ID: W2803512558

TITLE: Marine mammals and sea turtles listed under the U.S. Endangered Species Act are recovering

AUTHOR: ['Abel Valdivia', 'Shaye G. Wolf', 'Kierán Suckling']

ABSTRACT:

The U.S. Endangered Species Act (ESA) is a powerful environmental law protecting imperiled plants and animals, and a growing number of marine species have been protected under this law as extinction risk in the oceans has increased. Marine mammals and sea turtles comprise 38% of the 163 ESA-listed marine "species", which includes subspecies and distinct population segments, yet analyses of recovery trends after listing are lacking. Here we gathered the best available annual abundance estimates for geographically delimited populations of all 62 marine mammal and sea turtle species listed under the ESA. Of these, we chose representative populations of species that were listed before 2012, occur and reproduce in U.S. waters, and have data of sufficient quality and timespan for trend analyses. Thus, we quantitatively analyzed population trends, magnitude of population change, and recovery status for 23 and 8 representative populations of 14 marine mammal and 5 sea turtle species, respectively. Using generalized linear and non-linear models, we found that 18 marine mammal (78%) and 6 sea turtle (75%) populations significantly increased after listing; 3 marine mammal (13%) and 2 sea turtle (25%) populations showed non-significant changes; while 2 marine mammal (9%), but no sea turtle populations declined after ESA protection. Overall, the 24 populations that increased in abundance were from species listed for 20 years or more (e.g., large whales, manatees, and sea turtles). Conservation measures triggered by ESA listing such as ending exploitation, tailored species management, and fishery regulations, and other national and international measures, appear to have been largely successful in promoting species recovery, leading to the delisting of some species and to increases in most populations. These findings underscore the capacity of marine mammal and sea turtle species to recover from substantial geographical population declines when conservation actions are implemented in a timely and effective manner.

SOURCE: PloS one

PDF URL: https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0210164&type=printable

CITED BY COUNT: 41

PUBLICATION YEAR: 2019

TYPE: article

CONCEPTS: ['Endangered species', 'Marine mammal', 'Sea turtle', 'Turtle (robot)', 'Population', 'Abundance (ecology)', 'Mammal', 'Biology', 'Ecology', 'Bycatch', 'Fishery', 'Critically endangered', 'Geography', 'Habitat', 'Fishing', 'Demography', 'Sociology']