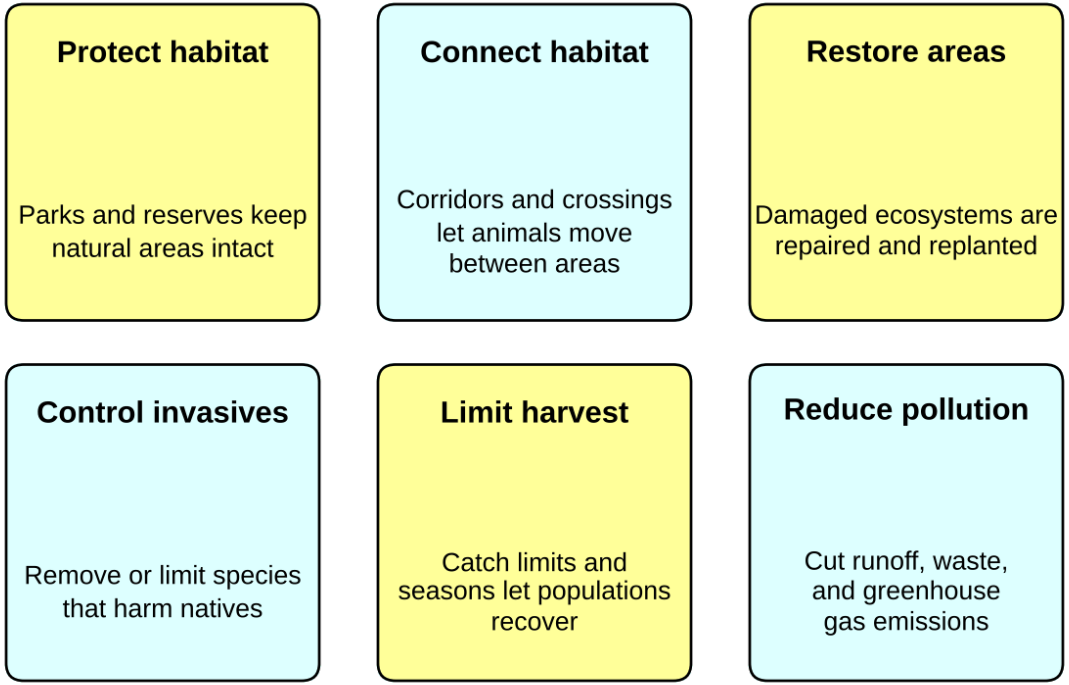
Essential Question

How can people reduce harm to ecosystems and restore them?

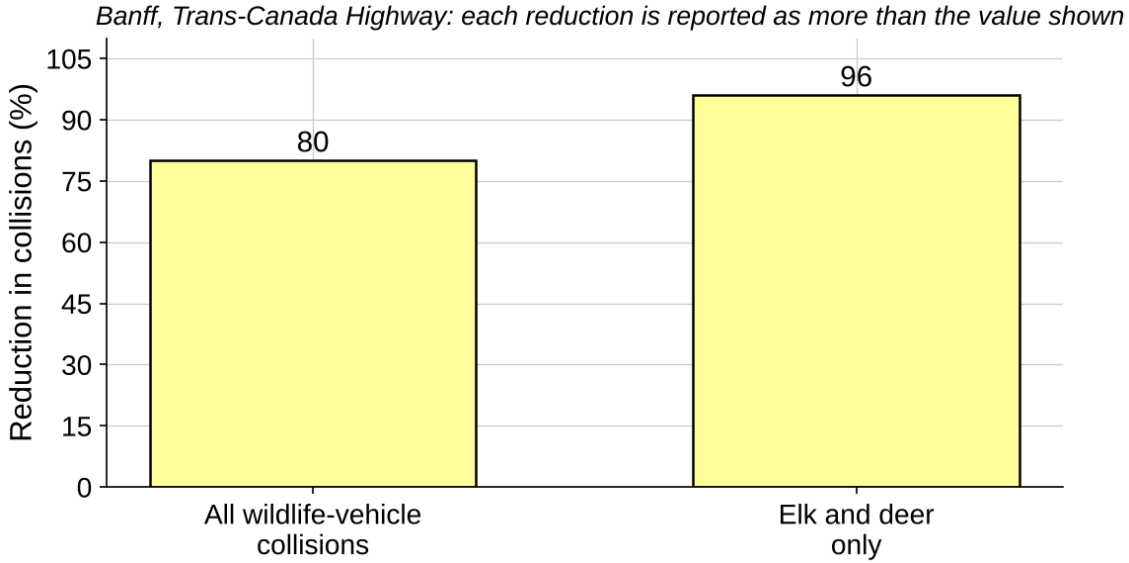
Protecting Biodiversity

- Conservation: protecting and managing species and habitats
- Each strategy answers a threat
- Strategies work best together
- Choices involve trade-offs



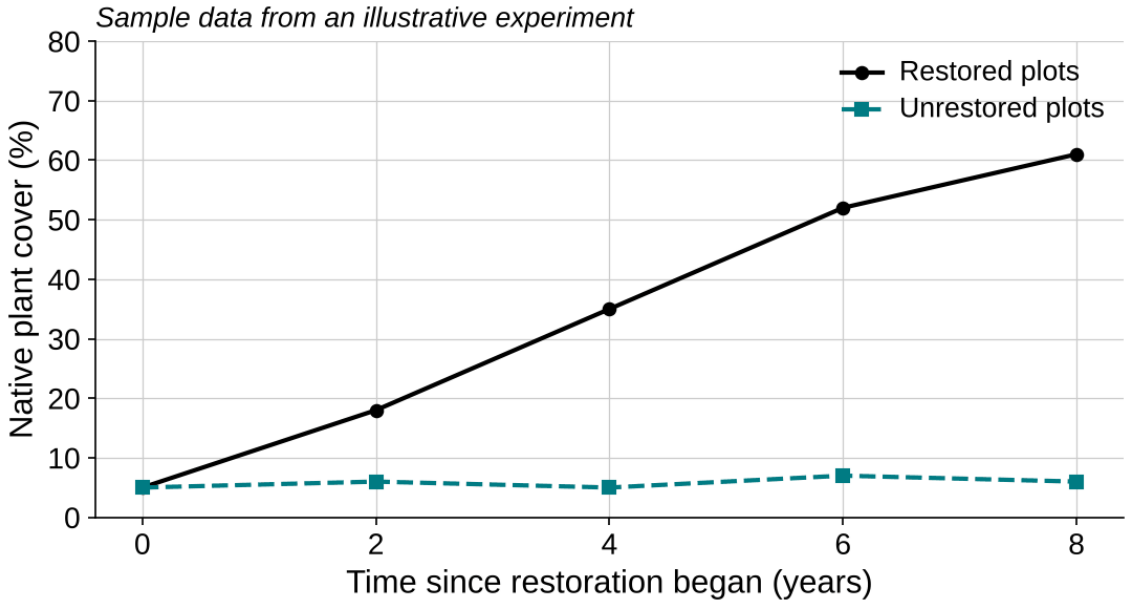
Connecting Habitats

- Roads split habitat and cause collisions
- Crossings let animals pass over or under roads
- Fencing guides animals to crossings
- Fencing alone can isolate populations



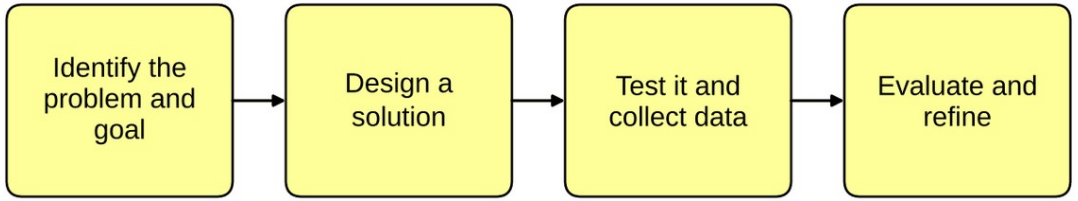
Restoring Ecosystems

- Restoration helps damaged ecosystems recover
- Remove the cause of harm first
- Replant or reintroduce native species
- Compare with unrestored sites



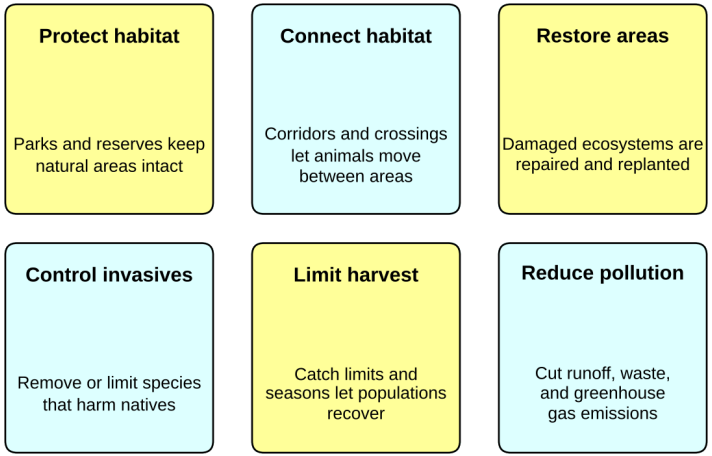
Evaluating Solutions

- Define the problem and the goal
- Compare effectiveness, cost, and side effects
- Test with data, then refine
- Include the needs of people



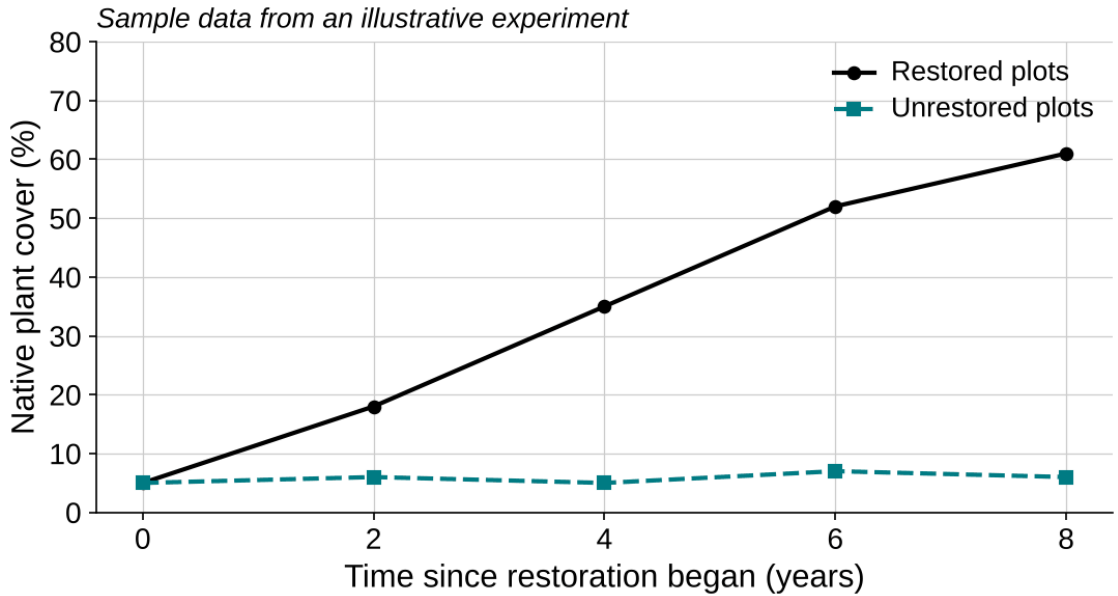
Example: Match the Solution

Use the conservation strategies. Choose a strategy that responds to each problem: (a) fertilizer runoff is causing algal blooms in a lake, (b) a highway splits the habitat of a deer population, (c) an invasive plant is crowding out native plants, (d) a fish stock is declining because of overharvesting.



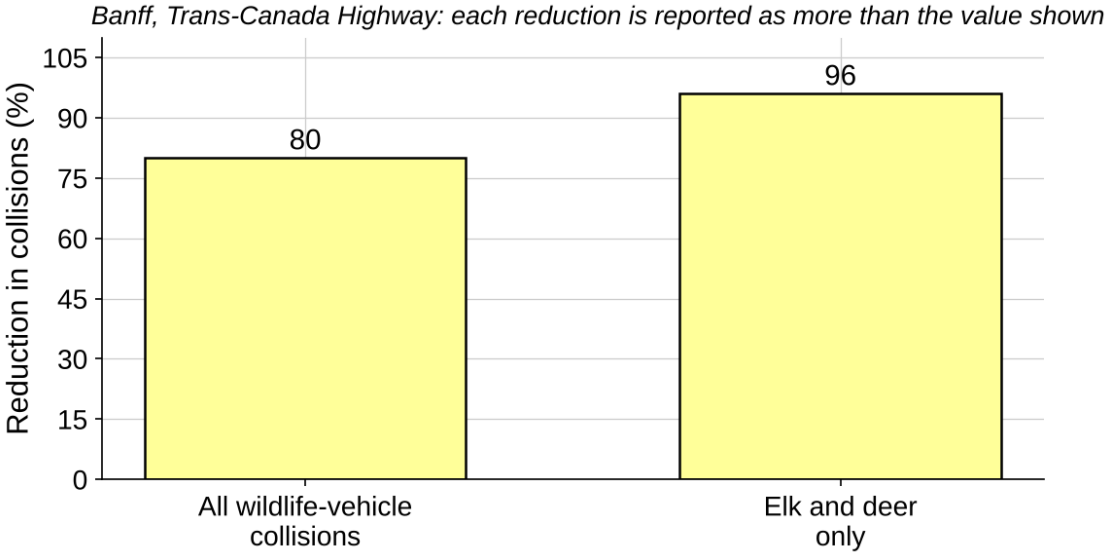
Example: Did the Restoration Work?

Use the graph. Did restoration increase native plant cover? Write a claim, evidence, and reasoning.



Example: Collisions After Fencing

Before fencing and crossings, a section of highway averaged 100 elk-vehicle collisions per year. Elk collisions then fell by 96%. Estimate the number of elk-vehicle collisions per year after the fencing.



Big Ideas

- Conservation protects and manages species and habitats
- Different strategies answer different threats and work best together
- Fencing with crossing structures reduced collisions in Banff by more than 80 percent overall
- Restoration is tested by comparing restored and unrestored sites over time
- A solution is judged by how well it works, its cost, side effects, and effects on people