

## Wildlife-friendly Infrastructure Construction Directives, 2022

**Preamble:** Whereas, it is expedient to make infrastructure of linear nature to be constructed in the habitat and area of movement of wildlife as friendly to them in order to reduce wildlife accidents by making the movement of wildlife secure and thereby to decrease the conflict between human and wildlife;

Therefore, the Government of Nepal has, having exercised the powers conferred by Section 33A. of the National Parks and Wildlife Conservation Act, 1973, formulated these Directives.

### Chapter-1

#### Preliminary

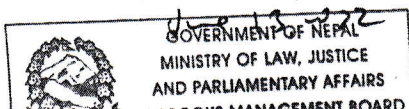
1. **Short name and commencement:** (1) These Directives may be cited as "(the) Wildlife-friendly Infrastructure Construction Directives, 2022."

(2) These Directives shall come into force from the date of publication in the Nepal Gazette.

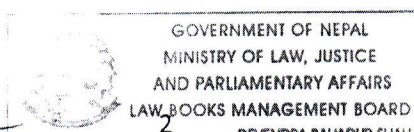
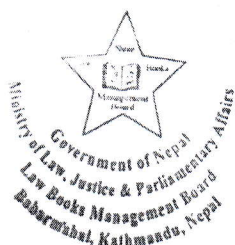
2. **Definitions:** Unless the subject or the context otherwise requires, in these Directives,-

(a) "Very Sensitive Area" means National Parks, wildlife reserve, biological corridor or wetland areas listed on the Ramsar List.

(b) "Other Forest area" means forest areas other than very sensitive area and sensitive area.



- (c) "Promoter" means an agency, company, organization or individual having obtained permission to study, construct and operate infrastructure project.
- (d) "Technical Team" means a technical team to be formed pursuant to Sub-section (2) of Section 6.
- (e) "Infrastructure" means linear infrastructure like road, railway, irrigation canal, river training and management structures including dam and embankment, pipeline of oil or gas, electricity transmission line, dam of hydropower project, headrace canal, headrace pipe and penstock pipe and other similar linear infrastructure.
- (f) "Ministry" means the Ministry of Forests and Environment of Government of Nepal.
- (g) "Wildlife-friendly Infrastructure" means the following structure constructed as an integral part of infrastructure:
- (1) Viaduct, bridge, flyover, culvert or an underpass infrastructure of similar nature through which wildlife can move;
  - (2) Village road bridge, eco-bridge, canopy bridge or an overpass infrastructure of similar nature above which wildlife can move;
  - (3) Ramp, guiding fence, guiding wall, avian deflector or structure of similar nature which is used for movement of wildlife and to provide access to source including water available in those structure.



- (h) "Department" means the Department of National Parks and Wildlife Conservation.
- (i) "Concerned body" means a Department or office under government ownership that constructs infrastructure or regulates and monitors or provides permission for infrastructure construction.
- (j) "Sensitive Areas" mean the following areas:-
- (1) Environment Conservation Area;
  - (2) Conservation Area;
  - (3) Forest Conservation Area;
  - (4) Buffer Zone Area;
  - (5) Eco-tone of various types of habitats.

## Chapter-2

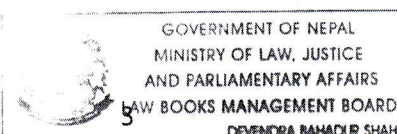
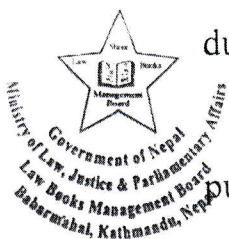
### Provisions relating to Formulation of Plans

#### 3. Infrastructure to be constructed outside very sensitive area: (1)

While carrying out feasibility study for construction of any infrastructure, it shall be carried out in such a way that infrastructure is constructed outside the very sensitive area.

(2) Notwithstanding anything contained in Sub-section (1), if there is human settlement inside very sensitive area or in a situation where there is no other appropriate option than to using such area due to other reason, infrastructure may be constructed in such area.

(3) If infrastructure has to be constructed in very sensitive area pursuant to Sub-section (2), the concerned body or promoter shall





propose an option that does not cause significant adverse impact on wildlife habitat, biological corridor and ecosystem.

(4) While proposing option pursuant to Sub-section (3), it shall propose sustainable options having regard to physical, biological, social and economic aspects and shall ensure construction of wildlife-friendly structure while constructing infrastructure.

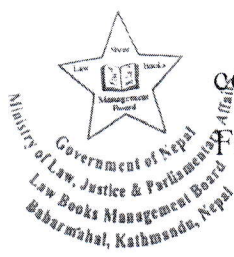
4. **Prior Permission to be obtained:** (1) The concerned body or promoter shall obtain prior permission of the Ministry for carrying out feasibility study of infrastructure in very sensitive area referred to in Section 3.

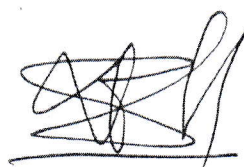
(2) While submitting application for the permission pursuant to Sub-section (1), the concerned body or promoter shall also include the subject matters referred to in Schedule-1.

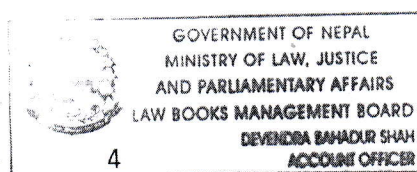
(3) If an application is received pursuant to sub-Section (2), the Ministry shall carry out necessary inquiry into it and grant permission within twenty-one days for feasibility study of the infrastructure in that area if found appropriate.

5. **Discussions to be held and Coordination to be made:** (1) While carrying out study of any infrastructure project proposed with the use of very sensitive area or sensitive area, discussions shall be held and coordination shall be made with the stakeholders related to such infrastructure from the very beginning.

(2) While carrying out feasibility study pursuant to Section 3 coordination shall be made with the concerned Warden or Divisional Forests Officer.



  
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6. **Study to be conducted by Technical Team:** (1) Before preparing Detailed Project Report on infrastructure and wildlife-friendly structure construction in very sensitive area, sensitive area and other forest area that lies in terai and inner Madhesh, the concerned body or the promoter shall prepare report by carrying out study by a technical team.

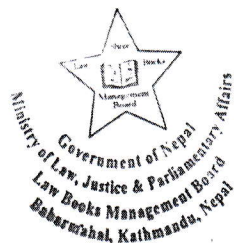
(2) The technical team to be formed pursuant to Sub-section (1) shall consist of following members:-

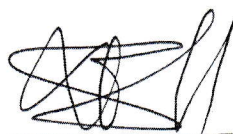
- (a) Civil Engineer - One Person;
- (b) Wildlife Expert - One Person;
- (c) Forest Expert - One Person;
- (d) Subject Expert (related with infrastructure construction) - One Person.

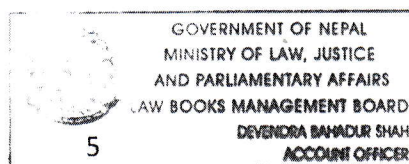
(3) The expert in the technical team shall have acquired at least the post-graduate level degree in the related subject.

(4) The technical team shall identify and determine the place, type and design of the wildlife structure that need to be constructed on the following basis:-

- (a) Impact that may be caused on wildlife due to the infrastructure;
- (b) The size, habits and reaction of the species of targeted wildlife towards the infrastructure;
- (c) Appropriateness of the underpass or overpass on the basis of environmental condition, topography,



  
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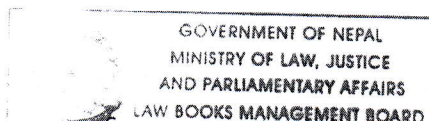
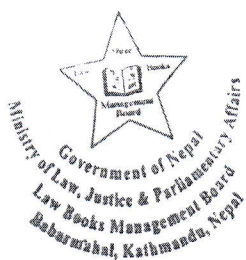


water sources and weather of the place where the wildlife-friendly structure is to be constructed;

- (d) Safety and structural sustainability of the transportation service;
- (e) Conservation and movement facility of other wildlife species;
- (f) Sources of water near the wildlife-friendly structure;
- (g) Local flora species around the wildlife-friendly structure;
- (h) Data of wildlife accidents in the past;
- (i) Observation of the use of movement and habitat of wildlife;
- (j) Lesson learned from other successful practice;
- (k) Recommendation given in the feasibility study report;
- (l) Other appropriate basis.

(5) The technical team shall include the following contents while carrying out study and preparing the report:-

- (a) Details of wildlife pursuant to Schedule-2 to be found around the construction area of infrastructure;
- (b) Analysis of adverse impact pursuant to Schedule-3 that the infrastructure is likely to cause in the wildlife habitat;



(c) Recommendation related to the wildlife-friendly structure that needs to be constructed pursuant to basic standards stated in Schedule-4.

(6) The technical team shall coordinate with the concerned Warden or Divisional Forests Officer while carrying out the study pursuant to this section and shall also get their recommendation while preparing the report.

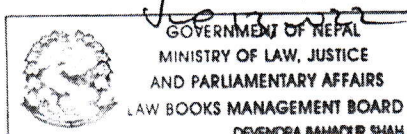
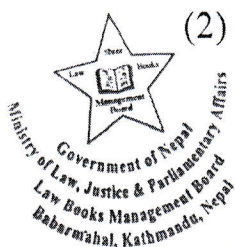
(7) Notwithstanding anything contained elsewhere in this Section, in case of a forest area other than the area referred to in Sub-section (1), the concerned body or promoter shall select and construct the wildlife-friendly structure pursuant to basic standards stated in Schedule-4 by carrying out study in collaboration with the Divisional Forest Officer.

**7. Detailed Project Report and Cost Estimation to be prepared: (1)**

The concerned body or promoter shall prepare the detailed project report along with design of the wildlife-friendly structure and cost estimation thereof according to the study report referred to in Section 6.

(2) While preparing the detailed project report and cost estimation pursuant to Sub-section (1), design of the wildlife-friendly structure shall be pursuant to basic standards referred to in Schedule-4.

(3) The wildlife-friendly structure referred to in Sub-section (2) shall be an integral part of the infrastructure.





(4) While preparing the report referred to in Sub-section (1), the concerned body or promoter shall obtain and include the written recommendation of the concerned Warden or Divisional Forests Officer.

(5) In case the written recommendation referred to in Sub-section (4) is sought, the concerned Warden or Divisional Forests Officer shall provide written recommendation within 15 days including therein the subject matters referred to in Schedule-5.

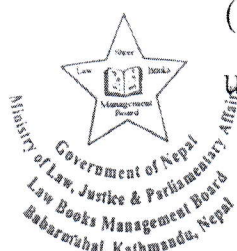
### Chapter-3

#### Construction of Wildlife-friendly Structure

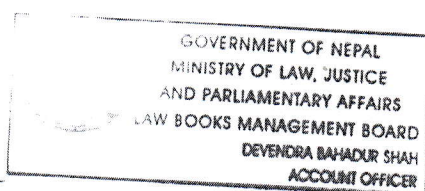
8. Wildlife-friendly structure to be constructed: (1) The concerned body or promoter shall construct the wildlife-friendly structure in the place and as per the design prescribed in the detailed project report prepared pursuant to Section 7 and approved in accordance with the existing law.

(2) While constructing the structure pursuant to Sub-section (1), the measures for reduction of adverse impact pointed out by the environmental study report approved according to the existing law shall be followed.

(3) While building the structures including the wall on the right and left side of the overpass and underpass, guiding fence, noise resistant structures to be constructed pursuant to Sub-section (1) shall be constructed with similarity to the wildlife habitat and by using local materials as far as possible.



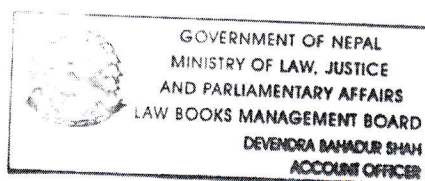
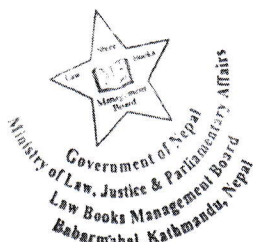
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9. **Provision regarding use of forest area:** While extending and constructing infrastructure and wildlife-friendly structure, provision regarding the use of forest area and compensating land for that shall be according to federal law related to forest.

10. **Acts not to be committed while constructing infrastructure and wildlife-friendly structure:** (1) While constructing and expanding infrastructure and wildlife-friendly structure, the concerned body or promoter shall not commit or cause to be committed the following acts:-

- (a) Acts that cause adverse impact on the habitat of wildlife, biological corridor and ecosystem;
- (b) To throw waste, or cause soil, water, air or noise pollution by any way inside the very sensitive and sensitive areas;
- (c) To use any place as workers camp, construction material storage site, waste management site, construction material processing site other than the place prescribed in the environmental study report approved according to the existing law;
- (d) To cut down tree, plant, collect woods, plant imported plants other than the ones with approval;
- (e) To kill, chase, catch, scare, hunt or harm in any form to any wildlife and to carry out fishing;

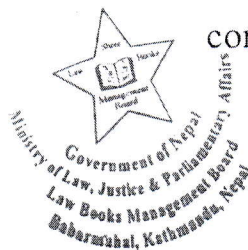


- (f) To use construction materials, tools, machine, equipment and explosive substance without permission;
- (g) To commit other activities prohibited in the detailed project report and approved environmental study report;
- (h) To commit any other act against the existing law.

(2) While extending and constructing the infrastructure and wildlife-friendly structure, the following matters shall be protected with special prioritization:-

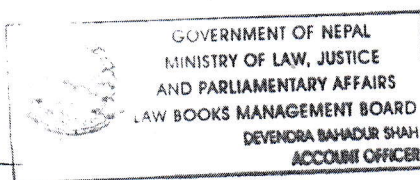
- (a) Wild fauna and flora species listed in the protected list according to the existing law;
- (b) Endemic, migrated, endangered wild fauna and flora species;
- (c) Important ecosystems;
- (d) Sources of water, reproductive and movement areas of wildlife;
- (e) Other activities referred to in the environmental study report approved by the existing law.

11. **Wildlife-friendly structure to be made in infrastructure to be constructed or already constructed:** (1) If a wildlife-friendly structure is found necessary to be constructed in the infrastructure constructed before the commencement of these directives, the



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concerned Warden or Divisional Forests Officer may recommend the concerned body or promoter to construct such structure.

(2) For the purpose of Sub-section (1), the concerned body or promoter shall construct appropriate wildlife-friendly structure by requiring to conduct study as may be necessary in collaboration with the concerned Warden or Divisional Forests Officer.

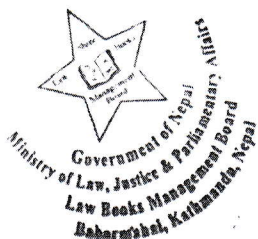
(3) In case there is a need to construct wildlife-friendly structure in the infrastructure already constructed and in operation before the commencement of these Directives, the concerned Warden or Divisional Forests Officer may recommend to the concerned body.

(4) If the recommendation referred to in Sub-section (3) is received, the concerned body shall cause to conduct study as may be necessary and construct appropriate wildlife-friendly structure in such infrastructure.

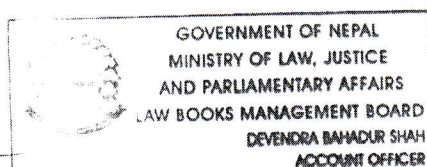
**12. Repair and Maintenance:** (1) The obligations and responsibilities of activities of repair and maintenance of wildlife-friendly structure constructed pursuant to Sections 8 and 11 shall lie on the concerned body or promoter.

(2) The concerned body or promoter shall carry out the following activities for maintenance of wildlife-friendly structure:-

(a) To clean bush, shrub and manage waste up to at least eight-eight meters from edge on both sides of road and railway in terai and plain area and at least two-two meters in hilly and Himalayan region in case of



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infrastructure of linear nature like roadways, fast track and railways;

- (b) To repair and maintain cross-drainage, ramp and other similar type of structure adjacent to irrigation and river control in case of such infrastructure;
- (c) To trim tree and bush shrub within jurisdiction of electricity transmission line in case of such line;
- (d) To take necessary actions related to repair and maintenance by the body or promoter concerned with of infrastructure other than in clause (a), (b) and (c) in case of such infrastructure.

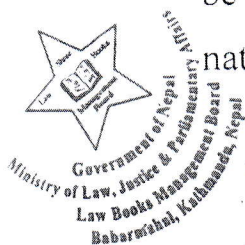
(3) The concerned body or promoter shall put signpost, billboard including hoarding boards with message as per necessary in the area with huge number of wildlife and area crossed by wildlife around infrastructure and wildlife-friendly structure construction place.

(4) The concerned body or promoter shall obtain permission of the concerned Warden or Divisional Forests Officer before taking actions pursuant to Sub-section (2) and (3).

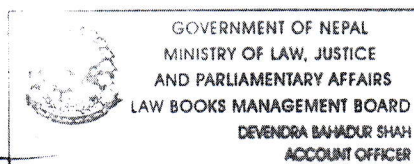
## Chapter-4

### Miscellaneous

13. Provision regarding to Committee: (1) A committee as follows shall be there for recommendation for construction of transmission line, national highways, provincial roadways, railways, hydropower



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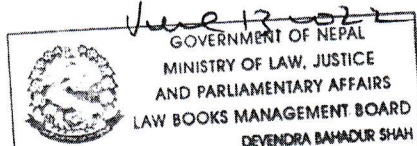
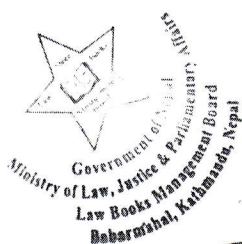


project, irrigation canals within the protected areas like national parks, wildlife conservation or pass through such areas and determination of access infrastructures including national infrastructure corridor or area linking to the above mentioned infrastructures

- |   |                  |
|---|------------------|
| (a) Secretary, Ministry   | Coordinator      |
| (b) Secretary, Ministry of Energy,<br>Water Resources and Irrigation                  | Member           |
| (c) Secretary, Ministry of Physical<br>Infrastructure and Transportation              | Member           |
| (d) Secretary, National Planning<br>Commission  | Member           |
| (e) Secretary, Ministry related with<br>body proposing to construct<br>infrastructure | Member           |
| (f) Joint Secretary, Ministry   | Member Secretary |

(2) The functions, duties and powers of the Committee referred to in Sub-section (1) shall be as follows:-

- (a) To propose for determination of national infrastructure corridor or area within the protected areas like national parks, wildlife reserve or pass through such areas;
- (b) To recommend for approval of area proposed pursuant to Clause (a);



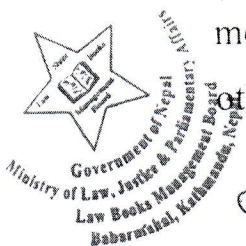


- (c) To facilitate in the implementation of development projects in the area referred to in Clause (a).

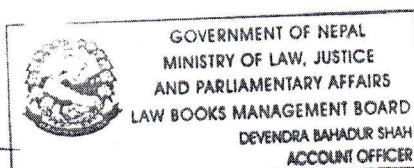
14. **Monitoring:** (1) The following agency shall, in collaboration with the concerned agency or promoter, conduct monitoring with regard to whether or not provisions of these directives are complied with; whether or not the wildlife-friendly structure construction is going on according to the detailed project report, environmental study report and approved design; whether or not the already constructed infrastructure is required to be made wildlife-friendly with regard to the effectiveness of wildlife-friendly structure; and submit report thereof to the following agency:-

- (a) With regard to the wildlife-friendly structure constructed under the jurisdiction of the department, the department shall monitor and submit its report to the Ministry;
- (b) With regard to the wildlife-friendly structure constructed under the jurisdiction of the Provincial Forest Directorate, the Directorate shall monitor and submit its report to the Ministry looking after the subject on forest and environment of the province.

(2) The Ministry or the Ministry looking after the subject on forest and environment of the province may write to the concerned body or promoter for the implementation of subject referred to in the monitoring report received pursuant to Sub-section (1) including other subject found necessary.



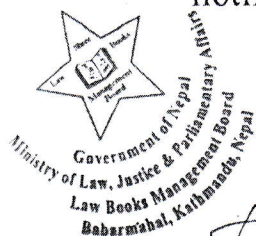
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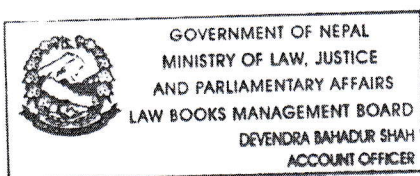
(3) If there is any recommendation received in writing for implementation by the Ministry or the Ministry looking after the subject on forest and environment of the province pursuant to Sub-section (2), the concerned body or promoter shall promptly implement such recommendation and provide information about it to the body which has sent such recommendation.

(4) It shall be the obligation of the concerned body or promoter to provide assistance in the activity of monitoring and preparing report pursuant to this Section.

15. **Amendment to Schedule:** The Ministry may, by publishing a notification in the Nepal Gazette, amend the Schedules as required.



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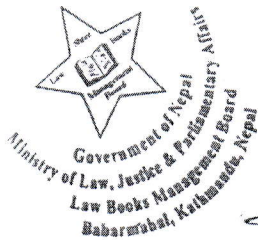


## Schedule-1

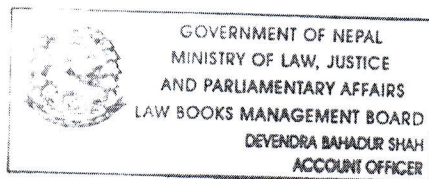
(Related to Sub-section (2) of Section 4)

### Subject matter to be included in the application provided for prior permission

1. Name of the project;
2. Name and address of concerned body or promoter;
3. Four boundary (coordinate) of the forest that may be used by the project and forest area that may directly impact by the project in the map;
4. Full address of place of project implementation;
5. Type of National Park/Wildlife Reserve/ Forest Conservation Area / Ramsar site / Biological corridor pursuant to existing Forest Act or National Park and Wildlife Conservation Act;
6. Main wild fauna and flora species found in project area;
7. Estimated area (in hectare) of forest area required for the project;
8. Other relevant details.



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## Schedule-2

(Related to Clause (a) of Sub-section (5) of Section 6)

### List of wildlife found around infrastructure construction area to be referred in the report

1. Small wildlife species:-

- (a) Amphibian and reptiles like tortoise species, snake species, monitor lizard *Gohorospecies*, crocodile species, lizard species, frog,
- (b) Small mammal species like squirrel species, rabbit species, porcupine species, civet species, otter species, mongoose, rat, monkey species, salamander species, red panda species, leopard cat, *linsang* (Prionodon),

2. Medium wildlife species:-

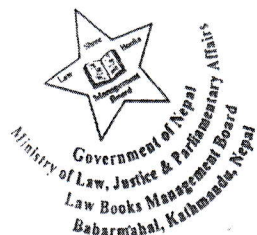
Small wild cat species, palm civet (toddy cat), wild dog (*Dhole*), jackal, fox, linx, small deer species, blackbuck, four horned antelope *chauka*, hyena, leopard, dolphin, wild boar species.

3. Big wildlife species:-

Greater One- Horned Rhinoceros, tiger, bear species, big deer species, Himalayan tahr (*Jharal*), ghoral, blue bull (*Boselaphus tragocamelus*), gaur *Gauri gai* (*Bos Gaurus*), wild buffalo.

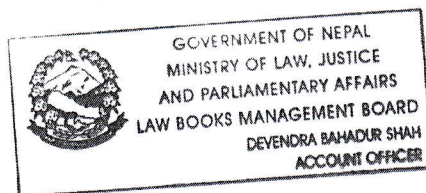
4. Giant wildlife species:-

Wild elephant



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### Schedule-3

(Related with Clause (b) of Sub-section (5) of Section 6)

#### List of adverse impact that may be caused on wildlife habitat by the infrastructure

S.N.	Area	Adverse impact
1.	Park, wildlife reserve, Conservation, Area, Forest Area, Biological corridor	<p><u>Habitat Area Fragmentation</u></p> <p>(a) Hindrance on food, water resource, safe reproductive place and grazing</p> <p>(b) Increase in wildlife accident and death</p> <p>(c) Destruction on ancestral diversity</p> <p><u>Habitat Destruction</u></p> <p>(a) Reduction, destruction of food and habitat area</p> <p>(b) Compulsion to go outside forest area for food and living</p> <p>(c) Creation of human-wildlife conflict</p> <p>(d) Deforestation</p> <p>(e) Exploitation of river based materials</p> <p><u>Changes in Habitat</u></p> <p>(a) Spread of useless and inedible <i>michaha</i> (invasive) species</p>

		<p>(b) Increase in poaching</p> <p>(c) Changes in number and structure of species</p> <p>(d) Changes in condition of threatened, vulnerable and protected species in endangered condition</p> <p>(e) Other impact</p>
2.	Wetlands	<p>(a) Wetlands shall be buried and water get dry, cause pollution, cause destruction, spread of <i>michaha</i> (invasive) species, depreciation on biological diversity</p> <p>(b) Impact caused on livelihood of local community dependent on wetland</p> <p>(c) Other impact</p>
3.	Chure and Environment Protection Area, Important Biological Area	<p>(a) Impact on underground water flow, land destruction, landslides, change in flow of water, impact caused on lower coastal area</p> <p>(b) Habitat destruction and contraction of important species</p> <p>(c) Other impact</p>
4.	Adverse impact of environmental pollution caused in air, water, noise and soil	

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June 13, 2022



## Schedule-4

(Related to Clause (c) of Sub-section (5), Sub-section (7) of Section 6 and  
Sub-section (2) of Section 7)

### Basic Standard of Wildlife-friendly Structure

#### 1. Underpass Structure:

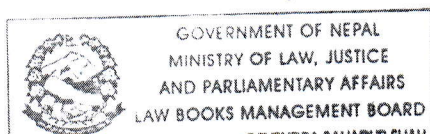
S.N.	Categorization of wildlife	Type of Underpass Structure	Minimum Shape of Underpass			
			Less than 20 metre length		20 metre or more than 20 metre length	
			Width (metre)	Height (metre)	Width (metre)	Height (metre)
1.	Small wildlife species	Culvert	2.0	2.0	3.0	2.5
2.	Medium wildlife species	Culvert or bridge	6.0	3.0	8.0	3.0
3.	Big wildlife species	Bridge	10.0	4.0	15.0	4.5
4.	Giant wildlife species	Bridge	12.0	6.5	15.0	6.5

Note: Length of wildlife-friendly structure means width of infrastructure.



*[Signature]*

13/02/2022

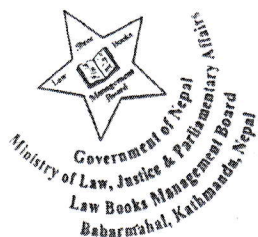


## 2. Overpass Structure:

- (a) For wild elephant, rhinoceros species grazing on land, the gradient leading to the overpass should not exceed 20° (twenty degrees) and width of the overpass shall be at least 20 metre (twenty metre).
- (b) For other species grazing on land other than elephant and rhinoceros, the gradient leading to the overpass should not exceed 30° (thirty degrees) and width of the overpass shall be at least 10 metre (ten metre).
- (c) For arboreal species living in the trees like monkeys and squirrel, canopy bridge made of materials like rope or wire shall be constructed that should be at least five metre above the infrastructure like canal, road, railways.

## 3. Other Structure:

- (a) Ramp shall be constructed in irrigation canal and river control structures as required.
- (b) Headrace pipe of hydropower project and penstock pipe, petroleum pipe including other pipeline of same nature shall be buried under ground as far as possible.
- (c) in case of electricity transmission line equipment like avian diverter, reflector, insulator shall be installed in the wires as required.



June 13, 2022  
GOVERNMENT OF NEPAL  
MINISTRY OF LAW, JUSTICE  
AND PARLIAMENTARY AFFAIRS  
LAW BOOKS MANAGEMENT BOARD

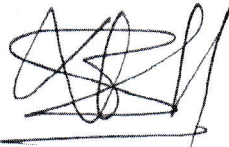
## Schedule-5

(Related to Sub-section (5) of Section 7)

### Subject matter to be included while giving opinion or recommendation

1. Name and construction area of the project
2. Important wildlife species found in project area
3. Detail including map, coordinate of wildlife movement pathways
4. Type, place and number of appropriate structure for facilitation of wildlife movement
5. Opinion or recommendation of concerned official
6. Other relevant details.



  
June 13, 2022

