

This is the **Higher Separate** version — includes all Higher Tier content (marked ★) and all Separate Science content.

Species extinction is occurring at an unprecedented rate due to human activities. Conservation efforts aim to halt and reverse this loss.

- Extinction: permanent loss of species. Causes: habitat destruction, hunting, climate change, invasive species, disease, pollution
- Conservation: nature reserves (protect habitat), breeding programmes (breed endangered species), seed banks (preserve genetic diversity), sustainable fishing (quotas)
- Importance of biodiversity: ecosystem stability, food security, medicines, materials, ethical value
- Eutrophication: fertiliser run-off → algal bloom → O₂ depletion → aquatic life dies
- Deforestation: CO₂ release, habitat loss, reduced water cycling, soil erosion

Key Terms

Extinction	Permanent loss of a species — all individuals die
Conservation	Protection and sustainable management of species and habitats

■ **Exam Tip:** Evaluate conservation: benefits (protects species, preserves ecosystem services) vs limitations (expensive, difficult to enforce, climate change still threatens). Always both sides.