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Curriculum Units by Fellows of the National Initiative

2020 Volume V: Caretakers versus Exploiters: Impacting Biodiversity in the Age of Humans

Friend or Foe: Human Impact on the Earth's Ecosystems

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Many science standards ask students to consider human impact on the Earth; although, very few provide in depth detail of such impacts. In terms of Earth's history, humans are a relatively new species on Earth. However, no other species has made a more lasting impact than humans. The rate of human caused biodiversity loss and species extinction far exceed background extinction rates. This has led to an entire new geological era called the Anthropocene. There are six variations of human impact on Earth's ecosystems: habitat fragmentation, invasive species, population growth and urbanization, pollution, overexploitation of natural resources, and climate change. These human-caused impacts are not just detrimental to the natural world, but also negatively affect human communities. Growing acknowledgement of indigenous practices and community-based conservation methods are being researched on how humans can live alongside ecosystems as caretakers. This unit will explore how the health of various ecosystems and how they are intertwined with the health of human communities by investigating the six major human impacts on biodiversity.

Keywords: ecosystems, mass extinction, human impact, Anthropocene, biodiversity, community-based conversation

(Developed for Living Systems and Elementary Science, grade 5; recommended for Elementary Science, grade 4, and Life Sciences, grades 4-6)

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