

Exercise walk-through

9.10

Human Impacts on Biodiversity

AP Environmental Science

Climate change

Human activities enhance the greenhouse effect. Weather is a day; climate change is decades.

- rising average temperature, melting ice, rising **sea level**
- fiercer extremes, and species ranges shifting polewards

Feedback: melting ice bares dark water that absorbs more heat.



Glacier loss: ice-albedo feedback

Exam tips

- Keep **ozone depletion** (CFCs let in more UV) and **climate change** (greenhouse gases trap more heat) as **two different problems**.
- Explain the natural greenhouse effect and the **enhanced** version from extra CO₂ and methane.
- Connect ocean warming (coral bleaching) and **ocean acidification** (CO₂ → carbonic acid → weaker shells).
- An **invasive species** is dangerous because it has no natural predators in its new home.
- Summarise threats to biodiversity with **HIPPO** (Habitat loss, Invasive species, Pollution, Population, Overharvesting).

Unit 9 – key takeaways

1

Ozone

CFC chlorine catalyst; Montreal Protocol is healing it

2

Greenhouse

natural + habitable; humans enhance it → warming

3

Oceans

absorb heat + CO₂: bleaching, acidification, higher seas

4

Biodiversity

invasive + endangered; the six HIPPCO threats

Exercises 2.1-2.3

2.1 Name two human causes of biodiversity loss.

[2]

2.2 State one reason biodiversity matters to humans.

[1]

2.3 State one solution to biodiversity loss.

[1]

Exercises 2.1-2.3

2.1 Name two human causes of biodiversity loss. [2]

2.1

- Any two: habitat loss, pollution, overexploitation, invasive species, climate change
-

2.2 State one reason biodiversity matters to humans. [1]

2.2

- Any one: ecosystem services (food, water, pollination, medicine), resilience
-

2.3 State one solution to biodiversity loss. [1]

2.3

- Any one: protect/restore habitat, reduce pollution, sustainable use, laws

Exercise 3.1

3.1 The current rapid loss of species is sometimes called the

[1]

☐

A first mass extinction

B sixth mass extinction

C ice age

D green revolution

Exercise 3.1

3.1 The current rapid loss of species is sometimes called the

[1]

☐

A first mass extinction

B sixth mass extinction

C ice age

D green revolution

3.1 B

- the sixth mass extinction

Exercise 3.2 (a)

3.2 A government wants to protect its biodiversity.

(a) Suggest two effective strategies.

[2]

Exercise 3.2 (a)

3.2 A government wants to protect its biodiversity.

(a) Suggest two effective strategies.

[2]

(a)

- Any two: protected areas/corridors, pollution reduction, sustainable resource use, laws

Exercise 3.2 (b)

3.2 A government wants to protect its biodiversity.

(b) Explain why protecting biodiversity also protects human well-being.

[2]

Exercise 3.2 (b)

3.2 A government wants to protect its biodiversity.

(b) Explain why protecting biodiversity also protects human well-being. [2]

(b)

- Biodiversity provides essential services (food, clean water, pollination, medicine) and resilience, so protecting it safeguards the benefits people depend on

Exercise 3.3

3.3 Explain why habitat protection is often the most effective single conservation action. [2]

Exercise 3.3

3.3 Explain why habitat protection is often the most effective single conservation action.[2]

3.3

- Protecting a habitat conserves all the species living in it at once, along with the ecosystem processes and services they support – far more efficient than saving one species at a time