Saving 'half Earth' for nature would affect over a billion people

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Clouds over Australia are shown. Credit: NASA

As the extinction crisis escalates, and protest movements grow, some are calling for hugely ambitious conservation targets. Among the most prominent is sparing 50% of the Earth's surface for nature.

'Half Earth' and similar proposals have gained traction with conservationists and policy makers. However, little work has gone into identifying the social and economic implications for people.

Now, researchers have produced the first attempt to assess how many and who would be affected if half the planet was 'saved' in a way that secures the diversity of the world's habitats.

A team of scientists analysed global datasets to determine where conservation status could be added to provide 50% protection to every "ecoregion": large areas of distinct habitats such as Central African mangroves and Baltic mixed forests.

Even avoiding where possible "human footprints" such as cities and farmland, their findings suggest a "conservative" estimate for those directly affected by Half Earth would be over one billion people, primarily in middle-income countries.

Many wealthy and densely populated nations in the Global North would also need to see major expansions of land with conservation status to reach 50% - this could even include parts of London, for example.

The study's authors, led by University of Cambridge researchers, say that while radical action is urgently required for the future of life on Earth, issues of environmental justice and human wellbeing should be at the forefront of the conservation movement.

"People are the cause of the extinction crisis, but they are also the solution," said Dr. Judith Schleicher, who led the new study, published today in the journal *Nature Sustainability*. "Social issues must play a more prominent role if we want to deliver effective conservation that works for both the biosphere and the people who inhabit it."

Towards the end of next year, the leaders of most of the world's nations will aim to agree global targets for the future of conservation at the Convention on Biological Diversity in Beijing.

"Goals that emerge from the Convention on Biological Diversity could define conservation for a generation," said Schleicher, who conducted the research while at the University of Cambridge's Conservation Research Institute and its Department of Geography.

"We need to be ambitious given the environmental crises. But it is vital that social and economic implications at local levels are considered if the drivers of biodiversity loss are to be tackled. The lives of many people and the existence of diverse species hang in the balance."

The idea of a 'Half Earth' for nature was popularised by famed biologist E.O. Wilson in his 2017 book of the same name. More recently, a 'Global Deal for Nature' - aiming for 30% protection by 2030 and 50% by 2050—has been endorsed by a number of leading environmental organisations. However, these proposals have been ambiguous about "exact forms and location", say Schleicher and colleagues.

Based on their analyses, researchers cautiously estimate that an additional 760 million people would find themselves living in areas with new conservation status: a fourfold increase of the 247 million who currently reside inside protected areas.

The team call for proponents of Half Earth, and all supporters of area-based conservation, to "recognise and take seriously" the human consequences—both negative and positive—of their proposals.

"Living in areas rich in natural habitat can boost mental health and wellbeing. In some cases, protected areas can provide new jobs and income through ecotourism and sustainable production," said Schleicher.

"However, at the other extreme, certain forms of 'fortress' conservation can see people displaced from their ancestral home and denied access to resources they rely on for their survival."

While conservation coverage has been increasing, species numbers continue to plummet—suggesting a "disconnect" between international targets and implementation at local and regional levels, argue the team.

"Conservation needs strong action to protect life on earth, but this must be done in a way that takes account of people and their needs," said co-author Dr. Chris Sandbrook from Cambridge's Department of Geography.

"Failing to consider social issues will lead to conservation policy that is harmful to human wellbeing and less likely to be implemented in the first place."

Conservation is not just a problem for people of the Global South. Recent reports on UK wildlife revealed devastating declines in iconic species. Yet the study reveals that achieving 50% ecoregion coverage could even see parts of central London become protected. "It highlights the absurdity of hitting arbitrary targets," Sandbrook said.

More information: Protecting half of the planet could directly affect over one billion people, *Nature Sustainability* (2019). DOI: 10.1038/s41893-019-0423-y , nature.com/articles/s41893-019-0423-y

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