Third Generation Conservation:
Accommodating Wildlife in Our Daily Lives

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Abstract

Earlier forms of conservation such as protection of wilderness areas, restoration of damaged ecosystems and ex situ species management have protected and enhanced wildlife populations in various degrees. But as evermore land is converted to rural, suburban and urban development, an additional, more inclusive form of action is needed. This "third generation" conservation focuses on integration of sustainable wildlife populations into the design of our homes, parks and commercial developments. While many such initiatives are well under way, zoos are well placed to become centres for "living with wildlife". This paper discusses examples being developed nationally and internationally and argues for an integrated leadership role for zoos in the creation of sustainable and shared habitats for animals, plants and people.

Figure 1 Photo NASA

"Every cubic centimetre of the biosphere has already been altered by the metabolism of the dominant animals; that is the economy of Homo sapiens."

Paul Erhlich[1]

1. Introduction

We now face the triple perfect storms of global climate change, the sustainable energy revolution and the international financial crisis. Our world and our region are changing as never before in our lifetimes. How should these changes affect our overall conservation strategy? And how can zoos best support sustainable change?

2. First Generation Conservation

"Conservation: The act of preserving, guarding or protecting" Webster's Dictionary[2]

In the Nineteenth Century with the beginning of the conservation movement, governments, supported by citizen activists, began to protect and conserve wild and scenic areas. Many generations later, we now marvel at places like Yellowstone, Serengeti and Daintree. But while setting aside vast tracts of lands (including some species of plants and animals and excluding others) has been an

Figure 2 Yosemite National Park
Photo J. Coe

indispensable foundation of today's global conservation strategy, it has some limitations.

- Our entire planet is affected by human activity and the triple threats mentioned above. National parks and wilderness preserves are not protected from those external factors.
- Management strategies for many protected "natural habitats" tend to favour an unchanging, steady-state view of ecosystems that are in fact constantly evolving and changing. This often results in a cultural vision of "nature" that is in fact unnatural and unsustainable in ecological terms.
- The concept of "wilderness" underlying the national parks movement is a Western philosophical construct not an ecological principle. It can be argued this cultural distinction between "man" and "nature," and between "artificial" and "natural" has blinded us from the reality that "nature," defined as the result of natural selection and ecological process, includes humans.

Figure 2 King Parrot greeted us when we moved in and trained us to feed him.
Photo J. Coe

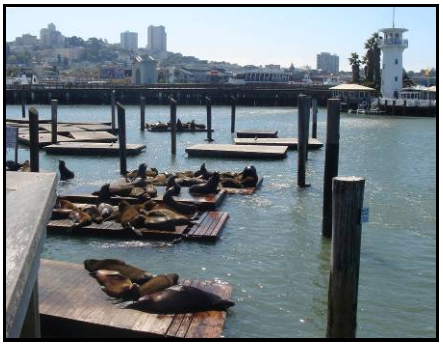

Figure 4 Sea lions took over San Francisco's Pier 39, creating a tourist attraction.
Photo J. Coe

"Nature is not a separate domain hiding away in the wilderness. Animals and plants live all around us and exploit us when they can." T. Low[3]

Speaking ecologically the skin mites attached to my eyebrows and the exotic weeds in my driveway are as "natural" as the platypus in nearby creeks.

- While a few zoos have made significant contributions to establishment and support of national, regional and local nature parks and to resident protected species, this is not an area that most zoos have been able to take leadership roles.

3. Second Generation Conservation — Restoration

"Restoration: reinstatement; …brining back to a former… state..."

Webster's Dictionary[4]

Figure 5 Healesville Sanctuary wetland.
Photo J. Coe

While preservation continues to provide protection to some scenic areas and protected species, a second generation of conservation seeks to restore damaged ecosystems. This global movement has done much good and has excellent support in Australia where bush plantings in neat green plastic protective wraps spring up all around us. The massive "brownfield" restoration project integrated with the Sydney

Olympia Parklands complex is an excellent example of large scale wetland restoration.

Native fauna parks are indeed active in this second generation of conservation but again, main stream zoos are largely not involved with this work.

4. Third Generation Conservation — Accommodation

"Accommodation: to fit, adapt or make suitable; to reconcile; to come to adjustment with."
Webster's Dictionary[5]

A few years ago I asked myself and others "What is the next major direction in conservation?" Is it proceeding around us, unrecognised? Of course ex situ breeding and animal management is a major zoo conservation activity. But this is usually thought of as an insurance policy against extinction in the wild (protected or not) with the subtext of eventual re-introduction. This form of conservation bridges both the preservation and restoration movements.

It also introduces a new model for conservation action; accommodation. We are accommodating both exotic and indigenous wildlife in our urban zoos and aquariums and in regional safari and nature parks with a realistic long-term expectation that we will always do so.

In the past zoo animals and zoo visitors inhabited very different adjacent worlds. Immersion exhibits seek to camouflage this separation in order to create a compelling semblance of the wild in the urban zoo for the benefit of both animals and guests.[6]

Some zoos are taking this accommodation even further, blurring the distinction between people space and animal space. One zoo is considering interconnecting most animal facilities with a network of raceways, many crossing or paralleling public paths, to give animals controlled access to most of the zoo grounds. This accommodation will greatly increase behavioural choices and opportunities for zoo animals.

Figure 6 Providing food, water and nest boxes is not uncommon in suburban gardens. Zoos can help teach people to do it correctly. Photo J. Coe

Figure 7 Free-ranging birds like kookaburras could easily be incorporated into the zoo experience. Photo J. Coe

In the Unzoo Alternative[7] I suggested further forms of accommodation and integration such as attracting free-ranging species such as birds, possums and lizards as many Australian zoos do. In fact millions of people are far ahead of zoos and accommodate urban and regional wildlife with bird feeders, baths and nest boxes and with wildlife-friendly plantings. So why is this accommodation an important direction for zoos?

- Because zoos are well positioned to educate their vast public about sustainable and effective ways to support local wildlife. This is best done through demonstrations on zoo grounds and can be expanded to include community outreach programs. There may even be sponsorships and partnership programs available with local merchants and other businesses as well as with government wildlife departments and private wildlife rescuers.

- Highly visible free-range wildlife has a proven appeal to visitors.
- Helping to support wildlife is, or should be, part of a zoo's core business.

5. Backward Public Policy

Many well-meaning wildlife regulations attempt to maintain arbitrary barriers between people and wildlife. In doing so they are preventing some of the most powerful opportunities for bonding present and future populations to "nature". Instead of seeing wildlife encounters as problems to be prevented, we all should see such encounters as unique opportunities to instil both love and understanding necessary for the long-term survival of both people and wild creature with whom we should share habitats. Zoos can help to reverse these backwards polices by demonstrating well-reasoned and effective alternatives.

Figure 8 People and birds exploit each other, creating vital and lasting bonds with "nature." Photo M. Large

6. Conditioning Free-Ranging Wildlife

Currumbin Wildlife Sanctuary has conditioned a free-ranging water dragon to station in a prominent location near their lungfish exhibit. On cue, it dives into the waterfall and swims across the pool. Meal worms are the reward. The water dragon has thus exploited zoo staff to help it prosper in its new shared habitat. Zoo staff accept the responsibility; the same long-term commitment to the water dragon's well being that they provide animals in their collection. Similar conditioning could be undertaken with free-ranging lyrebirds, platypus, honeyeaters and kookaburra for the benefit of all. And having developed the knowledge and skills to carry out such programs, zoos could teach their visitor sustainable ways to transfer these practices to their homes and gardens.

Figure 9 Joshua Bassett has conditioned this free-ranging water dragon.
Photo Currumbin Wildlife Sanctuary

7. Deep Green Design

"Ultimately, the goal of sustainable landscapes" [and architecture] *"…is the transformation of culture – the taming of technology, the emergence of a new environmental ethic, a new measure of life quality, and a substantially broadened sense of community including not only humans, but all life."* R. Thayer[8]

Another way to accommodate nature in our zoos is by designing multi-purpose facilities purpose-built to accommodate plants and animals. Nature can prosper on our roofs, walls, inside buildings and in service areas as well as in exhibits. Green roofs are being built in Australian zoos,

such as the new entry building at Adelaide Zoo and a living wall has been built by Patrick Blanc at Melbourne Central. What if these living roofs and walls were specifically designed to accommodate wildlife, either free-ranging or from the zoo's collections? What if new exhibits and support structures were designed with purpose-built, serviceable nest cavities for free-ranging species, some with public viewing as is done at the Phillip Island Penguin Parade?

Figure 10 The Tundra Interpretive Center at Woodland Park Zoo, USA. Photo J. Coe

Figure 11 Proposed new entry, Adelaide Zoo. Photo HASSELL

In rural nature parks new buildings could be designed as semi-buried, fire proof structures with living walls and roofs supporting wildlife friendly indigenous plants. Such buildings could harvest water, treat sewage, capture solar energy, fix carbon, produce oxygen, and expand habitat for people, plants and animals.

Human development need not be a contest with winners (people) and losers (nature). By thoughtfully planning, both new developments and renovations can be built with overlapping, integrated and ecologically based accommodations expanding opportunities for both people and wildlife. These deep green structures could become the most visible examples of Stage Three Conservation in cities, suburbs and rural areas. ARAZPA zoos could lead the way, living their mission not only to support, but actually increase bio-diversity throughout their parks for all to see and enjoy.

These integrated accom-modations for people, plants and animals would respond to the triple global threat by adapting to climate change, epitomizing sustainable living and may even be funded as demonstration projects because of their high visibility and educational potential. This would become a triple win for ARAZPA members.

Figure 12 Living with wildlife Photo J. Coe

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