

Passenger Pigeon Questions

<https://www.audubon.org/magazine/may-june-2014/why-passenger-pigeon-went-extinct>

Section 1 (paragraphs 1-5)

- 1) How many passenger pigeons were there in 1871?

136 million breeding adults (plus more juveniles)

- 2) When did passenger pigeons go extinct?

September 1, 1914

Section 2 (paragraphs 6-14)

- 3) What role did passenger pigeons play in their environments and ecosystems? Answer using a small mind map with passenger pigeons in the middle and your answers to the following questions as part of the map.
- What did they eat?

Nuts: acorns and beechnuts

- What other animals competed with them for their food sources?

Wild animals and foraging domestic pigs owned by farmers

- How did their nesting habits affect trees? (Think: what other species depend on trees and would have been affected?)

Passenger pigeons took over entire forests. Some trees were so overburdened by nests that branches would snap off and trunks would fall over.

Many other species depend on trees: other nesting birds, plants that grow on trees or depend on them for shade, many insects and other organisms that depend on trees for habitat.

- How did passenger pigeons affect farmers? (2 ways)

Food source (farmers hunted pigeons); eating crops

- 4) What effect do reproduction and survival have on determining whether a species will go extinct? (Hint: paragraph 13) (Answer in a short paragraph, referring specifically to what happened to the passenger pigeons)

Reproduction and survival both have a role in continuity and extinction. (Remember: continuity is the opposite of extinction.) For continuity to occur, reproduction rates need to be greater than or equal to the death rates. If more are dying than are being replaced through reproduction, the population will decline over time and potentially become extinct. The pigeons became extinct because they were being hunted and killed off more than they could reproduce.

Section 3 (paragraphs 23-27)

- 5) Describe five threats facing the world's endangered species today.

Hydropower

Agriculture (destruction of wetlands)

Road construction

Diseases spread by travel

Hunting

Water pollution

Habitat loss and fragmentation

Rising sea temperatures

War (makes it difficult to do conservation efforts)

Additional Questions

- 6) Use the case study of passenger pigeons to explain the relationship between these words: reproduction, continuity, sustainability, extinction.

Answers may vary. The following is *one* way to answer this question. The best answers will: define the words, give examples that enhance the definitions of the words and show a complete understanding of the words, explain in detail how the words connect to each other and to the pigeons.

Reproduction is when individual organisms make 'copies' of themselves and pass on their DNA to their offspring. For example, when an adult killer whale gives birth to baby killer whales.

Continuity is when a species has a reproduction rate that is greater than or equal to the death rate. When continuity occurs, a species is able to persist over time. For example, if 1000 killer whales are born in a year and 890 killer whales die that same year, the species is stable.

Extinction occurs when continuity is not met over a long period of time. When death rates exceed reproduction rates, populations decline. Over time, this can cause extinction (the death of all members of a species).

Sustainability is when the living and non-living parts of an environment/ecosystem are stable and endure into the future. This requires the species in that environment to have continuity. It also requires the non-living aspects to remain untainted and unaltered. For example, if air quality or water availability or soil quality were to decrease, then this would have a negative affect on sustainability.

In the case study, the continuity of the passenger pigeons was greatly affected. Human activities (hunting, disrupting nesting sites) caused death rates to increase so much that the death could not be balanced out by reproduction. This caused the passenger pigeon populations to decline over time and eventually become extinct. If humans had addressed this issue earlier before extinction had occurred, and taken steps to reduce the death and/or increase the ability of the pigeons to reproduce, the extinction might have been avoided.

Because pigeons became extinct, this had rippling effects on the sustainability of the ecosystems that they had been a part of. Resources that they had used for food and habitat would have become freed up for other organisms to use. Meanwhile, farmers and other creatures that had relied upon them for food would be negatively impacted by their loss from the ecosystem.

7) In your opinion, describe the most important lesson we should take away from this case study and article?

Answers may vary

8) Research an endangered species you know little about. What are the biggest threats to this species? What is one thing *you* can do to help this species?

Answers may vary