

Environment Class 07

4th March, 2024 at 1:00 PM

IUCN- 1:11 PM

- **International Union for Conservation of Nature (IUCN)-**
- It is a global **NGO established in 1948** and the most remarkable work ⁱⁿ the red list of threatened species.
- **IUCN** has been fundamental to the creation of many global conventions such as **Ramsar, Convention on Biological Diversity, World Heritage Convention, and CITES.**
- As of now, it has observer **status at UNGA.**
- IUCN has pioneered **nature-based solutions**, and actions to conserve nature, along with fighting global challenges such as climate change, disaster, water, and food security.
- Today IUCN is one of the **world's largest and most diverse environmental networks.**
- IUCN red list categories and criteria are intended to be an easily and widely understood system for classifying species at high risk of global extinction.
- It divided species **into 9 categories based on five criteria.**

Criteria	Critically endangered	Endangered	Vulnerable
Population size reduction	>80-90%	>50-80%	>30-50%
Geographic range			
a. Extent of occurrence	<100 sq km	> 5000 sq km	< 20000 sq km
b. Area of occupancy	< 10 sq km	< 500 sq km	< 2000 sq km
Small and declining population size.	< 250	< 2500	< 10000
Very small population	< 50	< 250	< 1000
Extinction risk	> 50% within 10 years or 3 generations	20% within 20 years or 5 generations	10% within 100 years.
Extinction Probability			

Among these parameters if some of the parameters satisfy then also species will be declared accordingly.

do remember these five criteria and data of critically endangered.

Even one criteria can be enough to decide whether a specie is critically endangered or not. This is decided by IUCN that how much criteria should be considered.

Do search for critically endangered species in India especially for mammals and birds. For migratory birds also and also search for their habitat.

Organizations involved in conservation of species -

- => IUCN (International Union for Conservation of Nature)
 - > Founded in 1948, it's one of the world's oldest global environmental organizations.
 - > Known for maintaining the IUCN Red List of Threatened Species.
 - > Works with governments, NGOs, and scientists to conserve biodiversity and promote sustainable use of natural resources.
- => WWF (World Wide Fund for Nature)
 - > Established in 1961, it is one of the largest and most well-known conservation organizations.
 - > Works globally on issues like wildlife conservation, climate change, deforestation, and sustainable development.
 - > The panda is its famous logo symbol.
- => Birdlife International
 - > A global partnership of conservation organizations focused on birds and their habitats.
 - > Identifies Important Bird and Biodiversity Areas (IBAs) around the world.
 - > Works to prevent bird extinctions and protect key bird habitats.
- => Wetland International
 - > A global non-profit organization dedicated to the conservation and restoration of wetlands.
 - > Focuses on wetlands' role in biodiversity, water security, climate mitigation, and disaster risk reduction.
 - > Works across more than 100 countries.
- => Conservation International
 - > Founded in 1987, it works to protect nature for the benefit of people.
 - > Focuses on forests, oceans, fresh water, and climate solutions.
 - > Uses science, partnerships, and policy to support environmental protection.

BIO-DIVERSITY HOTSPOTS- 2:08 PM

- In 1988 British ecologist **Norman Myers** introduced the concept of biodiversity hotspots based on **two strict criteria-**
 - 1. It must contain at least **1500 endemic vascular plants.**
 - 2. It must have lost at least 70% of its primary vegetation.
- This definition was adopted by **Conservation International** a global NGO.
- They have designated 36 such areas across the world.
- **Four of these hotspots are found in India-**
 - 1. Himalayas or their parts
 - 2. Western Ghats
 - 3. Indo Burma region- It covers Myanmar, Thailand, Cambodia, Vietnam, and Laos areas around the Brahmaputra River and part of the Andaman and Nicobar Islands.
 - 4. Sundaland- This includes the islands of Java, Sumatra, Malay peninsula. Nicobar islands is part of Sundaland.
- There are two more regions that fulfil the criteria but are not part of the official list.
 - 1. Sundarbans
 - 2. **Terrai duar Savannah**

GLOBAL CONSERVATION STRATEGIES- 2:18 PM

- **Convention on Biological Diversity (CBD)-**
- CBD came into existence as a result of the **Rio Summit or Earth Summit 1992.**
- It entered into force in 1993.
- It has three main objectives
 - 1. Conservation of biological diversity.
 - 2. Sustainable use of components of biological diversity.
 - 3. The fair and equitable sharing of benefits arising out of the utilization of biological resources.
- CBD is **legally binding.** Home Work:
 - > 22 species + Tiger and Elephant
 - > Look at critically endangered species found in India and migratory species also like Siberian cranes.
 - > Anything coming in newspaper.
 - > Documentaries.
- India is a member.

Critically Endangered Species in India (as per IUCN Red List)
Here are some key critically endangered species found in India:

Mammals:

Pygmy Hog (*Porcula salvania*) – Found in Assam (grasslands)
Kashmir Stag / Hangul (*Cervus hanglu hanglu*) – Kashmir Valley
Malabar Civet (*Viverra zibetha*) – Western Ghats (possibly extinct)
Sunda Pangolin (*Manis javanica*) – North-East India (rare sightings)

Birds:

Great Indian Bustard (*Ardeotis nigriceps*) – Rajasthan, Gujarat
Forest Owlet (*Heteroglaux blewitti*) – Central India
Spoon-billed Sandpiper (*Calidris pygmaea*) – Migratory, winters in eastern coast of India

Reptiles:

Red-crowned Roofed Turtle (*Batagur kachuga*) – Ganga river basin

Fish:

Ganges Shark (*Glyptocheilus gangeticus*) – Freshwater, Ganges river system

Migratory Species Found in India

(Many of these are also protected under the Bonn Convention)

Birds:

Amur Falcon – Migrates from Siberia to NE India and Africa
Siberian Crane – Rarely seen now, once wintered in Bharatpur, Rajasthan
Bar-headed Goose – Crosses the Himalayas to winter in India
Greater Flamingo – Arrives in Gujarat, Maharashtra wetlands
Demoiselle Crane – Winters in Rajasthan (Khichan village is famous)

Marine:

Humpback Whale – Migrates along the Indian Ocean coasts

Olive Ridley Turtles – Nest in Odisha (Gahirmatha, Rushikulya beaches)

Insects:

Painted Lady Butterfly (*Vanessa cardui*) – Longest migration among insects after monarchs, passes through India

There are two main Protocols of this convention -

1. **NAGOYA PROTOCOL- 3:05 PM**

- It is an international agreement that aims at **sharing the benefits** arising from the utilization of genetic resources in a fair and equitable way.
- This was adopted in 2010 and entered into force in 2014.
- By helping to ensure benefit-sharing protocol creates incentives to conserve and sustainably use genetic resources.
- A protocol also maintains **access and benefit-sharing clearing house** a tool to facilitate implementation of the protocol by enhancing legal certainty and transparency.

2. **Cartagena Protocol-**

- It is an international agreement with respect to **bio-safety**.
- It aims to ensure the safe handling, transfer, and use of living-modified organisms resulting from modern biotechnology.
- This protocol **establishes a bio-safety clearing house** to facilitate the exchange of information on living modified organisms and assist countries in the implementation of the protocol.
- **Nagoya ^{Kuala Lumpur} supplementary protocol** was adopted as a supplementary agreement to the Cartagena protocol to redress the liability issues resulting from living modified organisms (LMOs).
- Both the **Nagoya Protocol** and the Cartagena Protocol are **legally binding**.
- India is a party to both of them.
- In 2010 the convention adopted **Aichi bio-diversity targets for 2011 to 2020** a set of non-binding targets to be achieved by all the member nations.
- In COP -15, of CBD the convention announced a new set of targets for 2021 to 2030 known as **Kunming Montreal Global Biodiversity Framework**.
- These 23 targets are non-binding in nature.

COP15 was supposed to held in Kunming (China) but because of COVID it was held in Montreal (Canada).

CITES- 3:36 PM

- Convention on International Trade in endangered species of wild flora and fauna.
- it is an international agreement between the governments to regulate trade in specimens of flora and fauna.
- It was drafted by IUCN in 1963 and became a legally binding agreement in 1974.
- The species covered by CITES are listed in three ~~appendices~~ ^{appendices}.
- **Appendix 1**- it includes species threatened with extinction
- Trade is permitted in exceptional circumstances
- **Appendix 2**- Include species not necessarily threatened with extinction but trade must be controlled in order to avoid utilization incompatible with their survivor.
- **Appendix 3**- Contains species that are protected at least in one country which has asked other members for assistance in controlling the trade.
- In 1976 IUCN and WWF established **TRAFFIC** a leading NGO that works globally to monitor trade in wild animals and plants.
- **TRAFFIC** has played a key role in bringing together South Asia countries to establish the **South Asia wildlife Enforcement Network (SAWEN)**. (Myanmar is not part of SAWEN)

The topic for the next class- Continuation the topic of International conventions