



Nature's capital

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70% – of the projected loss of terrestrial biodiversity linked to agriculture

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In the Anthropocene, humankind is presiding over the Earth's sixth major extinction. But as biodiversity declines, nature becomes increasingly valued and valuable.

We live in the Anthropocene, the proposed epoch that begins when human activities started to have a significant global impact on Earth's geology and ecosystems. We also live in what many scientists are calling the Earth's sixth mass extinction event, a period defined as a loss of 75% of species. Recent studies suggest that the rate of extinction for species in the 20th Century was up to 100 times higher than it would have been without man's impact. According to analysis for Nature a staggering 41% of all amphibians on the planet now face extinction while 26% of mammal species and 13% of birds are similarly threatened. Put simply, as humans degrade and destroy habitats, so the species that live in them die. Or as Stanford ecologist Paul Ehrlich put it: "In pushing other species to extinction, humanity is busy sawing off the limb on which it perches."

Following the 2014 Global Biodiversity Outlook 4, the UN stated that "The global decline of biodiversity continues, as actions have not been taken on a sufficient scale and the underlying drivers of loss have not been addressed significantly" – and that "in most cases this progress will not be sufficient to achieve the [Aichi] targets set for 2020". The UN made it clear that "drivers linked to agriculture account for 70 per cent of the projected loss of terrestrial biodiversity" and that as a result "addressing trends in food systems is therefore crucial in determining whether

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the Strategic Plan for Biodiversity 2011–2020 will succeed. Solutions for achieving sustainable farming and food systems include sustainable productivity increases by restoring ecosystem services in agricultural landscapes, reducing waste and losses in supply chains, and addressing shifts in consumption patterns."

As a result, the UN's Sustainable Development Goals adopted in September 2015 include two specific goals related to protecting and enhancing global ecosystems: Goal 15, to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss; and, Goal 14, to conserve and sustainably use the oceans, seas and marine resources for sustainable development. These Goals, alongside Goal 13 (Take urgent action to combat climate change) and Goal 12 (Ensure sustainable consumption and production) reflect our understanding of the damage we have caused to our shared natural environment and the response that is now required.

The case for preserving and enhancing nature's biodiversity can be made along three dimensions. First the moral obligation, that we should protect nature for its own sake. Why do we have the right to destroy it? Second, the social benefits to health and wellbeing that nature provides. Numerous studies have evidenced the benefits of nature to our psychological, physiological and cognitive, social, aesthetic and spiritual wellbeing. Third, and seemingly increasing in importance in our capitalist world, the economic benefits - the so called "eco-system services" provided by nature.

Our habitat



These ecosystem services are typically grouped into four broad categories: *provisioning*, such as the production of food and water; *regulating*, such as the control of climate and disease; *supporting*, such as nutrient cycles and crop pollination; and *cultural*, such as spiritual and recreational benefits.

Many ecosystem services are now being assigned economic values. As UN Secretary General Ban Ki Moon puts it: “It is time to recognize that human capital and natural capital are every bit as important as financial capital.” The global initiative TEEB (The Economics of Ecosystems and Biodiversity), led by Pavan Sukhdev, seeks to “make nature’s values visible” through mainstreaming the values of biodiversity and ecosystem services into decision-making at all levels. Its approach to valuation helps decision-makers recognize the wide range of benefits provided by ecosystems and biodiversity, demonstrate their values in economic terms and, where appropriate, suggest how to capture those values in decision-making. More broadly, as our understanding of the social and economic value of nature evolves, new means of measuring the cost and benefit of nature are being developed, for example

through natural capital accounting. According to some estimates, the total annual global value of ecosystem services is in excess of \$125 trillion, more than total global GDP itself. Importantly however “the valuation of ecoservices (in whatever units) is not the same as commodification or privatization. Many eco-services are best considered public goods or common pool resources, so conventional markets are often not the best institutional frameworks to manage them. However, these services must be (and are being) valued, and we need new, common asset institutions to better take these values into account.”

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Looking forward, as these values - and this value - becomes better understood, both governments and corporations will seek to enhance nature's capital or reduce their impact on it. A number of governments are developing long term plans for enhancing long-term natural capital, for example in the UK taking forward the recommendations of the Natural Capital Committee. Similarly growing recognition of the economic value of ecosystem services will lead to core business considerations that recognise their explicit value. Natural capital will therefore become more commonplace in accounting systems, and will impact the way that leading organisations choose to operate and report (e.g. Unilever's Sustainable Living Plan; Puma's ground breaking environmental P&L. Indeed a number of workshop attendees spoke of increasingly becoming conscious stewards. As one put it: "As we become more aware of the consequences of our actions, there is a sense of stewardship of the world - not only in how we manage our home, but also in how we live in our ecosystem. We start to behave as conscious stewards." Let's hope so.

Governments and corporations will seek to enhance nature's capital.

Related insights

Food Waste



30-50% of our food is wasted either in the supply chain or in consumption and could feed another 3 billion. Optimising distribution and storage in developing countries and enabling better consumer information in others could solve this.

Full Cost



Increasing transparency of society's reliance on nature, intensify requirements for business to pay the true cost of the resources provided by 'natural capital' and so compensate for their negative impact on society.

Plastic oceans



There are increasing high levels of man-made pollution in many of the world's seas and little actually disappears. By 2050 there will be more plastic than fish in the oceans.

Key resource constraints



Economic, physical and political shortages of key resources increase and drive increasing tension between and within countries. As we exceed the Earth's natural thresholds, food and water receive as much focus as oil and gas.