

## **Bhutan for Life**

### **Environmental and Social Management Plan for Wangchuck Centennial National Park (2020)**

#### **1. Introduction**

##### **(A) Project Background**

The Bhutan for Life (BFL) project aims to ensure a robust network of protected areas and biological corridors that secures human well-being, biodiversity conservation and increase climate resilience in Bhutan. The project provides a 14-year financial bridge that allows for immediate improvement in the management of Bhutan's protected areas for climate resilience, and the prompt delivery of mitigation, adaptation and biodiversity gains, while the country gradually ratchets up its own financing resources.

BFL seeks to achieve the following objectives:

- Help Bhutan remain carbon neutral by increasing forest and vegetative cover within the Protected Area System;
- Enhance the socio-economic wellbeing of communities in and in the vicinity of the PAS through climate-informed natural resources management;
- Maintain stable, thriving and diverse populations of key species contributing toward national and global biodiversity goals;
- Strengthen organizational, institutional, and financial capacity for effective management of PAS.

BFL includes five components that reflect these goals, divided into 16 milestones (or outputs) and over 80 detailed activities.

##### **(B) Scope of ESMP**

The preparation of this Environmental and Social Management Plan (ESMP) was required in order to manage the environmental and social impacts through and specific mitigation actions required to implement the project in accordance with the requirements of WWF's Social Safeguards Integrated Policies and Procedures (SIPP), the project's Environmental and Social Management Framework (ESMF), and applicable national legislation and regulations.

The ESMP provides an overview of the environmental and social baseline conditions on the routes of the proposed second segment of the project, summarizes the potential impacts associated with the proposed activities and sets out the management measures required to mitigate any potential negative impacts.

This ESMP will be implemented by BFL focal person in each park authority (PA) and biological corridor (BC), and by the contractor to be commissioned by each PA/BC for the project.

##### **(C) Purpose of ESMP**

This Site-Specific ESMP is a project-specific source document detailing the environmental and social protection requirements to mitigate and minimize the adverse impacts. The ESMP's primary purpose is to ensure that the environmental requirements and social commitments associated with the project are carried forward into implementation and operational phases of the project and are effectively managed. The specific objectives of this ESMP are as hereunder:

- Minimizing any adverse environmental, social and health impacts resulting from the project activities;
- Conducting all project activities in accordance with the relevant RGoB Laws and WWF's safeguard operational policies and guidelines;

- Preventing environmental degradation as a result of either individual subprojects or their cumulative effects;
- Enhancing the positive environmental and social outcomes of project activities;
- Ensuring that the proposed mitigation measures are feasible and cost-efficient;
- Providing an Action Plan to ensure that the project impact mitigation measures are properly implemented and monitored;
- Ensuring that all stakeholders are engaged in the project activities' preparation and implementation, and their concerns are fully addressed.

#### (D) Applicable law, policies, and regulation

This ESMP is developed by following the guidelines as set forth in the BFL's ESMF.

Applicable RGoB laws and policies include the Constitution of the Kingdom of Bhutan, 2008; legislation on land and moveable property (Land Act of Bhutan 2007; Land Rules, 2007; The Moveable Cultural Property act of Bhutan, 2005); legislation and regulations on forests and protected areas (National Environment Protection Act, 2007; Forest and Nature Conservation Act of Bhutan, 1995; Forest and Nature Conservation Rules and Regulations of Bhutan, 2017; National Forest Policy, 2011); legislation on water and waste prevention (Water Act of Bhutan, 2011; Waste Prevention and Management Act, 2009); legislative requirements on environmental assessment (Environmental Assessment Act, 2000 and Regulations on the Environmental Clearance of Projects, 2001); and other relevant laws (The Local Government Act of Bhutan, 2009; Livestock Act of Bhutan, 2001; The Biodiversity Act of Bhutan, 2003; The Pesticides Act of Bhutan, 2000; The Penal Code of Bhutan, 2004; National Access and Benefit Sharing (ABS) Policy (Draft), 2014); and Local Government Act of Bhutan, 2009.

WWF's safeguards policies that are relevant to this project are as follows: Policy on Environment and Social Risk Management; Policy on Protection of Natural Habitats; Policy on Involuntary Resettlement; Policy on Indigenous Peoples; Standard on Pest Management; Policy on Accountability and Grievance System; Standard on Physical Cultural Resources; as well as general standards on occupational and community health and safety and on energy efficiency.

In general, RGoB's laws, policies, and guidelines are in line with the WWF's environmental and social safeguards requirements. However, there are a few differences between the two systems. With regard to environmental impacts, there are no direct contradictions between the RGoB laws and regulations and the WWF's SIPP, but the requirements of the latter are more extensive. All project activities should fully comply both with the RGoB's Regulations on the Environmental Clearance of Projects, and with the procedures and mitigation measures prescribed in this ESMF. In case that the WWF's SIPP requirements are more extensive, strict, or detailed than the RGoB legislation and policies, the former will apply to all project activities. With regard to social impacts, the primary discrepancies between the RGoB laws and regulations and the WWF's SIPP refer to the status of non-title holders and informal land use, and the commitment to participatory decision-making processes. First, according to the WWF's SIPP, all users of land and natural resources (including people that lack any formal legal ownership title or usage rights) are eligible to some form of assistance or compensation if the project adversely affects their livelihoods. The RGoB laws only recognize the eligibility of land owners or formal users to receive compensation in such cases. Second, the WWF's SIPP require extensive community consultations as part of the development of various safeguards documents and during project activities. RGoB legislation does not include similar requirements. For the purposes of the BFL project, the provisions of the WWF's SIPP shall prevail over the RGoB legislation in all cases of discrepancy.

## 2. Environmental and Socio-Economic Conditions:

With 4914 sq.km, it is the largest protected area in Bhutan. It covers the northern frontiers of the country falling within the boundaries of 10 gewogs under five Dzongkhags (Gasa, Wangduephodrang, Trongsa, Bumthang and Lhuentse). It has around 1061 households with more than 10600 residents. Altitude ranges from 2500m to 5100m with broadleaf forest to alpine meadows, and the park is home to 693 species of vascular plants, 43 mammal species, 250 birds and 246 species of butterflies. The fauna list includes some of iconic species like Tiger, Snow leopard, wolf, Bhutan takin, Himalayan black bear, Himalayan musk deer and Red panda as captured in Figure 1.

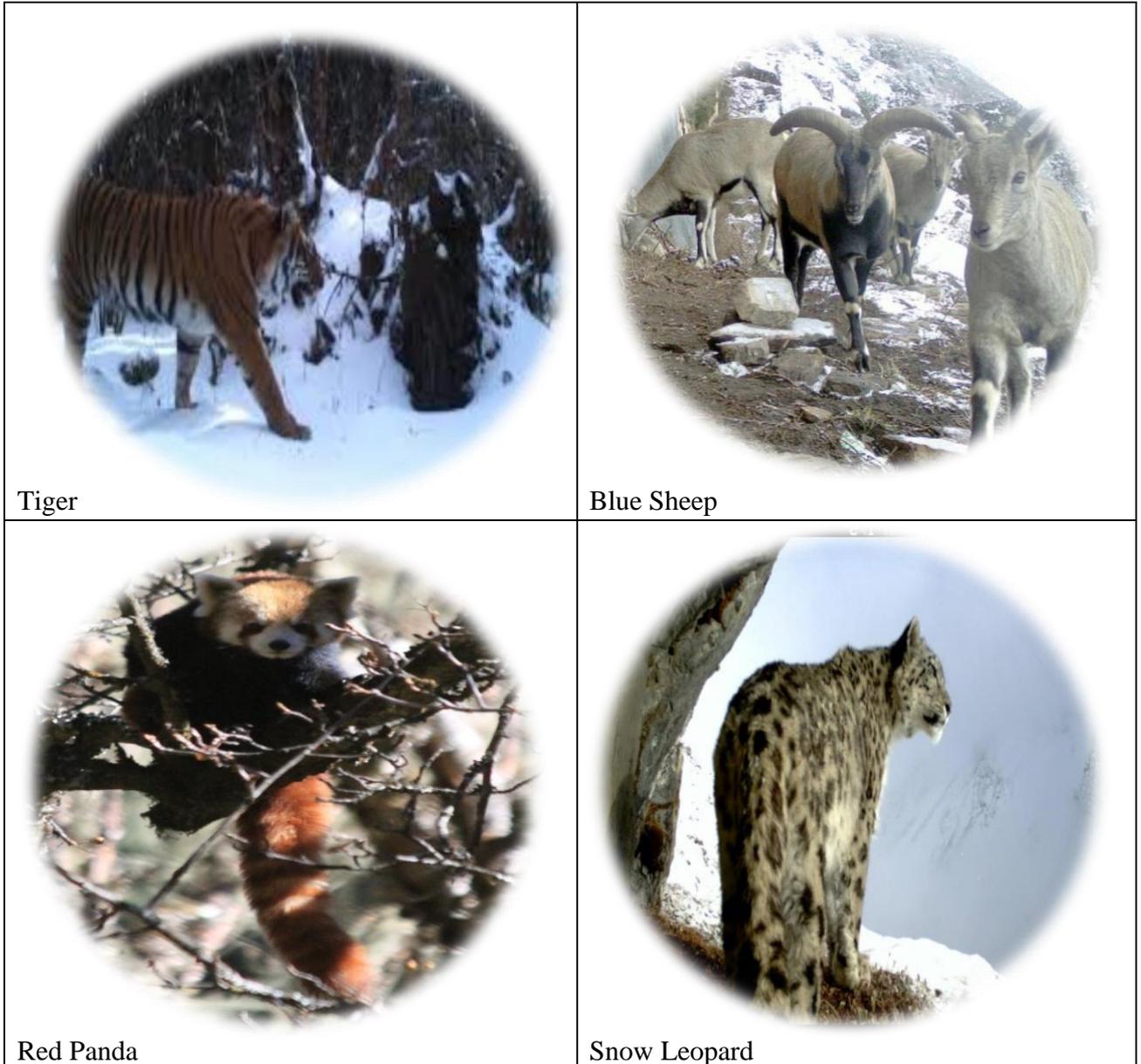




Figure 1: Mammals and other species in WCNP

### 3. Planned activities in Year 2020

#### 1. Construction of a guard post

This is a new activity near the Beat Office (Bumthang Territorial Division), Tang Gewog in Bumthang Dzongkhag. The site is situated near the existing Beat office and it is a flat land with no vegetation. Although the site is outside the park boundary, it will be convenient for the public to get forestry services without having to travel from one park office to other territorial office. It is also in close proximity to Gewog office, health centre, school and commercial area (mainly shops). It would ease the public service delivery, as most of the services requires prior approval/endorsement from the Gewog administration. Moreover, staff can use the important facilities such as enrolling their children in school and availing the health services easily.

The identified site is currently being used as a kitchen garden by the staffs. The site is located near river with Tangchu below and a small stream at its right flank. There are 3 households within 100 meters, and other settlements are beyond 500 meters. The primary livelihood source of communities is agriculture/NWFP, tourism (homestay), and cordyceps. They will not be affected by this construction. This project will benefit about 38 household who fall in the park area.

The water source for the workers will be from the stream, and electricity from the Bhutan Power Corporation Limited or from the nearby community. And, the construction materials will be from the surface collection or purchase from Natural Resources Development Corporation Limited (NRDCL) or private quarries.

The air quality might be impacted due to vehicle emissions from transportation of materials, and there will be noise disturbance from using vehicle and equipment. There is chance of contamination from debris and construction waste (cement) getting washed into the river. There will be waste generated such as construction debris, sewage sludge and garbage (plastics, rags, tins, etc.) from the temporary workers. It is expected that there will be emissions from the burning of construction debris and fuelwoods. Due to its location near the water bodies, there may be likely risk due to seasonal flooding and landslides in the future.

## **2. Annual river bank protection**

This is a new activity in Dhur and Tsampa trail under Choekhor Gewog of Bumthang Dzongkhag. The activity is construction of river protection works along the Chamkhar and Dhur rivers and their tributaries. This is to manage and protect riparian areas and mitigate floods. The natural habitat will not be affected. The activity include protection works such as construction of gabion walls, etc., as the sites are prone to flash flood/landslides during monsoon season. The slope is gentle and plain.

Around 8-9 workers are expected to implemented this activity. They will stay nearby the site for about 2 weeks and they will have to use fuelwood for cooking and heating purposes as it is cold most of the time. Thus, emissions from burning of fuelwood is expected.

## **3. Combined zonation and pillar fixing**

This is a new activity, to be located in WCNP within an area of 4914 sq. km. The activity will include stakeholders and related public consultation meetings. The works on zonation and pillar fixing will be carried out as per the PA zonation guidelines. The pillars will be small metal poles. The boundary pegs will be inserted in the ground for the future reference.

The land use maybe private/government as per the boundary. The types of zones are; Core Zone, Transition Zone, Buffer Zone, Multiple Use Zone which have been described as follows:

- i. Core Zone: The areas with high conservation values such as Key (High) Biodiversity Areas (KBAs), Areas of High Endemism, Critical Freshwater Habitats, Areas serving as Wildlife Refugia, Key Wildlife Habitats such saltlicks and water holes, Migratory routes of wild animals and birds, etc. This is a non-negotiable zone.
- ii. Transition Zone: The areas of interdependence between wildlife and human communities, which includes wildlife habitat having time bound human interference (e.g. Seasonal Cordyceps collection), grazing lands, ancient trails, cultural sites, sacred grooves, etc.
- iii. Buffer Zone: It is the cushion zone for the core and transition zones from the Multiple Use Zone, whereby there will be less human interference as compared to the multiple use zone.
- iv. Multiple Use Zone: This zone includes settlements, built-ups, private registered lands and resource allocation areas (Community Forests, Local Forest Management Areas, etc.) in the PA.

## **4. Improvement of salt licks, waterholes, wetland and enrichment planting**

This is a new activity, to be located in Sephu, Choekhor and Dungkhar Range. It is located in WCNP. The communities nearby the project site depend on agriculture, livestock/animal husbandry and cordyceps.

The enrichment plantation will be carried out in some of the degraded areas where it is critically required. The waterholes and saltlicks will be developed in the habitats of blue sheep and snow leopard and also maintain and improve existing degraded saltlicks and waterhole areas.

The project sites fall in the forested areas, and alpine meadows with gentle slopes. There will be about 25 local workers employed who will camp at the site for few nights. The workers will mainly be from the communities. The waste generated will mainly be construction debris.

#### **5. Restoration of lowland grasslands**

This is a rehabilitated activity located in Tshampa and Dhur in Choekhor in Bumthang Dzongkhag. The activity involves restoration of degraded grassland and improvement of the grasslands. The current land use is grassland and grazed by yaks and other wild animals and the sites are below 4000 masl. There are more than 37 households who are yak herders around the project site and its vicinity who depend on animal products and cordyceps for their livelihood.

This site is selected because shrubs have overtaken the grassland, and there is grazing competition between yaks and other wild animals in those areas. The site is on sloppy areas and there is risk of soil erosion/landslides due to over-grazing.

The activity will involve clearing of bushes manually and burning, plantation of native species, supply of seeds (fodder), and construction of wall to protect the area from landslides/soil erosion. The resources required are stones and surface collection.

#### **6. Installation of Waste management basic infrastructure**

This is a new activity located in Tshampa and Dhur in Choekhor in Bumthang Dzongkhag. The activity involves installation of waste infrastructure mainly for collection (wooden log cabin from waste wood) along the Tshampa and Dhur *tshachhu* (hot springs) trail. It is on a gentle slope. It is frequented by many visitors.

This site is selected due to the quantity of waste thrown along the trail by the visitors including both locals and tourists. There will be 3-5 numbers of temporary workers. With proper waste collection, it will help to keep the area clean and attractive to increasing number of visitors.

### **4. Environmental and Social Impacts and Mitigation Measures**

#### **1. Construction of guard post**

- Waste management
- Noise disturbance
- Air quality
- Workers health and safety
- Soil erosion/landslide

#### **2. Embankment construction**

- Disturbance to natural habitat (aquatic)
- Waste management
- Water contamination
- Workers health and safety

#### **3. Zonation and pillar fixing**

- Community conflict regarding access and usage rights of natural resources

#### **4. Improvement of waterholes and saltlicks**

- i. Waterholes
  - Waste
  - Workers health and safety
  - Increase poaching

- ii. Saltlicks
  - Degradation of soil and vegetation around the saltlicks
  - Increase poaching

#### 5. Installation of Waste management basic infrastructure

- Management of waste during installation
- Workers health and safety

#### 6. Restoration of lowland grasslands

- Burning
- Waste
- Plantation and supply of seeds (fodder)
- Workers health and safety

However, given the scale of the project, these risks are expected to be minimal, site-specific and those for which mitigation measures can easily be developed through standard and applicable regulations. These impacts are again site-specific, reversible and can be minimized/mitigated by developing appropriate measures. Specifically, to address these concerns, the project will comply with the relevant Acts and Rules and Regulations of the Kingdom of Bhutan. ESMP is prepared as per requirement based on ESMF to ensure adequate mitigation measures.

Therefore, for all the potential adverse impacts of environment and social related to each activity, mitigation measures have been prepared as shown in Table 1.

#### 1. Construction of Guard Post

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Costs
<b>Construction of guard post</b>				US\$50,000
<b>Noise disturbance:</b> Possible noise disturbance as a result of outdoor equipment usage and transportation vehicles driving around the construction site	Short term Minor	Nearest community is located from the construction site, and thus noise disturbance is likely to be minimal. To minimize the noise disturbance for the workers, the following mitigation measures need to be undertaken: <ul style="list-style-type: none"> <li>• Noise level control should be performed before the startup of construction activities;</li> <li>• The equipment should be fitted with appropriate noise devices that will reduce sound level;</li> <li>• The construction work should not be permitted during the nights, the operations on site shall be restricted to the hours 7am - 7pm;</li> <li>• Vehicles that are excessively noisy shall not be operated until corrective measures have been taken;</li> <li>• Earplugs and protecting devices shall be provided to workers on site.</li> </ul>	BFL focal person in WCNP Contractor	To be included in the bidding document

<p><b>Air quality:</b> dust pollution is likely as a result of construction works and possible emissions from transportation vehicles</p>	<p>Short term Minor</p>	<ul style="list-style-type: none"> <li>• Construction site, transportation routes and materials handling sites should be water-sprayed on dry and windy days;</li> <li>• Construction materials should be stored in appropriate and covered places to minimize dust;</li> <li>• Before allowing vehicles on site, fitness and emission test of the vehicle shall be performed;</li> <li>• Vehicle loads likely to emit dust need to be covered;</li> <li>• Workers should wear protective masks if dust appears;</li> <li>• Vehicle speed should be restricted within the construction site;</li> <li>• Regular maintenance of the vehicles and construction machinery should be performed in order to reduce any leakages of motor oils, emissions and dispersion of pollution;</li> <li>• Burning of debris from ground clearance shall be prohibited.</li> </ul>	<p>BFL focal person in WCNP Contractor</p>	<p>To be included in the bidding document</p>
<p><b>Waste:</b> generation of waste as a result of construction activities</p>	<p>Short term Minor</p>	<ul style="list-style-type: none"> <li>• Identification of the different waste types at the project site (soil, asphalt, food, etc.);</li> <li>• Ensure that camps are located away from existing stream, river, or water sources, and that no discharge from camps is made into nearby water bodies;</li> <li>• Proper containers/waste bins should be provided at the project site;</li> <li>• Dumping of waste on the sides of the road, on private land, or in other non-designated places should be prohibited;</li> <li>• Dumping waste shall be prohibited on fragile slopes, forests, religious or other culturally sensitive areas or areas where livelihood is derived;</li> <li>• Collection, transportation and final disposal of all waste should be undertaken regularly on a weekly basis;</li> <li>• Possible hazardous waste (motor oils, vehicle fuels, etc.) should be collected separately and authorized collector and transporter should be sub-contracted to transport and finally dispose;</li> <li>• All construction materials should be covered during the transportation to avoid waste dispersion;</li> </ul>	<p>BFL focal person in WCNP Contractor</p>	<p>Wastes collection: Nu. 15,000 = USD 212.77</p>

		<ul style="list-style-type: none"> <li>The options for reuse/recycling of the generated waste streams should be taking into consideration (e.g. excavated soil, etc.);</li> <li>Burning of construction waste should be prohibited.</li> </ul> <p><i>After construction:</i></p> <ul style="list-style-type: none"> <li>All waste shall be removed from the project site.</li> </ul>		
<b>Soil erosion, landslides and flooding</b>	Short term Minor	<p><i>Pre-construction:</i></p> <p>Sites are prone to soil erosion or landslides shall be avoided, to the extent possible</p> <p><i>During construction:</i></p> <ul style="list-style-type: none"> <li>Construction should be limited to the non-monsoon season;</li> <li>Ensure safety during construction with the small stream flowing along the right side of the site. To the extent possible using environmentally friendly materials, and ensure the water does not overflow;</li> <li>The area of ground clearance should be minimized;</li> <li>Avoid sensitive alignments, such steep hillsides and ecological sensitive areas;</li> <li>Balance filling and cutting requirements through proper route choice;</li> <li>Maintain trail surface and alignment with vegetation and where possible install slope protection.</li> </ul>	BFL focal point in WCNP Contractor	Incorporated in the activity budget.
<b>Workers' health and safety</b>	Short term Minor	<ul style="list-style-type: none"> <li>Comply with the BFL's occupational health and safety guidelines;</li> <li>Ensure regular health screening for the workers pre and during construction activities;</li> <li>Ensure that no underage workers, or children are engaged;</li> <li>Ensure decent work conditions, including an appropriate salary, working hours, accommodation and food for workers shall be provided to all workers;</li> <li>Ensure that workers are employed on the principle of equal opportunity and fair treatment, and there is no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring,</li> </ul>	BFL focal point in WCNP Contractor	To be included in the bidding document

		<p>compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices;</p> <ul style="list-style-type: none"> <li>• Implement a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns</li> </ul>		
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## 2. Embankment construction

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Cost
<b>Embankment construction</b>				US\$3,000
Disturbance to natural habitat (aquatic)	Short term Minor	<ul style="list-style-type: none"> <li>• Ensure careful siting, alignment, design of rig sites, and/or timing of works (seasonal);</li> <li>• Avoid using heavy machinery;</li> <li>• Avoid soil excavation and noise disturbance to minimize impact on natural habitats.</li> </ul>	BFL focal person in WCNP Contractor	Incorporated in the activity cost.
Waste management during construction	Short term Minor	<ul style="list-style-type: none"> <li>• Proper containers/waste bins should be provided at the project site;</li> <li>• Dumping of waste in the river, in its vicinity, or in other non-designated places should be strictly prohibited;</li> <li>• Collection, transportation and final disposal of all waste should be carried out on a daily basis and not left in the river areas;</li> <li>• Burning of construction waste should be prohibited.</li> </ul>	BFL focal person in WCNP Contractor	Incorporated in the activity cost.
Water contamination as a result of construction	Short term Minor	<ul style="list-style-type: none"> <li>• Avoid pouring construction materials into the river.</li> </ul>	BFL focal person in WCNP Contractor	Incorporated in the activity cost.
Workers' health and safety	Short term Minor	<ul style="list-style-type: none"> <li>• Comply with the workers' health and safety guidelines;</li> <li>• Ensure regular health screening for the workers pre and during construction activities;</li> <li>• Ensure that no underage workers, or children are engaged;</li> <li>• Ensure decent work conditions, including an appropriate salary, working hours, accommodation and food for workers shall be provided to all workers;</li> <li>• Ensure that workers are employed on the principle of equal opportunity and</li> </ul>	BFL focal person in WCNP Contractor	Incorporated in the worker agreement.

		<p>fair treatment, and there is no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices;</p> <ul style="list-style-type: none"> <li>• Implement a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns.</li> </ul>		
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### 3. Zonation and pillar fixing

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Cost
<b>Zonation and pillar fixing</b>				US\$ 72,300
Community conflict regarding access and usage rights of natural resources	Long term Major	All project activities will only be undertaken upon consultation with local communities, local authorities and other members of the public who are affected or have a stake in local land use. Community management plans should be developed in a participatory and consultative manner to ensure that access rights are agreed upon among community members.	BFL focal person in WCNP	Consultation part of the activity cost.
<b>Waste:</b> generation of waste as a result of consultation and pillar fixing activities	Short term Minor	<ul style="list-style-type: none"> <li>• Identification of the different waste types at the project site (soil, asphalt, food, etc.);</li> <li>• Proper containers/waste bins should be provided at the project site, and during pillar fixing;</li> <li>• Dumping of waste on the sides of the road, on private land, or in other non-designated places should be prohibited;</li> <li>• Dumping waste shall be prohibited on fragile slopes, forests, religious or other culturally sensitive areas or areas where livelihood is derived;</li> <li>• All waste should be collected by the workers;</li> <li>• All construction materials should be covered during the transportation to avoid waste dispersion;</li> <li>• Burning of waste from pillar fixing should be prohibited.</li> </ul>	BFL focal person in WCNP Contractor	Incorporated in the contract agreement.

		<i>After construction:</i> <ul style="list-style-type: none"> <li>All waste shall be removed from the project site.</li> </ul>		
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#### 4. Improvement of waterholes and salt licks

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Cost:
<i>Construction of waterholes and salt licks</i>				US\$4,761.9
Waste: soil from excavation activities and waste from construction activities	Short term Minor	<ul style="list-style-type: none"> <li>Proper containers/waste bins should be provided at the project site;</li> <li>Dumping of waste in the waterholes, on the sides of the road, on private land, or in other non-designated places should be strictly prohibited;</li> <li>Dumping of waste shall be prohibited on fragile slopes, forests, religious or other culturally sensitive areas or areas where livelihood is derived;</li> <li>Collection, transportation and final disposal of all waste should be carried out on a daily basis and not left in the protected areas;</li> <li>Burning of construction waste should be prohibited.</li> </ul>	BFL focal person in WCNP  Contractor	Incorporated in the workers agreement
Workers' health and safety	Short term Minor	<ul style="list-style-type: none"> <li>Comply with the workers' health and safety guidelines;</li> <li>Ensure regular health screening for the workers pre and during construction activities;</li> <li>Ensure that no underage workers, or children are engaged;</li> <li>Ensure decent work conditions, including an appropriate salary, working hours, accommodation and food for workers shall be provided to all workers;</li> <li>Ensure that workers are employed on the principle of equal opportunity and fair treatment, and there is no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices;</li> <li>Implement a grievance mechanism for workers (and their organizations,</li> </ul>	BFL focal person in WCNP  Contractor	Incorporated in the workers agreement

		where they exist) to raise workplace concerns.		
<b>Increase poaching</b>	Short term Minor	<ul style="list-style-type: none"> <li>Construct waterholes in areas where poaching is limited;</li> <li>Park authorities shall carry out increased patrolling during and after the waterhole construction.</li> </ul>	BFL focal person in WCNP Contractor	Part of regular patrolling
<b>Improvement of salt licks</b>				
<b>Degradation of soil and vegetation around the salt licks</b>	Long term Minor	<ul style="list-style-type: none"> <li>Place the salt on an environmentally-friendly platform (e.g., stone or piece of wood) to avoid direct connection with the soil and surrounding vegetation;</li> <li>Use environmentally-friendly salt.</li> </ul>	BFL focal person in WCNP	Incorporated in the cost activity
<b>Increase poaching</b>	Short term Minor	<ul style="list-style-type: none"> <li>Waterholes shall be constructed in areas where poaching is limited;</li> <li>Increased patrolling of park authorities should be carried out during and after the waterhole construction.</li> </ul>	BFL focal person in WCNP	Part of regular patrolling

#### 5. Installation of Waste management basic infrastructure

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Costs
<b>Waste management basic infrastructure</b>				US\$ 2,488
<b>Waste:</b> generation of waste as a result of construction activities	Short term Minor	<ul style="list-style-type: none"> <li>Proper containers/waste bins should be provided at the project site;</li> <li>Dumping waste shall be prohibited on fragile slopes, forests, religious or other culturally sensitive areas or areas where livelihood is derived.</li> </ul> <p><i>After construction:</i></p> <ul style="list-style-type: none"> <li>All waste shall be removed from the project site.</li> </ul>	BFL focal person in WCNP Contractor	To be included in workers agreement.
<b>Workers' health and safety</b>	Short term Minor	<ul style="list-style-type: none"> <li>Comply with the BFL's occupational health and safety guidelines;</li> <li>Ensure that no underage workers, or children are engaged;</li> <li>Ensure decent work conditions, including an appropriate salary, working hours, accommodation and food for workers shall be provided to all workers;</li> <li>Ensure that workers are employed on the principle of equal opportunity and fair treatment, and there is no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and</li> </ul>	BFL focal point in WCNP Contractor	To be included in workers agreement.

		benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices; <ul style="list-style-type: none"> <li>• Implement a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns</li> </ul>		
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### 6. Restoration of lowland grasslands

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Cost
<b>Restoration of Alpine meadows and lowland grasslands (supply fodder, fencing, construction of wall)</b>				US\$ 3,000
Invasive species to improve the degraded land (supply of fodder)	Long term Minor	<ul style="list-style-type: none"> <li>• Assess appropriateness of species in terms of biodiversity, water efficiency, forest fire, local needs, cultural sensitivity, survival, etc.;</li> <li>• Ensure that only native species are planted.</li> </ul>	BFL focal person in WCNP	Included in the activity cost.
<b>Waste:</b> soil from excavation activities and waste from construction activities (fencing and construction of wall)	Short term Minor	<ul style="list-style-type: none"> <li>• Proper containers/waste bins should be provided at the project site;</li> <li>• Dumping of waste in the waterholes, on the sides of the road, on private land, or in other non-designated places should be strictly prohibited;</li> <li>• Dumping of waste shall be prohibited on fragile slopes, forests, religious or other culturally sensitive areas or areas where livelihood is derived;</li> <li>• Collection, transportation and final disposal of all waste should be carried out on a daily basis and not left in the protected areas;</li> <li>• Burning of construction waste should be prohibited.</li> </ul>	BFL focal person in WCNP Contractor	Incorporated in the contract agreement
<b>Workers' health and safety (fencing and construction of wall)</b>	Short term Minor	<ul style="list-style-type: none"> <li>• Comply with the workers' health and safety guidelines;</li> <li>• Ensure regular health screening for the workers pre and during construction activities;</li> <li>• Ensure that no underage workers, or children are engaged;</li> <li>• Ensure decent work conditions, including an appropriate salary, working hours, accommodation and food for workers shall be provided to all workers;</li> <li>• Ensure that workers are employed on the principle of equal opportunity and fair treatment, and there is no</li> </ul>	BFL focal person in WCNP Contractor	Incorporated in the contract agreement

		<p>discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices;</p> <ul style="list-style-type: none"> <li>• Implement a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns.</li> </ul>		
<b>Burning</b>	<b>Short term Minor</b>	<ul style="list-style-type: none"> <li>• Avoid burning, if required do control burning</li> </ul>	BFL focal person in WCNP  Contractor	Included in the activity cost.

#### 5. ESMP Implementation arrangements

The implementation of project activities will be carried out by the BFL focal person in WCNP. The focal person will be responsible for compliance with all procedures outlined in this ESMP, as well as compliance with any requirements to obtain clearances, permits, approvals, or consent documents from relevant authorities and stakeholders.

This ESMP should be part of the contract that the PA will sign with the Contractor(s) for implementation of the planned activities in WCNP in 2020. The Contractor is obligated to perform all proposed preventive or mitigation environmental and social measures in this plan and to keep the evidence of any documents related to applying these measures (e.g., letter asking the municipality for disposal of inert waste, records on OHS information session performed for all workers before start of activities, all developed EHS plans, etc.). An OHS information session should be organized by the Contractor for all workers prior start the project activities and prior any specific tasks with high health risks.

The WCNP Supervising Engineer needs to monitor the implementation of proposed measures by the Contractor and Contractor's subcontractors with visual checking, reviewing the records of evidence that the measures have been applied and ask the Contractor to apply the measures as soon as possible. Non-compliances should be recorded and the Report on any non-compliances should be reported to the ESS consultants immediately, and the ESS consultants will report it to the PCU (M&E Officer). Each non-compliance should be closed with appropriate measure/s and the evidence should be kept.

Disbursement of project funds to the PA will be contingent upon their full compliance with the safeguards requirements.

#### 6. ESMP monitoring arrangements

The BFL focal person in WCNP will closely monitor the implementation of all planned activities and the required mitigation measures, and ensure that they fully comply with this ESMP and with the terms and conditions included in the environment clearances issued by RGoB's national authorities.

WCNP is also fully responsible for the compliance of all external contractors and service providers working in the WCNP with the safeguards requirements outlined in the ESMP.

The monitoring of activities under this ESMP will be carried out in the following manner:

### **1. Construction of Guard Post:**

- Monitoring by implementing entities:
  - At least weekly field visits - October 2020 (construction) until completion
  - Monthly reports prepared by implementing entities and submitted to ESS consultants, November 2020 (construction) until completion
  
- Monitoring by ESS consultants:
  - At least quarterly field visits by ESS consultants, October 2020 (construction)
  - Reports by ESS consultants to the PCU (M&E officer) - within two weeks after the field visit and for annual and semi-annual reporting - November 2020, December 2020, June 2021
  
- Bi-annual reports by PCU (M&E officer) to Secretariat - January 15, 2021, July 15, 2021
- Annual reports of the Secretariat to WWF US (as part of mid-year and APR) - January 30, 2021, July 30, 2021

### **2. Zonation and pillar fixing**

- Monitoring by implementing entities:
  - Field visits - at least twice during the intervention by implementing entities, and then three months after the intervention - August 2020, November 2020, March 2021
  - Quarterly reports submitted by the implementing entities to ESS consultants during implementation and then three months after the intervention - November 2020
  
- Monitoring by ESS consultants:
  - Field visits - at least once during the intervention - November 2020
  - Reports submitted once by ESS consultants within a week after the field visit, and then for annual and semi-annual reporting to the PCU (M&E officer) - November 2020, December 2020, June 2021
  
- Bi-annual reports by PCU (M&E officer) to Secretariat - January 15, 2021, July 15, 2021
- Annual reports of the Secretariat to WWF US (as part of mid-year and APR) - January 30, 2021, July 30, 2021

### **3. Embankment construction:**

- Monitoring by implementing entities:
  - Field visits - at least weekly - October 2020 until completion
  - Monthly reports by the implementing entities submitted to ESS consultants - November 2020 until completion
  
- Monitoring by ESS consultants:
  - Field visits - at least twice during the construction activities - October 2020, December 2020
  - Reports by ESS consultants to the PCU (M&E officer) - within two weeks after the field visit and for annual reporting in December 2020

- Annual report by PCU (M&E officer) to Secretariat - January 15, 2021
- Annual report by the Secretariat to WWF US (as part of mid-year and APR) - January 30, 2021

#### **4. Improvement of waterholes and salt licks**

- Monitoring by implementing entities:
  - Field visits at least twice - during the intervention and then monthly as part of the “SMART patrolling” activity (please adapt based on field conditions, and also based on the availability of SMART patrolling activities) - September 2020, October 2020
  - Reports by the implementing entities submitted to ESS consultants weekly during the intervention and then monthly after the intervention is - November 2020, December 2020
- Monitoring by ESS consultants:
  - Field visits by ESS consultants - at least once during the intervention - November 2020
  - Reports by ESS consultants to the PCU (M&E officer) - within two weeks after the field visit and for annual reporting - November 2020, December 2020
- Annual report by PCU (M&E officer) to Secretariat - January 15, 2021
- Annual reports of the Secretariat to WWF US (as part of mid-year and APR) - January 30, 2021

#### **5. Installation of Waste management basic infrastructure**

- Monitoring by implementing entities:
  - At least weekly field visits - September 2020 until completion
  - Monthly reports prepared by implementing entities and submitted to ESS consultants October 2020 until completion
- Monitoring by ESS consultants:
  - At least one field visit by ESS consultants, October 2020
  - Reports by ESS consultants to the PCU (M&E officer) - within two weeks after the field visit and for annual reporting in December 2020
- Annual report by PCU (M&E officer) to Secretariat - January 15, 2021
- Annual report by the Secretariat to WWF US (as part of mid-year and APR) - January 30, 2021

#### **6. Restoration of lowland grasslands**

- Monitoring by implementing entities:
  - Field visits at least twice - during the intervention and within three months after the intervention - September 2020, December 2020
  - Reports by the implementing entities submitted to ESS consultants within a week after each field visit - October 2020, December 2020
- Monitoring by ESS consultants:
  - Field visits by ESS consultants - at least once during the intervention, together with the implementing party - December 2020
  - Reports by ESS consultants to the PCU (M&E officer) - within two weeks after the field visit and for annual reporting in December 2020

- Annual report by PCU (M&E officer) to Secretariat - January 15, 2021
- Annual reports of the Secretariat to WWF US (as part of mid-year and APR) - January 30, 2021

## 7. Capacity Need and Budget

Activities under this ESMP will be implemented by the BFL focal person, supervising engineer, and a contractor that will employ workers. The budget for each activity is as follows:

1. Construction of guard post - US\$50,000
2. Embankment construction - US\$3,000
3. Zonation and pillar fixing - US\$ 72,300
4. Improvement of waterholes and saltlicks - US\$ 4,61.9
5. Installation of Waste management basic infrastructure - US\$ 2,488
6. Restoration of lowland grasslands - US\$ 3,000

No separate budget is required for mitigation measures since most of these measures will be covered either under the contract agreement or incorporated in the activity cost itself.

## 8. Consultation and Disclosure Mechanisms

This ESMP has been prepared in a participatory manner with WCNP. A community consultation will be carried out as described in section 9. This is mainly to inform local communities regarding the planned project activities, solicit their opinions, and enable them to question proposed mitigation measures. The main issues that were raised during the consultation meeting include the following:

The detailed minutes of the consultation meeting will be kept as a requirement for this ESMP, along with a full list of participants (disaggregated by gender and age).

The full English version of this ESMP, as well as an executive summary in Bhutanese, shall be disclosed on the website of MoAF, BFL and WWF, Bhutan Program. Hard copies of the ESMP should also be available at the PA Management Office and at the PCU Office.

## 9. Stakeholder engagement plan

The local community that resides in the vicinity of the planned BFL activities in WCNP will be engaged throughout the implementation of these activities.

- For all construction activities (construction of guard post) - Dzongkhag - August 2020
- Combined zonation and pillar fixing - Gewog, September 2020
- Riverbank protection - Gewog, July 2020
- Waste management infrastructure (only waste bin) - consultation not needed, but to inform the Gewog
- For activities that have no direct impact on communities (improvement of lowland grassland and waterhole rehabilitation) - consultation meetings have to be organized once a year (can be combined with consultations for other BFL or non-BFL activities).

The BFL focal person has to submit the official minutes of consultation meetings (along with a list of participants, disaggregated by gender and age) to ESS consultants within one week after the completion of the consultation. The ESS consultants will submit the consultation reports to the PCU (M&E officer) one week after their receipt. The PCU (M&E officer) will report to the Secretariat on a semi-annual basis.