Global trends in nature's contributions to people

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A new paper reports on risks to human well-being and prosperity stemming from ongoing environmental degradation. In the paper, the authors document the many ways that nature provides benefits, from the production of material goods (fish, timber, medicines, etc.) to non-material benefits (recreation, learning, experience, etc.) and the benefits of ecological processes that regulate environmental conditions (water filtration, carbon sequestration, storm protection, etc.). The findings show global declines in most of nature's contributions to people over the past 50 years. Negative impacts on people's well-being are already occurring, including reductions in crop yields from declining pollinator populations and soil productivity and increased exposure to flooding and storms as coastal ecosystems are degraded. Lead author Kate Brauman, of the University of Minnesota, summarized the main findings of the paper, saying "nature contributes to our health and well-being in many ways, and our actions put these benefits at risk."

The paper also examines not only the trajectory of land-based nature, but seascapes as well. Coauthor Lynne Shannon of the University of Cape Town, South Africa, commented on the worrying state of benefits from the ocean: "over the past 50 years, overexploitation and increased fishing effort have reduced catches of fish in the wild, begging the question of how our future ocean will meet increasing demand." Coauthor Ute Jacob of the Helmholtz Institute for Functional Marine Biodiversity notes that this work amasses "solid evidence that if we want to ensure sustainable provision of essential marine benefits, we need to get active and protect marine biodiversity now."

Understanding and tracking nature's contributions to people provides critical feedback that can improve our ability to manage earth systems effectively, equitably, and sustainably. Co-author Steve Polasky stated "this paper highlights the value of nature's contributions to our well-being. By making these values more visible, we hope that actions are taken to protect nature, so that nature can continue to provide benefits for future generations."

The work builds from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Global Assessment.

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The ocean from Cape Town, South Africa. Photo credit: Ute Jacob

An abundance of lettuce varieties. Photo credit: Kate Brauman