

# What is Conservation Biology?

## Worksheet

Conservation biology studies threats to biodiversity, such as habitat loss, invasive species, pollution, overexploitation, and climate change, and develops strategies like protected areas and captive breeding to prevent species extinction and maintain healthy ecosystems.

## Questions

1. What is the leading cause of biodiversity loss worldwide?

- A) Habitat loss
- B) Volcanic eruptions
- C) Seasonal migration
- D) Photosynthesis

2. Which of the following is an example of ex-situ conservation?

- A) A national park
- B) A marine protected area
- C) A seed bank
- D) A habitat corridor

3. What is a keystone species?

- A) The most numerous species in an ecosystem
- B) A species with a large effect on its ecosystem relative to its abundance
- C) Any endangered species
- D) A species found only in zoos

4. Why are habitat corridors used in conservation?

- A) To increase pollution
- B) To reconnect fragmented populations and allow gene flow
- C) To replace zoos entirely
- D) To speed up extinction

5. A wetland is drained for agriculture, and the local frog population collapses. Which threat to biodiversity does this illustrate, and what conservation strategy could help?

6. A rare orchid species has only 40 individuals left in the wild due to poaching. Botanists collect seeds and grow the plants in a botanical garden. What type of conservation is this, and why is it used here?

7. An invasive predator is introduced to an island and starts eating the eggs of a native, flightless bird found nowhere else. Identify the threat and one management response.

8. Define: What is biodiversity?

9. Define: What is habitat loss?

10. Define: What is a keystone species?

## Answer Key

1. A) Habitat loss - Habitat destruction and fragmentation is the single biggest driver of species decline globally.
2. C) A seed bank - A seed bank stores genetic material outside the species' natural habitat, making it an ex-situ method.
3. B) A species with a large effect on its ecosystem relative to its abundance - Keystone species disproportionately shape their ecosystem; losing them can trigger a collapse.
4. B) To reconnect fragmented populations and allow gene flow - Corridors link isolated habitat patches so animals can move, breed, and maintain genetic diversity.
5. The frogs lost the physical place they live and breed in, so this is habitat loss. Habitat loss is the single largest cause of biodiversity decline worldwide. An in-situ strategy - protecting or restoring the remaining wetland as a reserve - directly addresses the cause. Habitat corridors could also reconnect isolated wetland patches so frog populations can interbreed.
6. Because the plants are being protected outside their natural habitat, this is ex-situ conservation. Ex-situ methods are used when a species is at critical risk of extinction in the wild. Growing plants in a controlled botanical garden protects genetic material and allows population recovery. Surplus plants can later be reintroduced into protected wild habitat once poaching threats are reduced.
7. This is the introduction of an invasive species, a major driver of extinction on islands. Island species often evolve without natural predators, so they have few defenses. A management response is eradicating or controlling the invasive predator (e.g. trapping programs). Captive breeding (ex-situ) can also be used as a safety net while the island habitat is restored.
8. The variety of life in an area, measured at the genetic, species, and ecosystem levels.
9. The destruction or alteration of the natural environment a species depends on; the leading cause of biodiversity decline.
10. A species that has a disproportionately large effect on its ecosystem relative to its abundance; removing it can collapse the community.

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