Assessing the Efficacy of the U.S. Endangered Species Act Through the Novel Quantification of Species Charisma and Respective Population Trends

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Humans have propelled Earth into its sixth mass extinction, wiping out hundreds of species and pushing hundreds more to the brink. To repopulate the at-risk, legislation, such as the U.S Endangered Species Act, has been implemented. To test the act's efficacy, previous studies have investigated the links between an endangered species' ability to raise funds and species charisma. Charismatic species can skew efforts and attention from uncharismatic species. In this study, however, the link between charisma and population trends is used to assess the efficacy of the act. A secondary aim is to develop a novel method to measure charisma with multiple charisma factors and taxons, and verify this method by examining human decision-making towards endangered species. Using open access information sources, data on the physical attributes of 367 vertebrate species listed under the act are collected and used to rank species based on charisma level. The ranking, using a novel point value system, is then compared to the qualitative population trends of each species. A survey that validates the point value system was distributed to 56 participants. Results indicated that the more charismatic an endangered species was the more likely it was to have a beneficial population trend and be aided by the efforts of the U.S Endangered Species Act. These findings suggest a bias towards certain species based on outward appearances present in legislative efforts to repopulate threatened species. Future investigations should assess other countries' legislative efforts to repopulate endangered species, explore new proxies for measuring charisma, and distribute the survey to Fish and Wildlife Service employees.

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