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Endangered Species at the U.S. Mexico Border

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Abstract

Endangered species in the United States are facing many stressors that increasingly put them at risk for extinction. The Sonoran Desert region is home to the most biologically diverse desert in the United States and some of the species which live there include the ferruginous pygmy owl, desert bighorn sheep, and ocelots. These species are experiencing declining population trends and we set out to identify the largest contributors to these population declines. A review of the available scientific and peer-reviewed literature, as well as interviews with biologists, specialists, and conservationists in the Sonoran Desert region, there are indications population decline can be attributed to social, political, and ecological factors. Stressors may include changing climate and climate patterns, the lack of enforceable policy protection from human disturbance, land use change, and land cover change. These stressors are all independently problematic for endangered species in the area, but when the species are already being harmed from habitat fragmentation due to the U.S.-Mexico border wall, stressors like climate pressures act synergistically. The future success of these endangered species depends on our ability to limit these stressors and the sooner it happens the more likely their survival becomes. By comparing the population management for the ferruginous pygmy owl, desert bighorn sheep, and ocelot, the accuracy of management methods can be observed and can assist the future of these endangered animal populations.

Keywords

endangered, pygmy owl, bighorn sheep, ocelots, border wall, Sonoran Desert, threatened, animal migration, habitat loss, ecology, conservation, climate change

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Research Question: How Are Endangered and Threatened Species Impacted by the U.S.-Mexico Border Wall?

Objectives

This research analyzes literature focused on the social, ecological, and physical effects of the U.S.-Mexico border wall on endangered species in the Sonoran Desert region. We were also looking to identify factors that have had a positive impact on certain species' populations.

https://www.yakimaherald.com/sports/outdoors/wildlife-moment-northern-pygmy-owl-a-tiny-terrorist-in-mountain-forest/article_6b4b37d2-9395-11e7-b428-df2a010852b4.html

Hypothesis

The U.S.-Mexico Border wall has caused populations to decline in pygmy owls, bighorn sheep, and ocelots through habitat fragmentation.

https://defenders.org/wildlife/bighorn-sheep

Background

- Out of the four U.S. deserts, the Sonoran Desert is the most biologically diverse and the health of desert species gives an idea of overall desert ecosystem health.
- The ferruginous pygmy owl, desert bighorn sheep, and ocelots are all endangered species in the Sonoran Desert seeing declining population trends.
- Temperature, precipitation, land-use, and land cover are all linked to population dynamics and changes.
- The U.S.-Mexico border wall bisects the desert region and the wall increases soil erosion, alters natural water flows, and wildlife patterns as well as acts as a primary source of land-use change.

Methodology

Literature reviews were conducted to gather information and known research on the bighorn sheep, ocelots and pygmy owls, and research showing how these species have been affected by the border wall between the United States and Mexico. In addition to the literature reviews, various biologists in the Sonoran Desert region were contacted via email for interviews. Interviews were conducted with individuals from the Coalition for Sonoran Desert Protection, Kofa National Wildlife Refuge, and Sky Island Alliance. The interview contained six questions specified towards one animal, either the bighorn sheep, the ocelot or the pygmy owl, and related to the animals listed status, conservation methods, and impacts on the animals population from the border wall. The data and information gathered will be used to find common patterns and trends seen within these threatened animal populations.

Interview Data

Information and interview responses are still pending and data is still being analyzed. At this point in our research we have received feedback from half of interviews sent out and are awaiting responses from the other half. Sufficient primary data is being gathered and as of yet we are unable to reach a sufficient conclusion of our hypothesis.

https://www.publicnewsservice.org/2016-08-17/endangered-species-and-wildlife/feds-release-plan-to-save-ocelot-in-arizona-texas/a53594-1

Discussion

The information we gathered from our analysis of literature and our interviews with professionals studying the three endangered species have shown that their population declines are attributed to social, political, and ecological factors.

These include changing environmental conditions, little enforceable policy action, and habitat loss/fragmentation from construction. The future of these animals depends on limiting these stressors and we could see immediate results from slowing or reducing destructive human activity like construction in species' habitat zones.

https://www.knau.org/post/watchdog-no-way-measure-us-mexico-border-wall-success