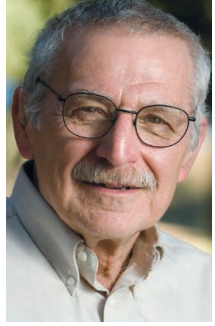
Biodiversity Policy Challenges



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GLOBAL RESPONSES TO THE DETERIORATION OF BIODIVERSITY HAVE BEEN SLOW TO EMERGE, BUT next month the United Nations (UN) Environment Programme hosts a meeting* in Nairobi, Kenya, to discuss the next steps in establishing a new science/policy interface for biodiversity and ecosystem services. The response in this arena still lags far behind negotiations related to climate change, but the meeting is a chance to boost international action, based on strong scientific evidence. An important motivation for creating this interface is meeting the goals of international multilateral agreements, including the Convention on Biological Diversity (CBD), the UN Convention to Combat Desertification, and the Ramsar Convention on Wetlands. Unlike the UN Framework Convention on Climate Change, which has the Intergovernmental Panel on Climate Change, these environmental conventions lack a pre-convention science assessment and have no provision for subsequent government-endorsed, independent science. The meeting in Nairobi will debate, among other issues, how best to make up for this crucial omission.

Why is a robust biodiversity science/policy interface so important? The human population continues to mine the natural capital of Earth to support its growth, but the impact of this loss on human well-being is not widely understood in either public or policy spheres. Biodiversity is the building block of ecosystems that capture carbon and energy and cycle water and nutrients from the soil. These processes, and the structure of ecosystems that control them, benefit society with food, fuel, clean water, and climate regulation—so-called ecosystem services. The Millennium Ecosystem Assessment (MA), supported by UN agencies and nongovernmental organizations, concluded in 2005 that 60% of ecosystem services worldwide have become degraded, mostly in the past 50 years, primarily because of land- and ocean-use practices.

We lack information on global and local trends in most biodiversity components at the level of genes, species, and ecosystems, as well as baselines and standards for their assessment. We will certainly miss the CBD's target for reducing the rate of biodiversity loss by 2010 and also miss the 2015 environmental targets within the UN Millennium Development Goals to improve health and livelihoods for the world's poorest and most vulnerable people. Changes in ecosystems and losses of biodiversity have continued to accelerate. Even the most conservative estimates suggest that an area of tropical rainforest greater than the size of California has been destroyed since 1992, mostly for food and fuel. Species extinction rates are at least 100 times those in pre-human times and are expected to increase.

The situation is not hopeless. The MA outlined policy and management interventions at local to global scales that can reverse these trends, such as incentives for conservation based on payment for ecosystem services. Promising approaches to integrated land and sea use that will deliver multiple benefits require further scientific research. The challenges are complicated by continuing changes in climate, land use, human demography, and development, but the relevant science can be coordinated through international programs such as DIVERSITAS and the Earth System Science Partnership, and through international organizations such as the International Union for the Conservation of Nature. What is lacking is an effective dialogue between science-based information and relevant policy mechanisms to ramp up the speed and clarity of information flow.

We urge that scientists not only continue to generate the science that underlies good policies and decisions, but also become informed on policy issues that relate to their expertise and are highlighted in published research. In each nation, scientists need to take the crucial step of ensuring that research information reaches the relevant decision-making levels of government. In October, the 100 or so participating countries should bring not only their best policy negotiators but also their best scientists to the Nairobi conference. A commitment to an intergovernmental science/policy platform on biodiversity and ecosystem services is possible only if scientists take a serious step forward and become centrally involved. **– Harold Mooney and Georgina Mace**

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*http://ipbes.net/en/2ndMeeting/index.asp

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