

UNIT-IX

Environmental biology & evolution

Zoogeography :

Zoogeography realms or region consist of 6 regions. AOEPNN

1. Australian region:

Australia, New Zealand, New guinea, Tasmania, Moluccas, Pacific islands.

Animal :

Monotremes, marsupial, bats, rodents, emu, kiwi, tortoises, sphenodon, Neo-ceratodus, egg – laying mammals, marsupial cat, opossum kangaroo, fruit eating bat.

2. Oriental region : or Indian region :

India, Pakistan, Indochina, Ceylon, Burma, Siam, Malaya, java, Philippines, south china.

Animals :

Tarsiers, gibbon, lemur, tiger, elephant, rhinoceros, antelopes, tapir, fowls, peacock, pythons, snakes, dolphin.

3. Ethiopian region :

Africa, Madagascar, south Arabia.

Animals :

Chimpanzee, broad nosed monkey, elephant, lion, rhinoceros, hippo potamus, gairaffe, zebra, ostrich, antelopes, protopterus, short – tailed monkey (old monkey) anthropoid apes.

4. Palae arctic region :

Europe, Asia, N.arabia, Iran, Afghanistan, N.china, Japan, Africa above Sahara.

Animals :

Wild boar, musk deer, bear, wolf, wild sheep, horse, ass, camel, flying lemur, tiger, bat, seal.

5. Nearc tic region :

N.america, Greenland, Mexico.

Animals :

Bison, mountain goat, wolf, muskrat, rattle snake.

6. Neo tropical region :

C.america, s.mexico, west indies, s.america.

Animals :

Sloth, ant – eater, long – tailed monkey [new world monkey] bats, rhea, humming bird, eel, leppidoserin, camel, deer, marsupial rat, opossum, panther, placental mammals.

South hemisphere continent :

Australia – few placental mammals, monotremes, marsupials, egg – laying mammals.

s. America – long – tailed monkey

Africa – short tailed monkey.

North. Hemisphere :

N. America & Eurasia – Elk, rein deer, bison, bears, hares, mountain sheep, goat.

- Australian is home of marsupials.

- Gala pagos is a oceanic islands
- Formed from volcanic region.

Animals

- Giant iguana lizard, giant land.
- Tortoises, giant trees.
- Birds [finches].

Wild life – management

- ❖ Uncultivated species of plant & animals living in their natural habited – wild life.
- ❖ India – first country to enact wild life act.

Some important wild life act :

1. Bombay natural history society – 1883 [BNHS]. It collect information about fauna & flora.
2. The wild birds & animals protection act - 1887.
3. Forest act XVI – 1927 (protection of games)
4. International union for conservation of nature and natural resources [IUCN]. – 1948
It provides, awareness, assistance, research facilities.
5. **central board for wild life[CBWL]** – 1949, Setup sanctuaries, national park
6. **Indian board for wild life (IBWL)** – 1952
It setup national park, & sanctuaries, zoological park.

7. National forest policy (தேசிய வனத்தீர்மானம்) – 1953
8. Wild life preservation society of India (dehradun) – 1958
It give protection for wild life.
9. **World wild life fund (WWF)** - Switzerland [1961]
10. **WWF** in India (Mumbai) – 1969
Conservation, education, research.
11. **Wild life protection act** (வன உயிர் பாதுகாப்புச் சட்டம்) - 1972
It prohibit hunting of female – UNO supported
12. Tiger project – 1973 (M.P, 900 tiger in India, 1/3 world)
13. National wild life action plan (NWAP) – 1983
It aim – protected area will increased.
14. Elephant project - 1992.
Sanctuaries – forest area where the killing and capturing of animal prohibited.

Important Sancturries :

S.No	Name	Establishment	Surface area	Location	Animals
1.	Vedanthangal	1962	30 Sq.KM	45 km from சென்னை	Birds – Ibis, spoonbills, cormorant egrets. During winter (oct – march)
2.	Mudumalai sancturries	1940	325 Sq.KM	Nilgiris	Elephants.
3.	Mundanthurai	1962	520 Sq.KM	Thirunelveli	Tiger, panther, sambar, chital.
4.	Anaimalai	1967	968 Sq.KM	Coimbatore	Bison, lion tailed monkey, sambar, spotted deer, (chital)
5.	Point calamari	1967	17 Sq.KM	Tanjore	Black bucks (கருமாண்) flamingo, pelicans chital, wild boars.
6.	Mundra sapu	-	-	NH between thirunelveli and nagarkoil	Migratory birds.
7.	Guindy national park	1959	375 Sq.KM	Guindy Chennai	Deer, chital, black bucks
8.	Periyar sancturries	1940	777 Sq.KM	Kerala	Elephant, bison.
9.	Bandhipur	1941	147 Sq.KM	Mysore	Gour, elephants.
10.	Bharathpur sancturries		29 Sq.KM	Rajasthan	Many birds
11.	Corpett N.park		325 Sq.KM	U.P	Deer, panther

12	Gir National park	1975	1412 Sq.KM	Gujarath	Asian lion, panther, deer.
13	Kazhiranga		430 Sq.KM	Assam	Rhinoceros, bison
14	Pulicot	1976	500 Sq.KM	A.P	Flamingo, pelican.
15	Sunderpans (tiger project)	-	2585 Sq.KM	W.B	Wild boar, (காட்டுபன்றி) tiger
16	Kodico sanctuary	1967	105 Sq.KM	Andaman	Sambar
17	Kalakadu sanctuary	1976	224 Sq.KM	Tamilnadu	Lion – tailed monkey
18	Nagerjuna sagar	1978	3568 Sq.KM	Andra Pradesh	Tiger, panther

Other important sancturies :

1. Jalda para - W.B
2. Dachigam - J & Kasmir – Srinagar
3. Srikari devi - himachal Pradesh
4. Birmoti bagh wild life sanctuary - Punjab
5. Sultanpur lake bird sanctuary - Haryana
6. Nandhan kanan sanctuary - Orissa
7. Keo ladeo Ghana bird sanctuary - bharathpur (rajasthan)
8. Chilka lake bird sanctuary - Orissa
- [Largest brackish water lagoon in Asia]
9. Manas sanctuary - 2 assam
10. Srivilliputhur grizzaled squirrel sanctuary - virudhu nagar
11. Indiragandhi wild life sanctuary - western ghats coimbatore. Tiger leopard (1989)
12. Vallanadu sanctuary (வெளிமாண்களின் உறைவிடம்) - thoothukudi – [black bucks]
13. Aringnar anna zoological park - vandalur, Chennai
14. Koonthan kulam birds santury - thirunelveli (பட்டாசு வெடிப்பது தவிர்ப்பு)
15. Chiththirankudi kanchiran kulam birds santury - ramanathapuram
16. Karai killi birds santury - kanchipuram
17. Pulicot lake birds santury - thiruvallur
18. Vettangudi birds santury - sivagangai
19. Viralimalai peacock's santury - puthukottai
20. Kalla perambalur lake bird' santury - tanjore
21. Uthaya marthanda puram - thiruvarur
22. Vazhuvur Bird santury - nagapattinam

23. Mukkurthi national park

- 1982 (തൃശ്ശൂർ) - tiger

24. Gulf of mannar – T.N

- 1980 – coral reef

National park in India & protected area

1. Hazari bash N.P

– Bihar

2. Corbett N.P [First N.P in India]

- U.P nainital (tiger)

3. Kanha N.P

- M.P

4. Tandesba N.P

- maharashtra

5. Desert N.P

- rajasthan

6. Kazhiranga

7. Gir

8. Bandipur

- Karnataka

9. Sunderbans

- W.B

❖ Maximum productivity occur – temperature forest in Himalaya to green tropical forest of Kerala.

Large fresh water bodies :

Wular lake

- Kashmir

Chilka lake

- Orissa

Kolleru lake

- A.P

Manasbal lake

- Kashmir

Oligotropic lake

- deep lake

Eutrophic lake

- animal more living

Atrophic

- no organism.

Bio sphere reserves : [3 zones]

I. Core zones

– it lies at centre where no human activity is allowed.

II. Buffer zones

- limited human activity allowed

III. Manipulation zone

- multiple human activity allowed.

India – 14 bio sphere reserve centre

1. Nilgiris bio sphere reserve

- 1986 Ist B.reserve

2. Namthaba

- A.P

3. Nanda devi

- U.P (1988)

4. Gvif of mannar

- T.N

5. Kazhiranga

- assam

6. Suderbans

- W.B

7. Thar desert

- rajasthan

8. Manas

- assam