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Biodiversity: Blessing Not Blunder

In October 2010, the 193 parties to the Convention on Biological Diversity (CBD) agreed to a comprehensive new strategic plan. This includes a bold vision that "by 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people." It includes 20 targets to be achieved by 2020 and organized within a clear conceptual framework of indirect and direct drivers, state, benefits, and responses. Moreover, it is supported by a new international agreement on sharing the benefits of biological resources, and by a commitment to establish the necessary financing over the next two years so that the plan can be implemented. This political dedication to a holistic vision of "living in harmony with nature" leaves George Woodwell's recent Viewpoint on "the biodiversity blunder" in *BioScience* (60: 870–871) looking somewhat out of touch.

We therefore contest Woodwell on three points. First, far from there being "no immediate recovery possible, and no resilience remaining," it *is* possible to prevent anthropogenic extinction (Butchart et al. 2006), for which the new CBD 2020 target number 12 provides a powerful basis, and moreover to reverse deteriorating trends (Hoffmann et al. 2010). Likewise, there is evidence from places as diverse as the Seychelles and Brazil's Atlantic Forest that "restoration in less than evolutionary time" is achievable. Biodiversity conservation works where sufficient resources and political will are applied.

Second, biodiversity has been crucial both to gauge the biotic loss that Woodwell laments and to communicate this loss to government and society. Only by specifying and quantifying threats can governments and industry be made to act or held to account: consequently, measuring biodiversity is one of the few ways by which nature has entered mainstream political discussions. As examples, the Millennium Development Goals use the International Union for Conservation of Nature's Red List as a core indicator. The finance ministry of the Norwegian government uses trends in seabird populations as a metric of national performance. Rio Tinto, one of the world's largest mining companies, requires itself to have a "net positive impact" on biodiversity. Moreover, a recent report by The Economics of Ecosystems and Biodiversity (2010) directly contradicts Woodwell's assertion that biodiversity has provided "no clear cost of failure."

Third, Woodwell offers no alternative route to "restoration and preservation of the physical, chemical, and biotic integrity of Earth." Who does he envisage doing this? With what physical and financial resources? By what national and international mechanisms? Obviously the capacities of the CBD and other treaties, national ministries, corporations and conservation NGOs are still woefully inadequate. But in the struggle to build these capacities, sniping at "biodiversity" is assuredly picking the worst possible target.

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Biodiversity: Not Wrong, Just an Unfortunate Distraction

I am grateful to my colleagues for confirming so candidly the extent to which governments around the world have been misled. Can 193 nations make a credible commitment to preserving all of life over decades without stabilizing climates and controlling toxins?

The world has a serious problem with rampant biotic impoverishment, an insidious process that undermines all life, including humans. The cause is cumulative chronic disruption. The disruption is physical, chemical, and biotic. It includes the climatic disruption and the cumulative chemical poisoning of the earth with industrial and agricultural toxins. The impoverishment leads to dysfunctional landscapes and water bodies...and to economic impoverishment and political chaos. For an example of extremes of biotic impoverishment we might look at Haiti, sitting on our doorstep and largely ignored. The cause there was physical, human disturbance, but the effect is the same. Ask what prating about biodiversity and ecosystem services has done there or can do now to restore a landscape to the point where it can support a viable economic system and a stable government. Both economic vitality and political stability are being sought there this week—and have been sought for decades previously, sadly, without success. Haiti is in an environmental, economic, and political abyss (Woodwell 2009).

Solutions in Haiti and elsewhere lie in leadership from the scientific community, especially the community of conservationists, in establishing a firm understanding of the dependence of this civilization on reversing current trends. In Haiti the solutions require early reestablishment of landscapes that restore stable water supplies, for instance. Globally, an early step will be the preservation of all remaining primary forests. The move could start in the United States with a presidential edict involving governmentally owned forested land and spread to other nations as we set the example. A solution also requires stabilization of

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