

Exercise walk-through

Invasive Species ■ 9.8

eXercise

You must be able to

- define an **invasive species** 入侵物种
- explain why they spread and their impacts
- suggest control methods

Method — What they are

An **invasive species** is a non-native species that spreads rapidly and harms the new ecosystem, economy, or health.

Method — Why they succeed

They often have **no natural predators** in the new area, reproduce fast, and outcompete or prey on natives — so their populations explode.

Method — Impacts

- **Outcompete** or eat native species (biodiversity loss).
- Disrupt food webs.
- Cause economic damage (crops, infrastructure).

Method — Control methods

- **Prevention** (best) — inspections, ballast-water rules.
- **Mechanical/physical** removal, **biological** control (a natural predator, carefully chosen), and targeted chemicals.

Method — A worked example

A fish introduced to a lake with no predators multiplies and eats native species, collapsing their populations — an invasive-species impact.

Practice 2.1 ■ 1 mark

Define an invasive species.

Solution 2.1

Worked steps

A non-native species that spreads and harms the new ecosystem **B1**.

Practice 2.2 ■ 1 mark

Why do invasive species often spread rapidly?

Solution 2.2

Method: What they are

Worked steps

They have no natural predators there and reproduce fast, outcompeting natives **B1**.

Practice 2.3 ■ 1 mark

State one method to control invasive species.

Solution 2.3

Worked steps

Any one: prevention, mechanical removal, biological control, chemicals **B1**.

Exam-style 3.1 ■ 1 mark

Invasive species often thrive because they

- A** have many local predators
- B** lack natural predators in the new area
- C** reproduce slowly
- D** are always producers

Solution 3.1

Method: What they are

- A** have many local predators
- B** lack natural predators in the new area 
- C** reproduce slowly
- D** are always producers

Worked steps

B — lack natural predators in the new area.

Exam-style 3.2 ■ 2 marks

An invasive plant spreads across a wetland.

- (a) Explain two impacts on the native ecosystem.
- (b) State the best long-term strategy against invasive species.

Solution 3.2

Method: What they are

Worked steps

(a) Any two: outcompetes/crowds out natives, disrupts the food web, reduces biodiversity **B1** **B1**. (b) Prevention (stopping introductions) **B1**.

Exam-style 3.3 ■ 2 marks

Explain one risk of using biological control against an invasive species.

Solution 3.3

Worked steps

The introduced control organism could itself become invasive, attacking native species and creating a new problem **M1** **A1**.