

8.4 Human Impacts on Wetlands and Mangroves

Name: _____ Class: _____ Date: _____

Total: 11 marks

Objective

Build the skills to answer exam questions on **human impacts on wetlands and mangroves**.

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

1 Worked examples

Study these first. Each one shows the method for a question type used later —follow the steps and you can do the Practice and Exam-style questions yourself.

■ 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**.

■ How they are destroyed

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

■ Consequences of loss

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

■ A worked link

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

2 Practice

Now apply the methods above.

2.1 State two services provided by wetlands. [2]

2.2 Name one human activity that destroys mangroves. [1]

2.3 State one consequence of losing a wetland. [1]

3 Exam-style questions

3.1 Mangroves protect coastlines mainly by [1]

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

3.2 A coastal mangrove forest is cleared for development.

(a) State two ecosystem services that are lost. [2]

(b) Explain how this increases storm damage to the coast. [2]

3.3 Explain why draining a wetland can worsen local water pollution. [2]

4 Go further

You are now ready for the real exam questions on this subtopic:

- work through the **8.4 Human Impacts on Wetlands and Mangroves** lesson on the **Learn** page;
- read the **Human Impacts on Wetlands and Mangroves** section of the AP Environmental Science handout on the **Know** page.

Solutions

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

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

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

3.1 B —absorbing storm surge and reducing flooding.

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

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