

# 8.2 Human Impacts on Ecosystems

---

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

Total: 10 marks

## Objective

---

Build the skills to answer exam questions on **human impacts on ecosystems**.

**You must be able to:**

- describe major impacts (**habitat fragmentation** 生境破碎化, pollution, overexploitation)
- link human activity to biodiversity loss
- suggest mitigation

## 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.

### ■ Major human impacts

- **Habitat destruction and fragmentation** —roads/farms break habitat into isolated pieces.
- **Pollution** —chemicals, plastics, nutrients.
- **Overexploitation** —overfishing, overhunting.
- **Invasive species** and **climate change**.

### ■ Habitat fragmentation

Breaking a habitat into small, isolated pieces reduces populations, limits movement and gene flow, and raises extinction risk (like island biogeography).

### ■ Biodiversity loss

Together these impacts drive **biodiversity loss**, reducing ecosystem resilience and services.

### ■ Mitigation

**Protected areas, wildlife corridors** (connecting fragments), pollution limits, and sustainable harvesting reduce the impacts.

## 2 Practice

---

Now apply the methods above.

**2.1** What is habitat fragmentation? [1]

---

**2.2** Name two human impacts on ecosystems. [2]

---

---

**2.3** What is a wildlife corridor for? [1]

---

### 3 Exam-style questions

**3.1** Habitat fragmentation increases extinction risk by [1]

- **A** enlarging populations
- **B** isolating small populations and limiting movement
- **C** adding resources
- **D** removing predators only

---

**3.2** A new highway cuts a forest into isolated patches.

(a) Explain two effects on the wildlife. [2]

(b) Suggest one way to reduce the harm. [1]

**3.3** Explain how wildlife corridors help populations in fragmented habitats. [2]

### 4 Go further

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

- work through the **8.2 Human Impacts on Ecosystems** lesson on the **Learn** page;
- read the **Human Impacts on Ecosystems** section of the AP Environmental Science handout on the **Know** page.

## Solutions

---

**2.1** Breaking a habitat into small, isolated pieces.

**2.2** Any two: habitat destruction, pollution, overexploitation, invasive species, climate change.

**2.3** To connect isolated habitat fragments so animals can move between them.

**3.1 B** —isolating small populations and limiting movement.

**3.2** (a) Any two: smaller isolated populations, reduced gene flow, higher extinction risk, blocked migration. (b) Build a wildlife corridor or crossing.

**3.3** Corridors let animals move between fragments, increasing gene flow and immigration and lowering extinction risk, effectively linking the patches into a larger habitat.