

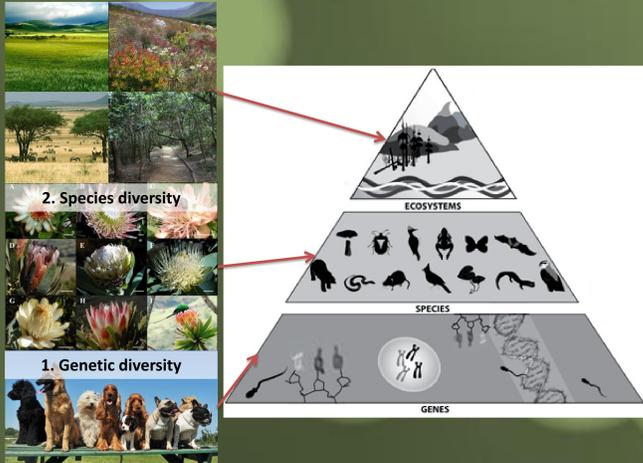
Biodiversity and Food webs

in the ACCESS Habitable Planet story

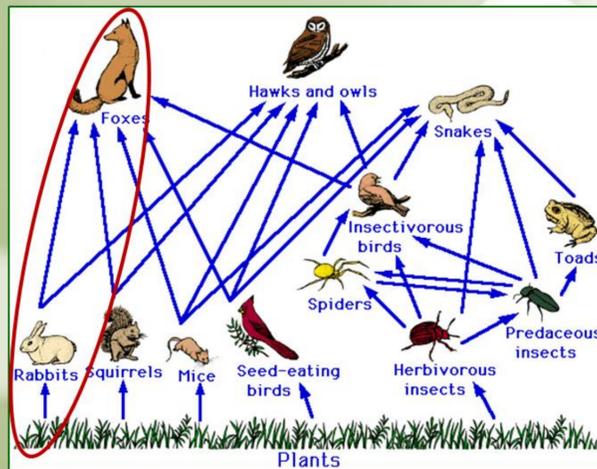
1. What is Biodiversity?

- 'bio' = LIFE
- 'diversity' = VARIETY

- Biodiversity describes the **variety of life** (organisms) in an area (ecological communities) and it is made up of **3 types**:



2. What are Food webs?



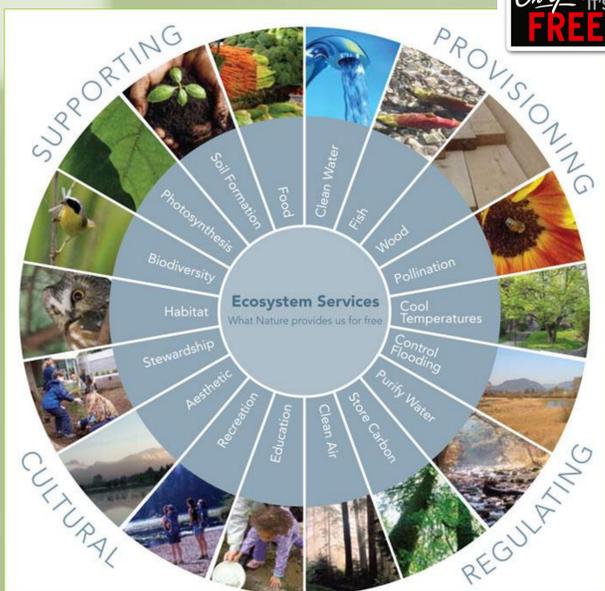
- A series of **overlapping food chains** (i.e. feeding connections with a sequence of food **(ENERGY) transfers** in an ecological community)
- Each **link** in a food chain = a **trophic level**

3. Why is this important in our Habitable Planet story?

- ❖ Need more than just one species; and **interconnectivity of species through food webs** to make Earth habitable
- ❖ Important because **change** on our planet is **constant!**
- ❖ Relationship between food webs and **stability** (resistance and resilience) of ecosystems:
 - Increase food web **complexity**, increase resilience to change = **more stable** 😊

4. Do you know what ecosystem services are?

- Biodiversity has intrinsic value (something that has value in and of itself) and utilitarian value (goods, services, information) = **FREE ecosystem services!**

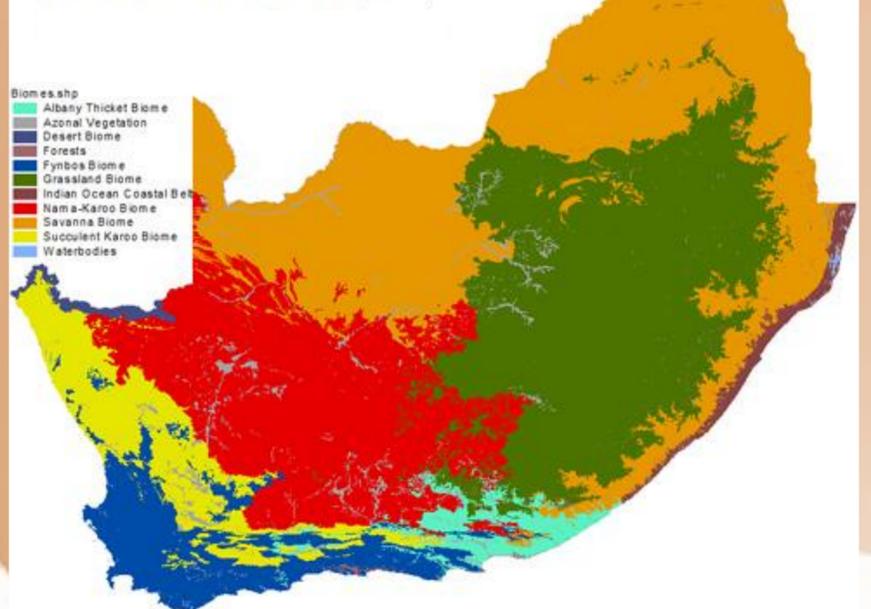


5. Can you think of reasons why South Africa is special?

CASE STUDY:

- Cape Floristic Region (CFR) in the south western area of SA is 1 of the world's 6 floristic kingdoms
- Fynbos biome of CFR – high plant biodiversity suited to Mediterranean climate and nutrient poor soils
- SA has >20 300 plant species, of which 2 000 threatened found in Fynbos biome

Biomes of South Africa



Foxy Question... why do you think South Africa is a biodiversity hotspot with it's own floral kingdom? Why are we so special?

6. Conclusions and Implications

- ❖ Natural wealth & valuable ecosystem services under pressure due to **human demands** (economic development, agriculture, urbanisation, invasive alien species, wildlife trade) placed on the environment
- ❖ **Threats to biodiversity:** Habitat loss, fragmentation & degradation; Pollution; Invasive alien species; Over-exploitation; and Global Climate Change
- ❖ One solution to environmental crisis & future climate change: **Biodiversity Conservation** (protection, preservation, management, or restoration of wildlife and natural resources)
- ❖ **Biodiversity is important and it helps make our planet habitable!**

