

8.7 Disruptions in Ecosystems

Name: _____ Class: _____ Date: _____

Total: 9 marks

KEY WORDS invasive species 入侵物种 • ecosystems 生态系统 • keystone species 关键种
• population 种群 • community 群落

Objective

Build the skills to answer exam questions on **disruptions in ecosystems**.

You must be able to:

- describe how **invasive species** 入侵物种, **human activity**, and **natural events** disrupt ecosystems
- explain knock-on effects through food webs
- link disruptions to changes in populations and diversity

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.

■ Sources of disruption

- Invasive species** — a non-native species with no natural predators can outcompete or prey on natives.
- Human activity** — habitat destruction, pollution, and climate change.
- Natural events** — fires, floods, and volcanic eruptions.

■ Knock-on effects

Because species are connected in **food webs**, removing or adding one species has **knock-on effects** on many others — a change ripples through the community.

■ A worked example

An invasive predator with no natural enemies multiplies and eats native prey; the prey decline, and species that depended on that prey are also affected.

■ Keystone species

Losing a **keystone species** (one with an outsized role, like a top predator) can collapse much of the community — its removal has effects far beyond its own numbers.

2 Practice

Now apply the methods above.

2.1 Why can an invasive species spread rapidly? [1]

2.2 Give one human cause of ecosystem disruption. [1]

2.3 What is a keystone species? [1]

3 Exam-style questions

3.1 An invasive species often thrives because it [1]

A	B
C	D

A has many local predators

B lacks natural predators in the new area

C cannot reproduce

D is a producer only

3.2 An invasive predator is introduced to an island with defenseless native prey.

(a) Predict the effect on the native prey population. [1]

(b) Explain how this could affect other species in the food web. [2]

3.3 Explain why removing a keystone species can disrupt an entire community. [2]