



Species Conservation: An Endangered Environmental Priority

This discussion paper analyzes the history of species conservation as a global environmental priority, and its recent decline in the competitive marketplace of sustainability and conservation issues. It is argued that this decline is being manifested in a lack of funds being made available for species conservation efforts, and ultimately, a potential wave of extinctions. Consequently, this paper argues that it is not just individual species that are endangered, but species conservation as a whole.

The paper provides insights into the challenges facing species conservation as a discipline, and species conservationists as a community of committed individuals and organizations. It considers the potential impact for species and the environment as a result of both of these trends.

Based on this analysis, this discussion paper contains a series of recommendations to ensure that the importance of species conservation to global environmental sustainability is more widely recognized and that species conservationists are provided with the support they require from individuals, governments and non-government organizations, in order to continue their important work.

Finally, this paper concludes by announcing the establishment of the Mohamed bin Zayed Species Conservation Fund (www.mbzspeciesconservation.org), a dedicated philanthropic endowment fund that will provide targeted financial support to individual and coordinated species conservation initiatives. Through its core financial initiative, the fund seeks to address just one of the key challenges facing species conservation efforts, and hopes to stimulate a broader discussion and a resurgent interest in the importance of species conservation to global environmental sustainability.

Part 1: History of Species Conservation

“...when the last individual of a race of living things breathes no more, another Heaven and another Earth must pass before such a one can be again.”

William Beebe

Humankind has always valued the species with which it shares the planet, historically valuing them as food, timber, products, and as totems and symbols that have nurtured spiritual life and imagination. However, our ancestors did not lament the extinction of the wolf in Scotland or the lion in Arabia. When the last wild toromiro tree in the world was chopped down on Easter Island, it was chopped down for a fire, to keep a house warm; and only later was its apparent extinction lamented.

The sense of loss resulting from extinction is a relatively modern phenomenon. In many ways it is the result of a new understanding of the impact of our activities, and a greater sense of responsibility for that impact. The sense of responsibility for endangered species has a complex origin. It has developed out of academic studies, concern for lost resources, the love of a species engendered through hunting, and importantly, from the sense of loss all of us have experienced as individual landscapes have been emptied of majestic trees, bison or passenger pigeons.

That said, there is evidence of early eighteenth and nineteenth century champions for endangered species, pioneering the cause of species conservation long before its importance was widely recognized. And since then, there have been many milestones in the evolution of species conservation as a global environmental priority, and a domestic political concern.

These milestones include:

- Portuguese explorer Alexandre Rodrigues Ferreira noting the overexploitation of Amazon river turtles and other species in the Brazilian Amazon in the late 18th century
- American naturalist John Muir and photographer Ansell Adams whose writings and spectacular photographs stimulated the creation of America's protected area network
- 18th century botanists Philibert Commerson and Bernardin Saint-Pierre lamenting the loss of species on oceanic islands (Mauritius and St Helena)

- East India Company legislation to protect endangered trees on St Helena in the 18th century
- William Temple Hornaday who championed the cause of the American Bison 1880s- publishing *The Extermination of the American Bison*, a report to the Secretary of the Smithsonian which had originally been printed in the Smithsonian's annual report for 1887, advocating protection of what remained of the herds
- The Duke of Bedford championing the conservation of Pere David's Deer
- Founding of the Society for the Preservation of the Wild Fauna of the Empire (1903), now known as the FFI
- Banning of feather trade in the USA-Lacey Act (1900)
- ICBP first meeting Paris (1923)
- Endangered Species Act (USA, 1966)

Doubtless there are many others, and additional species conservation milestones certainly occurred in many parts of the world that are not mentioned above. This list is merely provided as a sample, to demonstrate that for a long time (more than a century), species conservation enjoyed a slow but growing momentum in terms of its importance and legal recognition.

Much of the modern conservation movement emerged in the post World War II period and grew out of the concerns of a handful of privileged Americans and Europeans who became concerned with the loss of some of the best known flagship species, such as the rhinos, the tigers, the elephants and the great apes. Many of these individuals were scientists and hunters. They stimulated the publication of several early reviews of species status. In 1948, they joined forces to create the International Union for Conservation of Nature and Natural Resources (IUCN) and in 1958 the Survival Service Commission, later renamed the Species Survival Commission (SSC) of the IUCN.

Harold Coolidge of the U.S. was the first chair of the SSC, and Sir Peter Scott became its best-known leader, who is largely credited with putting the commission on the global map. This body formed specialist groups on different species of animals and later plants and soon became the world's largest network of experts on species conservation and extinction avoidance. Furthermore, at the request of Sir Peter in 1978, the commission began the development of action plans, beginning with the Crocodile and Primate Specialist Groups and later blossoming into a major program of Action Plan development, in part supported by the Sir Peter Scott Fund created with a donation of \$1 million from the Sultan of Oman.

Today, the Species Survival Commission (SSC) is the largest of the six commissions of the IUCN, is a global knowledge network of nearly 8,000 volunteer members, including wildlife researchers/managers, government officials, zoo and botanic garden employees, and taxon-specific experts, separated into more than 120 Specialist Groups. Besides serving as the main source of advice to the IUCN and its members on the technical aspects of species conservation, the SSC "provides technical and scientific advice to governments, international environmental treaties, conservation organizations; publishes Action Plans, newsletters, policy guidelines; organizes workshops; implements on-ground conservation projects; and raises funds for and carries out research."

In 1964, IUCN produced the first Red Data Book, a detailed analysis of the status of those species considered to be of greatest risk. This early and very subjective analysis has since grown into the Red List Program, with detailed and objective scientific criteria. Today, the IUCN Red List of Threatened Species remains the authoritative source on information on endangered species, and is the baseline for measuring impact and developing action plans and specific projects for species conservation, and its production is one of the major roles of the SSC and the most visible product of the entire IUCN (Rodrigues et al., 2006). It lists threatened species assessed according to strict criteria (see <http://www.iucn.org/themes/ssc/redlists/RLcats2001booklet.html>), major threats, and trends towards recovery or decline. It is now updated on a yearly basis and falls under the remit of the Red List Programme based in Cambridge, UK.

In 1961, a small group of naturalists and conservationists created the World Wildlife Fund. WWF has since grown to an organization of 60 major offices and active projects in more than 100 countries.

In the 1970s and 1980s, a number of other organizations also took on international conservation mandates, notably the Nature Conservancy, which began an international program in 1978, the Wildlife Conservation Society, which greatly expanded its earlier work, and Conservation International, which was founded in 1987. What is more, and of even greater importance, has been the emergence of a plethora of national conservation organizations in developing countries, many of them strongly focused on species conservation. The movement towards creation of these national entities began mainly in the 1980s (although a handful were established earlier) and grew rapidly in the 1990s, continuing to the present day.

During this period, in which species conservation organizations proliferated across the world, many of the most successful species conservation projects were designed and implemented under this framework. Awareness of the importance of species conservation was growing, and the institutional architecture required to oversee and provide funding and support to individual projects became increasingly more mature.

However, proponents of species conservation would soon find themselves in a far more competitive marketplace for sustainability issues, and would witness a global reframing of environmental conservation that undermined its importance and place in the institutional discourse.

Part 2: Decline of Species Conservation

Until the 1970s conservation was dominated by an agenda of species and habitat preservation. However during the 1980s environmental conservation changed focus and started exploring the interrelationship between development and conservation. Several organizations moved away from the image of species conservation at that time to reflect a wider view of the conservation debate.

During the 1980's the context of sustainable development matured (World Conservation Strategy 1980) and Caring for the Earth (IUCN, UNEP and WWF, 1991), culminating in 1992 with the UN Conference on Environment and Development (the Rio Summit). At that time the conservation movement ceased to be the exclusive domain of scientists, naturalists, hunters and animal lovers and started to involve development specialists, economists, social science specialists and businesses. With the Millennium Development Goals (UNDP, 2000), poverty alleviation and sustainable development dominated debate in civil society and many large government aid agencies geared their funding to these priorities.

All of these changes in policy rightly recognized the imperative for poverty alleviation and sustainable development, and their undeniable connection with environmental outcomes. However, an unintended consequence of this rapid evolution in priorities has been the dramatic decline of species conservation in the dialogue of global sustainability.

This shift was also happening within many large conservation NGOs resulting in a change from tackling the direct threats to biodiversity to addressing the underlying mechanisms responsible for those threats (trade, globalization, subsidies). More recently the meager funds available globally for environmental protection are even further stressed with the realization of climate change as the major environmental threat of our time.

As a result, a large proportion of the limited funds recently made available for species conservation have been diverted from critical, hands-on initiatives in the field, to the equally important priorities of policy work and lobbying. Species conservation has effectively become a peripheral preoccupation, based on a hope that addressing the seemingly bigger environmental issues, or crises, will have a beneficial effect on species-status in the long-term. As a result the dedicated, detailed field based focus that is needed to conserve a species is increasingly being viewed as archaic and irrelevant. Often such work is seen as at best a luxury or at worst a distraction from "bigger" issues.

This trend is a serious cause for concern, and its impact on individual conservation workers, and individual species conservation projects, can be witnessed in many corners of the globe.

For example, budgets for field stations and protected area research facilities have declined dramatically. In many parts of the tropical world the forest guards and wardens, who often have an intimate understanding of the species in their custody, are chronically under funded and very poorly resourced. The provision of basic field equipment would dramatically improve their contribution to conservation, but alas, the support required to provide this basic equipment ceases to exist.

A worrying trend has started to emerge where some critically threatened species are being dismissed as beyond help and condemned to premature extinction. However, this undervalues the impact of focused management for such species. For example, work with endangered birds and plants in Mauritius and elsewhere shows that such members of the "living dead" can be recovered and reinstated as functioning members of their local biota. Without the determination by a few individuals, we would have lost the round island bottle palm, echo parakeet, Californian condor, Mountain gorilla and Arabian oryx. There is no telling how many other species could be brought back from the precipice of extinction with some relatively small, but targeted, contributions to species conservation efforts across the world.

However, time is of the essence, for both the species whose existence is endangered, and the conservationists who are committed to their protection. If we were to lose the passion and dedication of the species conservation community, we would be deprived of one of the world's most potent and agile weapons against extinction: the energy and applied knowledge of the experts in our field. The results would quickly become evident, in a sad and massive wave of extinctions.

Part 3: Recommendations

Based on the threats to species conservation, and species conservationists as a community outlined above, there is an urgent need to refocus conservation priorities on the species. There are a number of compelling reasons to do this. Perhaps the most important is the urgent need to secure and salvage species before they are lost for ever. Secondly, we have the opportunity to reinstate the excitement of discovery. There are still biological frontiers where new species are being discovered (for example the primates in Brazil, bovids in SE Asia, palms and lemurs in Madagascar, amphibians in the Caribbean, coral reef communities off Australia) and areas yet to be explored. We need to reinstate the attraction of species work to the next generation of conservationists, and reignite the “romance” of conservation.

Key to rebuilding species conservation is the need to maintain a close partnership between the professional conservation community and the amateur. In many parts of the world the amateur conservationist is a key player and a vital lobbying force for conservation.

As such, we propose a series of key actions to secure a future for species conservation:

- Facilitate the work of those dedicated species conservationists who are at the frontlines of efforts to prevent species extinctions
- Support of the work of organizations dedicated to species conservation
- Firmly establish species conservation as a fundamental component of protected area and landscape management—species conservation has frequently acted as a catalyst for habitat and ecosystem conservation initiatives, for example the Golden Lion Tamarin in Brazil and the Arabian Oryx in Arabia

- Establish and quantify the value of species as a substrate for sustainable development and poverty alleviation—the management and harvesting of species will continue to be a vital resource for millions of rural communities
- Train and develop the next generation of species conservationists within government agencies, NGO’s and academia
- Increase the status of species conservation work in key institutions around the world through support for such activities in research institutions
- Establish higher levels of public concern and political commitment for species conservation—after all species feed us, provide medicine, timber and textiles, our daily lives are supported by species both wild and domesticated
- Promote species conservation through the media and production of education and awareness materials.

Underpinning all of these individual initiatives, there is an urgent need to re-stimulate a broad discussion on the subject of species conservation and biodiversity, and to better integrate individual environmental initiatives addressing individual issues such as species conservation, climate change, habitat destruction and unsustainable development. Ultimately, the conservation community must end the era of promoting one environmental cause at the expense of another, because if one of these causes (or any of the others competing for attention) fails, all of them are far less likely to succeed. Just like the species of a complex ecosystem, our individual conservation efforts are more interdependent than we tend to recognize, and we will all only be as strong as our weakest links.

Part 4: The Mohamed bin Zayed Species Conservation Fund

Recognizing the crisis facing species conservation, His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, is establishing a dedicated fund for the provision of support to individual and coordinated species conservation initiatives.

To retain the species and habitats we treasure, and indeed need, the Mohammed bin Zayed Species Conservation Fund will seek to support the on-the-ground champions of species conservation; the individuals in the villages, field stations, laboratories and homes, that are dedicated to conserving their local (and the world's global) threatened species.

The fund will help their work through focused financial support and will nurture the next generation of species conservationists by making the best conservation practices available to them using innovative methods of communication. Through additional events and activities, the fund will also seek to recognize individual leaders in the field of species conservation whose passion and commitment often goes unnoticed, and in doing so, to inspire others with an interest in the field of conservation.

It is proposed that the Mohamed bin Zayed Species Conservation Fund will be established with an initial endowment of 25,000,000 (Twenty Five Million Euros), and will commence operation in January 2009.

It is expected that the fund's focus will be global, and eligibility for grants will extend to all plant and animal species conservation efforts, without discrimination on the basis of region or selected species. The fund will truly be open to conservationists around the world, with an interest in an infinite number of species, subject to the evaluation of an independent selection committee.

The final details of how the fund will be governed, how the grant application process will be carried out, and the potential evaluation criteria for successful applications, are all still being developed in consultation with species conservation experts from across the world. The fund is committed to complete transparency in all of its operations, and will make all relevant policies and guidelines available to the public at the time of its commencement of operations.

Further information on the fund's activities, including information on how to apply for grants and other support, will be made available at www.mbzspeciesconservation.org and through conservation networks in January 2009.

References

Cecilia, M., Kierulff, M. and Rylands, A.B. 2003. Census and distribution of the golden lion tamarin (*Leontopithecus rosalia*). *American Journal of Primatology* 59 (1): 29-44.

IUCN, UNEP, and WWF. 1991. *Caring for the Earth: A strategy for sustainable living*. Gland, Switzerland.

IUCN, UNEP and WWF .1980. *World Conservation Strategy: Living Resource Conservation for Sustainable Development*. International Union for Conservation of Nature and Natural Resources, Gland, Switzerland.

Jay R, M., Liu, M.C., Neilson, R.P., Hansen, L, and Hannah, L. 2008. Global warming and extinctions of endemic species from biodiversity hotspots. *Conservation Biology* 20 (2): 538-548.

Pimm, S. L., G. J. Russell, J. L. Gittleman, and T. M. Brooks. 1995. The future of biodiversity. *Science* 269:347-350.

Miller R., et al. 2007. National threatened species listing based on IUCN Criteria and Regional Guidelines: current status and future perspectives. *Conservation Biology* 21 (3): 684-696.

Rodrigues, A.S.L. et al. 2006. The value of the IUCN Red List for conservation. *Trends in Ecology & Evolution* 21(2): 71-76.

Safford, R.J. and Jones, G.C. 1998. Strategies for land bird conservation on Mauritius.

Conservation Biology 12 (1):169-176.

UNDP. 2000. <http://www.un.org/millennium/declaration/ares552e.pdf>