New 'green status of species' measures impact of conservation action

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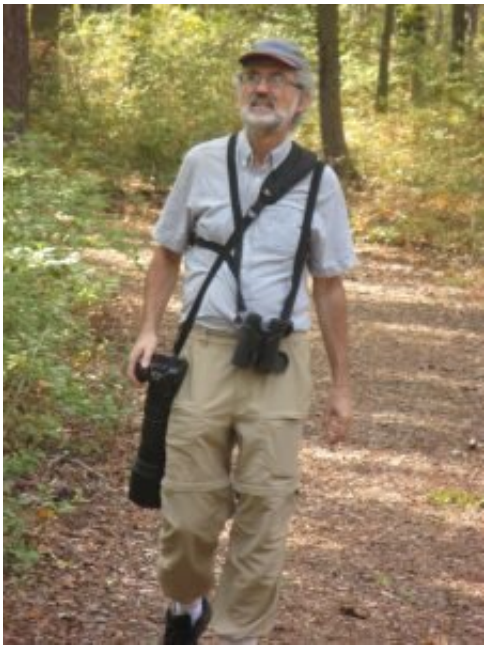

Ecology and Evolution Professor Resit Akcakaya, Ph.D. Credit: Stony Brook University

An international team of scientists including Stony Brook University Professor Resit Akcakaya, Ph.D., published a paper in *Conservation Biology* that for the first time applies the IUCN Green Status of Species, a new Global Standard to measure how close a species' is to being fully ecologically functional across its range, and how much it has recovered thanks to conservation action. Preliminary IUCN Green Status assessments for 181 species are presented in the paper.

The species range from the pink pigeon (Nesoenas mayeri), which was saved from extinction by conservation measures, and the gray wolf (Canis lupus), a species on a promising path to recovery of ecological functionality across vast areas of its past distribution—though it is currently far from its historical baseline. More than 200 authors representing 171 institutions contributed to the paper.

Akcakaya, a Professor in the Department of Ecology and Evolution in the College of Arts and Sciences at Stony Brook University, is a member of the IUCN SSC task force that developed the Green Status of Species method and previously was the lead author of "Quantifying species recovery and conservation success to develop an IUCN Green List of Species," a 2018 paper that first described the method.

"The worsening biodiversity crisis requires effective action," says Akcakaya, who took a leading role in the scientific development of the new method. "The Green Status of Species is the first international standard for measuring the effectiveness of conservation actions using a science-based metric of species recovery. It will provide an objective method for planning and evaluating conservation efforts."

The international team found that many species at higher risk of extinction also have high potential to recover over the next century. For example, the California condor (Gymnogyps californianus) Green Status assessment confirmed that rigorous conservation action prevented the species from going extinct. Although the Green Status of the species is Largely Depleted and it is Critically Endangered on the IUCN Red List, the Green Status assessment found that continued support could enable a significant rebound over the next century with a sizeable improvement from 25 percent of its fully recovered state (Largely Depleted) to 75 percent (Moderately Depleted).

"Preventing the extinction of species is the ultimate goal that

conservationists have traditionally pursued. But we have come to understand that true success would be to revert the decline to the point where animals, fungi and plants fulfill their ecological functions throughout their range—resulting in species that are not just surviving, but thriving," said Jon Paul Rodríguez, Chair of the IUCN Species Survival Commission. "As the world's first standardized method for assessing species' potential for and progress toward such a recovery, the IUCN Green Status will help inform conservation plans and steer action to meet national and international goals for 2030 and beyond. It also provides a metric for quantifying and celebrating conservation success."

The IUCN Green Status of Species will be integrated into the IUCN Red List of Threatened Species, which will then provide a fuller picture of species' conservation status including both their extinction risk and recovery progress.

The IUCN Green Status classifies species into nine Species Recovery Categories, indicating the extent to which species are depleted or recovered compared to their historical population levels. Each Green Status assessment measures the impact of past conservation on a species, a species' dependence on continuing support, how much a species stands to gain from conservation action within the next ten years, and the potential for it to recover over the next century.

Said the paper's lead author, Molly Grace of the University of Oxford, and co-Chair of IUCN's Green Status of Species Working Group: "The IUCN Red List tells us how close a species is to extinction, but is not intended to paint a full picture of its status and functioning within its ecosystem. With the IUCN Green Status, we now have a complementary tool that allows us to track species recovery and dramatically improve our understanding of the state of the world's wildlife. The IUCN Green Status of Species provides evidence that conservation works, giving cause for optimism and impetus for stronger action."

More information: Molly K. Grace et al, Testing a global standard for quantifying species recovery and assessing conservation impact, *Conservation Biology* (2021). DOI: 10.1111/cobi.13756