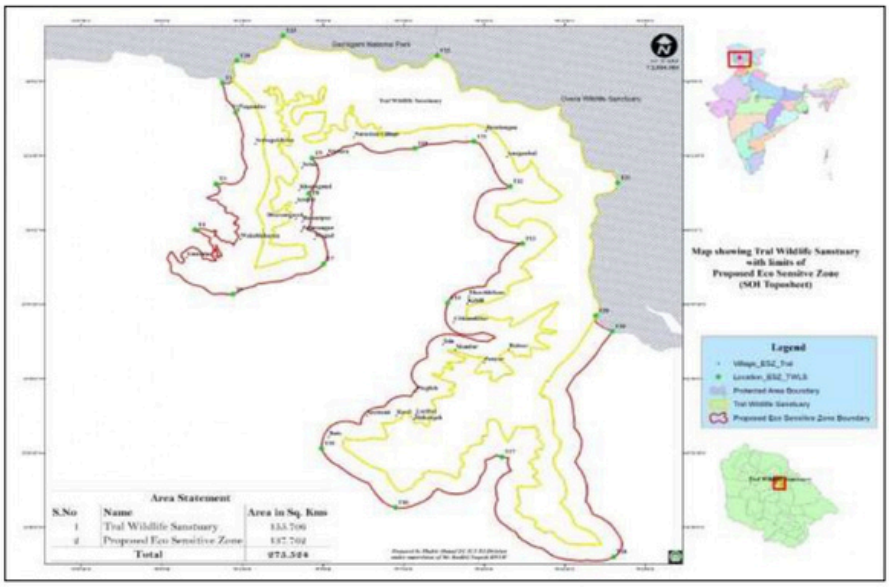
अनुलग्नक-II च

त्राल वन्यजीव अभयारण्य के आसपास के पारिस्थितिकी संवेदी जोन का वन प्रकार मानचित्र



अनुलग्नक-II छ

त्राल वन्यजीव अभयारण्य के पारिस्थितिकी संवेदी जोन के अंदर पड़ने वाले गांवों की अवस्थिति



ANNEXURE V

अनुलग्नक-III

क्षेत्र के अंदर आने वाले गांवों की सूची और भू-निर्देशांक

क्र.सं.	गाँव	ज़िला	तहसील	अक्षांश (उत्तर)	देशांतर (पूर्व)
01	नागंदर	पुलवामा	पंपोर	34° 2'54.93"	75° 2'47.27"
02	सेठपोखरण	पुलवामा	पंपोर	34° 0'49.30"	75° 1'40.98"
03	वहाबख़ारूण	पुलवामा	पंपोर	33°59'42.79"	75° 1'58.61"
04	वागड़	पुलवामा	अरिपाल	33°59'51.31	75° 4'50.89
05	बसंतपुर	पुलवामा	अरिपाल	34° 0'11.92"	75° 4'45.29"
06	धरमगुंड	पुलवामा	अरिपाल	33°59'53.16"	75° 4'49.24"
07	अरिपाल	पुलवामा	अरिपाल	34° 1'2.32"	75° 4'15.47"
08	खानगुंड	पुलवामा	अरिपाल	34° 1'35.64"	75° 4'23.29"
09	सतुरा	पुलवामा	अरिपाल	34° 2'23.46"	75° 4'26.89"
10	गुटुरू	पुलवामा	अरिपाल	34° 2'43.11"	75° 5'27.26"
11	नरास्तान	पुलवामा	अरिपाल	34° 3'18.62"	75° 6'0.80"
12	मंचिहामा	पुलवामा	त्राल	33°57'43.77"	75° 9'44.87"
13	खलील	पुलवामा	त्राल	33°57'45.11"	75° 9'2.45"
14	छनाकीतार	पुलवामा	त्राल	33°57'4.04"	75° 9'11.67"
15	चेवा उल्लुर	पुलवामा	त्राल	33°56'20.51"	75° 8'52.36"
16	बथनूर	पुलवामा	त्राल	33°56'11.05"	75°10'50.02"
17	मोंडुरा	पुलवामा	त्राल	33°56'2.14"	75° 9'10.01"
18	पन्नियर	पुलवामा	त्राल	33°55'41.85"	75°10'5.10"
19	पिंगलिश	पुलवामा	त्राल	33°54'46.03"	75° 7'46.13"
20	लारिबाल	पुलवामा	त्राल	33°54'6.73"	75° 8'0.96"
21	शिकारगाह	पुलवामा	त्राल	33°53'51.50"	75° 7'58.10"
22	सैमूह	पुलवामा	त्राल	33°53'41.39"	75° 6'26.50"
23	बुचू	पुलवामा	त्राल	33°53'17.44"	75° 5'21.99"
24	संगनार	अनंतनाग	सालार	33°53'16.42"	75° 10'08.79"
25	पनार	अनंतनाग	सालार	33°53' 14.22"	75° 11'16.57"
26	साखरा	अनंतनाग	श्रीगुफवाड़ा	33°49' 4.82"	75° 13'16.51"

अनुलग्नक- IV

पारिस्थितिकी संवेदी जोन के अंदर आने वाले गांवों का जनसांख्यिकीय पैटर्न

त्राल वन्यजीव अभयारण्य के प्रस्तावित पारिस्थितिकी संवेदी जोन की सीमा के भीतर 26 बड़े/राजस्व गांव हैं, जिनकी अनुमानित मानव जनसंख्या लगभग 45000 है। 2011 की जनगणना/संबंधित चौकीदार की रिपोर्ट के अनुसार गांव-वार जनसंख्या निम्नानुसार है:

क्र.सं.	गाँव	कुल	एसटी/एससी	पुरुष	महिला	बच्चे (0-6)
01	नागंदर	434	00.00	204	147	83
02	सेठपोखरण	1651	183	651	691	309

ANNEXURE V

03	वहाबख़ारूण	675	125	300	280	95
04	वागड़	1356	0.00	566	566	224
05	बसंतपुर	1132	0.00	590	542	ना
06	धरमगुंड	586	0.00	274	241	71
07	अरिपाल	2159	1	1671	471	117
08	खानगुंड	1765	0.00	808	780	177
09	सतुरा	3429	832	1462	1458	509
10	गुदुरू	1376	496	571	577	228
11	नरास्तान	1356	0.00	689	667	ना
12	मंचिहामा	3510	0.00	1817	1693	ना
१३	खलील	4674	0.00	2410	2264	ना
14	छनाकीतार	635	00.00	336	299	ना
15	त्सुलु	1378	0.00	687	691	ना
16	बथनूर	3517	589	1131	1031	355
17	मोंडारा	2068	5	885	913	270
18	पन्नियर	253	ना	ना	ना	ना
19	पिंगलिश	2869	0.00	1251	1280	338
20	लारिबाल	829	0.00	319	308	101
21	शिकारगाह	996	0.00	439	443	114
22	सैमूह	3111	0.00	1470	1310	331
23	संगनार	2057	777	904	772	381
22	पनार	905	ना	ना	ना	ना
25	अशदर	750	ना	ना	ना	ना
26	साखरा	1819	0.00	791	821	207

कृषि (मुख्यतः बागवानी) इन गांवों में रहने वाले लोगों का मुख्य व्यवसाय और आय का स्रोत है।

अनुलग्नक-V

त्राल वन्यजीव अभयारण्य में पाए जाने वाले स्तनधारियों और पक्षियों की सूची

(क) जीवजंतु

त्राल वन्यजीव अभयारण्य और आस-पास के क्षेत्रों में स्तनधारियों की लगभग 15 प्रजातियाँ पाई जाती हैं, जिनमें कुछ दुर्लभ प्रजातियाँ भी शामिल हैं। इन स्तनधारी प्रजातियों में शामिल हैं:

1. कश्मीरी लाल हिरण *(सर्वस हांगलू हांगलू)*
2. कश्मीर कस्तूरी मृग (*मॉस्कस क्यूप्रियस*)
3. एशियाई काला भालू (*उर्सस थिबेटानस*)
4. हिमालयन भूरा भालू (*उर्सस आर्कटोस*)

ANNEXURE V

5. सामान्य तेंदुआ (*पैंथेरा पार्डस*)
6. तेंदुआ बिल्ली (*प्रियोनैलुरस बंगालेंसिस*)
7. जंगली बिल्ली (*फ़ेलिस चौस*)
8. लाल लोमड़ी (*वुलपेस वल्पेस*)
9. साइबेरियन वीज़ल (*मस्टेला सिबिरिका*)
10. तिब्बती भेड़िया (*कैनिस ल्यूपस*)
11. गोल्डन जैकल (*कैनिस ऑरियस*)
12. पीले गले वाला मार्टन (*मार्टेस फ्लेविगुला*)
13. कश्मीर ग्रे लंगूर (*सेम्नोपिथेकस अजाक्स*)
14. रीसस मैकाक (*मकाका मुलाट्टा*)
15. भारतीय क्रेस्टेड साही (*हिस्ट्रिक्स इंडिका*)

(ख) पक्षी:

अभयारण्य और इसके आसपास के क्षेत्र में 200 से अधिक पक्षियों की प्रजातियों पाई जाती हैं, जिनमें प्रमुख रूप से शामिल हैं:

1. गोल्डन ईगल (*एक्विला क्रिस्टोस*)
2. बेयर्डेड गिद्ध (*जिपेटस बार्बेटस*)
3. हिमालयन ग्रिफ़ॉन गिद्ध (*जिप्स हिमालयनसिस*)
4. कश्मीर फ्लाईकैचर (*फिसेडुला सुबरूबरा*)
5. ब्लैक-थ्रोएटेड एक्सेन्टोर (*प्रुनेला एट्रोगुलरिस*)
6. ऑरेंज बुलफिंच (*पाइरहुला ऑरेंटियाका*)
7. कश्मीर नटहैच (*सिट्टा कैशमिरेन्सिस*)
8. चेस्टनट थ्रश (*टर्डस रूब्रोकैनस*)
9. कॉमन रोज़फिंच (*कार्पोडाकस एरिथ्रिनस*)
10. यूरोपीय रोलर (*कोरासियस गैरुलस*)
11. यूरोपीय बी-ईटर (*मेरॉप्स एपीयास्टर*)
12. चेस्टनट-ईयर्ड बंटिंग (*एम्बेरिज़ा फ्यूकाटा*)
13. पाइन बंटिंग (*एम्बेरिज़ा ल्यूकोसेफालोस*)
14. रॉक बंटिंग (*एम्बेरिज़ा सीआ*)
15. काला और पीला ग्रोसबीक (*माइसेरोबास इक्टेरियोइड्स*)

अनुलग्नक- VI

की गई कार्रवाई रिपोर्ट का प्रारूप:

1. बैठकों की संख्या और तिथि.
2. बैठक के कार्यवृत्त: मुख्य उल्लेखनीय बिंदुओं का उल्लेख करें। बैठक के कार्यवृत्त को अलग अनुलग्नक के रूप में संलग्न करें।
3. पर्यटन मास्टर प्लान सहित क्षेत्रीय मास्टर प्लान की तैयारी की स्थिति।

ANNEXURE V

4. भूमि अभिलेख में स्पष्ट त्रुटि के सुधार के लिए निपटाए गए मामलों का सारांश (पारिस्थितिकी संवेदी जोन के अनुसार)। विवरण अनुलग्नक के रूप में संलग्न किया जाए।

5. पर्यावरण प्रभाव आकलन अधिसूचना, 2006 के अंतर्गत शामिल गतिविधियों के लिए जांच किए गए मामलों का सारांश। विवरण अलग अनुलग्नक के रूप में संलग्न किया जाए।

6. पर्यावरण प्रभाव आकलन अधिसूचना, 2006 के अंतर्गत शामिल नहीं की गई गतिविधियों के लिए जांच किए गए मामलों का सारांश। विवरण अलग अनुलग्नक के रूप में संलग्न किया जाए।

7. पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 19 के अंतर्गत दर्ज शिकायतों का सारांश।

8. कोई अन्य महत्वपूर्ण मामला।

[फा. सं. 25/2/2023-ईएसजेड]

डॉ. सु. केरकेट्टा, वैज्ञानिक-जी

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 3rd October, 2024

S.O. 4325(E).—The following draft notification, which the Central Government proposes to issue in exercise of the powers conferred by sub-section (1), read with clause (v) and clause (xiv) of sub-section (2) and sub-section (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) is hereby published, as required under sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, for the information of the public likely to be affected thereby; and notice is hereby given that the said draft notification shall be taken into consideration on or after the expiry of a period of sixty days from the date on which copies of the Gazette containing this notification are made available to the public;

Any person interested in making any objections or suggestions on the proposals contained in the draft notification may forward the same in writing, for consideration of the Central Government within the period so specified to the Secretary, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jorbagh Road, Aliganj, New Delhi-110 003, or send it to the e-mail address of the Ministry at esz-mef@nic.in

Draft Notification

WHEREAS, the Tral Wildlife Sanctuary lies about 45 km South-east of Srinagar city. It falls in the Pulwama District of the Kashmir Valley with the district Headquarter Pulwama at a distance about 30 km. The nearest airport, Srinagar is 50 km and the nearest railhead, Awantipora is 15 km away from the Sanctuary.

AND WHEREAS, historically, parts of the protected area, namely Shikargah and Khangund (previously designated as Conservation Reserves), have the distinction of being among the oldest notified protected areas in the country. Their notification dates back to 1945, when they were governed by the game laws of the Maharajah of the erstwhile princely state of Jammu & Kashmir. Therefore, in 2019, these Conservation Reserves, along with the adjoining areas comprising territorial forest compartments, were upgraded to a Wildlife Sanctuary. The sanctuary, spread over the rugged and undulating terrain of the Greater Himalayan Mountains, encompasses an area of around 155 square kilometers and came into existence through State Government Notification No. FST/WL/07/2018 (SRO-639), dated the 23rd of October 2019.

AND WHEREAS, the Tral Wildlife Sanctuary and adjoining areas fall within the distribution range of the Kashmir Red Deer (Hangul), a Schedule I species as per the Wildlife (Protection) Act, 1972, and designated as 'critically endangered' in the IUCN Red Data Book. The distribution of the Hangul is restricted to Dachigam National Park and a few adjoining areas only. The Tral Wildlife Sanctuary is among the few areas outside Dachigam National Park where a population of this critically endangered deer still survives. Besides Dachigam, the sanctuary is connected with other important wildlife areas, such as Overa-Aru Wildlife Sanctuary and Khrew Conservation Reserve. These protected areas together form a landscape of rich biodiversity and support good populations of some important and endemic species of animals, birds, and vegetation.

AND WHEREAS, the Tral Wildlife Sanctuary is home to various endemic species like Kashmir Red Deer (*Cervus hanglu hanglu*), Kashmir Musk Deer (*Moschus cupreus*) and Kashmir Gray Langur (*Semnopithecus ajax*). While other Rare, Endangered and Threatened species found in the sanctuary are Common Leopard *(Panthera pardus)*, Himalayan Griffon Vulture (*Gyps himalayensis*), Bearded Vulture (*Gypaetus barbatus*) and Kashmir Flycatcher (*Ficedula subrubra*). The Tral forests are blessed with numerous plant species of great medicinal value like *Aconitum heterophyllum*, *Arnebia benthamii*, *Artemisia absinthium*, *Berberis lycium, Bergenia ciliata*, *Datura stramonium*, *Dioscorea deltoidea*, *Lavatera cashmeriana*, *Saussurea costus* and *Taxus wallichiana*.

ANNEXURE V

AND WHEREAS, the Tral Wildlife Sanctuary falls under the 2A province of biogeographic classification as suggested by Rodgers et al. According to the classification by Champion and Seth (1968), the vegetation of the Sanctuary is typically Himalayan moist temperate forest, sub-alpine forest, and alpine forest types. The vegetation types of the Tral Wildlife Sanctuary are determined by the habitat, form, and density of the dominant floral species. The major vegetation types are:"

1. **Riverine: (1600-2300m):** This type of vegetation occurs at lower altitudes and is dominated by broad-leaved species of *Aesculus indica, Fraxinus hookeri, Parrotiopsis jacquemontiana*, and *Juglans regia*. The dominant shrubs include *Indigofera heterantha, Lonicera species, Viburnum, Skimmia laurel, Jasminum* species etc.
2. **Coniferous Forests: (2300-3000m):** This type of forest consists of Blue Pine (*Pinus wallichiana*) and Fir (*Abies pindrow*) as dominant species, found in association with Spruce (*Picea smithiana*) at an altitude of 2300m. The woodland also occupies sides of nallahs at some places.
3. **Alpine Scrubs and Pastures: (3000-3500m):** This type of forest consists of treeless pastures having scattered scrub vegetation. Birch (*Betula utilis*) is the most dominant species of this area near the tree line associated with *Juniperus recurva*, Rhododendron species, Viburnum species, Lonicera species and Primula at shady places. The extensive alpine meadows above the tree line known as 'Margs' bear a luxuriant growth of perennial herbs and grasses. The dominant shrub species here are Myosotis species, Cynoglossum species etc. *Betula utilis* is found dotted at some places.
4. **Rock Faces: (above 3500m):** The rocky cliffs and hill tops are dominated by dwarf evergreen shrubs including *Juniperus recurva, Rhododendron anthopogon* etc. associated with herbs, *Stachys sericea, Sieversia elata* and *Veronica melissifolia*.

AND WHEREAS, the Tral Wildlife Sanctuary forms an important corridor for the movement of Hangul. The declaration of the eco-sensitive zone shall help in creating a buffer around the sanctuary area leading to a secure, suitable and viable habitat for the last remnant Hangul population.

NOW, THEREFORE, in exercise of the powers conferred by sub-section (1) and clauses (v) and (xiv) of sub-section (2) and sub-section (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) (hereafter in this notification referred to as the Environment Act), read with sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby notifies an area to an extent of zero to 03.26 km from the boundary of Tral Wildlife Sanctuary in the Union Territory of Jammu and Kashmir as Tral Wildlife Sanctuary Eco-sensitive Zone (hereinafter after referred to as Eco-sensitive Zone) details of which are as under, namely:-

1. **Extent and boundaries of Eco-Sensitive Zone-**

(1) The extent of the Eco-Sensitive Zone around the Tral Wildlife Sanctuary ranges from **0.00 km to 3.26 km** from its boundary, encompassing an area of **127.10 square kilometers**, which includes 26 villages. The specific extent of the ESZ in different directions is provided below:

Direction	Extent (in Km)	Coordinates	
		Latitude	Longitude
North (T22)	0	34° 5' 44.094" N	75° 8' 31.939" E
Northeast (T21)	0	34° 1' 35.515" N	75° 14' 10.813" E
East (T19)	01	33° 56' 30.547" N	75° 13' 59.550" E
Southeast (T18)	01.38	33° 49' 0.150" N	75° 14' 1.532" E
South (T16)	01	33° 50' 38.734" N	75° 7' 15.598" E
Southwest (T15)	01	33° 52' 37.979" N	75° 5' 0.439" E
West (T4)	03.26	34° 0' 1.545" N	75° 1' 0.309" E
Northwest (T2)	01	34° 3' 59.623" N	75° 2' 18.451" E

The minimum Zero km extent of the ESZ from the boundary of the Tral Wildlife Sanctuary is due to the fact that it shares common boundary with other protected areas namely Dachigam National Park and Overa-Aru Wildlife Sanctuary.

(2) The boundary description of the Tral Eco-Sensitive Zone is appended as **Annexure-I.**

ANNEXURE V

(3) Boundary description of Eco-Sensitive Zone in different directions along with geo-coordinates of Tral Wildlife Sanctuary boundary is appended as **Annexure- IA.**

(4) The various maps of Eco-Sensitive Zone overlaid on google earth imagery, toposheet is appended as **Annexure- II** to **Annexure- IIG**.

(5) List of villages falling inside ESZ and demographic pattern is appended as **Annexure- III** & **Annexure- IV** respectively.

(6) The list of mammals and birds found in the Tral Wildlife Sanctuary is appended as **Annexure - V**.

2. **Zonal Master Plan for the Eco-Sensitive Zone -** (1) The Union Territory Government shall, for the purposes of the Eco-Sensitive Zone prepare a Zonal Master Plan within a period of two years from the date of publication of this notification in the Official Gazette, in consultation with local people and adhering to the stipulations given in this notification for approval of the competent authority in the Union Territory.

(2) The Zonal Master Plan for the Eco-Sensitive Zone shall be prepared by the Union Territory Government in such manner as is specified in this notification and also in consonance with the relevant Central and Union Territory laws and the guidelines issued by the Central Government, if any.

(3) The Zonal Master Plan shall be prepared in consultation with the following Departments of the Union Territory Government, for integrating the ecological and environmental considerations into the said plan:

(i) Environment;

(ii) Forests;

(iii) Agriculture;

(iv) Revenue;

(v) Urban Development;

(vi) Tourism;

(vii) Rural Development;

(viii) Irrigation & Flood Control;

(ix) Pollution Control Board;

(x) Municipality;

(xi) Panchayati Raj; and

(xii) Public Works Department

(4) The Zonal Master Plan shall not impose any restriction on the approved existing land use, infrastructure and activities, unless so specified in this notification and the Zonal Master Plan shall factor in improvement of all infrastructure and activities to be more efficient and eco-friendly.

(5) The Zonal Master Plan shall provide for restoration of denuded areas, conservation of existing water bodies, management of catchment areas, watershed management, groundwater management, soil and moisture conservation, needs of local community and such other aspects of the ecology and environment that need attention.

(6) The Zonal Master Plan shall demarcate all the existing worshipping places, villages and urban settlements, types and kinds of forests, agricultural areas, fertile lands, green area, such as, parks and like places, horticultural areas, orchards, lakes and other water bodies with supporting maps giving details of existing and proposed land use features.

(7) The Zonal Master Plan shall regulate development in Eco-Sensitive Zone and adhere to prohibited and regulated activities listed in the Table in paragraph 4 and also ensure and promote eco-friendly development for security of local communities' livelihood.

(8) The Zonal Master Plan shall be co-terminus with the Regional Development Plan.

(9) The Zonal Master Plan so approved shall be the reference document for the Monitoring Committee for carrying out its functions of monitoring in accordance with the provisions of this notification.

3. **Measures to be taken by the Union Territory Government of J&K**- The Union Territory Government shall take the following measures for giving effect to the provisions of this notification, namely: -

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(1) **Land use:** (a) Forests, horticulture areas, agricultural areas along with parks and open spaces earmarked for recreational purposes in the Eco-Sensitive Zone shall not be used or converted into areas for commercial, residential, or industrial activities.

Provided that the conversion of agricultural and other lands, for the purpose other than that specified in clause (a) above, within the Eco-sensitive Zone may be permitted on the recommendation of the Monitoring Committee, and with the prior approval of the competent authority under Regional Town Planning Act and other rules and regulations of Central Government or Union Territory Government as applicable and vide provisions of this Notification, to meet the residential needs of the local residents such as: -

i. widening and strengthening of existing roads and construction of new roads;

ii. construction and renovation of infrastructure and civic amenities;

iii. small scale industries not causing pollution;

iv. cottage industries including village industries; convenience stores and local amenities supporting ecotourism including home stay; and

v. promoted activities and concerned regulated activities given in paragraph 4;

Provided further that no use of tribal land shall be permitted for commercial and industrial development activities without the prior approval of the Union Territory Government and without compliance of the provisions of article 244 of the Constitution of India or the law for the time being in force, including the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (2 of 2007);

Provided also that any error appearing in the land records within the Eco-Sensitive Zone shall be corrected by the respective Union Territory Government, after obtaining the views of Monitoring Committee, once in each case and the correction of said error shall be intimated to the Central Government in the Ministry of Environment, Forests and Climate Change;

Provided also that the above correction of error shall not include change of land use in any case except as provided under this sub-paragraph;

Provided also that there shall be no consequential reduction in green area, such as forest area and agricultural area and efforts shall be made to reforest the unused or unproductive agricultural areas.

(2) **Natural Water Bodies & Springs** -The catchment areas of all natural springs/rivers/channels shall be identified and plans for their conservation and rejuvenation shall be incorporated in the Zonal Master Plan and the guidelines shall be drawn up by the Union Territory Government in such a manner as to prohibit development activities at or near these areas as which are detrimental to such areas.

Extraction of ground water shall be permitted for only bonafide agricultural and domestic consumption of the owner/ occupier of the land. All measures shall be taken to prevent contamination or pollution of water source from any commercial/ agricultural or livestock operations.

(3) **Tourism/Eco-Tourism** - (a) All new eco-tourism, tourism activities or expansion of existing tourism activities within the Eco-Sensitive Zone shall be as per the Tourism Master Plan for the Eco-Sensitive Zone.

(b) The Eco-Tourism Master Plan shall be prepared by the Department of Tourism in consultation with Environment & Forest Department of Union Territory Government.

(c) The Tourism Master Plan shall form a component of the Zonal Master Plan and it shall be based on the carrying capacity studies of the Eco-Sensitive Zone.

(d) The activity of eco-tourism shall be regulated as under, namely: -

(i) No new construction of hotels and resorts shall be allowed within 1 kilometer from the boundary of the Wildlife Sanctuary or up to the extent of the ESZ whichever is nearer.

Provided that beyond the distance of one kilometer from the boundary of the protected area till the extent of the Eco-Sensitive Zone, the establishment of new hotels and resorts shall be allowed only in pre-defined and designated areas only for eco-tourism facilities as per Tourism Master Plan;

(ii) All new tourism activities or expansion of existing tourism activities within the Eco-Sensitive Zone shall be in accordance with the eco-tourism guidelines issued by Ministry of Environment, Forest and Climate Change in 2018 and the eco-tourism guidelines issued by the National Tiger Conservation Authority (as amended from time to time) with emphasis on eco-tourism, eco-education and eco-development;

ANNEXURE V

(iii) Until the Zonal Master Plan is prepared and approved, development for tourism and expansion of existing tourism activities shall be permitted by the concerned regulatory authorities based on the actual site-specific scrutiny and recommendation of the Monitoring Committee.

(4) **Natural Heritage** - All sites of valuable natural heritage in the Eco-Sensitive Zone, such as the Gene pool reserve areas, rock formations, waterfalls, springs, gorges, groves, caves, points, walks, rides, cliffs, etc. shall be identified and preserved and plan shall be drawn up for their protection and conservation, within six months from the date of publication of this notification and such plan shall form part of the Zonal Master Plan.

(5) **Man-made heritage sites** - Buildings, structures, artefacts, areas and precincts of historical, architectural, aesthetic, and cultural significance shall be identified in the Eco-Sensitive Zone and plans for their conservation shall be prepared as part of the Zonal Master Plan.

(6) **Noise Pollution** - Prevention and Control of noise pollution in the Eco-Sensitive Zone shall be complied with in accordance with Noise Pollution (Regulation and Control) Rules, 2000 under the Environment (Protection) Act, 1986 and as amendments thereto.

(7) **Air Pollution** - Prevention and control of air pollution in the Eco-Sensitive Zone shall be compiled in accordance with the provisions of the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981), published by the Government of India in the Ministry of Environment and Forests vide notification number G.S.R. 351 (E), dated the 15th May, 1981 and the Environment (Protection) Act, 1986 and the rules made there under.

(8) **Discharge of Effluents** - Discharge of untreated effluent and sewage is prohibited. The discharge of treated effluent in the Eco-Sensitive Zone shall be in accordance with the provisions of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974), published by the Government of India in the Ministry of Environment and Forests vide notification number G.S.R. 58 (E), dated the 27th February, 1975 and the Environment (Protection) Act, 1986 and the rules made there under.

(9) **Solid wastes** – Disposal and Management of solid wastes shall be as under: -

a. The solid waste disposal and management in the Eco-Sensitive Zone shall be carried out in accordance with the Solid Waste Management Rules, 2016 and as amended from time to time. The inorganic material may be disposed in an environmental acceptable manner at site identified outside the Eco-Sensitive Zone.

b. Safe and Environmentally Sound Management (ESM) of Solid wastes in conformity with the existing rules and regulations using identified technologies may be allowed within Eco-Sensitive Zone.

(10) **Bio-medical waste** – Bio medical waste management shall be as under:

(a) The bio-medical waste disposal in the Eco-Sensitive Zone shall be carried out in accordance with the Bio-Medical Waste Management Rules, 2016 and as amended from time to time.

(b) Safe and Environmentally Sound Management (ESM) of Bio-medical wastes in conformity with the existing rules and regulations using identified technologies may be allowed within Eco-Sensitive Zone.

(11) **Plastic waste management** - The Plastic Waste Management in the Eco-Sensitive Zone shall be carried out as per the provisions of the Plastic Waste Management Rules, 2016 and as amended from time to time.

(12) **Construction and demolition waste management** - The Construction and Demolition Waste Management in the Eco-Sensitive Zone shall be carried out as per the provisions of the Construction and Demolition Waste Management Rules, 2016 and as amended from time to time.

(13) **E-waste** - The e- Waste Management in the Eco-Sensitive Zone shall be carried out as per the provisions of the E-Waste Management Rules, 2016 published by the Government of India in the Ministry of Environment, Forest and Climate Change and as amended from time to time.

(14) **Vehicular traffic** – The vehicular movement of traffic shall be regulated in a habitat friendly manner and specific provisions in this regard shall be incorporated in the Zonal Master Plan and till such time as the Zonal Master plan is prepared and approved by the competent authority in the State Government, the Monitoring Committee shall monitor compliance of vehicular movement under the relevant Acts and the rules and regulations made thereunder.

(15) **Vehicular pollution** - Prevention and control of Vehicular Pollution shall be complied with in accordance with applicable laws. Efforts to be made for use of cleaner fuel such as CNG, LPG, etc.

(16) **Industrial units** –

a) No new polluting industries shall be allowed to be set up within the Eco-Sensitive Zone on or after the publication of this notification in the Official Gazette,

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b) Only non-polluting industries shall be allowed within the ESZ as per classification of Industries in the Guidelines issued by Central Pollution Control Board in February 2016, unless so specified in this notification. In addition, non-polluting cottage industries shall be promoted.

(17) Protection of hill slopes - The protection of hill slopes shall be as under:

(a) The Zonal Master Plan shall indicate areas on hill slopes where no construction shall be permitted.

(b) Construction on existing steep hill slopes or slopes with a high degree of erosion shall not be permitted.

4. List of activities prohibited or to be regulated within the Eco-sensitive Zone - All activities in the Eco sensitive Zone shall be governed by the provisions of the Environment (Protection) Act, 1986 the rules made there under and other notifications, laws and acts of the Government of India pertaining to environment, forests and wildlife, in the erstwhile Ministry of Environment and Forest, vide number 1533(E), dated the 14th September, 2006 and laws for the time being in force in the manner and as amended from time to time specified in the Table below, namely:

Serial number	Activities	Remarks
	Prohibited Activities	
1.	Commercial Mining, Stone Quarrying and Crushing Units.	(a) All new and existing mining (minor and major minerals), stone quarrying and crushing units are prohibited with immediate effect. Except for meeting the domestic needs of bonafide local residents including digging of earth for construction or repair of houses within Eco-Sensitive Zone; (b) The mining operations shall be carried out in accordance with the order (s) of the Hon'ble Supreme Court in the matter of T.N. Godavarman Thirumulpad Vs. UOI in W.P.(C) No.202 of 1995 and Goa Foundation Vs. UOI in W.P.(C) No.435 of 2012 and IA No. 1000 of 2003 judgment dated the 3rd June, 2022 and subsequent IA No. 131377 of 2022 Judgment dated the 26th April, 2023 and the 28th April, 2023.
2.	Setting up of industries causing pollution. (Water, Air, Soil, Noise, etc.).	New industries and expansion of existing polluting industries in the Eco-Sensitive Zone shall not be permitted: Provided that, non-polluting industries shall be allowed within Eco-Sensitive Zone as per classification of Industries in the guidelines issued by the Central Pollution Control Board in February, 2016, as amended from time to time, unless so specified in this notification and in addition, the non-polluting cottage industries shall be promoted.
3.	Establishment of major hydroelectric projects.	Prohibited.
4.	Use or production or processing of any hazardous substances.	Prohibited.
5.	Discharge of untreated effluents in natural water bodies or land area.	Prohibited.
6.	Establishment of solid waste disposal site and common incineration facility for solid and bio medical waste.	No new solid waste disposal site and waste treatment/ processing facility of solid waste is permitted within Eco-Sensitive Zone. Further installation of common or individual incineration facility for treatment of any form of solid waste generated from industrial process and health establishment/ hospitals etc. is prohibited.
7.	Setting of new saw mills.	No new or expansion of existing saw mills shall be permitted within the Eco-sensitive Zone.
8.	Setting of Brick Kilns.	All new and existing brick kiln units are prohibited.
9.	Establishment of large-scale	Prohibited.

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	commercial livestock and poultry farms by firms, and companies.	Provided that only small-scale poultry farms by local farmers can be established for sustenance of their livelihood.
10.	New wood-based industries.	No establishment of new wood-based industry shall be permitted within the limits of Eco-sensitive Zone: Provided the existing wood-based industry may continue as per law and renewal of licenses of existing saw mills shall not be done on their expiry.
11.	Undertaking activities related to tourism like over-flying the Eco Sensitive Zone area by any Aircraft, Hot Air Balloons, Helicopter, Gliders, Parasailing, Drones, Microlites etc.	Prohibited. However, Forest and Wildlife Departments may use Drones for creating awareness on forest, environment and wildlife conservation for making documentaries for non-commercial purpose.
12.	Introduction of exotic species.	Prohibited.
13.	Commercial use of Firewood.	Prohibited.
14.	Use or production of any hazardous substances.	Prohibited.
	Regulated Activities	
15.	Commercial establishment of hotels and resorts.	New commercial hotels and resorts along with their expansion shall not be permitted within one kilometer of the boundary of the protected area or upto the extent of Eco-Sensitive Zone, whichever is nearer, except for small temporary structures only for eco-tourism activities; Provided that, beyond one kilometer from the boundary of the protected area or upto the extent of Eco-sensitive Zone whichever is nearer, all new tourist activities or expansion of existing activities shall be in conformity with the Tourism Master Plan and guidelines as applicable.
16.	Construction activities.	(a) New commercial construction of any kind shall not be permitted within one kilometer from the boundary of the Protected Area or upto extent of the Eco-Sensitive Zone whichever is nearer: Provided that, local people shall be permitted to undertake construction in their land for their use including the activities listed in sub-paragraph (1) of paragraph 3 as per building bye-laws to meet the residential needs of the local residents: (b) Beyond one kilometer it shall be regulated as per the Zonal Master Plan.
17.	Non-polluting industries.	Only non-polluting industries termed as per classification of industries issued by the Central Pollution Control Board in February 2016 and non-hazardous, small-scale and service industry, agriculture, floriculture, horticulture or agro-based industry producing products from indigenous materials from the Eco-sensitive Zone shall be permitted with the prior permission from the competent authority as per applicable rules and regulations.
18.	Felling of trees.	(a) There shall be no felling of trees on the forest or Government or revenue or private lands without prior permission of the competent authority in the State Government. (b) The felling of trees shall be regulated in accordance with the provisions of the concerned Central or State Act and the rules made there under.
19.	Collection of forest produce or Non-Timber Forest Produce (NTFP).	Regulated as per applicable laws.
20.	Erection of electrical and communication towers and laying of	Regulated as per applicable laws. Construction/Augmentation and renovation of Power

ANNEXURE V

	cables and other infrastructures.	Transmission lines and cables, Telecommunication Towers and cables shall be permitted. New underground cabling may be promoted.
21.	Infrastructure including civic amenities.	Shall be done with mitigation measures, as per applicable laws, rules and regulation and available guidelines.
22.	Widening and strengthening of existing roads and construction of new roads.	Shall be done with mitigation measures, as per applicable laws, rules and regulation and available guidelines. Strengthening of the existing roads shall be done with proper Environmental Impact Assessment (mandatorily involving the State Forest Department and the Ministry of Environment, Forest, and Climate Change) and mitigation measures as per the guidance document "Eco-Friendly Measures to Mitigate Impacts of Linear Infrastructure on Wildlife." Published by MoEF & CC.
23.	Protection of Hill Slopes and river banks.	Regulated under applicable laws.
24.	Movement of vehicular traffic at night.	Regulated under applicable laws.
25.	Discharge of treated waste water/ effluents in natural water bodies or land area.	The discharge of treated waste water/ effluents shall be avoided to enter into the water bodies. Efforts to be made for recycle and reuse of treated waste water. Otherwise, the discharge of treated waste water/ effluent shall be regulated as per applicable laws.
26.	Commercial extraction of surface and ground water.	(a) The extraction of surface water and ground water shall be permitted only for bonafide agricultural use and domestic consumption of the occupier/owner of the land. (b) Extraction of surface water and ground water for industrial or commercial use including the amount that can be extracted shall require prior permission from the concerned regulatory authority and as per approved master plan. (c) Sale of surface water or ground water to any place outside ESZ is prohibited.
27.	Open Well, Bore Well etc. for agriculture or other usage.	Regulated and the activity should be strictly monitored by the regulatory authority. Measure shall be taken to cover the wells to prevent accidents.
28.	Solid Waste Management.	Regulated as per applicable laws.
29.	Eco-tourism activities.	Regulated as per applicable laws.
30.	Establishment of commercial livestock and poultry farms.	Regulated as per applicable laws with proper precautions of waste management by local farmers.
31.	Use of polythene/ plastic bags by shopkeepers.	Regulated as per applicable laws, where the thickness of the carry bag should not be less than 120 microns and Non-woven plastic carry bag shall not be less than 60 Gram Per Square Meter (GSM).
Promoted Activities		
32.	Rain water harvesting.	Shall be actively Promoted.
33.	Organic Farming.	Shall be actively Promoted.
34.	Adoption of green technology for all activities.	Shall be actively Promoted.
35.	Ongoing agriculture and horticulture practices by local communities	Shall be actively Promoted. However, excessive expansion of some of these activities should be regulated as per the master plan.
36.	Use of renewable energy and clean fuels.	Bio gas, solar light, CNG, LPG etc. to be actively promoted.
37.	Agro-Forestry.	Shall be actively Promoted.
38.	Use of eco-friendly transport.	Shall be actively Promoted.

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39.	Restoration of Degraded Land/ Forests/ Habitat.	Shall be actively Promoted.
40.	Environment Awareness.	Shall be actively Promoted.

5. **Monitoring Committee:** - There shall be a Committee to be known as Monitoring Committee constituted by the Central Government which shall comprise of the following persons specified in the Table below, namely: -

1.	Collector/Deputy Commissioner, Pulwama	Chairman *'ex-officio';*
2.	Regional officer, Jammu and Kashmir Pollution Control Board	Member *'ex-officio';*
3.	Representative of Non-Government Organization working in the field of wildlife/environment (including heritage conservation) to be nominated by the Government of Jammu and Kashmir from time to time every three years	Member;
4.	One expert in ecology and environment to be nominated by the Government of Jammu and Kashmir from time to time every three years	Member;
5.	Divisional Forest Officer, Awantipora	Member *'ex-officio';*
6.	Wildlife Warden, Shopian Division	Member Secretary, *'ex-officio'.*

6. **Functions of the Monitoring Committee** – The Monitoring Committee shall monitor the compliance of the provisions of this Notification:

(1) The Monitoring Committee shall, based on the actual site-specific conditions scrutinise, the activities covered in the Schedule to the notification of the Government of India in the erstwhile Ministry of Environment and Forest, *vide* number S.O. 1553 (E), dated the 14th September, 2006, and are falling in the Eco-sensitive Zone, except for the prohibited activities as specified in the Table under paragraph 4 thereof, and referred to the Central Government in the Ministry of Environment, Forest and Climate Change or the State Environment Impact Assessment Authority, as the case maybe, for prior environmental clearances under the provisions of the said notification.

(2) The activities not covered in the Schedule to the notification of the Government of India in the erstwhile Ministry of Environment and Forests *vide* number S.O. 1533 (E), dated the 14th September, 2006 and falling in the Eco-Sensitive Zone, except for the prohibited activities as specified in the Table under paragraph 4 thereof, shall be scrutinised by the Monitoring Committee based on the actual site-specific conditions and referred to the concerned Regulatory Authorities.

(3) The Member-Secretary of the Monitoring Committee or the concerned Collector or the concerned Deputy Conservator of Forests shall be competent to file complaint under section 19 of the Environment (Protection) Act, 1986 against any person who contravenes the provisions of this notification.

(4) The Monitoring Committee may invite representative or expert from concerned Department, representative from industry associations or concerned stakeholders to assist in its deliberations depending on the requirements on case-to-case basis.

(5) The Monitoring Committee shall submit the annual action taken report of its activities for the period up to the 31st March of every year by the 30th June of that year to the Chief Wildlife Warden of the State in proforma specified in **Annexure-V**, appended to this notification.

(6) The Central Government may give such directions in writing, as it deems fit, to the Monitoring Committee for effective discharge of its functions.

7. **Additional Measures**- The Central Government and State Government may specify additional measures, if any, for giving effect to provisions of this notification.

8. **Supreme Court, etc. orders**- The provisions of this notification shall be subject to the orders, if any passed or to be passed by the Hon'ble Supreme Court of India or High Court or the National Green Tribunal.

Annexure- I

BOUNDARY DESCRIPTION OF THE ECO-SENSITIVE ZONE AROUND TRAL WILDLIFE SANCTUARY

Point	Latitude	Longitude	Description
T10	34° 2' 44.631" N	75° 7' 51.141" E	Forest Comptt 20N
T11	34° 2' 58.543" N	75° 9' 41.344" E	CO 21/Tral forest area, Pambach Khod
T12	34° 1' 27.882" N	75° 10' 49.018" E	CO 14/Tral forest area

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T14	33° 57' 32.762" N	75° 8' 52.391" E	Kahlil Village
T17	33° 52' 21.670" N	75° 10' 33.610" E	Khiram Barren Land
T18	33° 49' 0.150" N	75° 14' 1.532" E	Gund-i-siligom Lidder Nala
T22	34° 5' 44.094" N	75° 8' 31.939" E	Dachigam NP Boundary
T24	34° 5' 43.526" N	75° 2' 16.668" E	Dachigam NP boundary
T1	34° 4' 51.714" N	75° 1' 49.955" E	Burzawas Forest
T23	34° 6' 25.798" N	75° 3' 48.277" E	Dachigam NP Boundary
T21	34° 1' 35.515" N	75° 14' 10.813" E	Owera-Aru WLS Boundary
T20	33° 57' 8.040" N	75° 13' 32.532" E	Owera WLS Boundary
T19	33° 56' 30.547" N	75° 13' 59.550" E	Kolur Forest
T16	33° 50' 38.734" N	75° 7' 15.598" E	Open Scrub Shalagul
T15	33° 52' 37.979" N	75° 5' 0.439" E	Scrub Area Buts
T13	33° 59' 32.259" N	75° 11' 11.704" E	Nishat CR
T7	33° 58' 50.663" N	75° 5' 1.870" E	Hundur Road
T4	34° 0' 1.545" N	75° 1' 0.309" E	open scrub Wusterwan
T2	34° 3' 59.623" N	75° 2' 18.451" E	Nagandar Forest
T3	34° 1' 32.777" N	75° 1' 41.557" E	Badalao Khrew CR Boundary
T6	33° 57' 50.300" N	75° 2' 12.931" E	Khrew CR Boundary
T8	34° 1' 14.497" N	75° 4' 34.556" E	Khanagund
T9	34° 2' 24.485" N	75° 4' 40.473" E	Guturu Village
T5	33° 59' 4.160" N	75° 0' 10.787" E	Gosain Open Scrub

Annexure- IA

BOUNDARY DESCRIPTION OF ECO-SENSITIVE ZONE IN DIFFERENT DIRECTIONS

Direction	Boundary Description	Distance from PA boundary (in Kms)	Geo-coordinates	
			Latitude	Longitude
North	Dachigam NP boundary	0	34° 5' 44.094" N	75° 8' 31.939" E
Northeast	Overa-Aru WLS boundary	0	34° 1' 35.515" N	75° 14' 10.813" E
East	Kolur Forest	01	33° 56' 30.547" N	75° 13' 59.550" E
Southeast	Gund-i-Siligom, Lidder Nallah	01.38	33° 49' 0.150" N	75° 14' 1.532" E
South	Shalagul	01	33° 50' 38.734" N	75° 7' 15.598" E
Southwest	Buuts	01	33° 52' 37.979" N	75° 5' 0.439" E
West	Wusterwan	03.26	34° 0' 1.545" N	75° 1' 0.309" E
Northwest	Nagander Forest	01	34° 3' 59.623" N	75° 2' 18.451" E

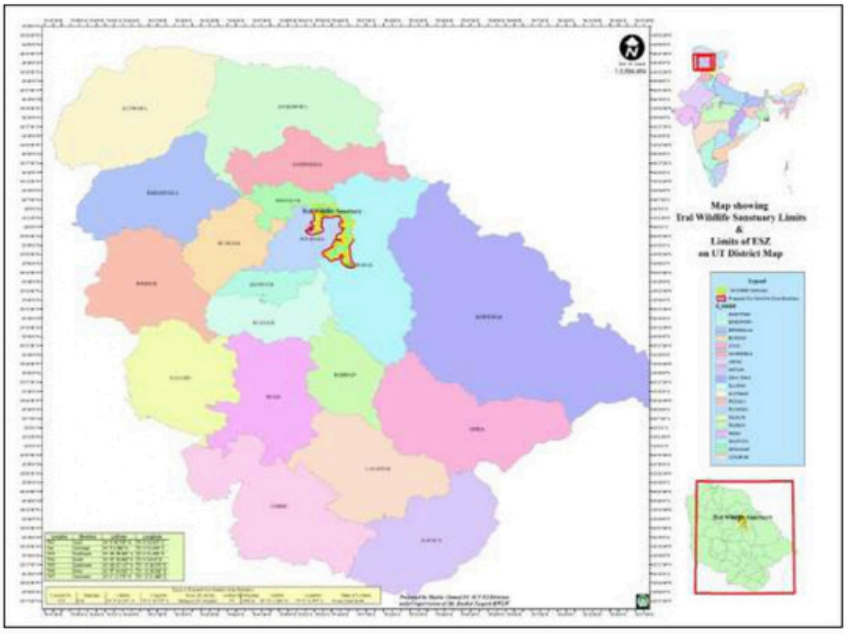
GEO COORDINATES OF TRAL WILDLIFE SANCTUARY BOUNDARY

Direction	Location	Geo-coordinates	
		Latitude	Longitude
North	Gagyari	34° 06' 35.809" N	75° 03' 42.376" E
North-East	Veha Gul	34° 04' 10.313" N	75° 12' 15.215" E
East	Gandapather	34° 01' 17.364" N	75° 14' 00.051" E
South-East	Tsuru Pantsal	33° 57' 17.826" N	75° 13' 36.699" E
South	Ashdar	33° 49' 25.897" N	75° 13' 37.829" E
South-West	Kamla	33° 52' 44.508" N	75° 05' 35.923" E
West	Zampather	34° 00' 27.029" N	75° 10' 20.771" E

ANNEXURE V

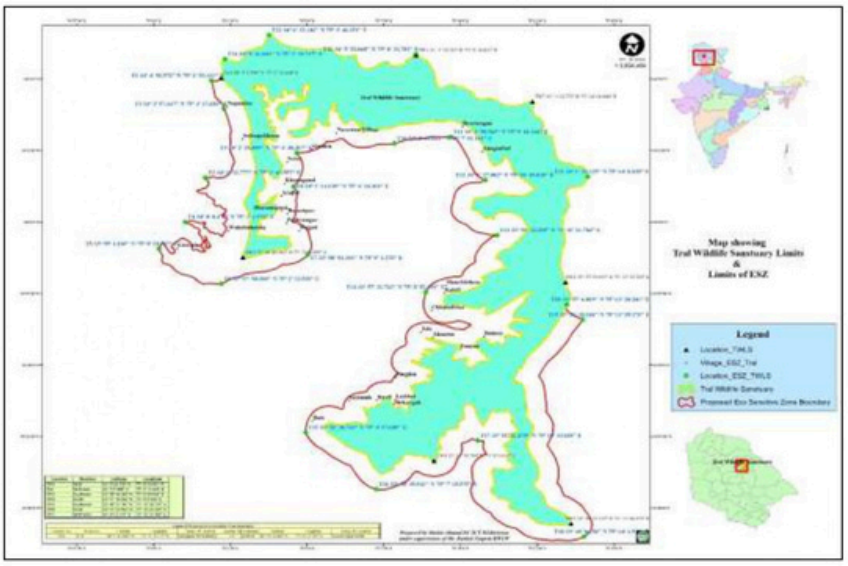
Annexure- II

LOCATION MAP OF ECO-SENSITIVE ZONE OF TRAL WILDLIFE SANCTUARY ALONG WITH LATITUDE AND LONGITUDE OF PROMINENT LOCATION



Annexure- IIA

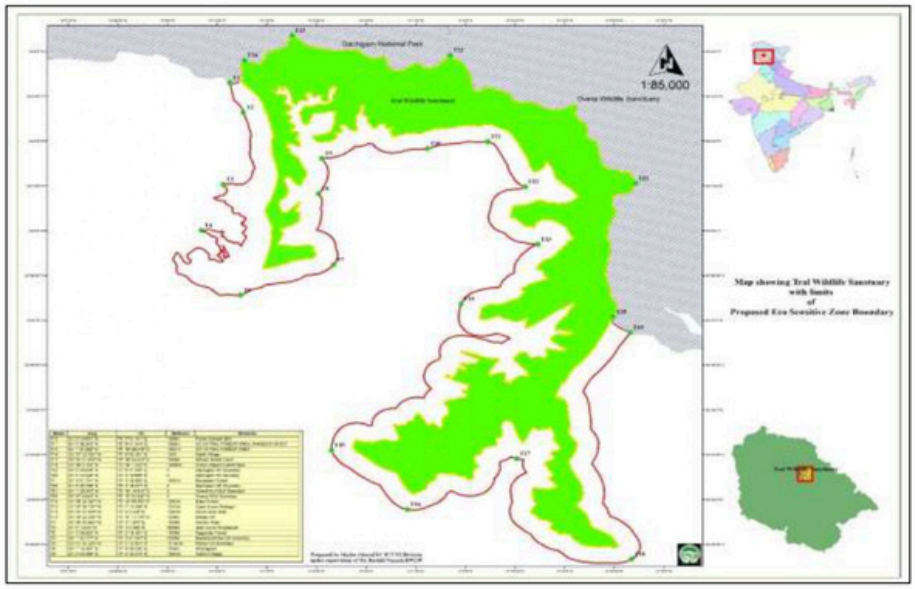
MAP OF THE ECO-SENSITIVE ZONE ALONG WITH GEO-COORDINATES OF PROMINENT LOCATION



ANNEXURE V

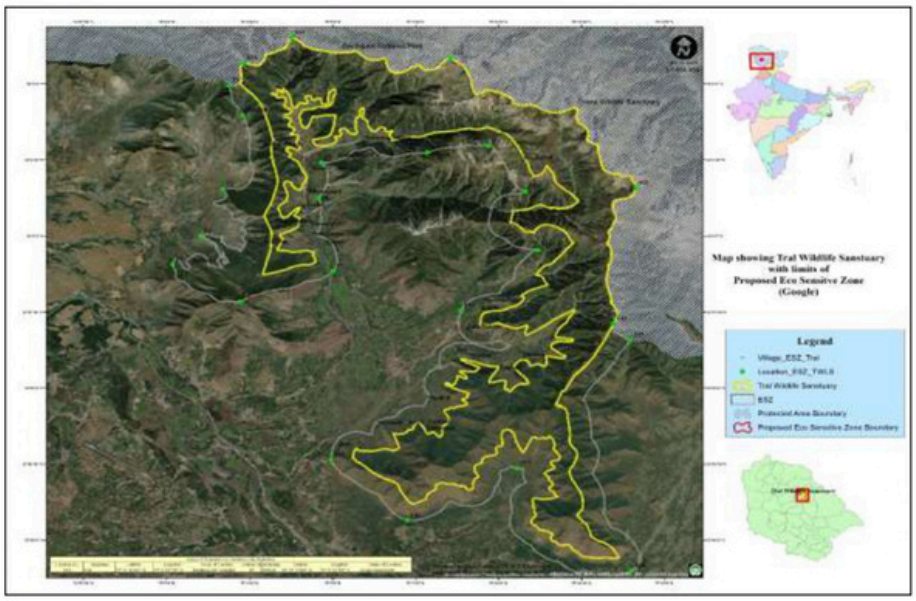
Annexure- IIB

MAP OF THE ECO-SENSITIVE ZONE ALONG WITH GEO-COORDINATES AND BOUNDARY DECRIPTION OF PROMINENT POINTS



Annexure- IIC

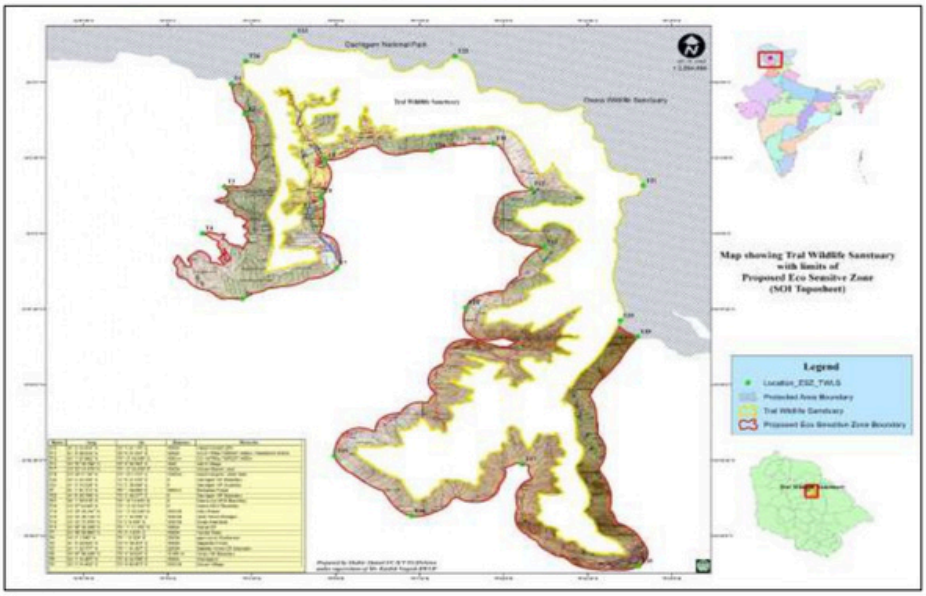
GOOGLE EARTH MAP SHOWING BOUNDARIES OF TRAL WILDLIFE SANCTUARY AND ITS ECO-SENSITIVE ZONE ALONG WITH PROMINENT POINTS



ANNEXURE V

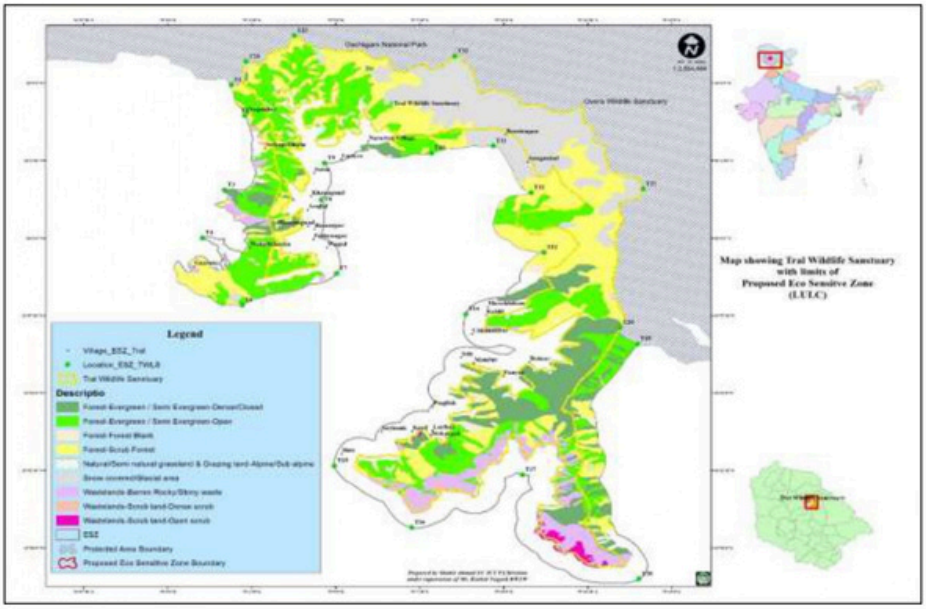
Annexure-IID

TOPOSHEET MAP OF THE ECO-SENSITIVE ZONE AROUND TRAL WILDLIFE SANCTUARY ALONG WITH GEOCOORDINATES OF PROMINENT POINTS



Annexure-IIE

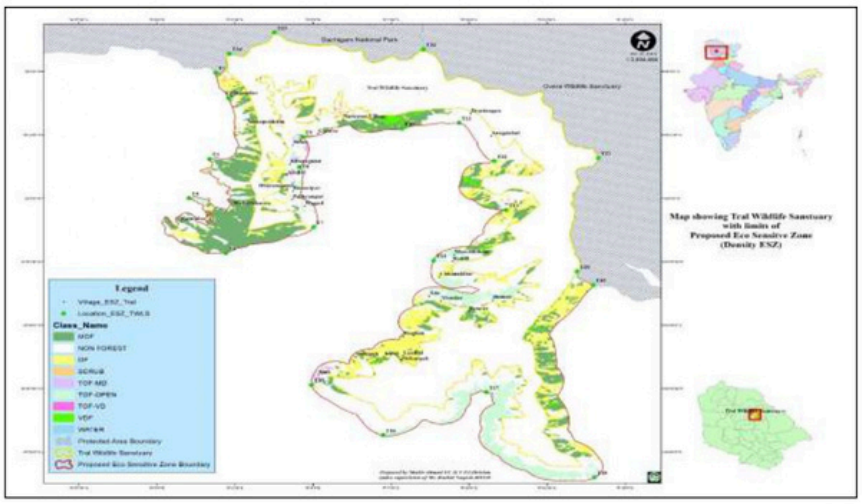
LAND USE LAND COVER MAP OF TRAL WILDLIFE SANCTUARY AND ITS ECO-SENSITIVE ZONE



ANNEXURE V

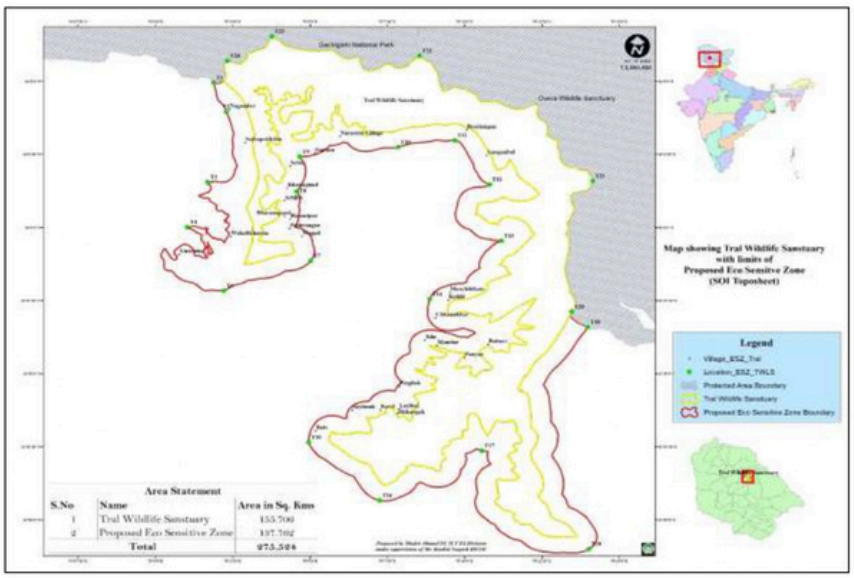
Annexure-IIF

FOREST TYPE MAP OF THE ECO-SENSITIVE ZONE AROUND TRAL WILDLIFE SANCTUARY



Annexure-IIG

LOCATION OF VILLAGES FALLING INSIDE ECO-SENSITIVE ZONE OF TRAL WILDLIFE SANCTUARY



ANNEXURE V

Annexure-III

LIST OF VILLAGES ALONG WITH GEO-COORDINATES FALLING INSIDE ESZ AREA

S. No.	Village	District	Tehsil	Latitude (N)	Longitude (E)
01	Nagander	Pulwama	Pampore	34° 2'54.93"	75° 2'47.27"
02	Sethpokhran	Pulwama	Pampore	34° 0'49.30"	75° 1'40.98"
03	Wahabkharun	Pulwama	Pampore	33°59'42.79"	75° 1'58.61"
04	Wagad	Pulwama	Aripal	33°59'51.31	75° 4'50.89
05	Basantpur	Pulwama	Aripal	34° 0'11.92"	75° 4'45.29"
06	Dharamgund	Pulwama	Aripal	33°59'53.16"	75° 4'49.24"
07	Aripal	Pulwama	Aripal	34° 1'2.32"	75° 4'15.47"
08	Khangund	Pulwama	Aripal	34° 1'35.64"	75° 4'23.29"
09	Satura	Pulwama	Aripal	34° 2'23.46"	75° 4'26.89"
10	Guturu	Pulwama	Aripal	34° 2'43.11"	75° 5'27.26"
11	Narastan	Pulwama	Aripal	34° 3'18.62"	75° 6'0.80"
12	Manchihama	Pulwama	Tral	33°57'43.77"	75° 9'44.87"
13	Kahlil	Pulwama	Tral	33°57'45.11"	75° 9'2.45"
14	Chhanakitar	Pulwama	Tral	33°57'4.04"	75° 9'11.67"
15	Chewa Ullur	Pulwama	Tral	33°56'20.51"	75° 8'52.36"
16	Bathnoor	Pulwama	Tral	33°56'11.05"	75°10'50.02"
17	Mondura	Pulwama	Tral	33°56'2.14"	75° 9'10.01"
18	Pannyer	Pulwama	Tral	33°55'41.85"	75°10'5.10"
19	Pinglish	Pulwama	Tral	33°54'46.03"	75° 7'46.13"
20	Laribal	Pulwama	Tral	33°54'6.73"	75° 8'0.96"
21	Shikargah	Pulwama	Tral	33°53'51.50"	75° 7'58.10"
22	Saimooh	Pulwama	Tral	33°53'41.39"	75° 6'26.50"
23	Buchoo	Pulwama	Tral	33°53'17.44"	75° 5'21.99"
24	Sangnar	Anantnag	Salar	33°53'16.42"	75° 10'08.79"
25	Panaar	Anantnag	Salar	33°53' 14.22"	75° 11'16.57"
26	Sakhras	Anantnag	Sriguphwara	33°49' 4.82"	75° 13' `16.51"

Annexure- IV

DEMOGRAPHIC PATTERN OF THE VILLAGES FALLING INSIDE ESZ

The proposed ESZ of the Tral Wildlife Sanctuary has 26 major/revenue villages within its limits with an estimated human population of around 45000. The village-wise population as per 2011 census/ concerned chowkidar's report is as under:

S.No	Village	Total	ST/SC	Male	Female	Child (0-6)
01	Nagander	434	00.00	204	147	83
02	Sethpokhran	1651	183	651	691	309
03	Wahabkharun	675	125	300	280	95
04	Wagad	1356	0.00	566	566	224
05	Basantpur	1132	0.00	590	542	NA

ANNEXURE V

06	Dharamgund	586	0.00	274	241	71
07	Aripal	2159	1	1671	471	117
08	Khangund	1765	0.00	808	780	177
09	Satura	3429	832	1462	1458	509
10	Guturu	1376	496	571	577	228
11	Narastan	1356	0.00	689	667	NA
12	Manchihama	3510	0.00	1817	1693	NA
13	Kahlil	4674	0.00	2410	2264	NA
14	Chhanakitar	635	00.00	336	299	NA
15	Tsulu	1378	0.00	687	691	NA
16	Bathnoor	3517	589	1131	1031	355
17	Mondara	2068	5	885	913	270
18	Pannyer	253	NA	NA	NA	NA
19	Pinglish	2869	0.00	1251	1280	338
20	Laribal	829	0.00	319	308	101
21	Shikargah	996	0.00	439	443	114
22	Saimooh	3111	0.00	1470	1310	331
23	Sangnar	2057	777	904	772	381
22	Panaar	905	NA	NA	NA	NA
25	Ashdar	750	NA	NA	NA	NA
26	Sakhras	1819	0.00	791	821	207

Agriculture (mainly horticulture) is the main occupation and source of income for people living in these villages.

Annexure- V

LIST OF MAMMALS AND BIRDS FOUIND IN THE TRAL WILDLIFE SANCTUARY

(a) Fauna

Around 15 species of mammals, including some rare ones are found within the limits of Tral Wildlife Sanctuary & the adjoining areas. These mammal species include:

1. Kashmir Red Deer *(Cervus hanglu hanglu)*
2. Kashmir Musk Deer (*Moschus cupreous*)
3. Asiatic Black Bear (*Ursus thibetanus*)
4. Himalayan Brown Bear (*Ursus arctos*)
5. Common Leopard (*Panthera pardus*)
6. Leopard Cat (*Prionailurus bengalensis*)
7. Jungle Cat (*Felis chaus*)
8. Red Fox (*Vulpes vulpes*)
9. Siberian Weasel (*Mustela sibirica*)
10. Tibetan Wolf (*Canis lupus*)
11. Golden Jackal (*Canis aureus*)
12. Yellow-throated Marten (*Martes flavigula*)
13. Kashmir Grey Langur (*Semnopithecus ajax*)

ANNEXURE V

14. Rhesus Macaque (*Macaca mulatta*)
15. Indian Crested Porcupine (*Hystrix indica*)

(b) Avifauna:

The sanctuary and its adjoining area are also home to more than 200 species of birds which notably include:

1. Golden Eagle (*Aquila Christos*)
2. Bearded Vulture (*Gypaetus barbatus*)
3. Himalayan Griffon Vulture (*Gyps himalayansis*)
4. Kashmir Flycatcher (*Ficedula subrubra*)
5. Black-throated Accentor (*Prunella atrogularis*)
6. Orange Bullfinch (*Pyrrhula aurantiaca*)
7. Kashmir Nuthatch (*Sitta cashmirensis*)
8. Chestnut Thrush (*Turdus rubrocanus*)
9. Common Rosefinch (*Carpodacus erythrinus*)
10. European Roller (*Coracias garrulous*)
11. European Bee-eater (*Merops apiaster*)
12. Chestnut-eared Bunting (*Emberiza fucata*)
13. Pine Bunting (*Emberiza leucocephalos*)
14. Rock Bunting (*Emberiza cia*)
15. Black & Yellow Grosbeak (*Mycerobas icterioides*)

Annexure- VI

PROFORMA OF THE ACTION TAKEN REPORT:

1. Number and date of Meetings.
2. Minutes of the meetings: Mention main noteworthy points. Attach Minutes of the meeting as separate Annexure.
3. Status of preparation of Zonal Master Plan including Tourism Master Plan.
4. Summary of cases dealt for rectification of error apparent on face of land record (Eco-sensitive Zone wise). Details may be attached as Annexure.
5. Summary of cases scrutinised for activities covered under the Environment Impact Assessment Notification, 2006. Details may be attached as separate Annexure.
6. Summary of cases scrutinised for activities not covered under the Environment Impact Assessment Notification, 2006. Details may be attached as separate Annexure.
7. Summary of complaints lodged Under Section 19 of the Environment (Protection) Act, 1986
8. Any other matter of importance.

[F. No. 25/2/2023-ESZ]
Dr. S. KERKETTA, Scientist-G

Uploaded by Dte. of Printing at Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

AMIT KUMAR JAISWAL
Digitally signed by AMIT KUMAR JAISWAL
Date: 2024.10.04 22:06:00 +05'30'

ANNEXURE VI

GOVERNMENT OF JAMMU & KASHMIR
OFFICE OF THE PR. CHIEF CONSERVATOR OF FORESTS (WILDLIFE)/
CHIEF WILDLIFE WARDEN

The Regional Wildlife Warden,
Kashmir.

No. WLP/Tech/2024-25/1219-20
Dated: 12.02.2025

Subject: Minutes of 57th Meeting of the Expert Committee for declaration of Eco-Sensitive Zone (ESZ) around Wildlife Sanctuaries and National Parks-regarding.

Sir.

With regard to the subject, kindly find enclosed Minutes of 57th Meeting of the Expert Committee for declaration of Eco-Sensitive Zone (ESZ) around Wildlife Sanctuaries and National Parks received from Ministry of Environment, Forest & Climate Change, Government of India, (copy enclosed) regarding the subject cited above. In this connection, I am directed to request you to take further necessary action in the matter.

Tech. Sec
Tech. Officer
O/o. RWLW K

Yours faithfully

(Ifshan Dewan)
Wildlife Warden
(Technical

Copy to Wildlife Warden, Shopian Division for information and further necessary action.

Government of Jammu and Kashmir
Department of Wildlife Protection
OFFICE OF THE REGIONAL WILDLIFE WARDEN KASHMIR REGION
Address:Near Ghat No.21, Police Golf Course Dal Lake Boulevard Road, Srinagar190001
Phone No: 0194-2955801 E-mail: rwlwkashmir@gmail.com

No. RWLW/K/Tech/2024-25/2070 Dated: 17 /03/2025

I am directed to forward a copy of above alongwith enclosures to Wildlife Warden, Shopian Division, for information and further necessary action.

(Technical Officer)
O/o. Regional Wildlife Warden
Kashmir Region

ANNEXURE VI

BY EMAIL

No. 25/01/2012-ESZ
Government of India
Ministry of Environment, Forest & Climate Change
(ESZ Division)

Email id: joon.veenu@nic.in
Contact No: 011-20819181
Level-II, Agni Wing,
Indira Paryavaran Bhawan,
Jor Bagh Road, Aliganj,
New Delhi- 110 003

Dated 6th March, 2025

OFFICE MEMORANDUM

Subject: Minutes of 57th Meeting of the Expert Committee for declaration of Eco-Sensitive Zone (ESZ) around Wildlife Sanctuaries and National Parks- regarding.

Sir,

Please find enclosed herewith a copy of the minutes of 57th Meeting of the Expert Committee for declaration of Eco-Sensitive Zone (ESZ) held on 12th February, 2025 under the chairpersonship of Shri Amandeep Garg, Additional Secretary, Ministry of Environment, Forest and Climate Change, for your perusal and necessary action.

Yours Faithfully,

Encl: As Above

(Dr. Veenu Joon)
Additional Director/ Scientist-'E'

To,

EXPERTS

(i). Dr. Satish Chandra Garkoti, Ex-Adviser, Ministry of Environment, Forest and Climate Change.

(ii). The Director (Environment Management Directorate), Central Water Commission, 4th floor (S), Sewa Bhawan, R. K. Puram, New Delhi- 110 066, Telephone: 011-29583651, Email id: emodte@cwc.delhi.nic.in

(iii). Representative of Department of Land Resources, Ministry of Rural Development, Government of India, Krishi Bhavan, Dr. Rajendra Prasad Road, New Delhi-110001.

(iv). Representative of Chief Town Planner, Town and Country Planning Organization, Government of India, E-Block, Vikas Bhavan, I.P.Estate, New Delhi-110002.

ANNEXURE VI

(v). Representative of Indian Institute of Remote Sensing, Indian Space Research Organization, 4, Kalidas Road, Dehradun-248001.

(vi). Director or his representative not below the rank of Scientist-E, Wildlife Institute of India, Chandrabani, Dehradun-248001.

(vii). Director or his representative not below the rank of Scientist-E, G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora-263643, Uttarakhand.

(viii). Director or his representative not below the rank of Scientist-F, Wetland Division, Ministry of Environment, Forest and Climate Change.

(ix). Representative of Indian Council of Forestry Research and Education, Post New Forest, Dehradun-248006.

(x). Director or his representative not below the rank of Scientist-E, Botanical Survey of India, CGO Complex, 3rd MSO Building, Block F (5th and 6th Floor), DF Block, Sector -I, Salt Lake City,Kolkata-700064.

(xi). Director or his representative not below the rank of Scientist-E, Zoological Survey of India Or his representative, Prani Vigyan Bhavan, M-Block,New Alipore, Kolkata-700053.

(xii). Representative of Forest Survey of India Kaulagarh Road, Post IPE, Dehradun-248195, Uttarakhand.

(xiii). Member Secretary, National Tiger Conservation Authority (NTCA) or his Representative, Ministry of Environment, Forest and Climate Change, B-1 Wing, 7th Floor, Pandit Deendayal Antyodaya Bhawan, CGO Complex, Pragati Vihar, New Delhi, Delhi 110003.

(xiv). Member Secretary or his Representative, Central Pollution Control Board, Parivesh Bhavan, CBD cum office complex, East Arjun Nagar, Delhi-110032.

(xv). Director or his Nominee, WWF India, 172 B Lodhi Estates, Lodhi Road, New Delhi-110 003.

(xvi). IG (Wildlife) or his Representative, Ministry of Environment, Forest and Climate Change.

STATES

(i) The Chief Wildlife Warden, Govt. of Karnataka, Aranya Bhawan,18th Cross Malleswaram, Bangalore-560003, Contact No:- 080-23343770 (O), 9341229947 (M), Email id: pccfkar@gmail.com

(ii) The PCCF & Chief Wildlife Warden, Manda Hills near Hotel Ashoka, Jammu – 180005, Email id: Jkwildlife78@gmail.com, pccfjkforest@gmail.com, Ph No. 0191-2572570, 0191-2520994(F).

ANNEXURE VI

(iii) The PCCF (WL) & Chief Wildlife Warden, Govt. Of Kerala, Van Laxmi Forest Headquarter, Trivandrum – 695014, Phone No 0471-2321610(O), 0471-2332556(F), Email Id: cww.for@kerala.gov.in, pccf.for@kerala.gov.in

(iv) The PCCF (WL) & Chief Wildlife Warden, Govt. of Tamil Nadu, #1, Panagal Building, Jenis Road, Saidapet, Chennai, Tamil Nadu 600015, Phone No:+91 044 24321738(O), Email id: cwlw_wildlife3@yahoo.in.

(v) The Principal Chief Conservator of Forests & Chief Wildlife Warden, Govt. of West Bengal, North Block – 3rd Floor, Vikas Bhawan, Salt Lake City, Kolkata – 700091, Email id: wbwildlife@gmail.com, Ph No. 033-23346900(O), 033-23345946.

(vi) The Principal Chief Conservator of Forests & Chief Wildlife Warden, Govt. of Meghalaya, Shilong Lachumiere, P.O. Shilong-793001, Email id: wildlifemegh@yahoo.com; pccfmegh@gmail.com

Copy to:

(i) PPS to AS(AG)
(ii) PS to ADV(SKK)

ANNEXURE VI

MINUTES OF THE 57th MEETING OF THE EXPERT COMMITTEE FOR DECLARATION OF ECO-SENSITIVE ZONE AROUND PROTECTED AREAS HELD ON 12th FEBRUARY, 2025 IN THE MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE.

The 57th Meeting of the Expert Committee on Eco-Sensitive Zone (ESZ) was held under the Chairmanship of Shri Amandeep Garg, Additional Secretary, Ministry of Environment, Forest & Climate Change on 12th February, 2025 in hybrid mode at Teesta Hall, Indira Paryavaran Bhawan, New Delhi. Participants from the State of Tamil Nadu attended the meeting physically. However, the participants from other states viz., West Bengal, Karnataka, Jammu and Kashmir, Kerala and Meghalaya joined through Video Conference link. The list of the participants is annexed.

2.0 At the outset, the Chairman welcomed the Expert Members and representatives from the states and other participants of the meeting. After a brief introduction of the participants, the Chairman invited the State Government representatives to present their proposals as per the agenda. The committee confirmed the minutes of the preceding meeting.

3.0 The deliberations held and the decisions taken are as follows:

3.1 **Mahananda Wildlife Sanctuary, West Bengal:**

The draft ESZ notification of Mahananda Wildlife Sanctuary was published *vide* notification number S.O. 3832(E), dated 06.09.2024, in supersession of an earlier published notification of S.O. 3237(E), dated 22.09.2020 with uniform ESZ extent of 5.0 km all around the Sanctuary. Later on, the state of West Bengal requested for revision of the ESZ citing several inconsistencies and difficulties in implementation of the notification of S.O. 3237(E), dated 22.09.2020 with uniform ESZ extent of 5.0 km all around the Sanctuary and accordingly the state submitted a proposal for a draft notification for revised ESZ, which was published vide S.O. 3832(E), dated 06.09.2024. The State Government while submitting the revised proposal had justified that, there are several inconsistencies in the earlier published notification such as non-inclusion of important Elephant corridors and wrong inclusion of Municipal Area of Silliguri Town, which were hindering its effective implementation. The State Government in the revised proposal also stated that the Mahananda Wildlife Sanctuary shelters a rich variety of mammals like Tiger, Elephant, Sambar, barking deer, gaur, etc. The Sanctuary also have a remarkable diversity of birdlife, with over 300-recorded species. Its location at a major elephant migration route makes it a vital corridor for movement of elephants and it connects Apalchand Forests with Kuresong forests until Nepal border. Following are the important features of the draft notification:

Area of Protected Area: 161.17 sq. km.
Area of ESZ: 539.86 sq. km.
Extent of ESZ: 1.0 km to 18.16 km

Representative of State Government made a presentation on the proposal and requested the Committee for inclusion of stone quarrying for construction purposes including desilting from riverbeds into regulatory activity instead of listing it under the prohibited activity

Page 1 of 7

category. He also requested for inclusion of maintenance, upgradation of existing defense and security infrastructure and construction of new defense and security infrastructure and homestays for tourists under the regulated activities category. The Committee suggested the representative (s) of the State Government that there is prohibition on mining activities around 1.0 km of the boundary of the Protected Area and within the ESZ by the Hon'ble Supreme Court vide judgment 26th April, 2023 and the 28th April, 2023, thereby their requested has not been acceded to. The State Government was therefore requested to convey their concerns formally to the Ministry through an official communication so that the same can be examined in detail and an appropriate decision can be taken on other issues except on issue of mining / quarrying within ESZ. The State Government was also requested to submit their response on public comments received on above draft notification.

Based on the deliberations held, the proposal was deferred for re-consideration at a later date once the above information / clarifications are received in the Ministry.

3.2 **Halliday Island Wildlife Sanctuary, West Bengal:**

The draft ESZ notification of Halliday Island Wildlife Sanctuary was published *vide* S.O. 4761(E), dated 30.10.2024. Halliday Island Wildlife Sanctuary is bounded by Matla River from all sides and is a transitional ecotone that supports a unique diversity of flora and fauna and famous for various animals such as Wild Boar, Jackal, etc. and large numbers of birds species. The representative of State Government made a presentation on the proposal and informed that no comments have also been received on the draft notification and the State Government does not want any changes in the draft notification. Following are the features of the draft ESZ notification:

Area of Protected Area: 5.95 sq.km.
Area of ESZ: 26.81 sq.km.
Extent of ESZ: Uniform 2 km

The Committee observed that there is no issue in the draft ESZ notification and can be agreed for finalization. Based on the deliberations held, the proposal was therefore recommended for finalization.

3.3 **Kappathagudda Wildlife Sanctuary, Karnataka:**

The draft ESZ notification of Kappathagudda Wildlife Sanctuary was published *vide* S.O. 4262(E), dated 30.09.2024. The DCF, Gadag made a detailed presentation on the proposal and stated that the Sanctuary is highly fragmented and a landscape approach is considered in the Eco Sensitive Zone. Located in the Deccan Plateau, the sanctuary represents semi-arid ecosystem within the rain shadow area of the Western Ghats. Following are the features of the draft ESZ notification:

Area of Protected Area: 244.15 sq. km.
Area of ESZ: 322.695 sq. km.
Extent of ESZ: 1.0 km to 4.30 km

The sanctuary is renowned for its rare medicinal plants that contribute to biodiversity and

potential pharmacological uses. The Sanctuary is also home to important Schedule-I species like leopards, Indian grey wolves, striped hyenas, and Blackbucks. He further informed the committee that a letter dated 31.01.2025 has already been sent to the Ministry regarding their compliance on the public comments received on the draft notification.

The Committee observed that there is no issue in the draft ESZ notification and can be agreed for finalization. Based on the deliberations held, the proposal was recommended for finalization subject to the submission of an official communication from State Government confirming that their response to the public comments has also been addressed.

3.4 **Tral Wildlife Sanctuary, Jammu and Kashmir:**

The draft ESZ notification of Tral Wildlife Sanctuary was published *vide* notification number S.O. 4325(E), dated 03.10.2024. Following are the features of the draft ESZ notification:

Area of Protected Area: 155 sq. km.
Area of ESZ: 127.10 sq. km.
Extent of ESZ: Zero km to 3.26 km
(Zero extent is proposed due to common boundary with Dachigam National Park and Overa-Aru Wildlife Sanctuary and their ESZ)

The Regional Wildlife Warden, Kashmir made a presentation on the proposal and stated that Tral Wildlife Sanctuary and the adjoining areas forms an important corridor for movement of the Kashmir Red Deer (Hangul), a Schedule-I species as per the Wildlife (Protection) Act, 1972 which is designated as 'critically endangered' as per the IUCN's Red Data Book. Besides Dachigam National Park, the Sanctuary is connected with other important wildlife areas, like Overa-Aru Wildlife Sanctuary and Khrew-Khanmoh Conservation Reserve. These protected areas together form a landscape of rich biodiversity and hold good population of some of the important, rare, and endemic species of animals, birds and vegetation. Representative of the State Government informed the Committee that stakeholder consultation has been done and the report has been sent to the Ministry regarding their compliance on the public comments received on the draft notification.

The Committee observed that there is no issue in the draft ESZ notification and can be agreed for finalization. Based on the deliberations held, the proposal was recommended for finalization.

3.5 **Anamalai Tiger Reserve, Tamil Nadu:**

The draft ESZ notification was published vide number S.O. 4325(E) dated 03.10.2024. Following are the features of the draft ESZ notification:

Area of Protected Area: 155 sq. km.
ESZ Area: 127.10 sq. km.
ESZ Extent: 0 km to 3.26 km

Representative of the State Government made a presentation on the proposal and requested

for inclusion of setting up of solid waste treatment facility inside the ESZ as the nearest disposal facilities is located about 50 km far from the human settlements. It was also informed that allowing setting up of solid waste treatment facility within ESZ will enable the State in efficient disposal of waste. The matter was discussed in detail, keeping the provisions as contained in the ESZ Guidelines 2011. The Committee deliberated on the issue and decided that it would be inappropriate to allow setting up of solid waste treatment facility inside the ESZ. The State Government representative also requested the Committee for inclusion of District Tourism Officer and representative from plantation sector in the Monitoring Committee and other minor changes, which was agreed by the Committee.

Based on the deliberations held, the proposal was recommended for finalization, subject to the submission of official communication from the State Government regarding the changes proposed in final notification and confirmation that their response to the public comments has also been addressed.

3.6 **Mangalavanam Bird Sanctuary, Kerala:**

The proposal is in pre-draft stage for the publication of a draft ESZ notification. Earlier, the draft notification was published on 07.09.2020 with an ESZ extent of 0 to 1 km encompassing an ESZ area of 0.53 sq. km. This draft notification was considered in the 43rd Meeting held on 20.11.2020, where the proposal was recommended for finalization with the exclusion of 1.6 ha from the ESZ area as it was part of the land owned by the Cochin Port Trust. However, the draft notification could not be finalized and subsequently the draft notification expired.
In light of the Hon'ble Supreme Court judgment dated 26.04.2023, modifying the mandatory 1.0 km ESZ provision, the Ministry vide letter dated 15.05.2023, requested the State Governments and Union Territories to either submit a revised proposal or confirm the processing of proposals (including the said proposal) already received by the Ministry. The Government of Kerala submitted fresh proposal of Mangalavanam Bird Sanctuary on 19.02.2024. Following are the features proposed for draft ESZ notification:

Area of Protected Area: 0.0274 sq. km.
ESZ Area: 0.122 sq. km.
ESZ Extent: 0 km to 0.55 km

(Zero ESZ extent is because the Sanctuary is abutted by land owned by M/s Bharat Petroleum Ltd., M/s Central Marine Fisheries Institute, M/s Kerala State Housing Board, old buildings including the Kerala High Court and Dr. Salim Ali Road where there is insufficient tree cover)

In the meeting, it was decided that the expert members may further furnish their comments within a fortnight to enable the Ministry in proceeding with publication of the draft notification. Some of the experts later provided their comments that the proposal was earlier considered by the Expert Committee in November, 2020 and agreed the request of the State Government for exclusion of land owned by Bharat petroleum, Kerala Housing Board, old buildings of Kerala High Court, CMFRI etc. However, the final notification was not issued.

Now, the State Government has submitted the fresh proposal, excluding the areas from the ESZ. Since, it is a bird sanctuary on a tidal wetland and Wildlife Division and WII has already vetted it, therefore, the proposal of the State may be considered for issuing the draft notification.

3.7 **Balpakram National Park and Siju Wildlife Sanctuary, Meghalaya:**

The proposal was taken up as an additional item, as the issue of rationalization of this Protected Area is a long standing issue, in the absence of its resolution of which the proposal for its ESZ has not been considered till date. *The Committee noted the issue and decided that the matter may be dealt at the State Government and the State may be appraised on the need to resolve the long standing issue of rationalization of the Protected Area soon for publication of draft notification.*

The meeting ended with thanks to the Chair.

***

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ANNEXURE VI

ANNEXURE

LIST OF THE PARTICIPANTS:

Members of Expert Committee:

1. Shri Amandeep Garg, Additional Secretary, Chairperson, MoEF&CC.
2. Dr. S. Kerketta, Scientist G, MoEF&CC
3. Dr. S.C Garkoti, Non-Official Member
4. Shri Rakesh Jagenia, DIG, MoEF&CC
5. Shri Amit Thakkar, Scientist E, CPCB
6. Dr. K. A. Subramanian, Zoological Survey of India
7. Dr. K.S Kanwal, Scientist F, GBPNIHE, Almora
8. Dr. Gautam Talukdar, Scientist F, Wildlife Institute of India
9. Dr. Sanjay Singh, Scientist E, ICFRE, Dehradun
10. Ms. Vishaish Uppal, Director, WWF, New Delhi
11. Ms. Abha Aggarwal, Town and Country Planner, New Delhi
12. Representative of Forest Survey of India
13. Shri W. Bharat Singh, Scientist 'F' and Member Convener, MoEF&CC

Officials of MoEF&CC:

14. Dr. Ritesh Joshi, Scientist 'F' MoEF&CC
15. Dr. Veenu Joon, Scientist 'E', MoEF&CC
16. Shri Anil Thakar, Consultant, MoEF&CC

Officials of Government of West Bengal:

17. The CCT Wildlife North, Government of West Bengal
18. The Field Director Sunderban Tiger Reserve, Government of West Bengal
19. The Director SBR, Government of West Bengal

Officials of Government of Karnataka:

20. The PCCF(WL) & CWLW, Government of Karnataka
21. The DCF Gadag, Government of Karnataka

Officials of Government of Meghalaya:

22. Shri R.I. Thiek, PCCF & Chief Wildlife Warden, Government of Meghalaya.
23. Ms. Nazia Marak, Director, Balpakram National Park, Government of Meghalaya.

Officials of Government of Jammu and Kashmir:

24. Shri Rashid Yahya Naqash, Regional Wildlife Warden, Government of Jammu and Kashmir.
25. Shri Sohail Ahmad Wagay, Wildlife Warden, Government of Jammu and Kashmir.

Official of Government of Kerala:

26. The PCCF & Chief Wildlife Warden, Government of Kerala.

Official of Government of Tamil Nadu:

Page 6 of 7

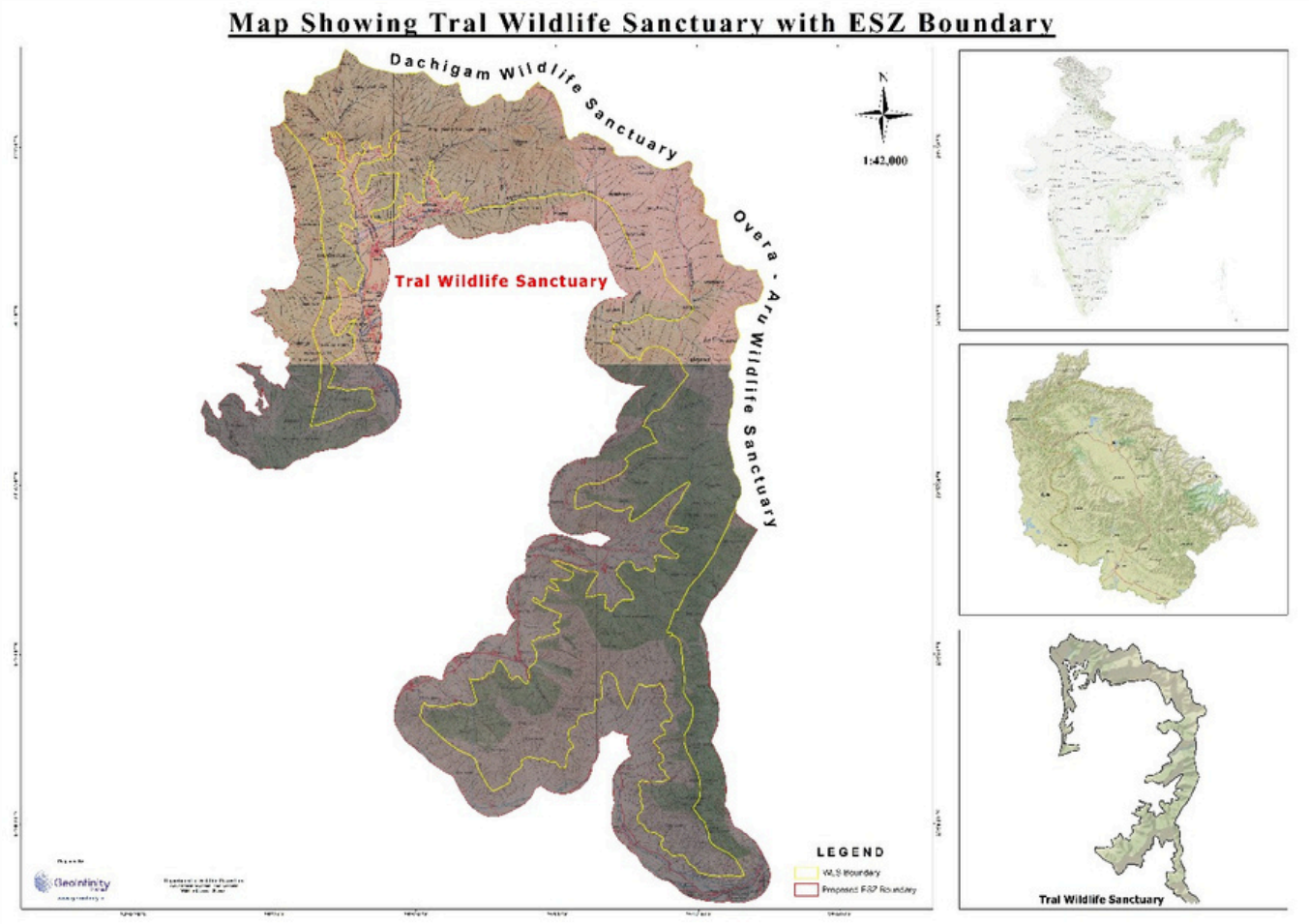
27. Shri D. Venkatesh H, IFS, Field Director Anamalai TR, Forest Department, Government of Tamil Nadu.
28. Shri Bhargava Teja, IFS, Deputy Director Anamalai TR, Forest Department, Government of Tamil Nadu.

ANNEXURE VII

List of Revenue villages in the Zone of influence of Tral Wildlife Sanctuary

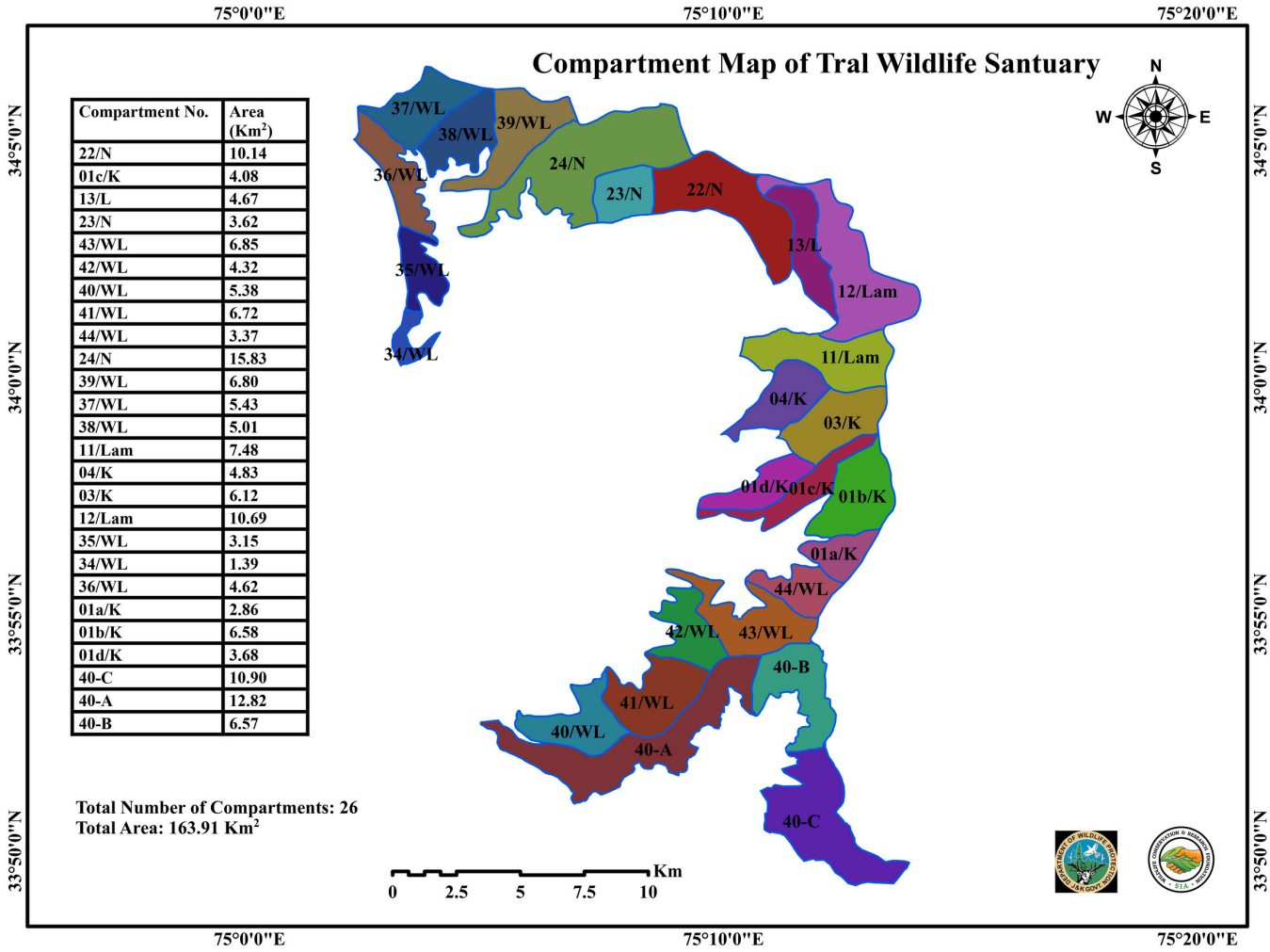
S. No	Village	Total	ST/SC	Male	Female	Child (0-6)
01	Nagander	434	00.00	204	147	83
02	Sethpokhran	1651	183	651	691	309
03	Wahabkharun	675	125	300	280	95
04	Wagad	1356	0.00	566	566	224
05	Basantpur	1132	0.00	590	542	NA
06	Dharamgund	586	0.00	274	241	71
07	Aripal	2159	1	1671	471	117
08	Khangund	1765	0.00	808	780	177
09	Satura	3429	832	1462	1458	509
10	Guturu	1376	496	571	577	228
11	Narastan	1356	0.00	689	667	NA
12	Manchihama	3510	0.00	1817	1693	NA
13	Kahlil	4674	0.00	2410	2264	NA
14	Chhanakitar	635	00.00	336	299	NA
15	Tsulu	1378	0.00	687	691	NA
16	Bathnoor	3517	589	1131	1031	355
17	Mondara	2068	5	885	913	270
18	Pannyer	253	NA	NA	NA	NA
19	Pinglish	2869	0.00	1251	1280	338
20	Laribal	829	0.00	319	308	101
21	Shikargah	996	0.00	439	443	114
22	Saimooh	3111	0.00	1470	1310	331
23	Sangnar	2057	777	904	772	381
22	Panaar	905	NA	NA	NA	NA
25	Ashdar	750	NA	NA	NA	NA
26	Sakhras	1819	0.00	791	821	207

ANNEXURE VIII A



Map of Tral Wildlife Sanctuary with ESZ Boundary

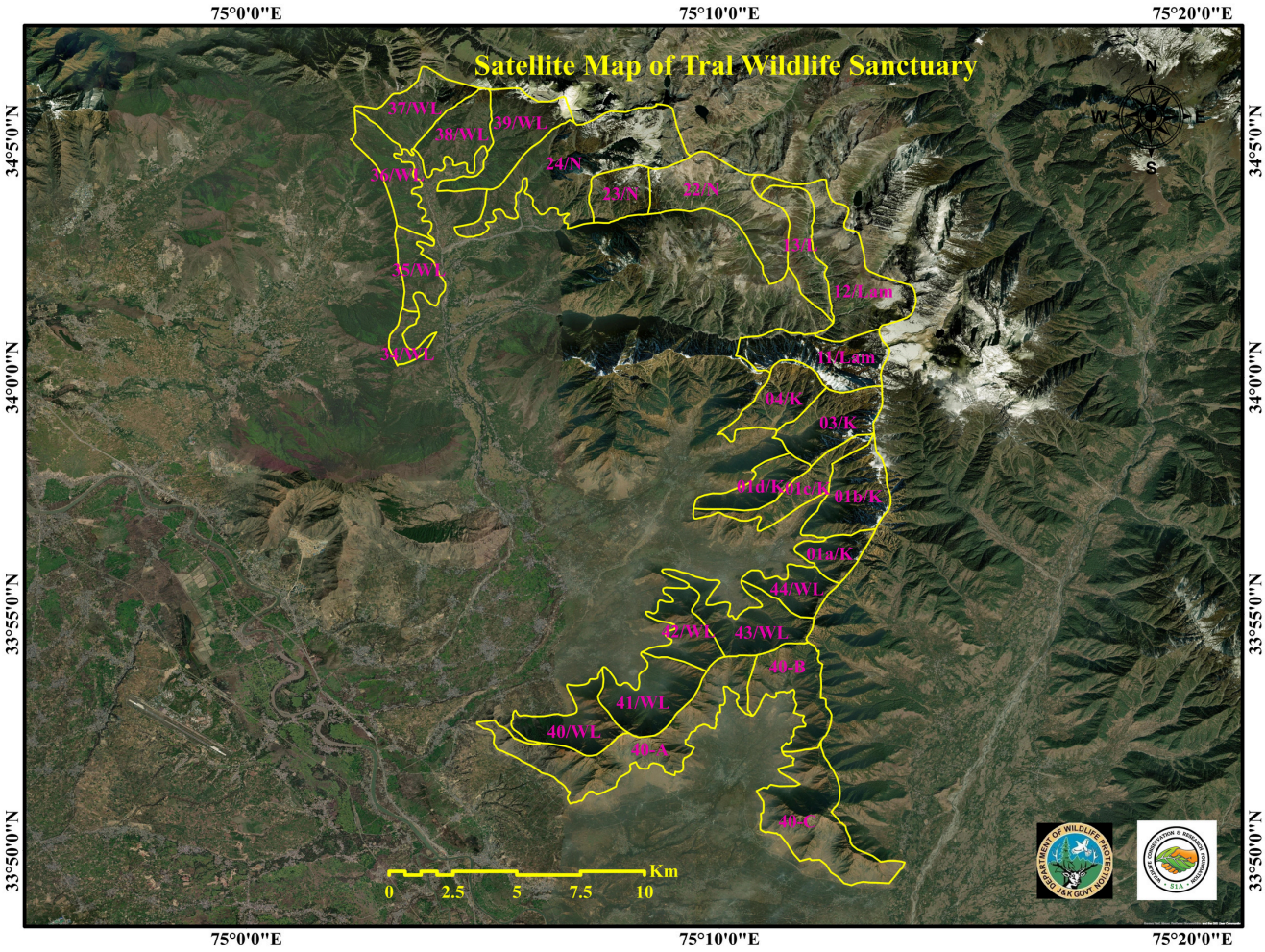
ANNEXURE VIII B



Compartment No.	Area (Km²)
22/N	10.14
01c/K	4.08
13/L	4.67
23/N	3.62
43/WL	6.85
42/WL	4.32
40/WL	5.38
41/WL	6.72
44/WL	3.37
24/N	15.83
39/WL	6.80
37/WL	5.43
38/WL	5.01
11/Lam	7.48
04/K	4.83
03/K	6.12
12/Lam	10.69
35/WL	3.15
34/WL	1.39
36/WL	4.62
01a/K	2.86
01b/K	6.58
01d/K	3.68
40-C	10.90
40-A	12.82
40-B	6.57

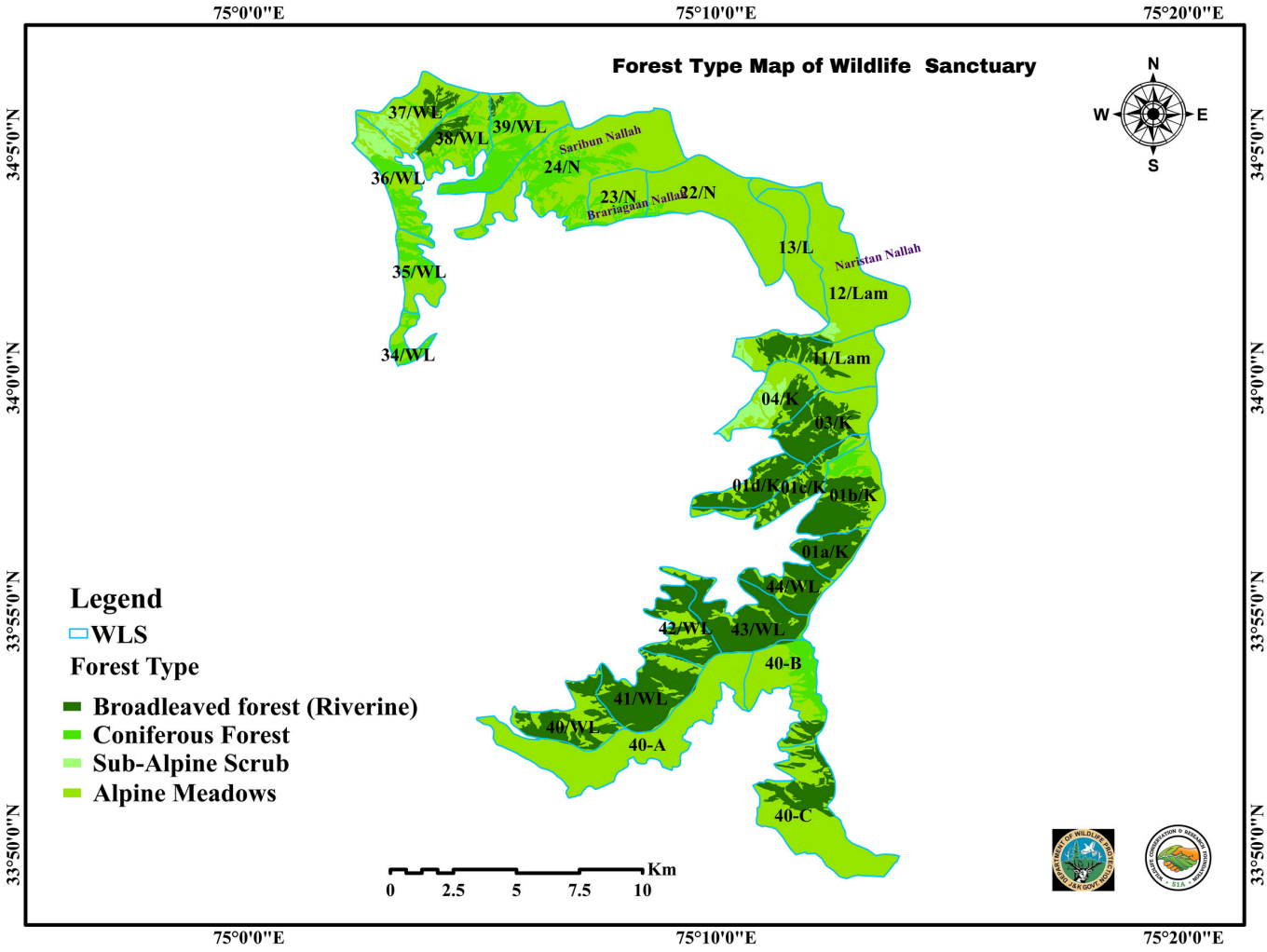
Compartment Map of Tral Wildlife Sanctuary

ANNEXURE VIII C



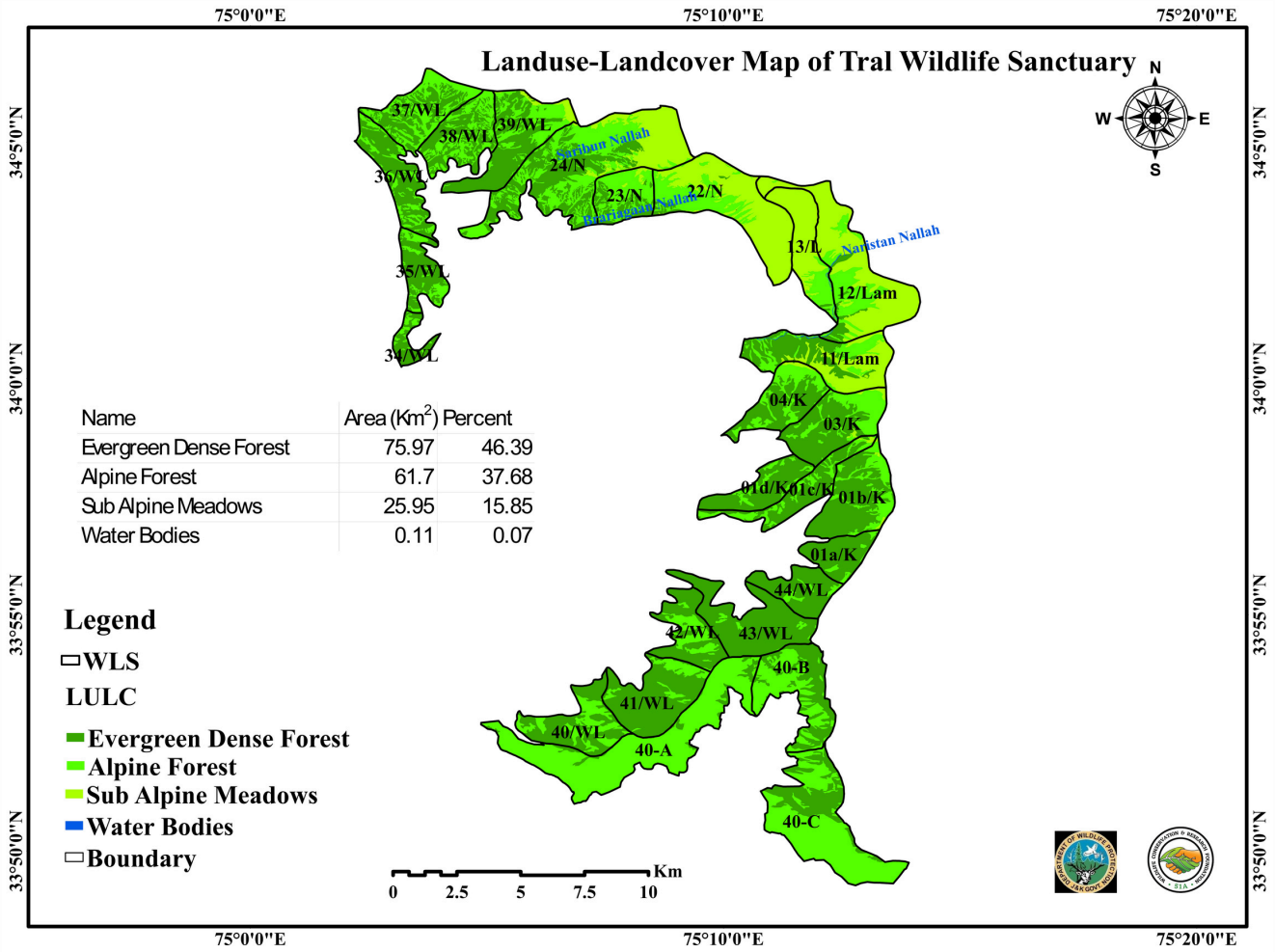
Satellite Map of Tral Wildlife Sanctuary

ANNEXURE VIII D



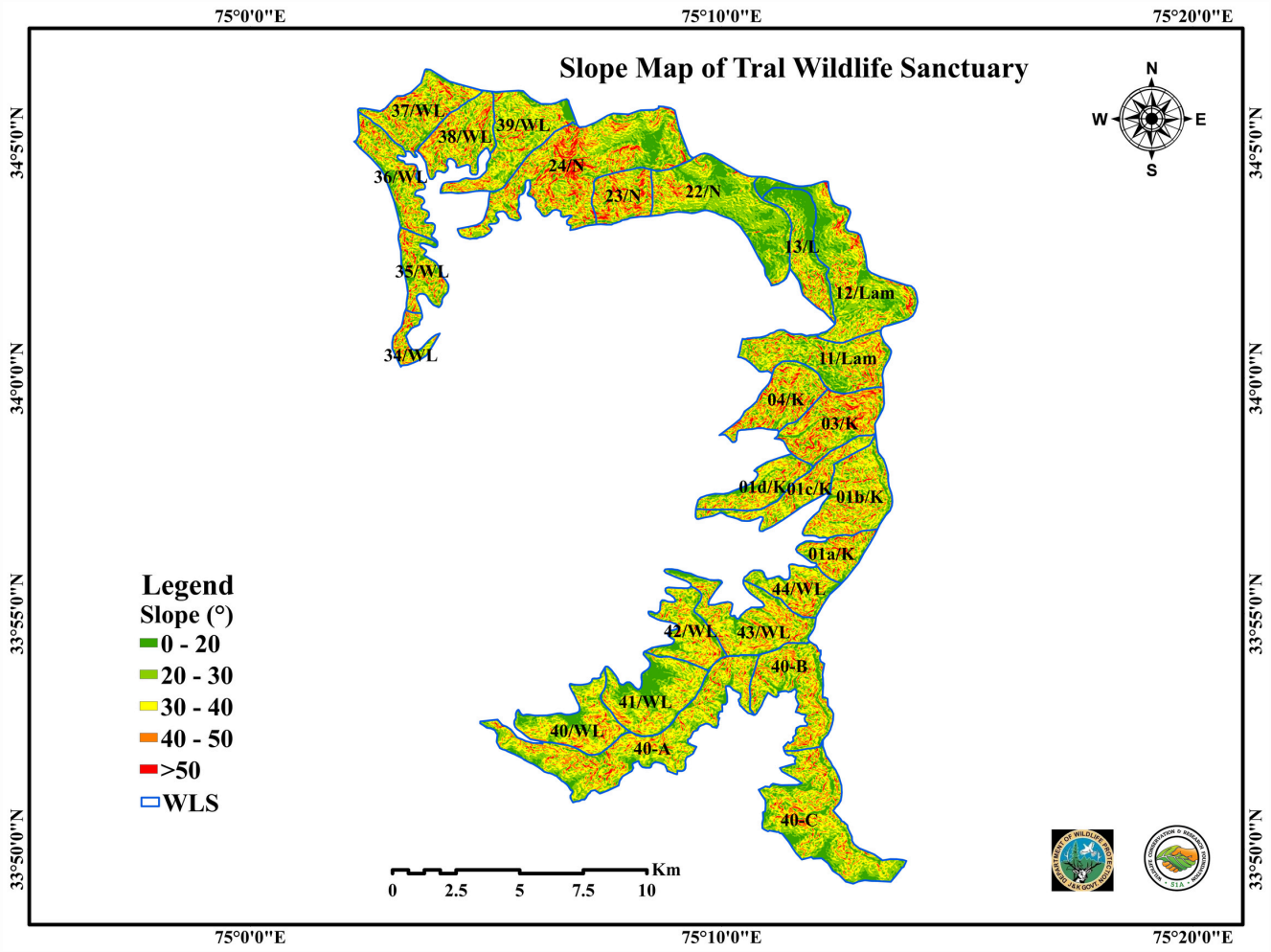
Forest Density Map of Tral Wildlife Sanctuary

ANNEXURE VIII E



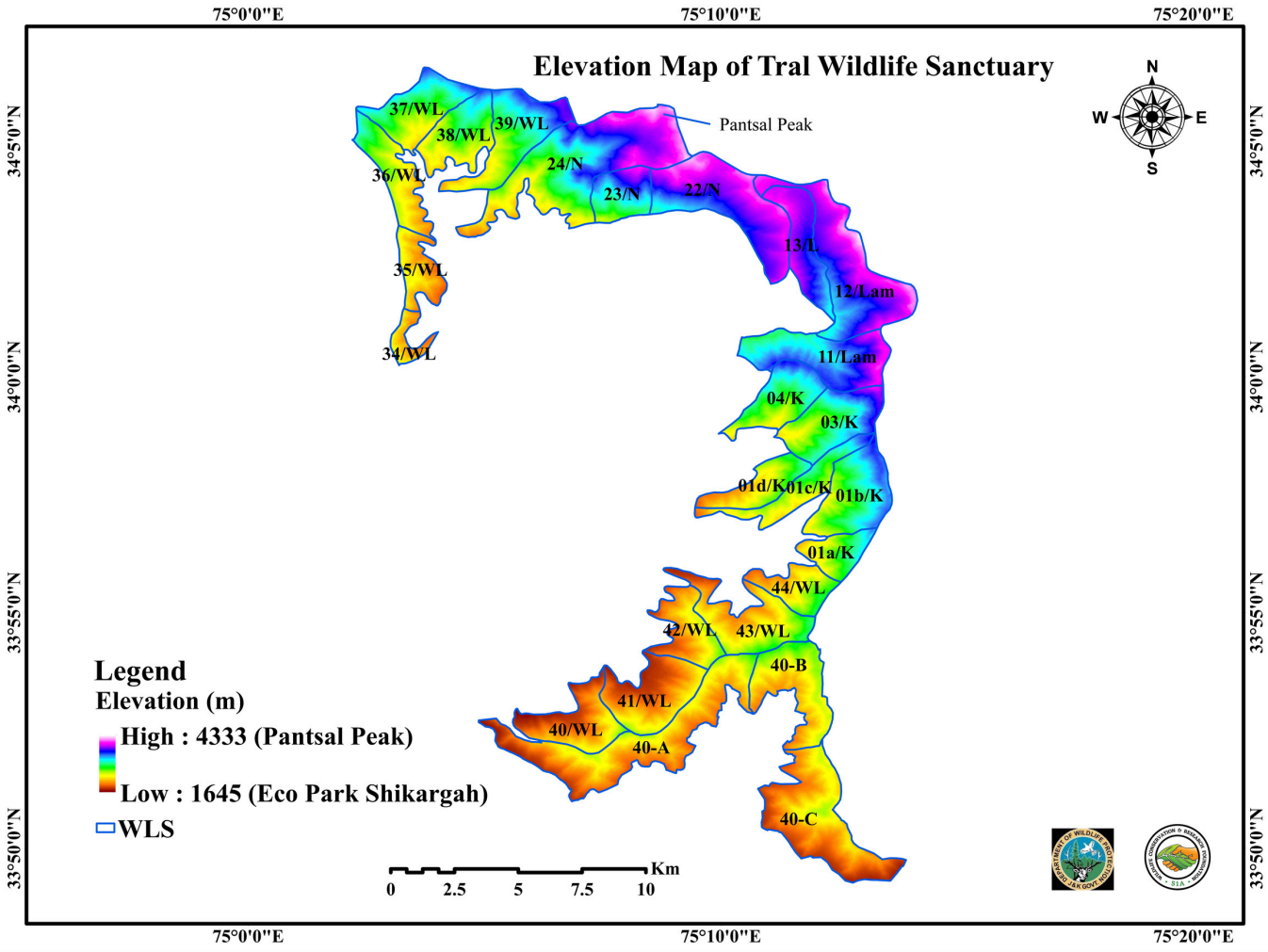
Landuse-Landcover Map of Tral Wildlife Sanctuary

ANNEXURE VIII F



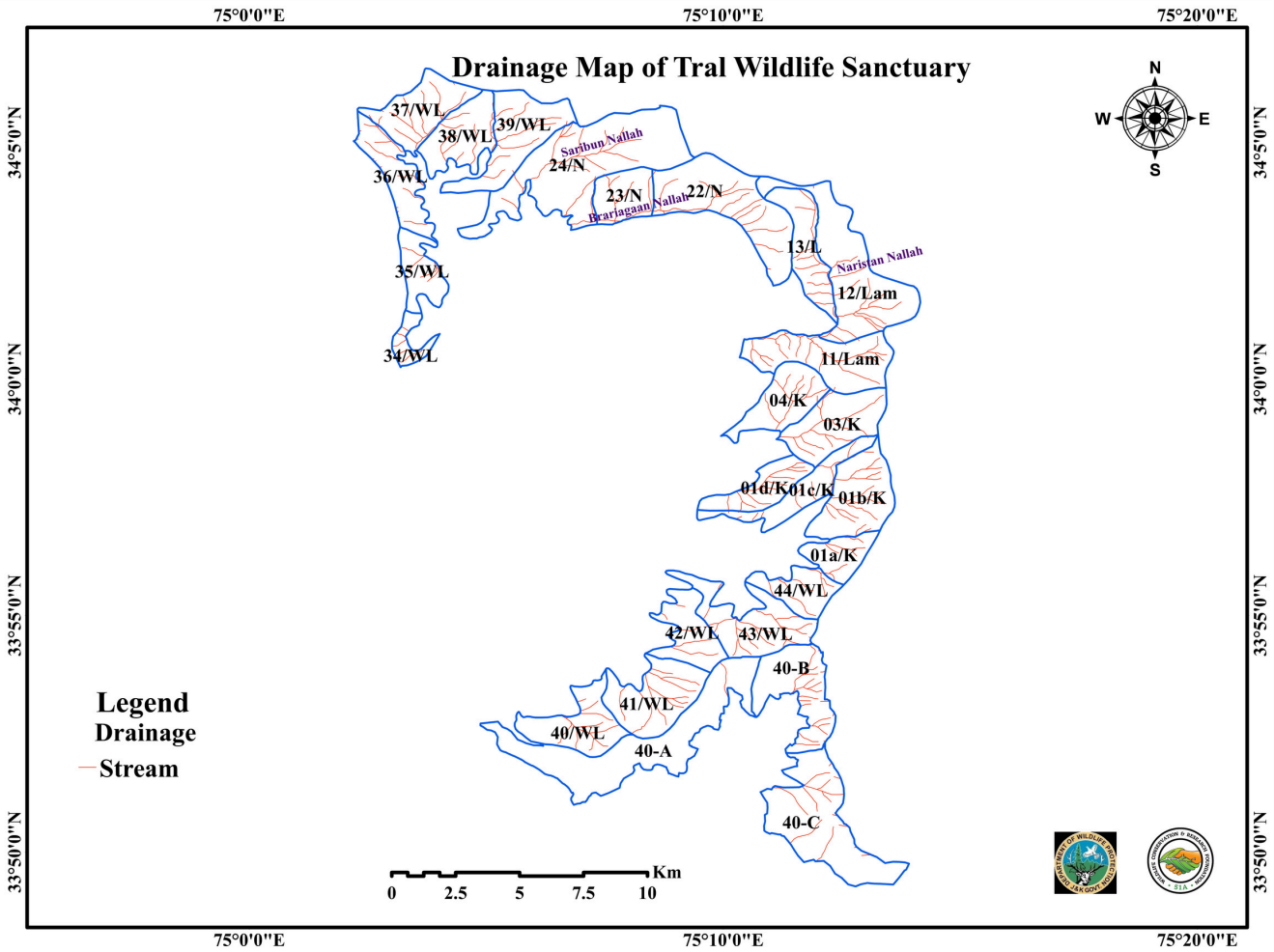
Slope Map of Tral Wildlife Sanctuary

ANNEXURE VIII G



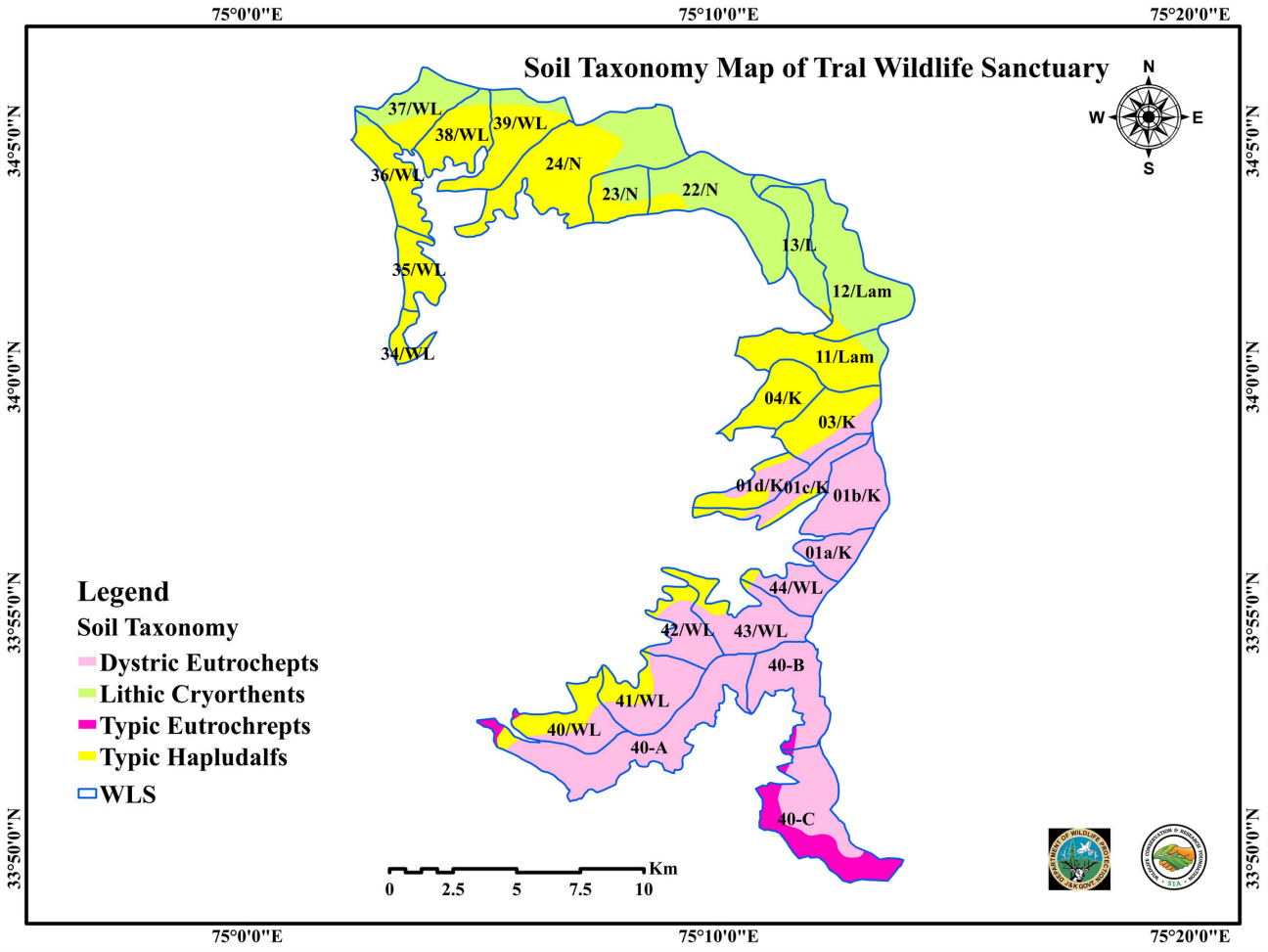
Elevation Map of Tral Wildlife Sanctuary

ANNEXURE VIII H



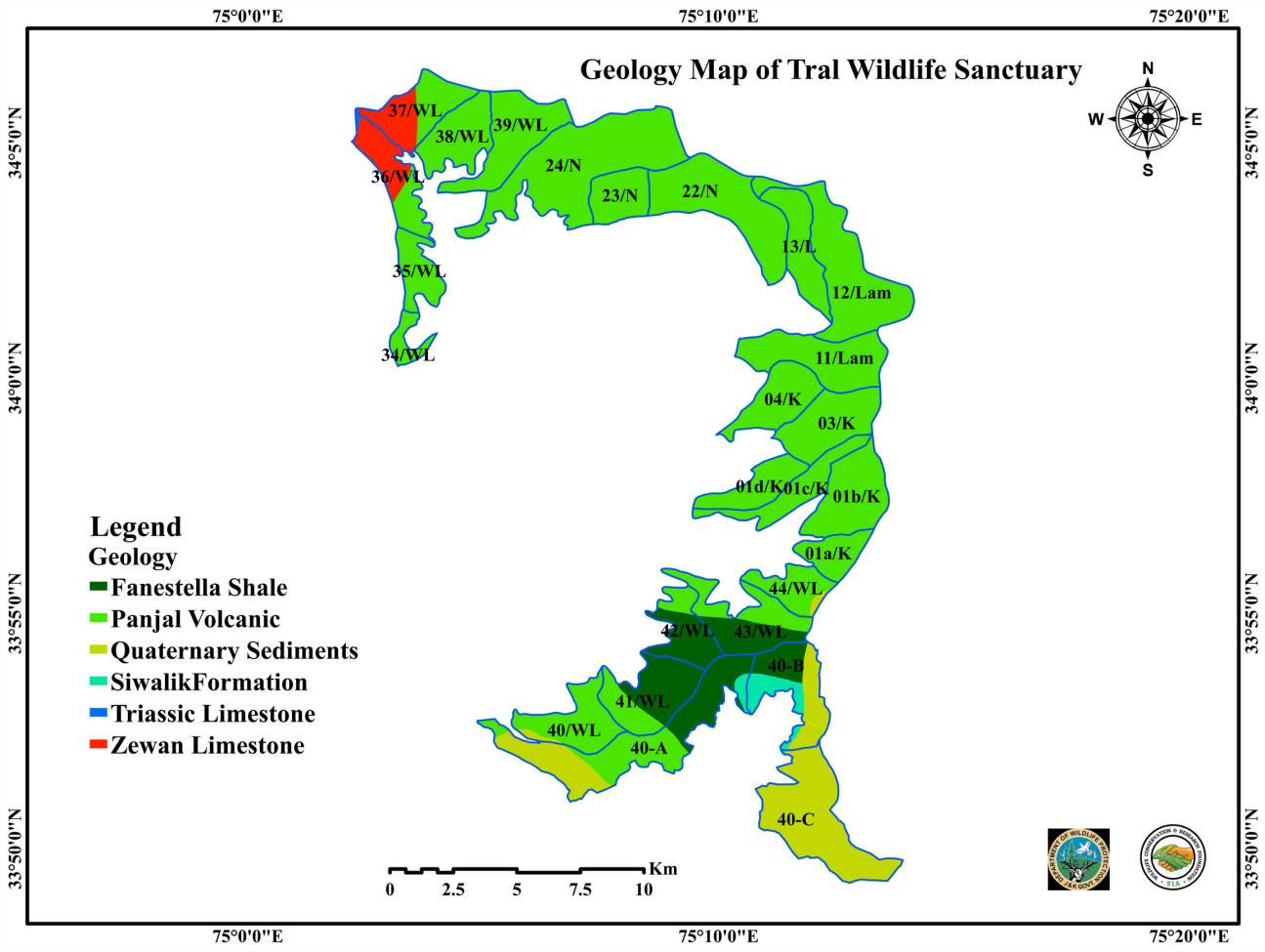
Drainage Map of Tral Wildlife Sanctuary

ANNEXURE VIII I



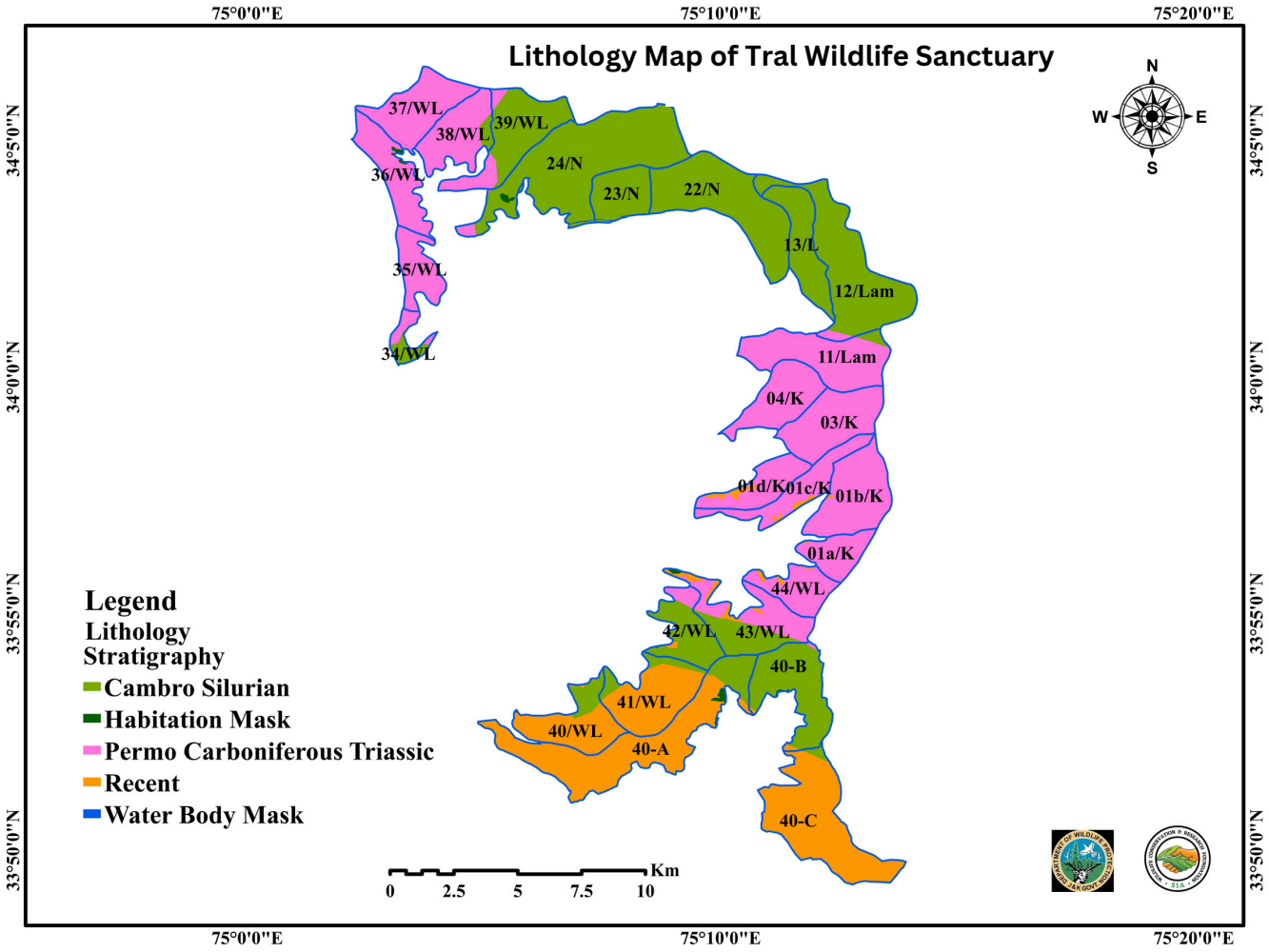
Soil Taxonomy Map of Tral Wildlife Sanctuary

ANNEXURE VIII J



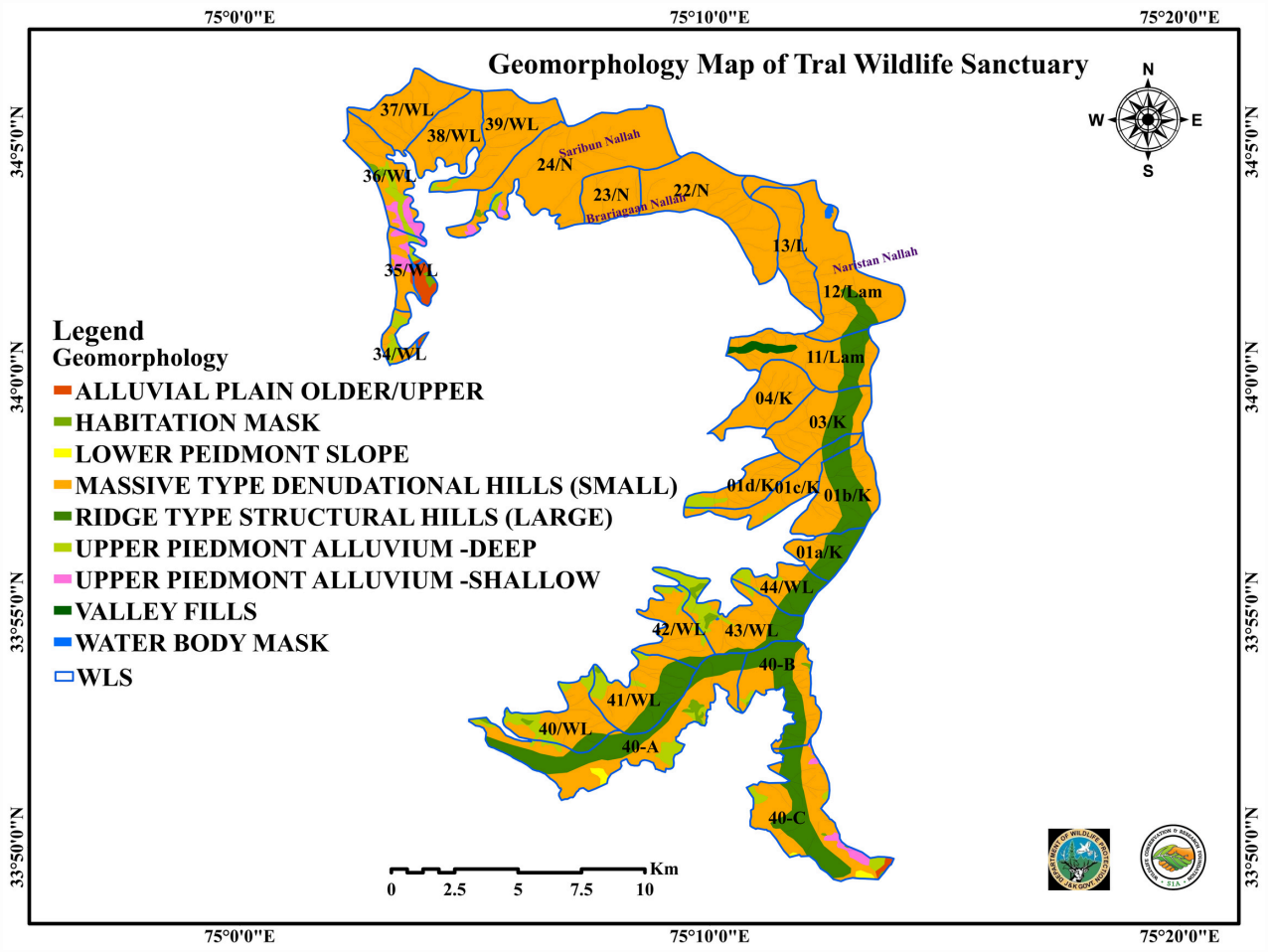
Geology Map of Tral Wildlife Sanctuary

ANNEXURE VIII K



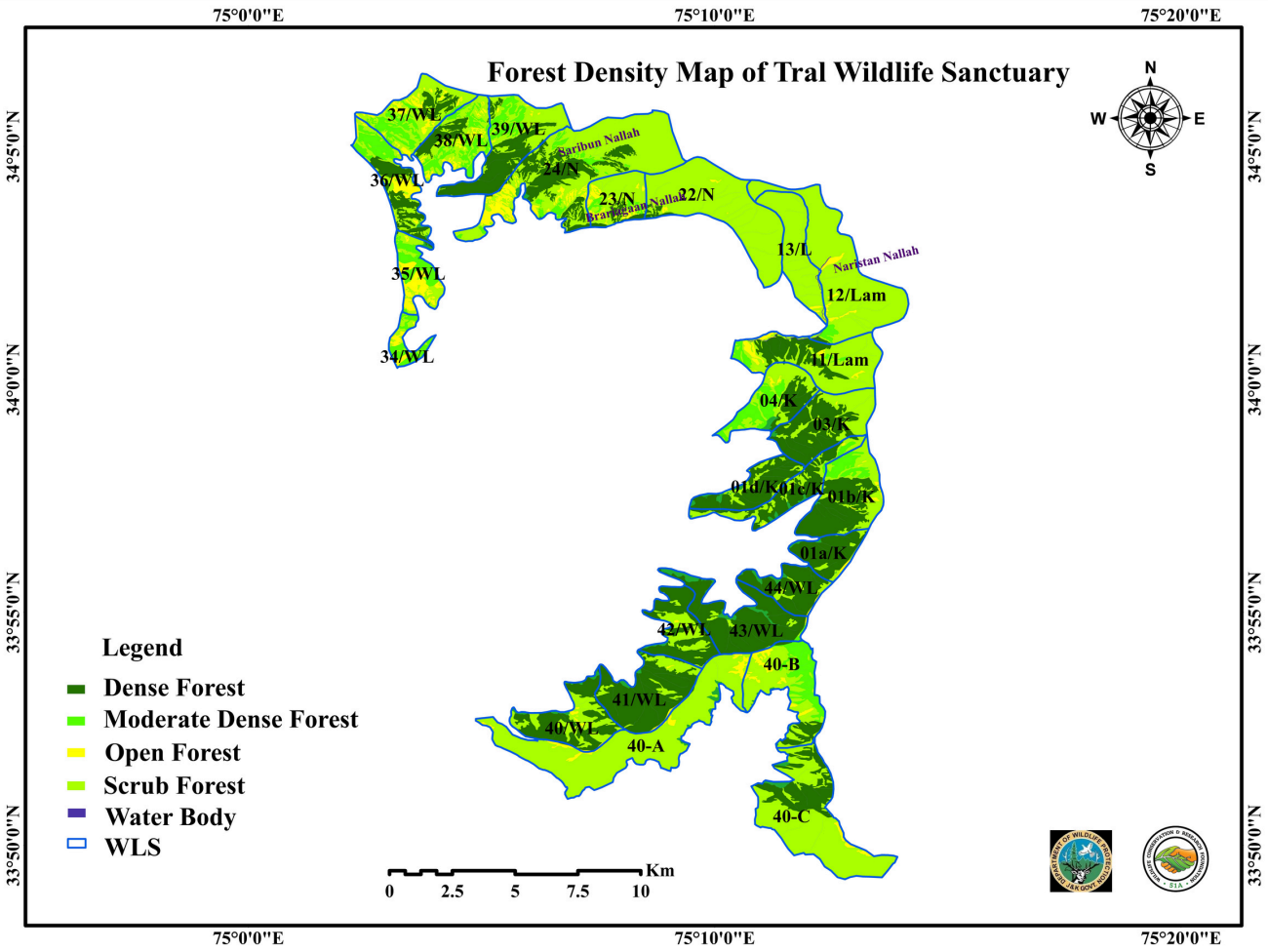
Lithology Map of Tral Wildlife Sanctuary

ANNEXURE VIII L



Geomorphology Map of Tral Wildlife Sanctuary

ANNEXURE VIII L



Forest Density Map of Tral Wildlife Sanctuary

ANNEXURE IX

S.No.	Range	File Name	BP. No	Geo-cordinates	
				N	E
1	Khangund	Hoba Pathri	70	34° 03' 59.1"	75° 04' 02.9"
2	Khangund	Hoba Pathri	71	34° 04' 04.66"	75° 04' 05.7"
3	Khangund	Hoba Pathri	72	34° 04' 09.0"	75° 04' 07.6"
4	Khangund	Hoba Pathri	73	34° 04' 10.51"	75° 04' 09.77"
5	Khangund	Hoba Pathri	74	34° 04' 10.90"	75° 04' 10.96"
6	Khangund	Hoba Pathri	75	34° 04' 10.19"	75° 04' 15.22"
7	Khangund	Hoba Pathri	76	34° 04' 09.53"	75° 04' 19.55"
8	Khangund	Hoba Pathri	77	34° 04' 09.11"	75° 04' 22.65"
9	Khangund	Hoba Pathri	78	34° 04' 10.29"	75° 04' 25.81"
10	Khangund	Hoba Pathri	79	34° 04' 12.11"	75° 04' 28.25"
11	Khangund	Hoba Pathri	80	34° 04' 13.80"	75° 04' 29.45"
12	Khangund	Hoba Pathri	81	34° 04' 14.96"	75° 04' 32.25"
13	Khangund	Hoba Pathri	82	34° 04' 14.96"	75° 04' 34.53"
14	Khangund	Hoba Pathri	83	34° 04' 14.28"	75° 04' 38.53"
15	Khangund	Hoba Pathri	84	34° 04' 14.87"	75° 04' 41.94"
16	Khangund	Hoba Pathri	85	34° 04' 15.25"	75° 04' 45.24"
17	Khangund	Hoba Pathri	86	34° 04' 16.07"	75° 04' 48.87"
18	Khangund	Hoba Pathri	87	34° 04' 15.91"	75° 04' 54.78"
19	Khangund	Hoba Pathri	88	34° 04' 19.39"	75° 04' 54.13"
20	Khangund	Hoba Pathri	89	34° 04' 20.94"	75° 04' 55.65"
21	Khangund	Hoba Pathri	90	34° 04' 23.57"	75° 04' 58.11"
22	Khangund	Hoba Pathri	91	34° 04' 24.81"	75° 05' 00.71"
23	Khangund	Hoba Pathri	92	34° 04' 27.10"	75° 05' 03.00"
24	Khangund	Hoba Pathri	93	34° 04' 28.30"	75° 05' 04.00"
25	Khangund	Hoba Pathri	94	34° 04' 30.70"	75° 05' 06.20"
26	Khangund	Hoba Pathri	95	34° 04' 32.5"	75° 05' 05.02"
27	Khangund	Hoba Pathri	96	34° 04' 33.8"	75° 05' 03.5"
28	Khangund	Hoba Pathri	97	34° 04' 35.3"	75° 05' 03.6"
29	Khangund	Hoba Pathri	98	34° 04' 37.2"	75° 05' 03.4"
30	Khangund	Hoba Pathri	99	34° 04' 37.4"	75° 05' 00.6"
31	Khangund	Hoba Pathri	100	34° 04' 38.7"	75° 05' 59.8"
32	Khangund	Hoba Pathri	101	34° 04' 42.2"	75° 05' 02.7"
33	Khangund	Hoba Pathri	102	34° 04' 45.3"	75° 05' 05.7"
34	Khangund	Hoba Pathri	103	34° 04' 47.7"	75° 05' 03.5"
35	Khangund	Hoba Pathri	104	34° 04' 50.3"	75° 05' 00."
36	Khangund	Hoba Pathri	105	34° 04' 46.7"	75° 04' 57.9"
37	Khangund	Hoba Pathri	106	34° 04' 44.0"	75° 04' 55.8"
38	Khangund	Hoba Pathri	107	34° 04' 41.7"	75° 04' 53.0"
39	Khangund	Hoba Pathri	108	34° 04' 33.4"	75° 04' 53.6"
40	Khangund	Hoba Pathri	109	34° 04' 29.5"	75° 04' 55.1"
41	Khangund	Hoba Pathri	110	34° 04' 24.9"	75° 04' 55.7"
42	Khangund	Hoba Pathri	111	34° 04' 24.0"	75° 04' 54.4"
43	Khangund	Hoba Pathri	112	34° 04' 21.8"	75° 04' 51.6"
44	Khangund	Hoba Pathri	113	34° 04' 20.3"	75° 04' 50.3"

ANNEXURE IX

45	Khangund	Hoba Pathri	114	34° 04' 18.6"	75° 04' 50.1"
46	Khangund	Hoba Pathri	115	34° 04' 19.2"	75° 04' 43.3"
47	Khangund	Hoba Pathri	116	34° 04' 20.0"	75° 04' 40.7"
48	Khangund	Hoba Pathri	117	34° 04' 21.5"	75° 04' 38.6"
49	Khangund	Hoba Pathri	118	34° 04' 30.2"	75° 04' 37.0"
50	Khangund	Hoba Pathri	119	34° 04' 29.3"	75° 04' 34.4"
51	Khangund	Hoba Pathri	120	34° 04' 28.5"	75° 04' 32.2"
52	Khangund	Hoba Pathri	121	34° 04' 25.2"	75° 04' 29.8"
53	Khangund	Hoba Pathri	122	34° 04' 24.4"	75° 04' 26.2"
54	Khangund	Hoba Pathri	123	34° 04' 24.2"	75° 04' 21.8"
55	Khangund	Hoba Pathri	124	34° 04' 34.9"	75° 04' 12.2"
56	Khangund	Hoba Pathri	125	34° 04' 39.3"	75° 04' 05.4"
57	Khangund	Hoba Pathri	126	34° 04' 77.2"	75° 04' 06.9"
58	Khangund	Hoba Pathri	127	34° 04' 30.1"	75° 04' 10.5"
59	Khangund	Hoba Pathri	128	34° 04' 27.2"	75° 04' 11.8"
60	Khangund	Hoba Pathri	129	34° 04' 22.4"	75° 04' 11.9"
61	Khangund	Hoba Pathri	130	34° 04' 24.0"	75° 04' 04.4"
62	Khangund	Hoba Pathri	131	34° 04' 13.56"	75° 03' 56.89"
63	Khangund	Hoba Pathri	132	34° 04' 07.99"	75° 03' 53.39"
64	Khangund	Hoba Pathri	133	34° 04' 10.3"	75° 03' 49.1"
65	Khangund	Hoba Pathri	134	34° 04' 12.1"	75° 03' 46.3"
66	Khangund	Hoba Pathri	135	34° 04' 15.5"	75° 03' 45.0"
67	Khangund	Hoba Pathri	136	34° 04' 21.3"	75° 03' 43.7"
68	Khangund	Hoba Pathri	137	34° 04' 29.7"	75° 03' 42.4"
69	Khangund	Hoba Pathri	138	34° 04' 37.3"	75° 03' 40.2"
70	Khangund	Hoba Pathri	139	34° 04' 39.8"	75° 03' 37.5"
71	Khangund	Hoba Pathri	140	34° 04' 41.9"	75° 03' 35.0"
72	Khangund	Hoba Pathri	141	34° 04' 43.6"	75° 03' 33.5"
73	Khangund	Hoba Pathri	142	34° 04' 47.5"	75° 03' 33.8"
74	Khangund	Hoba Pathri	143	34° 04' 55.2"	75° 03' 33.2"
75	Khangund	Hoba Pathri	144	34° 04' 53.3"	75° 03' 30.8"
76	Khangund	Hoba Pathri	145	34° 04' 51.3"	75° 03' 29.6"
77	Khangund	Hoba Pathri	146	34° 04' 49.0"	75° 03' 30.4"
78	Khangund	Hoba Pathri	147	34° 04' 44.5"	75° 03' 28.0"
79	Khangund	Hoba Pathri	148	34° 04' 42.8"	75° 03' 27.1"
80	Khangund	Hoba Pathri	149	34° 04' 39.1"	75° 03' 28.1"
81	Khangund	Hoba Pathri	150	34° 04' 37.7"	75° 03' 24.9"
82	Khangund	Hoba Pathri	151	34° 04' 46.21"	75° 03' 21.3"
83	Khangund	Hoba Pathri	152	34° 04' 49.8"	75° 03' 16.1"
84	Khangund	Hoba Pathri	153	34° 04' 49.6"	75° 03' 12.2"
85	Khangund	Hoba Pathri	154	34° 04' 50.6"	75° 03' 11.00"
86	Khangund	Hoba Pathri	155	34° 04' 51.5"	75° 03' 09.9"
87	Khangund	Hoba Pathri	156	34° 04' 53.2"	75° 03' 08.3"
88	Khangund	Hoba Pathri	157	34° 04' 49.6"	75° 03' 08.0"
89	Khangund	Hoba Pathri	158	34° 04' 46.5"	75° 03' 08.9"
90	Khangund	Hoba Pathri	159	34° 04' 46.00"	75° 03' 12.8"

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91	Khangund	Hoba Pathri	160	34° 04' 44.4"	75° 03' 15.2"
92	Khangund	Hoba Pathri	161	34° 04' 44.00"	75° 03' 10.00"
93	Khangund	Hoba Pathri	162	34° 04' 41.4"	75° 03' 10.6"
94	Khangund	Hoba Pathri	163	34° 04' 38.7"	75° 03' 15.6"
95	Khangund	Hoba Pathri	164	34° 04' 30.4"	75° 03' 15.2"
96	Khangund	Hoba Pathri	165	34° 04' 34.9"	75° 03' 14.2"
97	Khangund	Hoba Pathri	166	34° 04' 34.2"	75° 03' 16.1"
98	Khangund	Hoba Pathri	167	34° 04' 32.5"	75° 03' 18.8"
99	Khangund	Hoba Pathri	168	34° 04' 31.4"	75° 03' 20.2"
100	Khangund	Hoba Pathri	169	34° 04' 30.9"	75° 03' 23.5"
101	Khangund	Hoba Pathri	170	34° 04' 31.3"	75° 03' 25.8"
102	Khangund	Hoba Pathri	171	34° 04' 32.5"	75° 03' 28.1"
103	Khangund	Hoba Pathri	172	34° 04' 33.8"	75° 03' 29.7"
104	Khangund	Hoba Pathri	173	34° 04' 33.6"	75° 03' 30.5"
105	Khangund	Hoba Pathri	174	34° 04' 29.9"	75° 03' 31.9"
106	Khangund	Hoba Pathri	175	34° 04' 25.7"	75° 03' 33.7"
107	Khangund	Hoba Pathri	176	34° 04' 21.3"	75° 03' 33.9"
108	Khangund	Hoba Pathri	177	34° 04' 16.9"	75° 03' 28.5"
109	Khangund	Hoba Pathri	178	34° 04' 13.4"	75° 03' 28.8"
110	Khangund	Hoba Pathri	179	34° 04' 07.8"	75° 03' 35.5"
111	Khangund	Hoba Pathri	180	34° 04' 05.8"	75° 03' 40.2"
112	Khangund	Hoba Pathri	181	34° 04' 01.5"	75° 03' 43.7"
113	Khangund	Hoba Pathri	182	34° 04' 01.4"	75° 03' 41.6"
114	Khangund	Hoba Pathri	183	34° 04' 01.5"	75° 03' 39.2"
115	Khangund	Hoba Pathri	184	34° 04' 01.50"	75° 03' 39.20"
116	Khangund	Hoba Pathri	185	34° 04' 00.50"	75° 03' 36.40"
117	Khangund	Hoba Pathri	186	34° 03' 59.50"	75° 03' 35.70"
118	Khangund	Hoba Pathri	187	34° 03' 57.20"	75° 03' 34.20"
119	Khangund	Hoba Pathri	188	34° 03' 57.30"	75° 03' 31.80"
120	Khangund	Hoba Pathri	189	34° 03' 56.60"	75° 03' 29.10"
121	Khangund	Hoba Pathri	190	34° 03' 55.80"	75° 03' 26.10"
122	Khangund	Hoba Pathri	191	34° 03' 54.10"	75° 03' 27.40"
123	Khangund	Hoba Pathri	192	34° 03' 51.80"	75° 03' 28.80"
124	Khangund	Hoba Pathri	193	34° 03' 49.40"	75° 03' 30.30"
125	Khangund	Hoba Pathri	194	34° 03' 48.90"	75° 03' 31.90"
126	Khangund	Hoba Pathri	195	34° 03' 47.60"	75° 03' 34.50"
127	Khangund	Hoba Pathri	196	34° 03' 47.00"	75° 03' 35.60"
128	Khangund	Hoba Pathri	197	34° 03' 46.10"	75° 03' 38.80"
129	Khangund	Hoba Pathri	198	34° 03' 44.78"	75° 03' 40.08"
130	Khangund	Hoba Pathri	199	34° 03' 43.60"	75° 03' 42.00"
131	Khangund	Hoba Pathri	200	34° 03' 41.60"	75° 03' 41.60"
132	Khangund	Hoba Pathri	201	34° 03' 41.12"	75° 03' 40.98"
133	Khangund	Hoba Pathri	202	34° 03' 40.54"	75° 03' 40.09"
134	Khangund	Hoba Pathri	203	34° 03' 39.62"	75° 03' 39.23"
135	Khangund	Hoba Pathri	204	34° 03' 39.68"	75° 03' 37.40"
136	Khangund	Hoba Pathri	205	34° 03' 38.14"	75° 03' 36.21"

ANNEXURE IX

137	Khangund	Hoba Pathri	206	34° 03' 35.88"	75° 03' 36.70"
138	Khangund	Hoba Pathri	207	34° 03' 33.98"	75° 03' 36.54"
139	Khangund	Hoba Pathri	208	34° 03' 33.01"	75° 03' 37.35"
140	Khangund	Hoba Pathri	209	34° 03' 32.13"	75° 03' 37.99"
141	Khangund	Hoba Pathri	210	34° 03' 31.33"	75° 03' 40.36"
142	Khangund	Hoba Pathri	211	34° 03' 32.35"	75° 03' 41.39"
143	Khangund	Hoba Pathri	212	34° 03' 32.42"	75° 03' 43.44"
144	Khangund	Hoba Pathri	213	34° 03' 30.72"	75° 03' 45.01"
145	Khangund	Hoba Pathri	214	34° 03' 28.39"	75° 03' 46.62"
146	Khangund	Hoba Pathri	215	34° 03' 26.86"	75° 03' 48.41"
147	Khangund	Hoba Pathri	216	34° 03' 26.17"	75° 03' 46.69"
148	Khangund	Hoba Pathri	217	34° 03' 25.66"	75° 03' 45.54"
149	Khangund	Hoba Pathri	218	34° 03' 25.18"	75° 03' 44.18"
150	Khangund	Hoba Pathri	219	34° 03' 25.41"	75° 03' 42.42"
151	Khangund	Hoba Pathri	220	34° 03' 23.27"	75° 03' 40.92"
152	Khangund	Hoba Pathri	221	34° 03' 23.90"	75° 03' 40.04"
153	Khangund	Hoba Pathri	222	34° 03' 18.59"	75° 03' 36.39"
154	Khangund	Hoba Pathri	223	34° 03' 14.83"	75° 03' 35.85"
155	Khangund	Hoba Pathri	224	34° 03' 14.70"	75° 03' 39.79"
156	Khangund	Hoba Pathri	225	34° 03' 14.51"	75° 03' 42.89"
157	Khangund	Hoba Pathri	226	34° 03' 14.77"	75° 03' 46.07"
158	Khangund	Hoba Pathri	227	34° 03' 16.11"	75° 03' 48.93"
159	Khangund	Hoba Pathri	228	34° 03' 17.40"	75° 03' 52.72"
160	Khangund	Hoba Pathri	229	34° 03' 18.43"	75° 03' 57.14"
161	Khangund	Aripal Rakh	55	34° 01' 34.05"	75° 04' 05.41"
162	Khangund	Aripal Rakh	56	34° 01' 28.04"	75° 04' 03.35"
163	Khangund	Aripal Rakh	57	34° 01' 30.90"	75° 03' 59.79"
164	Khangund	Aripal Rakh	58	34° 01' 32.20"	75° 03' 57.26"
165	Khangund	Aripal Rakh	59	34° 01' 38.33"	75° 03' 55.50"
166	Khangund	Aripal Rakh	60	34° 01' 35.22"	75° 03' 52.89"
167	Khangund	Aripal Rakh	61	34° 01' 38.76"	75° 03' 49.91"
168	Khangund	Aripal Rakh	62	34° 01' 39.64"	75° 03' 49.62"
169	Khangund	Aripal Rakh	63	34° 01' 41.35"	75° 03' 49.06"
170	Khangund	Aripal Rakh	64	34° 01' 45.45"	75° 03' 49.72"
171	Khangund	Aripal Rakh	65	34° 01' 44.52"	75° 03' 47.60"
172	Khangund	Aripal Rakh	66	34° 01' 43.46"	75° 03' 46.81"
173	Khangund	Aripal Rakh	67	34° 01' 43.26"	75° 03' 45.12"
174	Khangund	Aripal Rakh	68	34° 01' 42.88"	75° 03' 45.17"
175	Khangund	Aripal Rakh	69	34° 01' 43.18"	75° 03' 43.34"
176	Khangund	Aripal Rakh	70	34° 01' 43.87"	75° 03' 42.64"
177	Khangund	Aripal Rakh	71	34° 01' 42.95"	75° 03' 41.84"
178	Khangund	Aripal Rakh	72	34° 01' 37.90"	75° 03' 43.66"
179	Khangund	Aripal Rakh	73	34° 01' 41.00"	75° 03' 34.42"
180	Khangund	Aripal Rakh	74	34° 01' 38.65"	75° 03' 35.33"
181	Khangund	Aripal Rakh	75	34° 01' 36.62"	75° 03' 35.79"
182	Khangund	Aripal Rakh	76	34° 01' 34.37"	75° 03' 36.36"

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183	Khangund	Aripal Rakh	77	34° 01' 31.89"	75° 03' 36.80"
184	Khangund	Aripal Rakh	78	34° 01' 30.77"	75° 03' 39.46"
185	Khangund	Aripal Rakh	79	34° 01' 29.81"	75° 03' 40.33"
186	Khangund	Aripal Rakh	80	34° 01' 27.07"	75° 03' 39.77"
187	Khangund	Aripal Rakh	81	34° 01' 27.54"	75° 03' 38.60"
188	Khangund	Aripal Rakh	82	34° 01' 24.32"	75° 03' 35.71"
189	Khangund	Aripal Rakh	83	34° 01' 23.39"	75° 03' 36.60"
190	Khangund	Aripal Rakh	84	34° 01' 22.19"	75° 03' 37.01"
191	Khangund	Aripal Rakh	85	34° 01' 21.06"	75° 03' 37.54"
192	Khangund	Aripal Rakh	86	34° 01' 56.56"	75° 03' 38.41"
193	Khangund	Aripal Rakh	87	34° 01' 19.85"	75° 03' 39.76"
194	Khangund	Aripal Rakh	88	34° 01' 19.33"	75° 01' 41.12"
195	Khangund	Aripal Rakh	89	34° 01' 20.31"	75° 03' 41.95"
196	Khangund	Aripal Rakh	90	34° 01' 17.93"	75° 03' 42.65"
197	Khangund	Aripal Rakh	91	34° 01' 17.53"	75° 03' 45.91"
198	Khangund	Aripal Rakh	92	34° 01' 17.36"	75° 03' 47.33"
199	Khangund	Aripal Rakh	93	34° 01' 15.43"	75° 03' 46.90"
200	Khangund	Aripal Rakh	94	34° 01' 13.02"	75° 03' 47.15"
201	Khangund	Aripal Rakh	95	34° 01' 10.83"	75° 07' 36.57"
202	Khangund	Aripal Rakh	96	34° 01' 09.39"	75° 03' 36.80"
203	Khangund	Aripal Rakh	97	34° 01' 08.90"	75° 03' 35.66"
204	Khangund	Aripal Rakh	98	34° 01' 60.27"	75° 03' 30.85"
205	Khangund	Aripal Rakh	99	34° 01' 03.55"	75° 03' 35.10"
206	Khangund	Aripal Rakh	100	34° 00' 57.30"	75° 03' 36.10"
207	Khangund	Aripal Rakh	101	34° 00' 58.50"	75° 03' 94.81"
208	Khangund	Aripal Rakh	102	34° 00' 57.76"	75° 03' 22.52"
209	Khangund	Aripal Rakh	103	34° 00' 56.27"	75° 03' 30.00"
210	Khangund	Aripal Rakh	104	34° 00' 57.92"	75° 03' 29.37"
211	Khangund	Aripal Rakh	105	34° 00' 50.29"	75° 03' 28.60"
212	Khangund	Aripal Rakh	106	34° 00' 53.33"	75° 03' 20.35"
213	Khangund	Aripal Rakh	107	34° 00' 52.92"	75° 03' 26.32"
214	Khangund	Aripal Rakh	108	34° 00' 55.16"	75° 03' 23.00"
215	Khangund	Aripal Rakh	109	34° 00' 50.99"	75° 03' 22.91"
216	Khangund	Aripal Rakh	110	34° 00' 50.41"	75° 03' 21.02"
217	Khangund	Aripal Rakh	111	34° 00' 48.25"	75° 03' 20.39"
218	Khangund	Aripal Rakh	112	34° 00' 43.99"	75° 03' 28.71"
219	Khangund	Aripal Rakh	113	34° 00' 48.55"	75° 03' 24.10"
220	Khangund	Aripal Rakh	114	34° 00' 48.13"	75° 03' 26.49"
221	Khangund	Aripal Rakh	115	34° 00' 48.40"	75° 03' 29.41"
222	Khangund	Aripal Rakh	116	34° 00' 49.54"	75° 03' 32.82"
223	Khangund	Aripal Rakh	117	34° 00' 50.79"	75° 03' 36.20"
224	Khangund	Aripal Rakh	118	34° 00' 48.14"	75° 03' 37.97"
225	Khangund	Aripal Rakh	119	34° 00' 45.60"	75° 03' 35.40"
226	Khangund	Aripal Rakh	120	34° 00' 44.71"	75° 03' 35.70"
227	Khangund	Aripal Rakh	121	34° 00' 43.19"	75° 03' 36.18"
228	Khangund	Aripal Rakh	122	34° 00' 37.82"	75° 03' 30.01"

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229	Khangund	Aripal Rakh	123	34° 00' 37.54"	75° 03' 28.12"
230	Khangund	Aripal Rakh	124	34° 00' 36.05"	75° 03' 37.54"
231	Khangund	Aripal Rakh	125	34° 00' 36.09"	75° 03' 29.6"
232	Khangund	Aripal Rakh	126	34° 00' 33.07"	75° 03' 29.91"
233	Khangund	Aripal Rakh	127	34° 00' 32.66"	75° 03' 29.14"
234	Khangund	Aripal Rakh	128	34° 00' 31.80"	75° 03' 22.80"
235	Khangund	Aripal Rakh	129	34° 00' 28.82"	75° 03' 22.85"
236	Khangund	Aripal Rakh	130	34° 00' 30.50"	75° 03' 34.43"
237	Khangund	Aripal Rakh	131	34° 00' 31.32"	75° 03' 32.31"
238	Khangund	Aripal Rakh	132	34° 00' 32.71"	75° 03' 35.05"
239	Khangund	Aripal Rakh	133	34° 00' 32.98"	75° 03' 37.41"
240	Khangund	Aripal Rakh	134	34° 00' 32.30"	75° 03' 40.52"
241	Khangund	Aripal Rakh	135	34° 00' 33.31"	75° 03' 35.40"
242	Khangund	Aripal Rakh	136	34° 00' 38.73"	75° 03' 40.33"
243	Khangund	Aripal Rakh	137	34° 00' 38.73"	75° 03' 40.33"
244	Khangund	Aripal Rakh	138	34° 00' 40.29"	75° 03' 41.70"
245	Khangund	Aripal Rakh	139	34° 00' 42.24"	75° 03' 41.45"
246	Khangund	Aripal Rakh	140	34° 00' 41.52"	75° 03' 45.33"
247	Khangund	Aripal Rakh	141	34° 00' 43.54"	75° 03' 49.80"
248	Khangund	Aripal Rakh	142	34° 00' 45.80"	75° 03' 47.51"
249	Khangund	Aripal Rakh	143	34° 00' 47.27"	75° 03' 18.10"
250	Khangund	Aripal Rakh	144	34° 00' 40.11"	75° 03' 50.02"
251	Khangund	Aripal Rakh	145	34° 00' 52.41"	75° 03' 51.57"
252	Khangund	Aripal Rakh	146	34° 00' 52.76"	75° 03' 52.91"
253	Khangund	Aripal Rakh	147	34° 00' 53.32"	75° 03' 56.67"
254	Khangund	Aripal Rakh	148	34° 00' 55.61"	75° 03' 56.70"
255	Khangund	Aripal Rakh	149	34° 00' 56.51"	75° 03' 56.88"
256	Khangund	Aripal Rakh	150	34° 00' 58.50"	75° 03' 58.85"
257	Khangund	Aripal Rakh	151	34° 00' 59.47"	75° 03' 59.01"
258	Khangund	Aripal Rakh	152	34° 01' 06.03"	75° 04' 00.12"
259	Khangund	Aripal Rakh	153	34° 01' 00.08"	75° 04' 01.78"
260	Khangund	Aripal Rakh	154	34° 01' 00.51"	75° 04' 03.67"
261	Khangund	Aripal Rakh	155	34° 01' 00.27"	75° 04' 06.25"
262	Khangund	Aripal Rakh	156	34° 01' 00.80"	75° 04' 07.41"
263	Khangund	Aripal Rakh	157	34° 01' 02.98"	75° 04' 09.42"
264	Khangund	Aripal Rakh	158	34° 01' 00.56"	75° 04' 10.82"
265	Khangund	Aripal Rakh	159	34° 00' 54.33"	75° 04' 12.05"
266	Khangund	Aripal Rakh	160	34° 00' 45.13"	75° 04' 09.95"
267	Khangund	Aripal Rakh	161	34° 00' 33.44"	75° 04' 09.49"
268	Khangund	Aripal Rakh	162	34° 00' 23.31"	75° 04' 11.64"
269	Khangund	Aripal Rakh	163	34° 00' 21.18"	75° 04' 10.77"
270	Khangund	Aripal Rakh	164	34° 00' 13.45"	75° 04' 11.18"
271	Khangund	Aripal Rakh	165	34° 00' 13.35"	75° 04' 08.92"
272	Khangund	Aripal Rakh	166	34° 00' 12.00"	75° 04' 09.15"
273	Khangund	Aripal Rakh	167	34° 00' 10.06"	75° 04' 09.22"
274	Khangund	Aripal Rakh	168	34° 00' 07.95"	75° 04' 09.81"

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275	Khangund	Aripal Rakh	169	34° 00' 08.75"	75° 04' 12.51"
276	Khangund	Aripal Rakh	170	34° 00' 06.47"	75° 04' 14.11"
277	Khangund	Aripal Rakh	171	34° 00' 05.66"	75° 04' 12.13"
278	Khangund	Aripal Rakh	172	34° 00' 04.77"	75° 04' 13.30"
279	Khangund	Aripal Rakh	173	34° 00' 04.02"	75° 04' 14.54"
280	Khangund	Aripal Rakh	174	34° 00' 02.61"	75° 04' 15.43"
281	Khangund	Aripal Rakh	175	34° 00' 60.65"	75° 04' 16.51"
282	Khangund	Aripal Rakh	176	33° 59' 57.82"	75° 04' 17.05"
283	Khangund	Aripal Rakh	177	33° 99' 84.32"	75° 04' 15.05"
284	Khangund	Aripal Rakh	178	33° 59' 49.44"	75° 04' 17.34"
285	Tral	Panyer bathnoor	1	33° 55' 54.42"	75° 10' 45.26"
286	Tral	Panyer bathnoor	2	33° 55' 54.41"	75° 10' 46.64"
287	Tral	Panyer bathnoor	3	33° 55' 54.79"	75° 10' 47.28"
288	Tral	Panyer bathnoor	4	33° 55' 54.75"	75° 10' 48.40"
289	Tral	Panyer bathnoor	5	33° 55' 54.18"	75° 10' 48.85"
290	Tral	Panyer bathnoor	6	33° 55' 53.81"	75° 10' 48.41"
291	Tral	Panyer bathnoor	7	33° 55' 53.35"	75° 10' 48.05"
292	Tral	Panyer bathnoor	8	33° 55' 52.60"	75° 10' 48.15"
293	Tral	Panyer bathnoor	9	33° 55' 51.85"	75° 10' 47.99"
294	Tral	Panyer bathnoor	10	33° 55' 51.48"	75° 10' 48.37"
295	Tral	Panyer bathnoor	11	33° 55' 50.52"	75° 10' 48.88"
296	Tral	Panyer bathnoor	12	33° 55' 50.21"	75° 10' 49.46"
297	Tral	Panyer bathnoor	13	33° 55' 49.47"	75° 10' 49.58"
298	Tral	Panyer bathnoor	14	33° 55' 47.86"	75° 10' 50.51"
299	Tral	Panyer bathnoor	15	33° 55' 46.13"	75° 10' 52.13"
300	Tral	Panyer bathnoor	16	33° 55' 44.43"	75° 10' 53.48"
301	Tral	Panyer bathnoor	17	33° 55' 43.85"	75° 10' 53.66"
302	Tral	Panyer bathnoor	18	33° 55' 42.92"	75° 10' 53.45"
303	Tral	Panyer bathnoor	19	33° 55' 41.84"	75° 10' 53.18"
304	Tral	Panyer bathnoor	20	33° 55' 40.92"	75° 10' 53.87"
305	Tral	Panyer bathnoor	21	33° 55' 39.64"	75° 10' 54.90"
306	Tral	Panyer bathnoor	22	33° 55' 38.69"	75° 10' 55.93"
307	Tral	Panyer bathnoor	23	33° 55' 38.86"	75° 10' 57.06"
308	Tral	Panyer bathnoor	24	33° 55' 38.41"	75° 10' 57.89"
309	Tral	Panyer bathnoor	25	33° 55' 37.44"	75° 10' 58.81"
310	Tral	Panyer bathnoor	26	33° 55' 37.79"	75° 11' 0.27"
311	Tral	Panyer bathnoor	27	33° 55' 38.73"	75° 11' 0.88"
312	Tral	Panyer bathnoor	28	33° 55' 39.68"	75° 11' 1.58"
313	Tral	Panyer bathnoor	29	33° 55' 40.94"	75° 11' 2.37"
314	Tral	Panyer bathnoor	30	33° 55' 41.67"	75° 11' 03.10"
315	Tral	Panyer bathnoor	31	33° 55' 41.97"	75° 11' 01.22"
316	Tral	Panyer bathnoor	32	33° 55' 42.63"	75° 11' 01.44"
317	Tral	Panyer bathnoor	33	33° 55' 43.36"	75° 11' 02.52"
318	Tral	Panyer bathnoor	34	33° 55' 43.73"	75° 11' 04.22"
319	Tral	Panyer bathnoor	35	33° 55' 44.97"	75° 11' 04.79"
320	Tral	Panyer bathnoor	36	33° 55' 45.74"	75° 11' 04.62"

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321	Tral	Panyer bathnoor	37	33° 55' 46.49"	75° 11' 03.89"
322	Tral	Panyer bathnoor	38	33° 55' 47.55"	75° 11' 03.24"
323	Tral	Panyer bathnoor	39	33° 55' 47.99"	75° 11' 02.49"
324	Tral	Panyer bathnoor	40	33° 55' 48.77"	75° 11' 01.40"
325	Tral	Panyer bathnoor	41	33° 55' 49.41"	75° 11' 0.96"
326	Tral	Panyer bathnoor	42	33° 55' 49.86"	75° 11' 0.41"
327	Tral	Panyer bathnoor	43	33° 55' 51.03"	75° 11' 0.34"
328	Tral	Panyer bathnoor	44	33° 55' 52.47"	75° 11' 0.15"
329	Tral	Panyer bathnoor	45	33° 55' 53.68"	75° 10' 59.44"
330	Tral	Panyer bathnoor	46	33° 55' 54.48"	75° 10' 59.29"
331	Tral	Panyer bathnoor	47	33° 55' 55.64"	75° 10' 59.18"
332	Tral	Panyer bathnoor	48	33° 55' 57.37"	75° 10' 58.60"
333	Tral	Panyer bathnoor	49	33° 55' 57.32"	75° 11' 0.52"
334	Tral	Panyer bathnoor	50	33° 55' 58.14"	75° 11' 02.04"
335	Tral	Panyer bathnoor	51	33° 55' 58.21"	75° 11' 03.60"
336	Tral	Panyer bathnoor	52	33° 55' 58.59"	75° 11' 05.65"
337	Tral	Panyer bathnoor	53	33° 55' 58.62"	75° 11' 08.84"
338	Tral	Panyer bathnoor	54	33° 55' 58.11"	75° 11' 08.25"
339	Tral	Panyer bathnoor	55	33° 55' 57.90"	75° 11' 09.17"
340	Tral	Panyer bathnoor	56	33° 55' 56.68"	75° 11' 09.11"
341	Tral	Panyer bathnoor	57	33° 55' 54.98"	75° 11' 08.25"
342	Tral	Panyer bathnoor	58	33° 55' 53.09"	75° 11' 07.04"
343	Tral	Panyer bathnoor	59	33° 55' 50.35"	75° 11' 06.96"
344	Tral	Panyer bathnoor	60	33° 55' 48.86"	75° 11' 07.39"
345	Tral	Panyer bathnoor	61	33° 55' 47.51"	75° 11' 07.59"
346	Tral	Panyer bathnoor	62	33° 55' 46.51"	75° 11' 08.99"
347	Tral	Panyer bathnoor	63	33° 55' 45.29"	75° 11' 09.91"
348	Tral	Panyer bathnoor	64	33° 55' 43.95"	75° 11' 11.94"
349	Tral	Panyer bathnoor	65	33° 55' 42.56"	75° 11' 14.45"
350	Tral	Panyer bathnoor	66	33° 55' 41.15"	75° 11' 16.45"
351	Tral	Panyer bathnoor	67	33° 55' 40.19"	75° 11' 17.61"
352	Tral	Panyer bathnoor	68	33° 55' 39.18"	75° 11' 18.73"
353	Tral	Panyer bathnoor	69	33° 55' 38.13"	75° 11' 18.98"
354	Tral	Panyer bathnoor	70	33° 55' 37.15"	75° 11' 21.67"
355	Tral	Panyer bathnoor	71	33° 55' 37.41"	75° 11' 22.66"
356	Tral	Panyer bathnoor	72	33° 55' 37.76"	75° 11' 23.33"
357	Tral	Panyer bathnoor	73	33° 55' 39.50"	75° 11' 24.03"
358	Tral	Panyer bathnoor	74	33° 55' 40.29"	75° 11' 24.30"
359	Tral	Panyer bathnoor	75	33° 55' 41.21"	75° 11' 24.84"
360	Tral	Panyer bathnoor	76	33° 55' 42.03"	75° 11' 25.46"
361	Tral	Panyer bathnoor	77	33° 55' 43.38"	75° 11' 27.74"
362	Tral	Panyer bathnoor	78	33° 55' 43.79"	75° 11' 28.99"
363	Tral	Panyer bathnoor	79	33° 55' 43.85"	75° 11' 34.39"
364	Tral	Panyer bathnoor	80	33° 55' 46.68"	75° 11' 31.92"
365	Tral	Panyer bathnoor	81	33° 55' 47.23"	75° 11' 31.16"
366	Tral	Panyer bathnoor	82	33° 55' 48.19"	75° 11' 30.43"

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367	Tral	Panyer bathnoor	83	33° 55' 48.31"	75° 11' 29.41"
368	Tral	Panyer bathnoor	84	33° 55' 49.16"	75° 11' 28.30"
369	Tral	Panyer bathnoor	85	33° 55' 49.90"	75° 11' 26.27"
370	Tral	Panyer bathnoor	86	33° 55' 49.43"	75° 11' 24.98"
371	Tral	Panyer bathnoor	87	33° 55' 50.24"	75° 11' 23.27"
372	Tral	Panyer bathnoor	88	33° 55' 51.58"	75° 11' 20.87"
373	Tral	Panyer bathnoor	89	33° 55' 54.07"	75° 11' 19.72"
374	Tral	Panyer bathnoor	90	33° 55' 54.51"	75° 11' 21.50"
375	Tral	Panyer bathnoor	91	33° 55' 55.63"	75° 11' 22.37"
376	Tral	Panyer bathnoor	92	33° 55' 56.80"	75° 11' 21.91"
377	Tral	Panyer bathnoor	93	33° 55' 58.55"	75° 11' 20.59"
378	Tral	Panyer bathnoor	94	33° 55' 59.92"	75° 11' 20.64"
379	Tral	Panyer bathnoor	95	33° 55' 00.96"	75° 11' 20.36"
380	Tral	Panyer bathnoor	96	33° 55' 01.94"	75° 11' 19.87"
381	Tral	Panyer bathnoor	97	33° 55' 02.61"	75° 11' 19.68"
382	Tral	Panyer bathnoor			
383	Tral	Panyer bathnoor	98	33° 55' 03.90"	75° 11' 19.85"
384	Tral	Panyer bathnoor	99	33° 56' 03.70"	75° 11' 22.48"
385	Tral	Panyer bathnoor	100	33° 56' 03.33"	75° 11' 23.43"
386	Tral	Panyer bathnoor	101	33° 56' 02.21"	75° 11' 24.42"
387	Tral	Panyer bathnoor	102	33° 56' 00.87"	75° 11' 25.93"
388	Tral	Panyer bathnoor	103	33° 56' 01.90"	75° 11' 27.43"
389	Tral	Panyer bathnoor	104	33° 56' 01.87"	75° 11' 29.14"
390	Tral	Panyer bathnoor	105	33° 56' 02.08"	75° 11' 31.07"
391	Tral	Panyer bathnoor	106	33° 56' 01.90"	75° 11' 33.35"
392	Tral	Panyer bathnoor	107	33° 56' 01.71"	75° 11' 34.57"
393	Tral	Panyer bathnoor	108	33° 56' 01.73"	75° 11' 35.66"
394	Tral	Panyer bathnoor	109	33° 56' 01.12"	75° 11' 37.67"
395	Tral	Panyer bathnoor	110	33° 56' 01.01"	75° 11' 38.45"
396	Tral	Panyer bathnoor	111	33° 56' 00.83"	75° 11' 39.24"
397	Tral	Panyer bathnoor	112	33° 56' 00.37"	75° 11' 41.53"
398	Tral	Panyer bathnoor	113	33° 55' 59.42"	75° 11' 43.53"
399	Tral	Panyer bathnoor	114	33° 55' 58.90"	75° 11' 45.17"
400	Tral	Panyer bathnoor	115	33° 55' 58.44"	75° 11' 47.33"
401	Tral	Panyer bathnoor	116	33° 55' 58.20"	75° 11' 49.43"
402	Tral	Panyer bathnoor	117	33° 55' 58.02"	75° 11' 51.28"
403	Tral	Panyer bathnoor	118	33° 55' 58.55"	75° 11' 52.42"
404	Tral	Panyer bathnoor	119	33° 55' 57.87"	75° 11' 53.51"
405	Tral	Panyer bathnoor	120	33° 55' 57.54"	75° 11' 55.11"
406	Tral	Panyer bathnoor	121	33° 55' 57.27"	75° 11' 56.14"
407	Tral	Panyer bathnoor	122	33° 55' 59.64"	75° 11' 55.22"
408	Tral	Panyer bathnoor	123	33° 55' 00.28"	75° 11' 53.55"
409	Tral	Panyer bathnoor	124	33° 55' 00.93"	75° 11' 52.28"
410	Tral	Panyer bathnoor	125	33° 55' 00.98"	75° 11' 51.90"
411	Tral	Panyer bathnoor	126	33° 55' 01.19"	75° 11' 50.61"
412	Tral	Dazi Hafoo Pinglish	1	33° 54' 13.0"	75° 08' 23.4"

ANNEXURE IX

413	Tral	Dazi Hafoo Pinglish	2	33° 54' 12.5"	75° 07' 25.3"
414	Tral	Dazi Hafoo Pinglish	3	33° 65' 34.1"	75° 07' 46.3"
415	Tral	Dazi Hafoo Pinglish	4	33° 54' 11.9"	75° 08' 30.3"
416	Tral	Dazi Hafoo Pinglish	5	33° 54' 12.2"	75° 08' 33.2"
417	Tral	Dazi Hafoo Pinglish	6	33° 54' 31.7"	75° 08' 41.2"
418	Tral	Dazi Hafoo Pinglish	7	33° 54' 13.8"	75° 08' 41.0"
419	Tral	Dazi Hafoo Pinglish	8	33° 54' 15.0"	75° 08' 43.0"
420	Tral	Dazi Hafoo Pinglish	9	33° 54' 15.2"	75° 08' 46.6"
421	Tral	Dazi Hafoo Pinglish	10	33° 54' 16.3"	75° 08' 51.9"
422	Tral	Dazi Hafoo Pinglish	11	33° 54' 16.8"	75° 08' 54.5"
423	Tral	Dazi Hafoo Pinglish	12	33° 54' 19.8"	75° 08' 58.2"
424	Tral	Dazi Hafoo Pinglish	13	33° 54' 20.4"	75° 08' 59.4"
425	Tral	Dazi Hafoo Pinglish	14	33° 54' 23.1"	75° 09' 1.18"
426	Tral	Dazi Hafoo Pinglish	15	33° 54' 24.0"	75° 09' 1.08"
427	Tral	Dazi Hafoo Pinglish	16	33° 54' 24.8"	75° 08' 59.6"
428	Tral	Dazi Hafoo Pinglish	17	33° 54' 17.4"	75° 08' 58.3"
429	Tral	Dazi Hafoo Pinglish	18	33° 54' 28.3"	75° 08' 59.0"
430	Tral	Dazi Hafoo Pinglish	19	33° 54' 29.8"	75° 08' 56.2"
431	Tral	Dazi Hafoo Pinglish	20	33° 54' 30.23"	75° 08' 57.07"
432	Tral	Dazi Hafoo Pinglish	21	33° 54' 30.7"	75° 08' 57.1"
433	Tral	Dazi Hafoo Pinglish	22	33° 54' 31.8"	75° 08' 57.5"
434	Tral	Dazi Hafoo Pinglish	23	33° 54' 32.6"	75° 08' 57.6"
435	Tral	Dazi Hafoo Pinglish	24	33° 54' 31.2"	75° 08' 57.6"
436	Tral	Dazi Hafoo Pinglish	25	33° 54' 32.1"	75° 08' 00.1"
437	Tral	Dazi Hafoo Pinglish	26	33° 54' 38.5"	75° 09' 00.5"
438	Tral	Dazi Hafoo Pinglish	27	33° 54' 38.5"	75° 09' 00.5"
439	Tral	Dazi Hafoo Pinglish	28	33° 54' 38.5"	75° 09' 00.5"
440	Tral	Dazi Hafoo Pinglish	29	33° 54' 38.5"	75° 09' 00.5"
441	Tral	Dazi Hafoo Pinglish	30	33° 54' 38.5"	75° 09' 00.5"
442	Tral	Dazi Hafoo Pinglish	31	33° 54' 38.5"	75° 09' 00.4"
443	Tral	Dazi Hafoo Pinglish	32	33° 54' 38.5"	75° 08' 59.6"
444	Tral	Dazi Hafoo Pinglish	33	33° 54' 38.4"	75° 08' 58.1"
445	Tral	Dazi Hafoo Pinglish	34	33° 54' 37.9"	75° 08' 56.6"
446	Tral	Dazi Hafoo Pinglish	35	33° 54' 37.8"	75° 08' 54.7"
447	Tral	Dazi Hafoo Pinglish	36	33° 54' 41.1"	75° 08' 51.8"
448	Tral	Dazi Hafoo Pinglish	37	33° 54' 42.3"	75° 08' 52.1"
449	Tral	Dazi Hafoo Pinglish	38	33° 54' 42.4"	75° 08' 53.0"
450	Tral	Dazi Hafoo Pinglish	39	33° 54' 43.3"	75° 08' 53.6"
451	Tral	Dazi Hafoo Pinglish	40	33° 54' 44.8"	75° 08' 53.4"
452	Tral	Dazi Hafoo Pinglish	41	33° 54' 44.8"	75° 08' 53.6"
453	Tral	Dazi Hafoo Pinglish	42	33° 54' 45.0"	75° 08' 53.3"
454	Tral	Dazi Hafoo Pinglish	43	33° 54' 45.6"	75° 08' 53.2"
455	Tral	Dazi Hafoo Pinglish	44	33° 54' 45.9"	75° 08' 52.8"
456	Tral	Dazi Hafoo Pinglish	44	33° 54' 45.0"	75° 08' 51.8"
457	Tral	Dazi Hafoo Pinglish	45	33° 54' 45.0"	75° 08' 51.8"
458	Tral	Dazi Hafoo Pinglish	46	33° 54' 43.9"	75° 08' 50.0"

ANNEXURE IX

459	Tral	Dazi Hafoo Pinglish	47	33° 54' 41.8"	75° 08' 48.2"
460	Tral	Dazi Hafoo Pinglish	48	33° 54' 41.2"	75° 08' 47.7"
461	Tral	Dazi Hafoo Pinglish	49	33° 54' 40.9"	75° 08' 46.9"
462	Tral	Dazi Hafoo Pinglish	50	33° 54' 40.8"	75° 08' 46.0"
463	Tral	Dazi Hafoo Pinglish	51	33° 54' 41.0"	75° 08' 45.5"
464	Tral	Dazi Hafoo Pinglish	52	33° 54' 39.7"	75° 08' 44.1"
465	Tral	Dazi Hafoo Pinglish	53	33° 54' 38.0"	75° 08' 41.2"
466	Tral	Dazi Hafoo Pinglish	54	33° 54' 37.2"	75° 08' 40.2"
467	Tral	Dazi Hafoo Pinglish	55	33° 55' 45.9"	75° 08' 38.6"
468	Tral	Dazi Hafoo Pinglish	56	33° 54' 36.5"	75° 08' 37.7"
469	Tral	Dazi Hafoo Pinglish	57	33° 54' 38.6"	75° 08' 35.7"
470	Tral	Dazi Hafoo Pinglish	58	33° 54' 35.2"	75° 08' 35.2"
471	Tral	Dazi Hafoo Pinglish	59	33° 54' 38.1"	75° 08' 34.9"
472	Tral	Dazi Hafoo Pinglish	60	33° 54' 37.7"	75° 08' 33.5"
473	Tral	Dazi Hafoo Pinglish	61	33° 54' 38.7"	75° 08' 31.9"
474	Tral	Dazi Hafoo Pinglish	62	33° 54' 39.0"	75° 08' 30.9"
475	Tral	Dazi Hafoo Pinglish	63	33° 54' 39.8"	75° 08' 29.5"
476	Tral	Dazi Hafoo Pinglish	64	33° 54' 39.6"	75° 08' 28.0"
477	Tral	Dazi Hafoo Pinglish	65	33° 54' 40.1"	75° 08' 26.4"
478	Tral	Dazi Hafoo Pinglish	66	33° 54' 41.4"	75° 08' 24.3"
479	Tral	Dazi Hafoo Pinglish	67	33° 54' 44.0"	75° 08' 25.3"
480	Tral	Dazi Hafoo Pinglish	68	33° 54' 45.4"	75° 08' 25.5"
481	Tral	Dazi Hafoo Pinglish	69	33° 54' 47.5"	75° 08' 25.4"
482	Tral	Dazi Hafoo Pinglish	70	33° 54' 51.0"	75° 08' 25.6"
483	Tral	Dazi Hafoo Pinglish	71	33° 54' 51.9"	75° 08' 24.0"
484	Tral	Dazi Hafoo Pinglish	72	33° 54' 54.4"	75° 08' 21.2"
485	Tral	Dazi Hafoo Pinglish	73	33° 54' 56.1"	75° 08' 21.2"
486	Tral	Dazi Hafoo Pinglish	74	33° 54' 45.9"	75° 08' 34.1"
487	Tral	Dazi Hafoo Pinglish	75	33° 54' 59.4"	75° 08' 18.8"
488	Tral	Dazi Hafoo Pinglish	76	33° 54' 59.5"	75° 08' 23.3"
489	Tral	Dazi Hafoo Pinglish	77	33° 55' 02.7"	75° 08' 25.7"
490	Tral	Dazi Hafoo Pinglish	78	33° 55' 01.8"	75° 08' 37.7"
491	Tral	Dazi Hafoo Pinglish	79	33° 55' 30.8"	75° 08' 31.1"
492	Tral	Dazi Hafoo Pinglish	80	33° 55' 6.1"	75° 08' 33.2"
493	Tral	Dazi Hafoo Pinglish	81	33° 55' 09.5"	75° 08' 34.9"
494	Tral	Dazi Hafoo Pinglish	82	33° 55' 14.4"	75° 08' 38.7"
495	Tral	Dazi Hafoo Pinglish	83	33° 55' 20.71"	75° 08' 37.7"
496	Tral	Dazi Hafoo Pinglish	84	33° 55' 21.06"	75° 08' 38.8"
497	Tral	Dazi Hafoo Pinglish	85	33° 55' 19.0"	75° 08' 38.9"
498	Tral	Dazi Hafoo Pinglish	86	33° 55' 18.01"	75° 08' 43.4"
499	Tral	Dazi Hafoo Pinglish	87	33° 55' 21.02"	75° 08' 43.2"
500	Tral	Dazi Hafoo Pinglish	88	33° 55' 21.08"	75° 08' 46.0"
501	Tral	Dazi Hafoo Pinglish	89	33° 55' 22.07"	75° 08' 48.2"
502	Tral	Dazi Hafoo Pinglish	90	33° 55' 24.03"	75° 08' 48.9"
503	Tral	Dazi Hafoo Pinglish	91	33° 55' 26.00"	75° 08' 49.7"
504	Tral	Dazi Hafoo Pinglish	92	33° 55' 26.7"	75° 08' 47.5"

ANNEXURE IX

505	Tral	Dazi Hafoo Pinglish	93	33° 55' 27.8"	75° 08' 46.7"
506	Tral	Dazi Hafoo Pinglish	94	33° 55' 28.2"	75° 08' 45.5"
507	Tral	Dazi Hafoo Pinglish	95	33° 55' 29.4"	75° 08' 45.4"
508	Tral	Dazi Hafoo Pinglish	96	33° 55' 31.1"	75° 08' 45.9"
509	Tral	Dazi Hafoo Pinglish	97	33° 55' 31.5"	75° 08' 48.1"
510	Tral	Dazi Hafoo Pinglish	98	33° 55' 31.2"	75° 08' 49.1"
511	Tral	Dazi Hafoo Pinglish	99	33° 55' 32.1"	75° 08' 51.3"
512	Tral	Dazi Hafoo Pinglish	100	33° 55' 31.0"	75° 08' 53.2"
513	Tral	Dazi Hafoo Pinglish	101	33° 55' 31.5"	75° 08' 54.7"
514	Tral	Dazi Hafoo Pinglish	102	33° 55' 31.2"	75° 08' 55.2"
515	Tral	Dazi Hafoo Pinglish	103	33° 55' 30.5"	75° 08' 56.1"
516	Tral	Dazi Hafoo Pinglish	104	33° 55' 31.8"	75° 08' 57.6"

ANNEXURE X

Government of Jammu & Kashmir
Office of the Pr. Chief Conservator of Forests (Wildlife)/
Chief Wildlife Warden, J&K
Silk Factory Road, Rajbagh, Srinagar / Wildlife Complex, Manda, Jammu
****

Minutes of meeting held under the chairmanship of PCCF(WL)/ Chief Wildlife Warden Jammu and Kashmir on 19.03.2025 regarding finalization of Management Plan of Tral Wildlife Sanctuary, discussion on Plan of Overa-Aru Wildlife Sanctuary and review of progress on formulation of Zonal Master Plans for Eco-Sensitive Zones (ESZs) of Hirpora Wildlife Sanctuary.

In pursuance to the meeting notice issued by this office vide No: WLP/Res/2024-25/1120-27 dated 13.03.2025, the Principal Chief Conservator of Forests (Wildlife)/Chief Wildlife Warden, J&K, chaired a meeting of officers from the Wildlife Protection Department on 19.03.2025. The meeting focused on:

List of participants:

1. Regional Wildlife Warden, Kashmir Region
2. Regional Wildlife Warden, Headquarters
3. Wildlife Warden, Shopian/South Division, along with consultants
4. Wildlife Warden, Technical
5. Wildlife Warden, Research
6. Wildlife Warden, Headquarters
7. Wildlife Warden, Technical with Regional Wildlife Warden, Kashmir Region
8. Dr. Mohsin Gazi, Wildlife Veterinarian

Agenda-Wise Discussion & Decisions:

A) Finalization of Management Plan of Tral Wildlife Sanctuary (2024-2034):

Wildlife Warden, Shopian made a **Power Point-** presentation showcasing necessary updates made to the draft plan based on suggested incorporations and deletions. The draft plan was reviewed, and the following key aspects were discussed:

1. **GIS Mapping:** Updated maps for fire lines and land use categories were incorporated.
2. **Zonation:** Core, buffer, and eco-tourism zones were delineated and mapped.
3. **Risk Mitigation Strategies:** Outlined strategies to mitigate identified risks.
4. **Stakeholder Involvement:** Emphasis on transparent and effective stakeholder engagement was discussed.

ANNEXURE X

5. **Budgeting and Resource Prioritization:** Budgetary and resource requirements were assessed and prioritized.
6. **Action Plan:** A 10-year action plan with year-wise timelines was incorporated.
7. **Community-Based Conservation:** Proposed programs for enhancing local livelihoods aligned with conservation goals.

Decision:
It was unanimously agreed that the draft is ready for submission to the designated committee for approval. However, the chair directed Wildlife Warden, Shopian, to submit the final corrected version (after thorough spelling and grammatical checks) in soft form within **three days**. The corrected version will be circulated among all members for final inputs before formal approval.

B) Formulation of Zonal Master Plans (ZMPs) for Notified Eco-Sensitive Zones (ESZs) of Hirpora Wildlife Sanctuary:

The consultant hired by Wildlife Warden, Shopian made a **PowerPoint**-presentation highlighting the background and key features of the Hirpora Wildlife Sanctuary and its notified ESZ.

Suggested Key Focus Areas for ZMP:

1. Seeking inputs of the departments concerned in preparation of Zonal Master Plans.
2. Delineation/map clearly land use categories and recommendation in respect of each category.
3. Regulatory Framework for construction, commercial activities, and industrialization as per ESZ notification.
4. Eco-tourism Promotion for sustainable and traditional livelihoods generation aligned with carrying capacity.

Decision:
The chair directed Wildlife Warden, Shopian to resubmit the draft plan after comprehensive stakeholder consultation with departments concerned. It should be ensured that ZMP adheres to the provision of the notification:

- Adherence to the prescribed mandate of ZMP for ESZ.
- Further, unnecessary overlapping with the sanctuary's internal management should be avoided.
- **C) Discussion on Zero Draft of Management Plan of Overa-Aru Wildlife Sanctuary:**
- Wildlife Warden, Shopian, informed that the **Zero Draft of the Management Plan** has been prepared and a copy has been submitted for review.

ANNEXURE X

Decision:

The chair directed the Regional Wildlife Warden, Headquarters, to **thoroughly review** the zero draft and share detailed inputs with the chair. The reviewed draft will be taken up for discussion in the next meeting.

The meeting concluded with a unanimous commitment from all participants to address the identified gaps and ensure timely submission of revised drafts. A follow-up meeting will be scheduled to:

- Finalize the Management Plan of Tral Wildlife Sanctuary.
- Discuss the revised Zero Draft of Overa-Aru Wildlife Sanctuary.
- Review the resubmitted ZMP of Hirpora Wildlife Sanctuary's ESZ.

Actionable Points:

- Wildlife Warden, Shopian, to submit the corrected version of Tral Management Plan within 3 days.
- Wildlife Warden, Shopian, to resubmit the revised ZMP for Hirpora ESZ after necessary corrections.
- Regional Wildlife Warden, Headquarters, to review the Zero Draft of Overa-Aru Management Plan and provide feedback.

The meeting concluded with a vote of thanks to the chair.

(Rashid Yahya Naqash)
Regional Wildlife Warden
Headquarters, J&K 27/03

No:- WLP/Res/2024-25/1165-72 Date:-27/03/2025

Copy for information and necessary action to :-

1. PCCF (Wildlife)/ Chief Wildlife Warden J&K.
2. Regional Wildlife Warden Kashmir.
3. Wildlife Warden Shopian.
4. Wildlife Warden Technical.
5. Wildlife Warden Research.
6. Wildlife Warden Headquarter.
7. Wildlife Warden Technical to Regional Wildlife Warden.
8. Dr. Mohsin Gazi Wildlife Veterinarian.

ANNEXURE XI

Government of Jammu & Kashmir
Office of the Pr. Chief Conservator of Forests (Wildlife)/
Chief Wildlife Warden, J&K
Silk Factory Road, Rajbagh, Srinagar / Wildlife Complex, Manda, Jammu
****

Minutes of meeting held under the chairmanship of PCCF(WL)/ Chief Wildlife Warden Jammu and Kashmir on 09.01.2025 regarding Status of Management Plan of Tral Wildlife Sanctuary.

In pursuance to the meeting notice issued by this office vide No: WLP/Tech/2024-25/930-936 dated: 08.01.2025, the Chief Wildlife Warden chaired a meeting of the officers of the Wildlife Protection Department of J&K through online mode in the office chamber at Jammu on 09.01.2025 to review the Management Plan of Tral Wildlife Sanctuary (2024-2034).

The following officers were present:

01) Regional Wildlife Warden Kashmir Region
02) Regional Wildlife Warden Headquarter
03) Wildlife Warden Shopian
04) Wildlife Warden Technical
05) Wildlife Warden Research
06) Wildlife Warden Headquarter
07) Wildlife Warden Technical to Regional Wildlife Warden Kashmir Region.

At the outset, Regional Wildlife Warden Headquarter welcomed the chairman and participants. He highlighted the discussion taken in the previous meetings and follow up actions taken so far.

Discussion Points

1. Opening Remarks:

The Chief Wildlife Warden emphasized the need for a detailed and site-specific management plan.

2. GIS Maps:

Tech. Sec.

- Updated maps showing land use categories, water resources, fire lines/inspection paths.

17/01

- Boundary delineation should be based on ground demarcation and KMZ files should indicate GPS coordinates of boundary pillars.

Tech. Officer

ANNEXURE XI

- All zones—core, buffer, and eco-tourism—must be clearly delineated and mapped (KML files).

3. Landscape-Level Conservation Approach:

- The management plan should integrate ecological corridors connecting Tral Wildlife Sanctuary to adjoining protected areas enabling species movement.

4. Site-Specific Management Interventions:

- Critical habitats should be identified for targeted conservation efforts.
- Detailed action plan for fire management, disaster risk reduction and invasive species control should be proposed.
- Habitat restoration action plan to include planting, seed sowing, water hole creation, and salt lick augmentation.

5. Eco-Tourism Development:

- A detailed eco-tourism plan should be proposed.

6. Grazing Regulation:

- No. of livestock/families using the pastures within the PA boundary should be assessed. Appropriate management practices for sustainable grazing should be prescribed.

7. Addressing Man-Animal Conflict:

- Comprehensive plan for addressing man-animal conflict keeping in view the no./location of past incidents (in KML file) should be proposed.

8. Infrastructure and Equipment:

- A comprehensive inventory of existing infrastructure (e.g., watchtowers, guard/BO huts, firefighting equipment) should be prepared. Proposals for additional infrastructure requirements to enhance sanctuary management should be incorporated.

09. Stakeholder Consultation:

- Consultations with local communities as mandated under Section 33B of the Wildlife (Protection) Act, 1972, must be held. Feedback from stakeholders should be integrated into zonation, habitat management, and eco-tourism strategies.

10. Research and Monitoring:

- A complete checklist of flora and fauna in the sanctuary, with their global and local conservation status, should be prepared and strategies for conservation of RET species to be prescribed.

ANNEXURE XI

11. Timeline Accomplishments:

- A 10 year action plan giving year-wise timeline should be incorporated.

12. Additional Recommendations:

- **Community-Based Conservation:** Programs to strengthen community involvement for promotion of local livelihoods aligning with conservation goals should be developed.
- **Policy and Legal Compliance:** Alignment with recent amendments to the Wildlife (Protection) Act, 1972, and guidelines for critical wildlife habitats and eco-sensitive zones should be ensured.

Conclusion:

The meeting concluded with a unanimous commitment from all participants to address the identified gaps effectively and finalise the plan within a month time.

17/1/25

(Mohd Maqbool Baba)
Wildlife Warden, Research
J&K

No: WLP/Res/2024-25/906-12 **Date:** 17/01/2025

Copy for information and necessary action to :-

01. PCCF (Wildlife)/ Chief Wildlife Warden, J&K.
02. Regional Wildlife Warden, Kashmir
03. Wildlife Warden Shopian
04. Wildlife Warden Technical
05. Wildlife Warden Research
06. Wildlife Warden Headquarter
07. Wildlife Warden Technical to Regional Wildlife Warden, Kashmir Region.

Office of the Regional Wildlife Warden Kashmir Region

No. RWLW/K/Tech/2024-25/1734 Dated: 18 -01-2025

I am directed to forward a copy of above to :

1. Wildlife Warden, Shopian Division for information and necessary action.

18/01/2025

(Technical Officer)
O/o. Regional Wildlife Warden
Kashmir Region

Designed by 51A Wildlife Conservation & Research Foundation



TRAL WILDLIFE SANCTUARY

Wildlife Division Shopian
Jammu & Kashmir Wildlife Protection Department
Email: Wildlifeshopian@gmail.com
Phone- 01933 - 261918

DEPARTMENT OF WILDLIFE PROTECTION J&K GOVT.