Unit 31 · Wildlife

STUDY NOTES

WHAT NEB'S GRADE 11 EXAM ASKS

- **CDC's grid (2077):** Conservation Biology (Units 30–31 together): 2 of 75 marks, 1 MCQ; in one group with Units 1–3, 11–12, 17, 27–29 (21 marks)
- **The paper:** 11 MCQs × 1 · 8 short × 5 · 3 long × 8; 3 hours; 1 mark per expected point
- **CDC's model paper:** MCQ: the IUCN risk group of the **one-horned rhinoceros** (**Vulnerable**)
- **MCQ (1 mark)**
  - a biodiversity hotspot (the Himalaya)
  - the Red List's main objective; its categories; which are threatened
  - a protected bird that is Vulnerable worldwide (great hornbill)
- **Short answers** (asked in the unit's exercise)
  - wildlife conservation; causes of extinction; importance of wildlife
  - significance of the Red List
  - the conservation strategy of 1992 (Earth Summit)
  - hotspots and Nepal's Himalaya (Unit 30)

Key terms

Wildlife: all living things growing on their own in their natural habitat, not domesticated or cultivated: fauna, flora, fungi, microbes.

Conservation: wise use of resources today, keeping them for the future.

Wildlife conservation: protecting wild species and habitats so they survive.

IUCN Red List: the world's inventory of how close each species is to extinction.

Threatened: Critically Endangered, Endangered, Vulnerable.

Protected animal (Nepal): listed in Schedule 1 of the 1973 Act; hunting or trade a crime.

Wildlife

- a buffalo in a shed, rice in a field: not wildlife

Importance

1. **balance of nature**: predators control prey
2. **self-sustaining ecosystems**: pollination, seed dispersal (hornbill), recycling
3. **medicines**: sarpagandha, chiraito, taxol (yew)
4. **tourism** and income
5. **gene bank**: wild relatives resist disease, drought, pests
6. undiscovered **genetic potential**
7. **high-yielding, resistant** breeds (wild rice's disease resistance)

- beauty, culture, sacred species (danphe, peepal)

Causes of extinction

1. **habitat destruction**, **deforestation**, fragmentation
2. **poaching**: horns, bones, skins, scales, musk
3. **international trade** (much illegal)
4. **over-exploitation**: over-fishing, herbs
5. **pollution**: diclofenac killed vultures
6. **climate change**
7. **human–wildlife conflict**
8. **disease** from domestic animals (rabies, distemper)
9. **natural disasters**
10. **invasive species**

Conservation

- **Earth Summit**, Rio, **1992**: **Convention on Biological Diversity** (CBD); Nepal signed, ratified 1993
- **Global Biodiversity Strategy** (1992; WRI, IUCN, UNEP)

Conservation strategy

1. **study habitats**: feeding, breeding, nursery, resting grounds
2. **protect** them; new protected areas
3. **count** animals at least every **5 years**
4. **international agreements** for **migratory** species
5. **enforce laws**: stop trade, hunting for pleasure
6. **preserve wild varieties** for biotechnology

7. **national parks and wildlife reserves**
8. **educate** people

- tigers counted by **camera traps** (stripes): 121 (2009) → 355 (2022) → **429** (2026)
- snow leopards by **DNA** in droppings

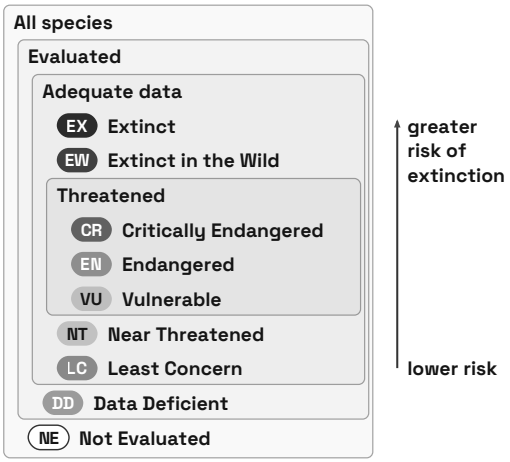
IUCN Red List

- **IUCN**: founded **1948** (Fontainebleau); headquarters **Gland**, Switzerland; governments and NGOs as members
- Red List begun **1964**; experts judge each species by criteria

Nine categories

1. **Extinct (EX)**: last one died
2. **Extinct in the Wild (EW)**: only in captivity or cultivation
3. **Critically Endangered (CR)**: extremely high risk
4. **Endangered (EN)**: very high risk
5. **Vulnerable (VU)**: high risk
6. **Near Threatened (NT)**: close to threatened
7. **Least Concern (LC)**: not at risk (house sparrow, rhesus monkey)
8. **Data Deficient (DD)**: too little known
9. **Not Evaluated (NE)**: not yet assessed

- **threatened** = CR + EN + VU; ~49,500 of ~176,000 assessed (2026)



The nine categories of the Red List.

Criteria (any one)

- **A** fast decline (10 years or 3 generations)
- **B** small range (CR: < 100 km^2)
- **C** small, declining population (CR: < 250 adults)
- **D** very small population (CR: < 50 adults)
- **E** calculated chance of extinction (CR: ≥ 50% in 10 years)

Objectives

1. raise **awareness** of threats
2. **identify and document** species most at risk
3. **guide** conservation plans and priorities
4. inform agreements: **CBD**, **CITES** (1973; Nepal 1975)

Protected animals of Nepal

- **National Parks and Wildlife Conservation Act, 2029** (1973), **Schedule 1**
- **27 mammals, 9 birds, 3 reptiles** (some books: 26 mammals, both pangolins one entry)
- **birds**: black stork, white stork, sarus crane, cheer pheasant, **danphe** (*Lophophorus impejanus*), satyr tragopan (munal), **Bengal florican**, lesser florican, **great hornbill**
- **mammals**: red panda, striped hyena, wild yak, chiru, great Tibetan sheep, **wild water buffalo**, gaur, **swamp deer**, **musk deer**, pygmy hog, **Asian elephant**, **snow leopard**, **Bengal tiger**, clouded leopard, lynx, leopard cat, spotted linsang, brown bear, gray wolf, **Gangetic dolphin**, Indian and Chinese **pangolins**, Assam macaque, **blackbuck**, **four-horned antelope**, hispid hare, **one-horned rhinoceros**
- **reptiles**: Asian rock **python**, **gharial**, golden monitor lizard

Red List (world)	Protected animals of Nepal
Critically Endangered	gharial, Bengal florican, Chinese pangolin
Endangered	tiger, red panda
Vulnerable	**one-horned rhino**, snow leopard, great hornbill
Least Concern	danphe, blackbuck, gray wolf, brown bear

- "protected" is **Nepal's law**; Red List categories are the **world's** risk

COMMON MISTAKES

✗ The Red List has eight categories
✓ **nine**; three are threatened.

✗ Every rare animal is "endangered"
✓ Endangered is one category, between CR and VU.

✗ Protected in Nepal = endangered worldwide
✓ not always (danphe, blackbuck are LC).

✗ Wildlife means only animals
✓ wild plants, fungi, microbes too.

✗ IUCN is at Morges
✓ **Gland**, Switzerland.

✗ *Lynx lynx* is the bobcat
✓ it is the **lynx**.