

Habitat destruction

Revision notes · Biodiversity, why habitats are destroyed, how humans damage food webs, and the effects of deforestation.

For Cambridge IGCSE Biology 0610 (and 0970, which has the same content). **Supplement** is Extended content, only examined on Papers 2 and 4.

Habitat destruction Spec 20.2

Biodiversity and habitat destruction Spec 20.2.1, 20.2.2, 20.2.3

Biodiversity

The number of different species that live in an area.

A habitat is destroyed when it is changed so much that the organisms living there can no longer survive. This reduces **biodiversity**.

Reasons for habitat destruction

- **Increased area for housing, crop plant production and livestock production:** forests, grassland and wetlands are cleared to build homes and to grow food for a growing population.
- **Extraction of natural resources:** mining, quarrying and drilling remove soil and rock and destroy the habitat above.
- **Freshwater and marine pollution:** pollutants such as sewage, fertiliser and plastics make water unsuitable for the organisms that live in it.

Damage to food webs

Humans can also have a negative impact on habitats by altering **food webs and food chains**. Removing one species affects others. For example, if a predator is hunted out, its prey may increase in number and eat too much of the producers. If a producer is cleared, the animals that feed on it lose their food and may die or move away.

Exam tip: Biodiversity is about the number of different species, not the number of individual organisms.

Deforestation Spec 20.2.4

Deforestation is the removal of forests on a large scale. Forests are cleared for timber, for farmland (crops and cattle), for housing and for roads and mining.

Undesirable effects of deforestation

Effect	Explanation
Reduced biodiversity	Trees provide food and shelter, so many species lose their habitat and food source
Extinction	If a species lives only in that forest and cannot move elsewhere, the whole species can die out
Loss of soil	Tree roots hold soil together; without them rain washes the soil away (soil erosion)
Flooding	Tree roots absorb water and leaves intercept rain; without trees more water runs straight into rivers
Increase of carbon dioxide in the atmosphere	Fewer trees take in CO ₂ for photosynthesis , and burning or decay of the felled trees releases CO ₂

Common mistake: Do not say trees 'make' oxygen as the main problem. The mark is for fewer trees removing less CO₂ from the air by photosynthesis, plus CO₂ released when wood is burned or decays.

Quick check

1. Define biodiversity.
2. Give three reasons for habitat destruction.
3. How does deforestation lead to flooding?
4. How does deforestation increase carbon dioxide in the air?

Quick check answers

Habitat destruction

- 1 . The number of different species that live in an area.
- 2 . Housing, crop and livestock production; extraction of natural resources; freshwater and marine pollution.
- 3 . Fewer roots and leaves to absorb water, so more water runs into rivers.
- 4 . Fewer trees photosynthesise, and burning or decay of trees releases CO₂.