

1. Mark your confusion.
2. Show evidence of a close reading.
3. Write a 1+ page reflection

*Note: This week's AoW is an argument.*

## **People are causing a mass extinction on Earth; some try to stop it**

Source: *Scientific American* via newsela.com

Five destructive events nearly killed off all of the life on Earth. The five events are known as mass extinctions. An asteroid killed off the dinosaurs. Volcanic eruptions may have caused the Great Dying, which wiped out much of the earth's fish and other marine life.

Altogether, the five mass extinctions killed 75 percent of the planet's life. The sixth mass extinction may now be beginning — and we're the cause of this one.

During the last several centuries, we have constantly burned fossil fuels, like oil, coal and natural gas. In the process, we've changed the climate for other species. We use more than half of the planet's unfrozen land for cities and logging or food. Through our actions we have destroyed the natural habitats of animals and plants.

Humans have existed for 200,000 years on Earth. Biologists and paleoecologists (who study ancient ecosystems) estimate that humans have driven roughly 1,000 species extinct. Early man hunted the biggest animals — woolly mammoths, giant kangaroos and giant sloths — to extinction. Since 1500, we have killed off at least 322 types of animals. The passenger pigeon and the Tasmanian tiger are all gone. Most recently, the baiji, a freshwater dolphin in China, was wiped out.

### **Animals Threatened Or Endangered**

Another 20,000 or more species are now threatened with extinction, says the International Union for the Conservation of Nature. There are 5 million or so animal species on the planet. Humans have cut each of their numbers by 28 percent. And as many as one third of all animals are either threatened or endangered, a new study in *Science* magazine finds.

Scientists call this sixth mass extinction the "Anthropocene defaunation." The Anthropocene is a name some geologists give to the period of time that humans have ruled the Earth — and changed it.

No one is sure how quickly it's happening, perhaps because much of it is happening to tiny insects. But according to the study in *Science*, their numbers fell by half over the past 35 years. At the same time, the human population doubled. Other recent studies suggest that species are becoming extinct roughly 1,000 times faster than normal throughout Earth's history.

The biggest animals on the planet — elephants, tigers, whales — are most at risk.

### **Conservation Can Work**

And yet it's not too late. Humans have helped save some species. The black-footed ferret was brought back from just seven left. Condors have been nursed back through vaccinations and raised by hand. According to another new study in *Science*, people have moved 424 species of plants and animals to protect them from extinction.

Conservation can work. Fishes can bounce back when we stop overfishing. Both Maine haddock and Washington state coho salmon have. On the East Coast of the U.S., when we stop farming the land, woodlands return. Then coyotes, deer, turkey and other wildlife move back in.

The animals and plants of the Amazon rain forest have benefited from Brazil's efforts to stop deforestation.

We could learn a lesson from India. Paleoecologists found that 20 out of 21 large mammals in India — from leopards to muntjac deer — have survived there for the past 100,000 years. During that time, they've lived alongside one of the largest human populations on the planet.

### **Unlike Asteroids, People Can Change Course**

To avoid the sixth mass extinction we will probably have to push harder for conservation. Endangered species may need to be moved to help them survive the changing climate. Think re-wilding: bringing back species like wolves or beavers that were once in a certain ecosystem. Some species that have entered new areas may need to be killed to save local plants and animals; in New Zealand, killing off local rats have helped kakapo parrots survive.

In the most extreme case new animals could be brought in. They could replace animals that have gone extinct. For example, European sailors ate their way through the Indian Ocean islands of Mauritius. They killed off the dodo bird and the local turtle species. But turtles from the neighboring Seychelles archipelago have been imported recently. They have helped restore the island ecosystem.

There is even some hope of bringing back entirely extinct species in the future. Advances in genetics and biology could make it possible. Bringing back extinct species could cause problems, as could replacing extinct animals with similar ones to restore ecosystems. Right now, invasive species are hurting ecosystems. Asian carp have invaded lakes in the U.S., eating everything and wrecking the ecosystem. We'll have to be careful.

But a sixth mass extinction can still be avoided. Based on an estimate in *Nature* in 2011, we have a century or two before our actions assure a mass extinction. Unlike an asteroid, we could change course.

### **Possible Response Questions:**

- What is your reaction to the argument? Explain.
- Do you support the idea of bringing back extinct species? Explain.
- What is left unsaid in this argument? What would you like to ask the author?
- Select any passage and respond to it.