

Better safe than sorry? The precautionary principle and biodiversity conservation

Uncertainty is a fact of life. The making of conservation decisions, or of the decisions that affect conservation, from tax or trade policy to fisheries or parks management, has to be on the basis of incomplete information, ignorance about underlying processes, and speculation about outcomes. Science is always increasing our knowledge, but in practical terms we need to know how to make good conservation decisions when we don't have the full information.

In Western regulatory systems the traditional approach of the law has been to require clear and unambiguous evidence of environmental harm before acting to curtail individual, corporate or state actions. To stop an industrial chemical being released into waterways, for instance, clear evidence of harm has been required. Uncertainty about environmental harm has been a reason not to restrict human activities: the underlying presumption was, and often still is, in favour of 'development' (used broadly, to mean any human economic activities affecting the environment). This is a powerful argument: that to restrict somebody's actions, their way of making a living, or generating profit, requires clear demonstrable evidence that they are causing harm. This argument still holds sway in many contexts, and is a favourite argument of corporate interests resisting regulation.

However, and this comes as no surprise to ecologists, we cannot muster clear scientific evidence of all environmental harms in advance. By the time clear evidence is available of the harms of clear-cutting a forest or introducing an alien species, it may be simply too late. Irreversible, serious damage can be caused without unambiguous evidence in advance. This recognition has crystallized in law and policy into the precautionary principle. While there are many different formulations of the principle, the core emphasis is on anticipating and taking action to avert potential, uncertain environmental harm. Lack of scientific certainty of harm should not be used as a reason to avoid taking action against it. One of the most powerful ways in which precaution can be given practical effect is through reversing the burden of proof. Rather than those concerned about the environment being required to demonstrate that an action will not be harmful, the proponents of the action – hunters, logging companies, land developers – are required to

show the action will not be harmful. Precaution counters the presumption in favour of development.

Since the early 1990s the precautionary principle has had a meteoric, if controversial, rise to prominence. The Rio de Janeiro Earth Summit in 1992 saw its incorporation into the Convention on Biological Diversity (CBD) and the UN Framework Convention on Climate Change, and it has since permeated into myriad multilateral environmental agreements. It is increasingly incorporated into national environmental laws and policy, including in South Africa, Australia, Ecuador and Cameroon. Some see the precautionary principle as the fundamental environmental principle, with a transformative power to reshape regulatory and management frameworks to be more responsive to, and weighted in favour of, environmental protection. But the precautionary principle is politically sensitive. In recent years it was the subject of heated controversy at the World Summit on Sustainable Development, is at issue in long-running disputes over beef hormones and trade in genetically modified organisms within the World Trade Organization, and has stymied negotiations on alien invasive species over the last two Conferences of the Parties of the CBD.

Why should conservationists care about this? As Norman Myers pointed out in 1993, biodiversity may be the sector where the precautionary principle is most immediately and urgently relevant (Myers, 1993). Uncertainty surrounds virtually every aspect of biodiversity, from species number and ecosystem dynamics, to threats to populations and sustainable harvest levels. Many of the arguments conservationists must employ rely fundamentally on the precautionary principle: only rarely will there be scientific certainty in advance of impacts of an activity on species status, ecosystem services, or biodiversity. Yet the precautionary principle is a broad and slippery concept. Recent controversies around precaution reflect the ambiguities of the principle, and its implementation raises questions around equity, livelihoods and conservation strategies.

What level of risk is acceptable, and who decides? The precautionary principle can be used in an extreme form that takes little account of human needs. 'Better safe than sorry' becomes at the extreme 'when in doubt, don't', placing the burden of proof to demonstrate lack of harm on those whose actions raise threats. This may be an alluring argument when activities of powerful logging or mining companies are at issue, but it takes on a different flavour when people's basic livelihoods are at stake. Use

and trade of wild species underpins income, food security and health for much of the world, and particularly for the rural poor in developing countries. Adopting a zero-risk precautionary approach to potential harm to biodiversity can threaten livelihoods that are based on resource use, and ignore local priorities and values. Within CITES for instance, meeting this month in Bangkok, uncertainty over species status is frequently used as an argument for trade restrictions. Such arguments tend to be used by well-funded and influential Northern NGOs, and particularly for high-profile and charismatic species. Countering these arguments poses major challenges for countries or communities with few scientific or technical resources. Use of the precautionary principle in an extreme form is not only potentially inequitable but unrealistic. Risk can never be entirely eliminated: such an interpretation would preclude, for instance, virtually all high seas fisheries. If not to be pilloried as an unrealistic or inherently Northern principle of dubious practical relevance, the application of precaution needs to be tempered with pragmatism and sensitivity to socioeconomic context.

What are the real risks? In conservation, the precautionary principle is typically used to support protectionist models of conservation, or to support maintenance of the status quo against innovative management approaches. The cautious strategy is seen as that which restricts access to or utilization of wild species: strict protected areas, state control of wild resources, and prohibitions on utilization. Sustainable use, community-based natural resource management, or decentralization of control over resources are viewed as risky. To turn to CITES again as an example, the precautionary principle is almost invariably used in advocacy as an argument in favour of imposing or maintaining strict trade restrictions, and against sustainable use. Such an interpretation will sometimes be appropriate, but to automatically assume this ignores both the conservation benefits of utilization and the risks of strict protectionist approaches. The potential for utilization of wild species to yield incentives for conservation has been adequately, if inconsistently, demonstrated in recent years (Hutton & Leader-Williams, 2003). With loss of habitat to intensive uses such as agriculture, still the world's major threat to biodiversity, can such potential benefits be ignored?

Equating 'precautionary' with 'protectionist' ignores also the conservation risks associated with restrictive regulatory approaches, such as resentment and disenfranchisement of local people, and distrust of conservation organizations (Jepson *et al.*, 2001). Effective implementation of the precautionary principle needs to respond to a variety of different risks, from different sources, and over different time scales.

For almost 2 years, Fauna & Flora International (FFI) has been working with ResourceAfrica, IUCN and TRAFFIC in an international collaborative process to develop best-practice guidance for implementing the precautionary principle in biodiversity conservation and natural resource management. An IUCN Resolution at the First World Conservation Congress, in Amman in 1996, called for clarification of the meaning and operation of the precautionary principle, and a series of regional workshops and case studies since that date has focussed on these issues. At the third Congress this November in Bangkok, FFI, ResourceAfrica, and other partners from around the world are sponsoring a motion on the precautionary principle, which proposes guidance for the implementation of the principle within an adaptive management framework and highlights the need for attention to livelihood and socioeconomic impacts. The precautionary principle needs to be integrated carefully and coherently into environmental policy, or it risks disrepute as a negative, obstructionist hindrance to effective management. Better safe than sorry? Or who dares, wins?

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