Building a Future for Wildlife: The World Zoo and Aquarium Conservation Strategy

Introduction

> *'Today more and more of us live in cities and lose any real connection with wild animals and plants.' (David Attenborough, 2004)*

There are two quite simple reasons for having a World Zoo and Aquarium Conservation Strategy (WZACS). Zoo professionals worldwide would benefit from a cohesive document that provides a common set of goals. At the same time many people who are active in the fields of environmentalism and conservation, or who are merely concerned observers, with worries and questions about conservation and animal welfare, want to know whether they should support zoos. Thus a WZACS has at least to provide answers to fundamental questions whilst setting out best practice for the zoos and aquariums of the world. Why do zoos and aquariums exist? What is the unifying philosophy and purpose? What is their vision and relevance in a world faced with unprecedented challenges as the needs of humans and animals and plants seem to compete? How can they have a measurable influence on conservation in the wild? In short, what is the benefit of having zoos and aquariums and what successes can they already point to? The world zoo and aquarium community knows that it has a powerful part to play in achieving global sustainability. In answering these questions zoos must inspire people who visit zoos to become part of the same movement.

The first World Zoo Conservation Strategy (WZCS) was published over 10 years ago and was rooted in the IUCN World Conservation Strategy, 'Caring for the Earth', which in turn related to the United Nations Conference on Environment and Development acceptance of the Convention on Biological Diversity (CBD) at Rio de Janeiro in 1992. The WZCS has proved extremely valuable in informing readers of what zoos can actually do, and in establishing a basis of understanding and unified direction.

This second document, the WZACS, defines and explains the strategic vision of the members of the World Association of Zoos and Aquariums (WAZA) in support of its overarching conservation mission. This foundation document sets out policies and standards to be reached under headings relating to the key functions and activities of all zoos and aquariums, however diverse, and focuses on the long-term demonstrable achievement of conservation. It is intended to provide a future blueprint for urgent local and collective action by zoos and aquariums worldwide through directed policies and a series of accompanying manuals containing more detailed procedures and examples of good practice. To be successful the WZACS must shape strategic thinking and guide hands-on practical work by WAZA members and, more widely, promote a sense of common purpose, leadership and partnership with fellow conservationists and environmentalists (Box 1). Publication of this second Strategy follows the World Summit on Sustainable Development in Johannesburg in 2002 and it reflects the many changes in the external operating environment of all conservation organizations and also the shifts in the intrinsic, collective principles and priorities of zoos and aquariums throughout the world

Box 1
What is WAZA?

WAZA'S MISSION AND OBJECTIVES

WAZA, the World Association of Zoos and Aquariums, is a global organization which unifies the principles and practices of over 1,000 zoos and aquariums, which receive over 600 million visitors annually, and sets standards for increasing achievement of conservation.

The objectives of WAZA are to:
1. promote cooperation between zoological gardens and aquariums with regard to the conservation, management and breeding of animals in their care;

2. promote and coordinate cooperation between national and national and regional associations and their constituents;

3. promote environmental education, wildlife conservation and environmental research;

4. assist in representing zoological gardens and aquariums in other international organizations or assemblies;

5. promote cooperation with other conservation organizations;

6. promote and use the highest standards of animal welfare and husbandry.

Environmental threats and biodiversity loss

Zoos and aquariums now operate in a world of accelerating environmental threats and reduction in biodiversity. In the last ten years climatic changes, over-exploitation of natural resources, increases in the negative impact of invasive species and overall environmental degradation have all continued. The value and vulnerability of species and ecosystems and their influence on humans have been poorly reflected in the media; public perception has been focused on crises of conflict, drought, famine and migration rather than root causes linked to the unsustainable use of natural resources. Similarly human development and demands on sustainability, and concerns about globalisation and corporatism, dominate international political agendas.

Underlying everything is the continuing essential fact that there are too many human beings consuming far too great a proportion of the Earth's natural resources to allow non-human species a share that secures their future. The predicted increase in human population and the pronounced inequality in distribution of wealth among and within nations, are two of the major problems facing humankind and, directly and indirectly, the conservation of species and habitats.

'At current levels of consumption of natural resources humanity needs three earth-sized planets to survive' (E. O. Wilson 2002) (Box 2).

The outlook is not wholly negative. The Convention on Biological Diversity (CBD) (Box 3) has generated a huge number of regional and national initiatives often supported by legislation. National Biodiversity Strategies and Biodiversity Action Plans (BAPs) have been developed and operate down to local levels with community and stakeholder participation. Environmental regulations are being strengthened in many countries and corporations held more accountable for their activities. There are favourable trends towards integrated efforts by international, governmental and non-governmental agencies, based on objective science and inevitably requiring the use of multi-disciplinary teams. There is a greater understanding and acceptance of the serious threats to the environment, biodiversity and ultimately humanity itself. Efforts have been made to focus limited conservation resources through the identification of biodiversity 'hot-spots'. These 'hotspots' also coincide with areas of greatest human development need and point towards an additional focus on sustainable use of the environment.

Technological advances are likely to continue and may have both positive and negative effects. Continuing benefits will arise from the global information technology revolution in terms of sharing information and exerting influence on political agendas. The potential is there for technological solutions to all aspects of energy production, waste management and provision of food and water to people. The economic benefits of sustainable management of natural resources for the benefit of local people, and of the maintenance of environmental services to lessen the effects of flooding, erosion, silting-up, pollution and other problems are clear, but need to be automatically taken into account when decisions are made.

The role of zoos and aquariums

In many countries historical and social perceptions of zoos as entertainment menageries still persist, and in some cases are justified. A sector frequently hostile to zoos is the growing animal-rights and animal-welfare lobby, which emphasizes the interests of individual animals, rather than the conservation of species or eco-systems; further opposition comes from that part of the conservation movement which doubts the justification for removing animals from the wild. If zoos and aquariums are to play an active part in conservation they must face opposition head-on, by understanding criticisms, adapting where necessary and explaining their actions in a way that gains public support. They must also make clear to the general public that their mission is one of conservation, which is conducted in tandem with the highest welfare standards. Within these wider contexts and alongside major trends, zoos and aquariums have to achieve and promote a clearer view of their unique role and the contribution they can make as part of a global conservation coalition. More coordination of activities and focus of resources towards high priorities need to be coupled with a wider application of good management practices, in particular continuous evaluation of the impact of key projects (Boxes 4 and 5). Individual zoos and aquariums, and the zoo community, are pre-eminently suited to emphasize the global aspects of conservation. Scientific knowledge of the interconnections of all life systems and habitats has greatly increased in the last few years and it is becoming increasingly evident that conservation is not only a matter of saving species and habitats but, to be successful, also needs cooperation and a global approach. Zoos and aquariums, because they care for, and have expertise in collections of living animals from around the world, and because of their global network, can play a major role in promoting conservation cooperation on a global scale.

Box 2

Illustrating Global Environment Trends

1. Over-exploitation of natural resources, deforestation, over-fishing, expansion of farmland/habitat degradation, pollution, shrinkage and fragmentation.

2. Climate change, with attendant global warming, floods, droughts and fires.

3. Introduction of invasive species, competition, predation, transmission of disease and cross-breeding.

4. Reduced biosecurity for humans with increased number of emerging diseases, such as AIDS, Ebola, SARS.

Box 3

The Convention on Biological Diversity (CBD) Article 9 – *ex situ* conservation

Each Contracting Party shall, as far as possible and as appropriate, and predominantly for the purpose of complementing *in situ* measures:

(a) Adopt measures for the *ex situ* conservation of components of biological diversity, preferably in the country of origin of such components;

(b) Establish and maintain facilities for *ex situ* conservation of and research on plants, animals and micro-organisms, preferably in the country of origin of genetic resources;

(c) Adopt measures for the recovery and rehabilitation of threatened species and for their reintroduction into their natural habitats under appropriate conditions;

(d) Regulate and manage collection of biological resources from natural habitats for *ex situ* conservation purposes so as not to threaten ecosystems and *in situ* populations of species, except where special temporary *ex situ* measures are required under subparagraph (c) above; and

(e) Cooperate in providing financial and other support for *ex situ* conservation outlines in subparagraphs (a) to (d) above and in the establishment and main-tenance of *ex situ* conservation facilities in developing countries.

Box 4

How can we tell if conservation efforts of zoos and aquariums are successful?

QUALITATIVE MEASURES THAT INDICATE SUCCESSFUL ACHIEVEMENT OF CONSERVATION

1. Increasingly secure populations of species in the wild.

2. Increasing areas/volumes of secure, sustainable habitat.

3. Greater knowledge and application of species biology, ecology and conservation science.

4. More political awareness of environmental issues with better environmentally-friendly decision making and increasingly higher conservation priorities.

5. Increasing capacity in habitat areas through training, education and public awareness.

Only zoos, aquariums and botanic gardens can operate across the whole spectrum of conservation activities, from *ex situ* breeding of threatened species, research, public education, training and influencing and advocacy, through to *in situ* support of species, populations and their habitats; they uniquely have a massive 'captive audience' of visitors whose knowledge, understanding, attitude, behaviour and involvement can all be positively influenced and harnessed. They have a huge resource of technical skills and dedicated people. As habitats shrink and collection-managed populations grow, the definition of what is a zoo, what is a botanic garden, what is a reserve, and who is a collection-based conservationist, who is a field-based conservationist, will inevitably blur. Zoos, aquariums and botanic gardens have an opportunity to establish them-selves as models of '*integrated conservation'* and the means of achieving this in a collective fashion for zoos and aquariums is through the WZACS. Other bodies, such as conservation bodies and governmental departments, can use the WZACS and the integrated conservation approach, and this will bring benefits to all concerned with conservation.

Perhaps most important, not only do zoos and aquariums have the ability to become models of '*integrated conservation'*, but the fact is, they must. They must change; to be useful, to be proactive, and to be radical in their approach. The world around us has changed immeasurably in the last 10 years, and so must zoos and aquariums and their staff. They can be conservators, educators, scientists and powerful tools for political change if they wish to be. They therefore have a choice – to forge a new identity and purpose or to be left behind by the conservation movement. The WZACS gives zoos and aquariums the map with which to begin this journey, and although some may be further along the way than others, it is time for them all to change from a walk to a run (Box 6).

Box 5

Definition of Conservation

Conservation is the securing of long-term populations of species in natural ecosystems and habitats wherever possible.

Although the definitions of conservation are many and varied it is crucial to have a common and straightforward definition that everyone understands and uses. The underlined words "natural ecosystems and habitats" signify that no amount of worthy endeavour is of ultimate value if it doesn't translate into animals and plants surviving in the wild. In addition these wild populations must be able to develop and evolve. From this it follows that we must continually assess and review how successful zoo and aquarium supported conservation programmes are.

Box 6

The Role and Functions that Characterize a Future Ideal for All Zoos and Aquariums

1. Increasingly commit to conservation in the wild as the primary goal and focus.

2. Utilize the unique resource available to advance research aims both *in* and *ex situ*.

3. Develop outstanding education programmes that teach proactive environmental concerns locally and globally.

4. Develop innovative exhibits to excite and inspire the visiting public whilst continually reviewing and improving the welfare of captive animals.

5. Use the collective power of global or regional associations to inform and influence political change relating to the environment.

6. Operate zoos to the highest ethical business standards to allow the generation of funds for conservation action.

7. At all times advocate the role of zoos to the general public, directly confronting issues and being steadfast in the pursuit of a conservation mission.

8. Increase inter-institutional cooperation to enhance the use of limited resources and act globally.

9. Adopt and utilize new technological advances for enhanced communication, research and education.

10. Promote organizational structures that draw upon strengths at all levels and adopt team approaches.

11. Value, recruit, further train, and retain staff at all levels.