

6. Conclusions

The United Nations Decade on Biodiversity was inaugurated in October 2010 at the 10th Conference of the Parties to the Convention on Biological Diversity, in Nagoya, Japan. Despite this and other efforts to reverse the trend, biodiversity loss continues unabated in almost every country. The authors of a major review of the impact of conservation action on vertebrates (Hoffman *et al.*, 2010) concluded that “current conservation efforts remain insufficient to offset the main drivers of biodiversity loss in these groups: agricultural expansion, logging, overexploitation, and invasive alien species.”

The same can be said for virtually all other wildlife groups. On Cat Ba Island, at the edge of the iconic UNESCO World Heritage site of Ha Long Bay in Viet Nam, an estimated 63 specimens of the endemic golden-headed langur, also known as the Cat Ba langur (*Trachypithecus poliocephalus poliocephalus*), hang onto survival by a thread, supported by a full-time German conservation project, efforts by staff at the Cat Ba National Park and Biosphere Reserve and by social taboos in many local communities that prevent them from harming the langur. The species remains under threat from poaching by outsiders and erosion of its habitat by tourist development. Similar stories can be told about thousands of other species around the world. Yet there is not enough time, money or dedicated people to give conservation attention to more than a fraction of the species currently at risk.

If one adds climate change into the mix and assumes no radical changes in policy and approach, we are spiralling towards a world that will be dramatically poorer in species and consequently less stable, less interesting and less rich in resources for ourselves. Climate change is likely to exacerbate all of the traditional threats to wildlife, as well as introducing new ones. This will make conservation actions even more difficult than in the past. Nevertheless, as the case studies in this paper indicate, target species and habitats *can* be saved given sufficient resources, political will and public support.

New resources are being promised for biodiversity conservation and there is a growing realization among decision-makers that biodiversity is not an optional bonus in human affairs, but the very foundation of our existence. Moreover, biodiversity conservation tailored to changing climatic conditions is not only necessary to help species and habitats to adapt to change, but such action is also likely to mitigate climate change. This is particularly true for ecosystems that sequester and store carbon, such as forests and peat swamps. Nevertheless, there has apparently been little sense of urgency.

There is, however, reason to hope. Recognition of the scale of the problem is coming, albeit at the very last minute, and governments and others are waking up to the need for action at a larger scale than ever before. Taking a series of

conceptual and practical steps can help start to reverse the current momentum towards loss.

RECOGNIZE AND PROMOTE THE FULL VALUE OF WILDLIFE, INCLUDING PRACTICAL, CULTURAL AND ETHICAL CONSIDERATIONS

In practice, decisions about natural resources are seldom made due to a single factor, but are based on the cumulative weight of many different considerations. The value of wildlife to human subsistence, its economic worth and the ecosystem benefits it provides are all important. Additional critical factors may also be far less tangible, such as the link between a particular species and a faith group, or the emotions it creates in some people. Recognizing the value of wildlife is a vital step in building the motivation needed for effective management and conservation.

STRESS THE KEY ROLE OF PROTECTED AREAS IN CONSERVING WILDLIFE IN THE FACE OF CLIMATE CHANGE

Although protected areas are by no means a perfect conservation tool, their existence and effective management remain the best chance for maintaining viable populations of many wildlife species. Protected areas located in climate refugia are particularly important; nevertheless, those in changing or vulnerable ecosystems can also play a critical role in conservation strategies. Protected areas should not be confined to private, community or state-owned and managed lands and waters. Indigenous peoples' and co-managed areas can all be equally or more effective (Dudley, 2008). To consolidate, secure and expand the world's protected areas network, as agreed by signatories to the Convention on Biological Diversity, it is also important that such areas are seen as more than simply wildlife management sites and their values to ecosystem services, culture, recreation, health and livelihoods are all fully appreciated and costed (Stolton and Dudley, 2010).

MAINSTREAM BIODIVERSITY CONSERVATION

Protected areas can never protect all wildlife, and, in some situations, well-managed lands can be more effective vehicles for wildlife conservation than badly managed or under-resourced protected areas. Forestry managers have a critical role to play by 1) ensuring that forest management is compatible with the survival of native wildlife; 2) protecting unmanaged edges and patches within the forest estate; 3) protecting watercourses; 4) controlling poaching and the bushmeat trade; and 5) halting incursions by invasive species. A vast array of tools, guidance and best practices for biodiversity conservation already exists. The twenty-year debate about the impacts of forest management on the environment has, to some extent, meant that this sector is better equipped than others to ensure the best possible mix of production and wildlife conservation, assuming the relevant policies and support structures are in place.

MAINTAIN RESEARCH AND MONITORING EFFORTS

There is still a great deal that we do not know about the impacts of climate change on wildlife. Most of the papers published on this issue have emerged only in the last decade; we are still at the very beginning of our understanding. Ensuring that there are sufficient resources, expertise and time to measure and understand what is happening and to develop comprehensive response strategies will greatly increase our chances of passing on a world still rich in wildlife species to future generations.

One thing is clear: biodiversity loss cannot be halted if we fail to stabilize the climate, and if we are to stabilize the climate as well as to move into the era of low-carbon living, we must protect the biosphere – the very life-support system of our planet.