



# Protected Area Zonation Guidelines of Bhutan



Department of Forests & Park Services  
Ministry of Agriculture and Forests  
Royal Government of Bhutan  
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Nature Conservation Division  
Department of Forests and Park Services  
Ministry of Agriculture and Forests

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Royal Government of Bhutan  
Ministry of Agriculture and Forests  
Department of Forests & Park Services  
NATURE CONSERVATION DIVISION  
Thimphu



## DIRECTOR FOREWORD

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Bhutan, with more than 50% of its geographical area under the Protected Area System, is a biologically diverse country with incredible diversity of wildlife species and ecosystems, maintaining a level of ecological integrity unparalleled for a biodiversity hotspot. The existing protected areas hold globally significant populations of many plant and animal species, including endangered and charismatic species like tigers, elephants and snow leopards.

However, with increasing demand for economic growth and developmental activities, these protected area network are under increasing threat from various anthropogenic activities and have greater risk of losing the species. Therefore, there is an urgent need to ensure that all sites of importance for biodiversity within these areas are identified and zoned. The management tool, zonation, is therefore critical and timely to strengthen conservation of the PAs.

The guideline on zonation of the protected areas has been revised by Nature Conservation Division of the Department of Forests & Park Services in consultation with the field offices to guide identify these sites across various taxonomic groups and ecosystems, in a standardized, transparent and rigorous way to ensuring that the areas of biological importance are recognized and zoned for effective management. The zones classified will serve as guide to scientifically and effectively conserve of biodiversity in these protected areas.

I am very pleased and encouraged by the fact that office of the Nature Conservation Division have come up with such important guideline to scientifically and practically zone the protected areas of Bhutan. I sincerely hope that this guideline will make be helpful to our field colleagues in managing our protected areas which is yet another milestone in conservation history of Bhutan.

Tashi Delek

A blue ink signature of Lobzang Dorji, written in a stylized cursive script.

**Lobzang Dorji**



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## LIST OF ACRONYMS

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DoFPS	Department of Forests and Park Services
FNCRR 2017	Forests and Nature Conservation Rules and Regulations
IBAs	Important Bird and Biodiversity Areas
NLCS	National Land Commission Secretariat
NWFP	Non-Wood Forest Produce
PAs	Protected Areas

# 1. RATIONALE

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Bhutan has over half of its geographical area under the protected area system. Unlike most protected areas (PAs) around the world, we have communities living inside the protected areas who enjoy their traditional use-rights over natural resources. This demands an integrated approach in maintaining the ecological integrity of the PAs and developmental needs of the park residents.

The National Forest Policy of Bhutan 2011, requires our PAs to be managed based on functional zones to accommodate integrated conservation and development through a variety of appropriate management regimes, which is further translated as a requirement in the Forest and Nature Conservation Rules and Regulations (FNCRR).

Considering the dynamism of the different zones and the zonation process itself, this guideline is being framed as a revision of the earlier Zonation Framework for National Parks and Wildlife Sanctuaries in Bhutan, 2012. Integrated approaches using recent scientific concepts, methods and tools applied globally are being introduced in this guideline. While the objectives and expected outcomes of zonation remains similar to that of the 2012 framework, this guideline is being determined by the new contextual situation of our PA system that has changed over time and space.

Therefore, the fundamental aim of the park zonation is to classify the PAs into different zones for conservation of species and its habitat and to support resource use and other social needs for its residents. Apart from identifying areas important for biodiversity conservation, habitat preservation and protection for long-term persistence of biodiversity and ecosystem, park zonation will benefit in better management of ecosystem services to park residents, down-stream users and visitors alike.

## 2. OBJECTIVES OF ZONATION

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The main objective of zonation is to classify a PA into different zones as per the functions of the area and accordingly prescribe regulations and management interventions for the purpose of ;

- a. Ensuring conservation of threatened, endemic and keystone species and its habitat
- b. Enhancing social and community services through legal and traditional resource use rights
- c. Strengthening effective management of the area through objective driven management interventions and resource allocations



## 3. TYPES OF ZONES

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Zonation is a process of classifying a national park, a wildlife sanctuary or a strict nature reserve into different zones to be managed for a specific purpose. The PAs may be classified in to the following management zones;

1. Core Zone
2. Transition Zone
3. Buffer Zone
4. Multiple Use Zone

However, it may not be necessary for all PAs to have Transition Zones depending on the functions and space.

### 3.1. Core Zone

Core zones are areas with high conservation values that are seen to provide critical services for the persistence of flora and fauna of international, national or local importance including resident or migratory fauna. This is a non-negotiable zone.

Besides others, it can also include habitats of ecological integrity or such areas undisturbed by significant human activity, free of modern infrastructure and where natural forces and processes predominate. Such areas are generally vulnerable to disturbances, and can tolerate only a minimum human use before it loses its ecological integrity to support species persistence.

#### Criteria for designation of Core Zone

While classifying core zone, one or more of the following criteria need to be fulfilled:

1. **Key (High) Biodiversity Areas (KBAs):** Areas that support globally or locally threatened plants, breeding of endangered species, flagship species or keystone species of that park.
2. **Areas of high endemism:** Areas that support biodiversity that may be endemic to that particular area or endemic to the country.
3. **Critical Freshwater Habitats:** Areas which are critical habitats and support spawning of endangered aquatic biodiversity.
4. **Areas serving as wildlife refuge:** Areas known to provide refuge for vagrant or migratory population of endangered, flagship or keystone species.
5. **Key wildlife habitats such as salt licks and water holes:** Areas mapped to have high numbers of saltlicks and water holes that are frequented by wildlife for its services.
6. **Migratory routes of wild animals and birds:** Migratory routes of wild animals and birds must be protected from human interference as the species could get disoriented, and affect amongst others, breeding patterns.

## 3.2. Transition Zone

Transition zones are areas of interdependence between wildlife and communities wherein, traditional and legal rights for sustainable use of natural resources is permitted for a certain period of time (e.g. cordyceps collection areas and pasture lands).

The protection status of this zone shall become equivalent to that of the core zone except during the traditional/legal use-right season or for a fixed time use. The transition zone is normally adjacent to the core zone, but can also be located away from the core zone.

This zone consists of important habitat patches or contiguous habitat that serves as an important refuge for wildlife or for movement of wildlife from core to other zones.

### **Criteria for designation of Transition Zone**

While classifying transition zone, one or more of the following criteria with traditional or legal use rights should be fulfilled:

1. Areas important as wildlife habitat but with time bound human interference
2. Traditionally used grazing or pasture land
3. Historical/ancient trails
4. Cultural heritage sites
5. Sacred grooves

## 3.3. Buffer Zone

The buffer zone is classified mainly to provide cushioning function to the core or transition zone when these zones are located in the immediate vicinity of anthropogenic disturbances both from within and outside of the PAs. The trails that pass through the transition zone will also become part of the buffer zone after assigning a minimum buffer width on either side.

The buffer zone may be regarded as an area in which human interventions is less intensive than what might be found in the multiple-use zone and may accommodate activities for environmental education, tourism, traditional resource use and recreation facilities.

### **Criteria for designation of Buffer Zone**

While classifying Buffer zone, one or more of the following criteria should be fulfilled:

- around the multiple-use zones
- along the roads and trails
- human settlement adjacent to the park boundary
- core or transition zone adjacent to the boundary

The minimum width of the buffer shall be as follows:

1. 500m around multiple use zones; campsites, religious sites and hot springs
2. 150m on both sides of national highway measured from the center of the road
3. 50m on both sides from the center of the farm roads
4. 20m buffer from the center of trails
5. For the settlement that lies right outside the park boundary, a buffer width of minimum 500m or more shall be kept along the border towards a core or transition zone.

### 3.4. Multiple Use Zone

The multiple use zone may include settlements, built-up areas, private registered lands and resource allocation areas for the PA residents. This zone is also termed as ‘zone of cooperation’ underscoring the role of cooperation between the park management and its residents. This is a zone where stakeholders agree to work together to manage and use the area in a sustainable manner to benefit both people and wildlife.

The area shall be classified based on the resource mapping exercise and resource need assessment of local communities inside the park. The multiple use zones should have adequate provision to meet the resource demand of park residents in the future.

#### **Criteria for designation of Multiple Use Zone**

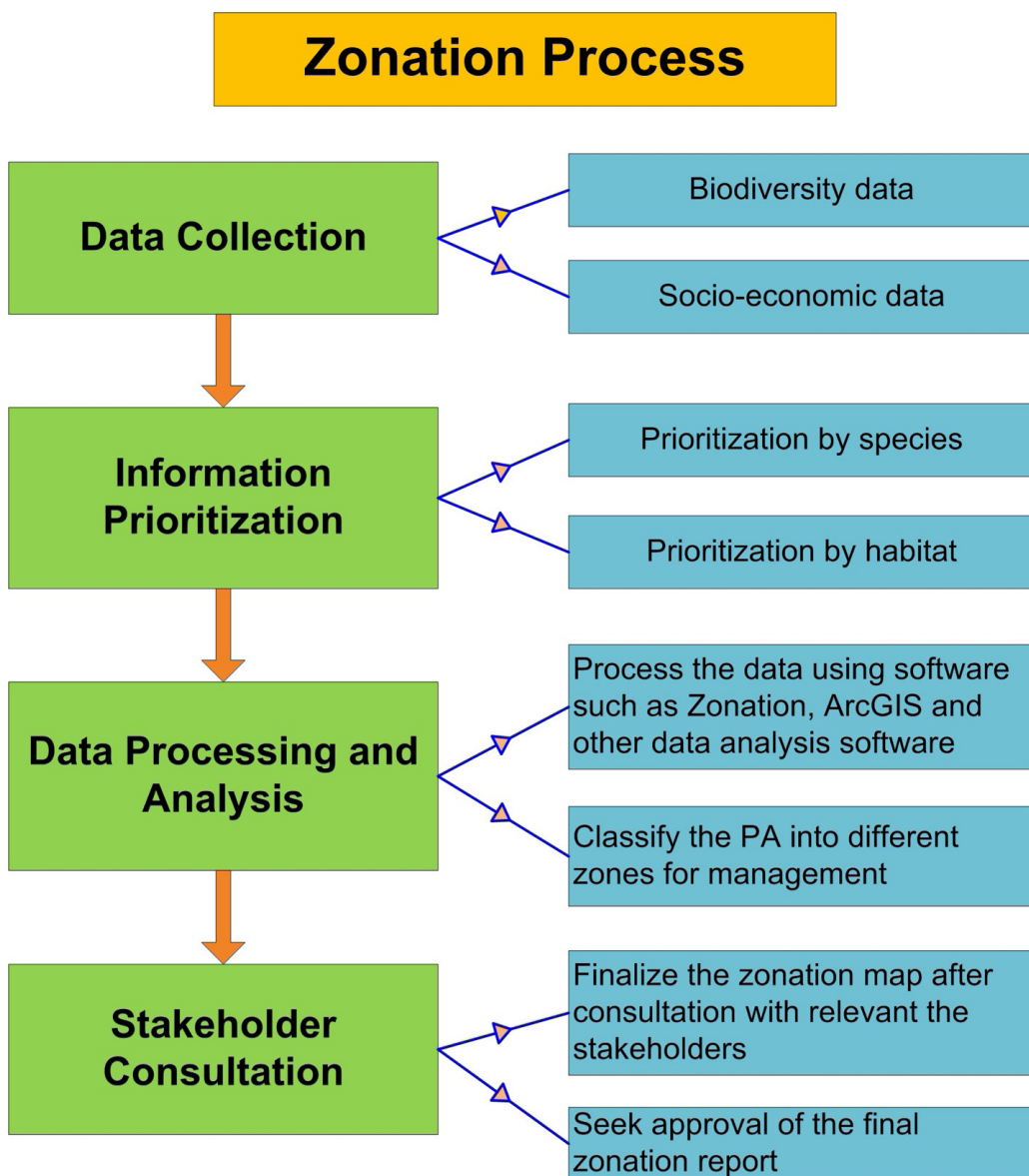
The multiple use zone may include the following areas;

- Resource allocation (collection of fuelwood, timber, NWFP, stone, sand, soil, grazing, etc.) to meet the local demand of the park residents
- Ecotourism and recreational purposes
- Construction of transmission lines, road, government institutions and other developmental activities that involves leasing of State Reserved Forest Land (SRFL)
- Agricultural farmlands and communal lands
- Administrative and institutional areas
- Individual or communal grazing rights exists
- Visitor Centres and interpretation centers have been developed or has potential for development
- Existing camping sites or potential camping sites

## 4. ZONATION PROCESS

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Before initiating the zonation exercise, the main objective of managing a particular PA should be considered. The different zones in each PA should be classified based on the ecological and social setup and functions. While carrying out the zonation, the following processes/steps should be followed:



## 4.1. Biodiversity and social data collection

As the different zones will be classified based on the presence and values of biodiversity and also on different dimensions of human needs, the biodiversity and socioeconomic data plays a very important role in deciding and zoning the PA into its different management zones. These data collection should be a part of the biodiversity and socio-economic survey data collection during the PA management planning.

**Biodiversity data:** The biodiversity data may include the following;

1. Checklist of flora and fauna
2. Abundance and distribution of key species
3. Wildlife habitats including migratory routes, waterholes, salt licks, roosting areas and breeding grounds
4. Habitat types and conditions
5. Threat status and distribution

**Socio-economic data:** The socio-economic data may include the following;

1. Private land holdings and grazing areas
2. Resource collection areas for the residents
3. Recreational areas – trails, camping sites, hot springs, etc.
4. Settlement and infrastructure development areas – roads, transmission lines, hospitals, schools, offices, and other institutions
5. Religious and cultural sites

## 4.2. Information Prioritization

The information from the biodiversity and socio-economic surveys are the basis for classifying the PA into different zones. Before classifying the area into different zones, the following prioritization exercises should be carried out.

### **Prioritization by species**

The respective PAs should identify single or multiple species of high conservation significance as the target species. The target species may be threatened, endemic, restricted-range, evolutionarily distinct, umbrella/flagship or migratory.

The dispersal ability of the target species should be also considered to optimize the retention of well-connected key habitat patches for the species (e.g., to protect foraging and breeding areas).The respective park management should set a target in defining percentage of areas to be conserved under such priority areas based on the socio-ecological condition of the park.

Once the species of interest are chosen, their range and distribution should be mapped which shall then be used as an important component for the classification of core and transition zones.

### **Prioritization by habitat**

Habitat of importance for keystone/flagship species as well as for human habitation need to be mapped out using the biodiversity and socio-economic survey data for the purpose of zoning different zones of their landscape. For the purpose of species persistence, the habitat requirement of that focus species is to be considered while for human habitat, resource allocation and other human needs are to be considered. Consideration should also be given to projected future changes and the requirement for this change in habitat due to changing climatic patterns both locally and at the landscape level.

### **4.3. Data Processing and Analysis**

After completion of all these prioritizations, the information and data shall be processed using software like Zonation, ArcGIS and other data analysis software that shall produce the final zoned map of the PA. This zoned map shall be finalized after completion of the stakeholder consultation and awareness.

### **4.4. Stakeholder Consultation**

Stakeholder analysis shall be conducted to determine the primary and secondary stakeholders of respective PAs. The stakeholders shall be consulted twice during the zonation process; first during the planning and resource mapping process and then during the presentation of the draft zonation report. The zonation report shall be finalized only after consultation with the key stakeholders.

The final zonation report shall then be approved by the technical advisory committee of the Department. The approved zonation report will be a chapter under the conservation management plan of the respective PA (format in Annexure 1).

## **5. LEGAL STATUS OF THE ZONES**

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In addition to the provisions under the FNCRR 2017, the following regulations shall be applied in different zones of the protected areas.

### **5.1. Core Zone**

All anthropogenic activities shall be prohibited within a core zone except for the following;

- Scientific research
- Habitat management

## 5.2. Transition zone

The protection status of this zone should be at par with that of the core zone with regulated exceptions during seasonal use for the purpose of exercising traditional/legal community rights that shall include but not limited to the following;

- Cordyceps collection
- Collection of non-wood forest produce
- Seasonal grazing
- Use of traditional/ ancient trails
- Seasonal collection of fuelwood

## 5.3. Buffer zone

The following activities shall be prohibited in the buffer zone except after obtaining all necessary clearances from the concerned agencies:

- Infrastructure development
- Timber extraction
- NWFP collection

## 5.4. Multiple use zone

The following activity shall be restricted in the multiple use zones except with a written permission from DoFPS, and only following a determination that the activity is necessary to accomplish the objectives of nature conservation and the zone designation of the protected area.

- Timber extraction
- Quarrying for rural used by the local inhabitants
- Developmental activity

# ANNEXURE 1

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## **Protected Areas Zonation Chapter Format**

- Introduction
- Methodology
  - a. Data collection
  - b. Data processing and analysis
  - c. Zonation process (Criteria applied)
  - d. Stakeholder consultation
- Types of zones and their description
- References





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