

Exercise walk-through

Human Impacts on Wetlands and Mangroves ■ 8.4

eXercise

You must be able to

- state the **ecosystem services** of **wetlands** 湿地 and **mangroves** 红树林
- describe how human activity destroys them
- explain the consequences of their loss

Method — Why they matter

Wetlands and **mangroves** provide crucial services:

- **Water filtration** (removing pollutants).
- **Flood control** (absorbing storm surge and runoff).
- **Nurseries** for fish and wildlife (high biodiversity).
- **Carbon storage**.

Method — How they are destroyed

Draining for farmland, **filling** for development, **pollution**, and clearing mangroves for **shrimp farms** or coastal building.

Method — Consequences of loss

Losing them means **more flooding, worse water quality, lost fisheries**, and released carbon — plus greater storm damage to coasts.

Method — A worked link

Clearing a mangrove for a shrimp farm removes the natural storm barrier, so the coast floods more badly during storms.

Practice 2.1 ■ 2 marks

State two services provided by wetlands.

Solution 2.1

Method: Why they matter

Worked steps

Any two: water filtration, flood control, nurseries/habitat, carbon storage **B1** **B1**.

Practice 2.2 ■ 1 mark

Name one human activity that destroys mangroves.

Solution 2.2

Worked steps

Any one: clearing for shrimp farms, coastal development, pollution **B1**.

Practice 2.3 ■ 1 mark

State one consequence of losing a wetland.

Solution 2.3

Worked steps

Any one: more flooding, worse water quality, lost fisheries, released carbon **B1**.

Exam-style 3.1 ■ 1 mark

Mangroves protect coastlines mainly by

- A** increasing storm surge
- B** absorbing storm surge and reducing flooding
- C** adding pollution
- D** blocking sunlight

Solution 3.1

- A increasing storm surge
- B absorbing storm surge and reducing flooding** 
- C adding pollution
- D blocking sunlight

Worked steps

B — absorbing storm surge and reducing flooding.

Exam-style 3.2 ■ 2 marks

A coastal mangrove forest is cleared for development.

- (a) State two ecosystem services that are lost.
- (b) Explain how this increases storm damage to the coast.

Solution 3.2

Worked steps

(a) Any two: storm/flood protection, nursery habitat, water filtration, carbon storage **B1 B1**. (b) Without the mangroves' natural barrier, storm surge reaches the coast directly, causing more flooding and damage **M1 A1**.

Exam-style 3.3 ■ 2 marks

Explain why draining a wetland can worsen local water pollution.

Solution 3.3

Method: How they are destroyed

Worked steps

Wetlands filter pollutants from water; draining one removes that filtration, so more pollutants pass into rivers and groundwater **M1** **A1**.