

Sustaining Biodiversity

As a result of human activities, Earth has encountered some issues, one of them being the degradation of biodiversity. According to Edward O. Wilson, a biodiversity expert, “The natural world is everywhere disappearing before our eyes – cut to pieces, moved down, plowed under, gobbled up, replaced by human artifacts.” Biodiversity is a very important thing to maintain because it “is a vital part of the natural capital that keeps us alive” (Miller & Spoolman, 80). The earth’s biodiversity supplies humans with resources such as food, wood, energy, and medicine. Because biodiversity is such an important concept, it is vital to make it sustainable.

One way of preserving this biodiversity is by zoos. Zoos, among other similar facilities, can protect species by “preserving some individuals of critically endangered animal species, with the long-term goal of reintroducing the species into protected wild habitats” (Miller & Spoolman, 209). However, there are many problems with zoos. No matter how well stimulated the exhibits are of the animal’s natural habitat, they are still only stimulations. Being held captive in such an environment can lead to Abnormal Repetitive Behavior (ARB), also known as zoochosis. The documentary *Blackfish*, showed the consequences of keeping killer whales, such intelligent and complex creatures, in captivity. Tilikum, a performing killer whale, killed several people out of aggression built towards humans. Visiting the Brookfield Zoo, showed how enclosed animals show signs of zoochosis. The giraffes were continually licking, pacing, and sucking or biting walls, bars and grates in the enclosure. These are all signs of zoochosis. Zoos have certain problems, but are they a thing of the past? The answer is no. According to the article *The Future and Ethics of Zoos* by David Hancocks, “With a new focus and a wider skill base, zoos could introduce a greater awareness and comprehension of nature, and reveal its complex interdependencies and its interconnected systems, and demonstrate why nature is our best guide for a more complete and satisfying journey through life.”

Ecosystems that are prioritized for protection are chosen by scientists’ part of the group Conservation International. These scientists decided that efforts should be focused on areas with high species richness. According to the article *How Should We Prioritize the Protection of Species Diversity?*, “The number of endemic species in an area is undoubtedly important in identifying biodiversity hotspots, but other scientists have argued that this criterion alone is not enough. They suggest that we also consider the total number of species in an area or the

number of species currently threatened with extinction in an area.” Other scientists also argue that the size of the human population in diverse areas should be considered because areas containing more people have a greater likelihood of being affected by human activities. Another group that decides what ecosystems are “worthy” of saving is the International Union for the Conservation of Nature and Natural Resources (IUCN). The IUCN “has published annual *Red Lists*, which have become the world standard for listing the world’s threatened species” (Miller & Spoolman, 186).

The responsibility to care and maintain species and ecosystems in the world has fallen onto the shoulders of the people. According to the article *Why Preserve Biodiversity?*, “Humanity is part of nature, and humans are subject to the same immutable ecological laws as are all other species on the planet.” Humans think they are superior to all things on earth, but this is where they are mistaken. This way of thinking has caused many problems with premature extinctions in various species. According to Miller & Spoolman (185), “Species are becoming extinct 100 to 1,000 times faster than they were before modern human arrived on the earth, and by the end of the century, the extinction rate is expected to be 10,000 times the background rate.” To fix this, people need to “exercise responsibility for their own lives and for the life of Earth. They must therefore have full access to educational opportunities, political enfranchisement, and sustaining livelihoods” (*Why Preserve Biodiversity?*). The dominance of the human species is also impacting ecosystems. To fix this people are working on restoring these major ecosystems such as deserts, estuaries, deciduous forests and tropical rainforests. Ecological restoration doesn’t replicate past conditions, rather its goal is to “reestablish the evolutionary trajectories of ecosystems that were disrupted” (Abella). The restoration of ecosystems creates an environment that can be more productive, resilient, and able to supply resources and benefits to humans.

All ecosystem and species provide many benefits to humans, thus they have economic value. The earth’s natural capital supplies natural income. Living sustainably would require us to live off this natural income, however, “we are living unsustainably by wasting, deleting, and degrading the earth’s natural capital at an exponentially accelerating rate” (Miller & Spoolman, 10). The areas that have been degraded by human activities are being degraded because they have high economic value. Today’s industrialized countries have, “high-throughput economics, which attempt to boost economic growth by increasing the flow of matter and energy resources extracted from the environment through their economic systems to produce goods and services” (Miller & Spoolman, 614). The Lake County Storm Water Management Commission stated the importance of wetlands and how economically valuable they are because of their ability to produce resources, supply benefits, such as flood and pollution control, and enablement of recreational activities. To restore these environmentally valuable areas, they force businesses that destroyed a certain amount of wetlands to recreate the same

amount of wetlands in that same watershed. Each business receives a certain amount of wetland credits. This number depends on the functional value of the wetland that was destroyed. The credits could be sold and bought between businesses, which cause these wetlands to be restored, enhanced, created, or preserved in different watersheds. This is an issue because even more wetlands are then lost. This is only one example of how an ecosystem is being destroyed and damaged because of its high economic value. Because areas, such as the wetlands, with high monetary worth because of the plentiful natural ecological services and biological income they provide are being degraded, they have become environmental hot spots.

Species conservation programs are trying to preserve endangered species; however, there are many problems with how they go about it. First, it is not ethical to take an animal from its natural habitat and put it into an artificial home. Taking out an endangered species decreases the population, and when a species is endangered every single species counts to continue its existents. Another problem with is that if a key species or top predator is taken from an ecosystem, the ecosystem will become unstable, and if a specialist is taken from their environment, the organism won't be able to survive because of its narrow range of tolerance (*Planet in Peril*). Second, there are many species conservation programs that are taking these endangered animals and putting them into zoos. Zoos are known for animal mistreatment. According to the article *The Future and Ethics of Zoos* by David Hancocks, "But zoo animals' needs are usually the first to be compromised. In recent year marketing and promotion directors have gained seniority in zoo management structure, and often have greater say in exhibit design than the curators. Their top priority is not the animals' needs; they simply want them up close and on view." In the documentary *Blackfish*, the aggressive behavior of the killer whale towards humans was thought to be caused by the mistreatment of the whale. Lastly these animals in zoos are not presented in an ethical manner. Because zoos try to attract people to come instead of trying to teach the public about the animal and its relevance in the natural world, they, "do themselves and their society a disservice by creating an atmosphere in which visitors approach them only with a mindset of social recreation, rather than of intellectual discovery" (David Hancocks).

We are living in an unsustainable world where it is only getting worse. We must preserve the functional, ecological, genetic, and species diversity, however, we are not doing this ethically nor effectively. Humans tend to forget that "human culture must be built on a profound respect for nature, a sense of being at one with nature, and a recognition that human affairs must proceed in harmony and in balance with nature" (*Why Preserve Biodiversity?*). Without this in mind, we will degrade ecosystems that will, in turn, affect other ecosystems' health and well-being. As Aldo Leopold once said, "The last word in ignorance is the person who says of an animal or plant: 'What good is it?'... If the land mechanism as a whole is good, then

every part of it is good, whether we understand it or not... Harmony with land is like harmony with a friend; you cannot cherish his right hand and chop off his left."

Works Cited

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