**Reading Purpose: Which method of conservation is more effective: in situ or ex situ?**

# Directions: Answer the following questions in COMPLETE sentences.

# How Do Zoos Help Endangered Animals?

Most zoos are not only great places to get up close to wildlife, but many are also doing their part to bolster dwindling *(decreasing)* populations of animals still living free in the wild. Dozens of zoos across North America participate in the Association of Zoos and Aquarium’s (AZA’s) Species Survival Plan (SSP) Program, which aims to manage the breeding of specific endangered species in order to help maintain healthy and self-sustaining populations that are both genetically diverse and demographically *(a section of a population)* stable.

The end goal of many SSPs is the reintroduction of captive-raised endangered species into their native wild habitats. According to the AZA, SSPs and related programs have helped bring black-footed ferrets, California condors, red wolves and several other endangered species back from the brink of extinction over the last three decades. Zoos also use SSPs as research tools to better understand wildlife biology and population dynamics, and to raise awareness and funds to support field projects and habitat protection for specific species. AZA now administers some 113 different SSPs covering 181 individual species.

While success stories abound, most wildlife biologists consider SSP programs to be works in progress. AZA zoos have been instrumental, for instance, in establishing a stable population of bongos, a threatened forest antelope native to Africa, through captive breeding programs under the SSP program. Many of these captive-bred bongos have subsequently been released into the wild and have helped bolster dwindling population numbers accordingly.

1) How are Species Survival Plans (SSPs) in zoos helping to save endangered species?

**How Zoos Kill Elephants**

Playful, mischievous and much-beloved, Mac was just two years old when he became the latest Asian elephant to [succumb](http://www.chron.com/disp/story.mpl/front/6104542.html) (*to be brought to an end as the result of)* to the herpes virus at the Houston Zoo last month.

For animal welfare advocates, every early death is another piece of evidence that these 8,000-pound (3,625-kilogram) proboscideans don't belong behind bars, where they can become obese, diseased and stressed out. A new study published today in Science provides the strongest evidence to date that zoo life is harmful to an elephant's health.

African elephants, they say, can expect to live 36 years in Kenya's sprawling Amboseli National Park, more than double the 17-year life span of zoo elephants. It is not unusual for Asian elephants like Mac to make it to the ripe old age of 42 after having toiled in timber camps in Burma, but they can expect to live just 19 years in a zoo, according to the new study.

Overall, infant mortality in Asian elephants is as much as three times higher in zoos than in native protected areas. The new results show that captive-born Asian elephants fare *(to do something well or badly)* worse than wild-born elephants in zoos, suggesting that problems arise in gestation *( the time when a person or animal is developing inside the mother before it is born)* and early infancy. The scientists say these endangered animals are compromised further by breeding programs that transfer animals between zoos.

Consequently, zoos are far from their long-promised goal of producing self-sustaining captive populations—and they clearly do not send animals back into the wild to bolster *(to make something stronger or better)* diminishing populations there. "It's hard for a female to produce lots of babies if she comes in at 10 and is dead by 25," says senior study author [Georgia Mason](http://www.uoguelph.ca/abw/gmason/whoweare.shtml), an animal behaviorist at the University of Guelph in Ontario.

2) What are disadvantages of zoos in caring for animals?

3) Do you believe in situ or ex situ remediation is better for conserving endangered species? Why?

\*\*\*Homework\*\*\*:

Research one successful example of in situ or ex situ remediation for an animal. Write a paragraph in YOUR OWN WORDS that describes how it was successful.