

The Karori Wildlife Sanctuary and Community Inspired Conservation

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ABSTRACT

The development of the Karori Wildlife Sanctuary in New Zealand was a response to the increasing separation between the public and their natural heritage. As the activities of conservation agencies withdrew to increasingly remote sites New Zealanders began to lose touch with the plants and animals that a few generations earlier were a part of their daily world. As a result of this separation it was believed there was also a loss of understanding and commitment to environmental issues.

The Karori Wildlife Sanctuary is a community initiative led by a charitable community trust. It has sought to bring the natural world back into our capital city. The focus of the trust has been on community involvement and through participation, the development of a greater awareness, understanding and commitment to conservation.

Development of a unique fence and the removal of all species of invasive predators from the 250-hectare Sanctuary has allowed the Trust to return many rare and endangered species to Wellington. Through a wide range of partnerships with local and central government, businesses and community groups, the Trust has created a range of opportunities for research, education and community participation.

The project has had to be a major innovator; developing new technologies and attempting tasks many believed were impossible. With determination and a commitment to best practice business models it has achieved many of its goals and is now a multi-million dollar conservation business making a significant contribution to conservation of New Zealand's flora and fauna.

1 INTRODUCTION

Education, and perhaps more importantly, participation, are vital elements in the development of a strong environmental ethic in a community. This ethic is essential if the political will and financial commitment to conservation is to be sustained in societies increasingly driven by economic growth and financial return.

In New Zealand a growing number of projects offering these two ingredients, education and participation, have been community-inspired. "Care groups" is one of the terms used to describe relatively informal groups of highly motivated volunteers who "just want to get out there and do something worthwhile". While there have always been conservation groups and enthusiastic individuals active in the outdoors, the last decade has seen an extraordinary increase in the number of these groups and a broadening of their membership beyond the traditional "greenie". Most of these groups have a strong neighbourhood focus and many encourage the participation of schools and schoolchildren.

Several community inspired projects have, however, moved out of the backyard, forging partnerships with government and private business to develop projects of national and even international relevance. One of these projects is the Karori Wildlife Sanctuary, a multi-million dollar urban sanctuary being developed in Wellington, New Zealand's capital city.

2 BACKGROUND

New Zealand has a conservation imperative with its roots extending into the geological past. During the late Cretaceous some 80 million years ago New Zealand separated from the super-continent Gondwanaland. It carried with it a raft of plants and animals which, over the centuries, evolved into a great diversity of unique forms. However, many plant and animal groups that are widespread elsewhere in the world were absent at the time of separation. The most significant of these were mammals. As a result birds became the dominant terrestrial fauna in New Zealand. Some birds became the top predators; others lost their ability to fly and adopted roles on the forest floor as avian equivalents of rodents, goats, and deer.

After its separation the early New Zealand landmass underwent catastrophic geological upheavals including periodic drowning, phases of mountain building and glacial periods where much of the landmass was scraped clean by ice. These events caused dramatic speciation in some groups but also led to periods of mass extinction, and ultimately resulted in a biota that was extremely conservative.

New Zealand was the last large land area on earth to be discovered by humans. The settlers, and the exotic species they brought with them, had a dramatic impact on our indigenous plants and animals. Browsing animals such as goats, rabbits, deer and possum devastated a flora that had evolved to tolerate browsing by animals with beaks. And New Zealand's indigenous wildlife which had only known predation by birds, found itself threatened by a wide range of extremely effective introduced predators such as cats, rats, stoats and weasels.

For much of the 20th century the conservation movement in New Zealand struggled with these issues. By the 1980's New Zealand was leading the world in extinctions and did not have any real answer to the problems being faced.

3 A CENTURY OF INTERVENTION

1980 found much of the effort of our conservation agencies focused on small "island lifeboats" along the New Zealand coastline. It was on these islands that many species of endangered native wildlife found a final refuge. Yet many of these islands still had some of the pest species found on the New Zealand mainland. This often limited the range of native species that could be successfully transferred to them, and on some islands was leading to the steady decline and inevitable extinction of some of the rare species that survived on them.

In 1980, Kapiti Island, one of the most important nature reserves in New Zealand, became the focus for a significant conservation initiative. Kapiti was free from most pests and predators but did have the possum, a forest browser introduced from Australia for the fur trade in 1890. The possum was a voracious browser that feed on flowers, fruit and foliage, stripping and killing trees and preventing regeneration of a number of species. Kapiti Island was facing the collapse of its forests, the extinction's of a number of significant plant species and associated impacts on wildlife reliant on these habitats.

In 1980 some of those involved in ongoing possum control began discussing the possibility of eradication. It would be a huge task. 2,000 hectares of steep and rugged island hiding 22,000 possums in its forests and on its cliffs. In 1982 cautious approval for this operation was given and for a further four years a determined team of trappers struggled with this daunting task. It faced regular threats of cancellation due to its ongoing cost and the conviction of many in Government that "it could not be done". Yet the eradication team persevered and in 1986 the last possum was removed (Brown 2004).

This was a huge conservation milestone for New Zealand and a turning point for the industry. Within a year eradication's had been successfully completed on eight more islands. Attention turned to rats, stoats, goats, rabbits, mice and to larger and larger islands. By 2002, over 60 island eradication operations had been successfully undertaken and 40 more were in progress.

With our special islands now safe it was time to consider the limitations of an island focused conservation strategy. Only a handful of our offshore islands are larger than 1,000 hectares. Most are very small, ranging from a few hectares to a few hundred of hectares. Many species can not sustain viable long-term populations on these islands without continuous intervention. In addition our islands are almost entirely dominated by coastal and lowland forest habitat. Many critical New Zealand habitats together with their unique suite of species are not represented.

It was clear that any long-term conservation strategy would have to involve restoration of mainland sites. Could the technology developed for eradication on islands be applied to remote sites on the mainland of New Zealand?

In the early 1990's the first attempts to create "Mainland Islands" were made by the Department of Conservation. These sites were typically remnants of native forest in a "sea" of modified farmland. At the same time the Karori Reservoir a hidden valley in Wellington, New Zealand's Capital City, was re-discovered by local conservation NPO's (Not for profit organisations). This valley had been closed to the public for 100 years as water supply but was no longer needed for this use. The valley with its two lakes, young regenerating forests and lack of human interference had huge potential for restoration.

4 A CITY SANCTUARY

In 1993 a proposal to turn the Karori Reservoir valley into a mainland island was presented to local Councils. It would be a world first. A 250-hectare urban sanctuary surrounded by a specially designed, 9-kilometre fence capable of excluding 14 species of predator and pest. Within the fence the valley ecosystem would be restored, missing flora and fauna returned and facilities built so that the public could visit.

The development of the Sanctuary concept was a response by the project founders to another limitation they had identified with a conservation focus on offshore islands. Their concern was related to the isolation of the conservation effort from the average New Zealander. Our island sanctuaries were usually difficult to visit and many were closed to the public. This made the triumphs of the previous twenty years inaccessible to most people. The public and decision-makers only had access to this work through a disinterested media.

The Karori Sanctuary was seen as an opportunity to bring the benefits of our conservation successes into the capital city, the seat of Government and home of our decision-makers. The project mission was the re-education of the community about New Zealand's natural heritage, providing easy access to our natural heritage, and the active participation of the public in the development and management of the site. It was felt that through active participation there would also be a sense of ownership and pride in these achievements and a reconnection with the plants and animals missing for so long from our towns and cities.

The target group for this project was not the traditional conservationist who was already committed to these goals. Instead it was aimed at the average New Zealander, someone who would not normally have the opportunity to become involved in conservation and yet could be hugely influential if they could be captured by the vision.

5 ACHEIVABLE MILESTONES

In the early days of the project the Sanctuary was seen as a somewhat unrealistic dream by many. The proposed site for the Karori Sanctuary was difficult with hundreds of neighbours and many land tenure problems. The project was also going to be very expensive. A total budget of over \$8 million dollars would be needed, a huge sum for a private conservation project in New Zealand. And it required the fencing of a large area of public land, the support of the local council which was the landowner and support by a majority of the local community.

Development of the Sanctuary would involve a number of world firsts. The predator fence was unique. It had to exclude all introduced mammalian pests and predators from cattle and deer to rats

and mice, 14 species in total. No known fence was capable of this and a three-year research project was necessary for its design.

With completion of the fence the Trust would then need to eradicate fourteen pest species from within the Sanctuary and then monitor and maintain a pest free status for the life of the project. A multi-species eradication of this complexity had never been achieved before and several species which we were being targeting had not previously been involved in an eradication operation. New techniques had to be developed.

The restoration of the valley would require translocations of indigenous birds, insects, lizards and frogs into a valley surrounded by a major city. Several of the species intended to return to the valley had never been successfully transferred before, and none had been transferred to an urban environment. This success of this stage would rely upon careful integration between research and management.

With all of these difficulties, unknowns, and risks there were many people in the local community and local government who believed the project would fail and some groups actively opposed the early development of the project. The Trust knew it would face an unprecedented level of public scrutiny and took a very pro-active approach to communication with the public, presenting all the issues, risks, mistakes and successes with equal clarity. It also sought early involvement of groups wherever possible so that they could be properly informed and to prevent misinformation.

The Trust also saw that a very high level of internal management would be needed to see the project through the many difficulties it would inevitably face. It adopted best practice business models for its planning and financial management. A comprehensive hierarchy of plans from strategic and annual plans to operational plans, project plans and risk assessments, were prepared, monitored, reviewed and where necessary, independently audited.

Early on the Sanctuary Trust identified the visible achievement of annual milestones as a critical success factor. Each year a challenging but achievable milestone was identified and the Trust focused its efforts on making it happen. This was important both for public credibility and to prevent the project from losing momentum. The achievement of each year's milestone was widely publicised to our stakeholders and the local community and celebrated within the organisation.

Looking back over the twelve years of project so far, the evolution of the Sanctuary can be seen in these milestones. They were:

- 1992 - Define the vision and develop the Sanctuary proposal
- 1993 - Complete a feasibility assessment
- 1994 - Community consultation and council endorsement
- 1995 - Develop a business plan and form a Trust
- 1996 - Prepare a management plan and get council approval.
- 1997 - Obtain resource consent
- 1998 - Raise sufficient funds to commence fence construction
- 1999 - Build the predator fence within budget and on time
- 2000 - Achieve pest eradication and commence restoration
- 2001 - Complete development of sufficient visitor facilities to allow a public opening.
- 2001/2002 - Summer. Open to the public.

6 PARTNERSHIPS

In 1995 after two years of feasibility studies and public consultation the Government gave approval for a Community Trust to form and begin planning the project. The Trust knew that to succeed the project needed the active support of many groups and agencies. National government, local council, education and science agencies, local communities and community leaders, local and national businesses all needed to contribute in some way.

These groups were brought together in a strategic partnership and asked to pledge their collective support. Central Government saw that community initiatives like this could provide a

significant boost to its struggling conservation agencies. The Ministers of Conservation, the Environment, and Education together with the Department of Conservation became active supporters and advocates of the project and made available the technical assistance of their staff.

Local Government saw the benefits of this project to the economic development of the city and gave their support in many ways. They provided seed funding to the Trust, provided administrative support, helped with fundraising, and provided staff to assist with some projects.

Much of the funding for the project would need to come from local and national business and community leaders. Relationships were established with a number of businesses ranging from national power companies to local shops. Support ranged from major sponsorships to donations of labour and materials. In return the Trust agreed to recognise and acknowledged these businesses and provided opportunities for staff to participate in activities and events.

The local Wellington community was involved through membership and the chance to become a volunteer of the trust. Members and volunteers would be able to become active participants in threatened species management, something not possible with remote conservation projects.

These relationships were not just formed out of financial necessity. They provided access to technical expertise the Trust needed to undertake innovative and untried technology. And involvement of these groups also contributed to the Trusts goals of education and participation. Almost all of these groups were new to conservation management. The process of fundraising, planning, consultation, consenting and so on, forced them to acquire knowledge and over time led to greater awareness of the conservation issues the trust was dealing with.

7 RESULTS

Since the completion of the Sanctuary fence and pest eradication the Sanctuary has achieved many of its original goals. It designed and built a world first fence, achieved total eradication of the pests within the Sanctuary, and commenced restoration of the valley forests. Eleven rare species of native bird have been successfully translocated into the Sanctuary and translocations of a further 25 species are planned over the next 10 years.

The Trust has a combined membership of 12,000 with a pool of 350 active volunteers who assist in a wide range of its activities. It is currently attracting 45,000 visitors a year with 150,000 per annum projected once all visitor facilities are completed.

New Zealanders can now see some of our most endangered species in the wild in the middle of Wellington City. This is leading to a renewed pride and commitment to the preservation of our natural heritage. This pride and commitment is shared by the businesses and agencies that have been partners in this endeavour.

This accessibility has also meant that primary and secondary schools from around the country have access to a unique restoration project and our universities are using the Sanctuary as a living laboratory with many opportunities for species and ecosystem research. Over 100 research projects have been completed or are ongoing in the Sanctuary and eight university courses visit the Sanctuary as part of their course work. The Trust has also established research relationships with key Government agencies involved in pest and weed management and restoration ecology.

Now only four years after our first species release, several of our important bird species are spilling out of the Sanctuary and spreading out through Wellingtons parks and reserves. This spill-over of birds beyond the fence has led to the local City Council undertaking restoration planning specifically for improvement of habitat and wildlife corridors and for planning its parks and gardens with a greater emphasis on a bird safe and bird friendly city.

The next phase in the Sanctuary's development is to achieve financial independence from local Councils, which still contribute to the annual operations. The construction of a permanent visitor centre and associated facilities, needed to accommodate up to 150,000 visitors per annum, is being planned for construction in 2006/07.

8 CONCLUSIONS

The Sanctuary that many said could not be built is now making a very real contribution to the preservation of our most endangered species. It is also re-introducing thousands of New Zealanders to species which have been inaccessible to them for many decades.

Just as happened on Kapiti Island, the success of the Sanctuary has led to a new confidence within the conservation community and other groups have begun developing similar fenced sites. Over 30 proposals are now being developed around New Zealand. These range from a few hectares to over 2,000 hectares. Almost all of these are community initiatives, supported by the Department of Conservation and local government. There has also been overseas interest in the lessons learnt by the Sanctuary Trust. This included an invitation to speak at a National Biodiversity Symposium in Japan (Fuller 2003).

Many of these groups have sought guidance from Karori Sanctuary Trust. In 2002 the Trust, with the support of the New Zealand Department of Conservation, published a history of the Sanctuary project that offered practical advice on matters relevant to the formation of a community conservation project (Campbell Hunt 2002). Of interest is that the majority of enquiries have not been about species releases or habitat restoration but about how to form a trust, write a business plan, raise funds, manage volunteers and so on. As we have always recognised, people issues are the hardest to manage.

The Sanctuary's website is an increasingly important tool for the dissemination of knowledge and new sections are being continually added based on demand. Initially the website offered fairly simple information on the basis that the average person would not be interested in the minutiae of the Sanctuary operation. This view has been revised as people come to us seeking more and more detailed descriptions of the Trusts activities and the responses of flora and fauna to the Trusts management.

These activities confirm the Trusts original belief that that many New Zealanders would be prepared to make a meaningful contribution to the restoration of our natural heritage if they are provided with information, guidance and opportunity.

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<http://www.sanctuary.org.nz>

FOOTNOTE

Stephen Fuller was appointed project manager of the Karori Wildlife Sanctuary Project in 1993 and was responsible for its development and operation. He retired as General Manager in 2002 and now works as an ecologist for an environmental consultancy. He continues to have an involvement with the Sanctuary as a volunteer guide and as a Trustee on the Sanctuary Trust Board.

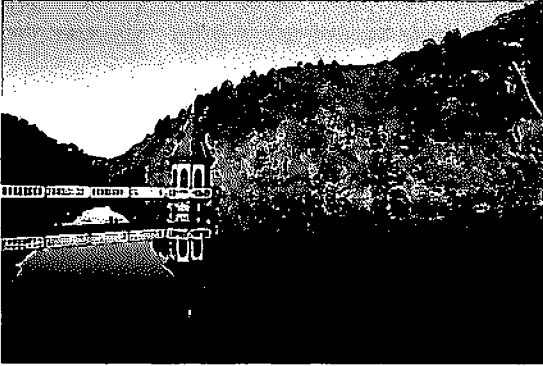


Fig.1. Karori Sanctuary Lower dam

The Karori Wildlife Sanctuary is an old water supply catchment (Photo C. Bon)



Fig.2. Predation ship rat on fantail

Native birds are at their most vulnerable at the nest. Here a ship rat enters a fantail nest with chicks. (Photo Department of Conservation)



Fig.3. Possum

The Australian brush-tailed possum is responsible for widespread destruction of native forest throughout New Zealand. (Photo Department of Conservation)



Fig.4. Dying rata forest - possum browse

The bleached trunks of northern rata killed by possum browsing. (Photo S. Fuller)



Fig.5. Sanctuary Fence

The Sanctuary fence entering a suburb of Wellington. Wellington City can be seen in the background. (Photo S. Fuller)



Fig.6. Volunteer Working Bee

Volunteers clearing weeds from streams and replanting. (Photo C. Bon)



Fig.9. Recognition Plaque

One of the many plaques recognising the contribution of local businesses to the project. Natural Gas Corp is a national energy supplier who is funding a part of the education programme. (Photo S. Fuller)



Fig.7. Kaka release

A funder of the restoration programme releases the first Kaka, an endangered native parrot, into the Sanctuary (Photo C. Bon)

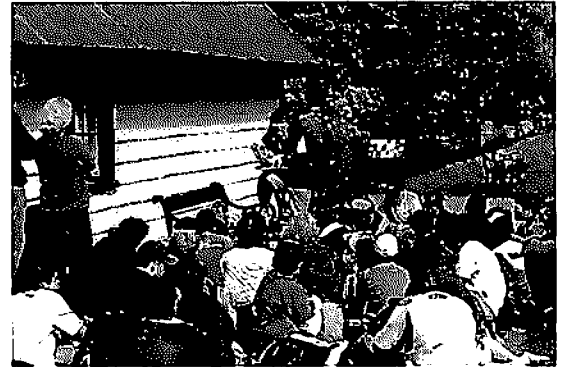


Fig.8. Students

A group of students getting an introduction to the Sanctuary by the staff teacher. (Photo S. Fuller)



Fig.10. Visitors

A group of visitors at one of the educational displays scattered through the Sanctuary (Photo S. Fuller)