Conservation Biology

Editorial

Conservation Stories, Conservation Science, and the Role of the Intergovernmental Platform on Biodiversity and Ecosystem Services

Science and stories are not the same thing, although stories have long been the outward face of conservation science. The rate of species' extinctions that framed the launch of our discipline was too high not to use whatever communication tools would be most effective to get people to address the crisis. We practiced science, and science structured the programs conservation practitioners implemented, but science showed no promise of changing peoples' attitudes and behaviors. Stories did that, and we used them to convince the world of the urgency of paying attention to the global loss of biodiversity (genes, species, and ecosystems). But with the launch of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES; www.ipbes.net), we are going to have to more carefully and strategically untangle our stories from our science.

The IPBES was established by more than 90 governments in Panama City, Panama, on 21 April 2012 as a "global mechanism recognized by both the scientific and policy communities that will gather, analyze, and synthesize information to inform decision making in a range of policy fora such as global and regional environmental conventions and development policy dialogues." The IPBES is promising to provide scientific information on biodiversity and ecosystem services to governments and will have four main functions: identify and prioritize scientific information needed by policy makers and catalyze efforts to generate new knowledge, perform regular and timely assessments of knowledge on biodiversity and ecosystem services and their relations; support policy formulation and implementation; and prioritize capacity building and call for financial and other support for the highest priority needs. Although national governments are the major clients of IPBES, there is a major effort to involve the scientific community, nongovernmental stakeholders, and civil society in general in its activities. The International Union for Conservation of Nature (IUCN) has called for IPBES to be the "most authoritative, multidisciplinary, overarching mechanism on biodiversity and ecosystem services" (IUCN 2011).

The IPBES has the potential to give conservation science the visibility that the Intergovernmental Panel on Climate Change (IPCC) gave to climate science. Climate science has captured world attention by relating changes in climate to events that affect the lives of people (e.g., sea-level rise, severe storms), while conservation science has languished. The lack of world attention to our discipline may change as activities designed to increase governments' attention to biodiversity and its connections to human welfare are conducted by the IPBES (Perring et al. 2011; Vohland et al. 2011). Many commentators have remarked on the similarity between IPBES and IPCC. The journal *Nature* (2010) editorialized, "Wanted: an IPCC for Biodiversity," and Larigauderie and Mooney (2010) call for IPBES to be an "IPCC-like mechanism for biodiversity."

We suggest that conservation professionals need to be careful as biodiversity conservation becomes the priority we hoped it would. The stories conservation practitioners have told to gain public support may be chosen for analysis rather than the science underlying them. Our reliance on storytelling is understandable because storytelling is an ancient human behavior and a very effective way to engage an audience. We tell compelling stories about the impending loss of a species and the speed of ecosystem destruction. We tell success stories to inspire people to replicate success. These stories, originally told by conservation practitioners, are written down and widely shared by public affairs, development, and communication scribes. As with court scribes of old, these scribes make the stories more engaging, more inspiring, and scarier—with the aim of engaging more donors and reaching a broader public. The IPBES and its activities may focus on some of our stories that will not stand up to careful scientific scrutiny.

We are concerned about not only the conflation of stories with science, but also about the robustness of the science underlying the stories. If the science is merely an inspiration for the stories then it has probably been shielded from testing and refining through the rough

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and tumble of the scientific process. One example of such shielding involves one of conservation's most compelling stories, the threat of extinction. The widespread use of the topic of extinction as a means of reaching the public led Ladle and Jepson (2010) to state that the international conservation community has institutionalized extinction. In what may be a prescient observation, MacKenzie (2011) wrote in the *New Scientist* that "conservation scientists are about to come under the kind of scrutiny now experienced by climate scientists." Her comment was in an article covering the release of He and Hubbell's (2011) paper on a study that showed many extinction models, and by corollary their predicted extinction rates, are statistically flawed. One only has to look at Conservation International's extinction clock (http://www.conservation.org/act/pages/stoptheclock.aspx) or multiorganizational initiatives such as the Alliance for Zero Extinction (www.zeroextinction.org) for examples of how conservation practitioners are using extinction and the threat of extinction to galvanize support and action. But will these specific extinction claims stand up to strong scrutiny?

We stress that it would not require a strong IPBES, or strong governmental response, to stimulate increasingly in-depth analyses of the science underlying conservation claims. Lomborg (2001) provided the conservation community with a first taste of this level of scrutiny in *The Skeptical Environmentalist*. We anticipate that in the next decade the critical review of the science underlying conservation stories told by conservation practitioners will become deeper and more sustained. And we think the community of conservation practitioners and conservation scientists should welcome such scrutiny. Both communities have long recognized that conservation science is a value-driven discipline, but we suggest that for too long the values framing the discipline rather than the underlying science have driven engagement with the public and policy dialogue. Too often magazine and television ads, web pages, and fundraising appeals use science as the basis from which to launch a good story rather than faithfully communicating the science itself. How scientifically defensible are claims that a new protected area is of paramount importance to save an endangered species; that a payment for ecosystem services scheme will improve the lives of a multitude of people while protecting thousands of hectares of critical habitat; or that engagement with a multinational corporation will provide jobs, generate profits, and restore habitats?

The conservation community has an uneven track record in using scientific data and analyses to evaluate its own effectiveness in implementing conservation actions and interventions (Ferraro 2011; J. Montambault et al., unpublished data). Despite repeated calls for conservation organizations to implement adaptive management and monitoring of their projects, a recent survey by the Conservation Measures Partnership (www.conservationmeasures.org), a consortium of leading conservation and philanthropic organizations, found that only about 1 in 20 conservation projects rigorously evaluates the degree to which a particular action or strategy is meeting its objectives (Conservation Measures Partnership. "Performance Measurement in the Conservation Community: Status, Progress, Barriers, and Next Steps." Presentation to Measuring Conservation Effectiveness Summit, May 2010. Available from http://www.conservationmeasures.org/wp-content/uploads/2010/05/2b_Summit_Research_Presentation-no-logos.ppt). A failure to properly evaluate conservation actions will result in an even greater disconnect between the rhetoric of conservation successes as promoted through stories and the reality of what is actually being accomplished.

So what should the conservation practitioner and conservation science community do about the establishment of IPBES and the anticipated increase in scrutiny of our science? We suggest there are four steps to consider as a community.

(1) Ensure we are making claims on the basis of rigorous science while strategically investing in effectiveness monitoring.
(2) Increase the public availability of our data and information to promote learning and transparency—both of which are embedded in the principles of IPBES. Although some efforts are underway to develop publicly available databases of conservation projects (e.g., The Nature Conservancy's ConPro database [conpro.tnc.org] and Defenders of Wildlife's Conservation Registry [www.conservationregistry.org]), our communities need to get much better at cross-organizational learning and sharing of data and information on successes and failures and at contributing to the growing body of evidence on which conservation should be based (cf. www.conservationevidence.com).
(3) Welcome the opportunity to strengthen the science underlying our field. As a start, conservation organizations might want to sponsor analyses that address some of the foundational questions of conservation biology (Sutherland et al. 2009) that are relevant to IPBES. For example, Has biodiversity loss affected human well-being, and if so how, when, and where?
(4) Actively participate in IPBES to help build a strong, science-based, policy-relevant institution. The need to apply science in an international decision-making arena, with all the diplomatic, political, social, and economic intricacies of that arena, is evident. At the same time, conservation scientists must recognize that conservation strategies and programs will be based not only on sound science, but also on social, political, and economic criteria (Sutherland et al. 2012).

We should not think that taking these four steps and the possible increased scrutiny of our stories and our science through IPBES will mean the banishment of stories. Stories wield an ancient power over the human spirit and remain a vital part of building public support for conservation. We just need to be very careful about the difference between stories and science. It shouldn't take the threat and promise of IPBES for us to exercise that caution.

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