Fact Sheet — Restoring Ecosystems

A few minutes walk from the centre of Sydney Olympic Park is one of Australia's largest urban parklands – a place that supports forests, wetlands and wildlife. Over a quarter of the birds found in Australia - 200 different species – have been recorded in the Park, as well as many species of frogs, reptiles and bats. This species richness is the result of an extensive urban renewal project conducted through the 1990s, which sought to protect and expand the ecology of the area as a key design objective, alongside the cleanup of contaminated lands and creation of new sporting, recreational, commercial and residential precincts across some 760 hectares. The key driver for transformation of the site was the Sydney 2000 Olympic and Paralympic Games, and the key focal species during this transformation was the endangered Green and Golden Bell Frog - one of the largest remaining populations of this species was found in the path of Olympic construction.

What was done

By 1990, about 200 years after Sydney was first colonised by the British, the land now comprising Sydney Olympic Park had become an industrial wasteland – government industries including an abattoir and brickworks had closed down, a naval armament depot was in the process of closing, estuarine wetlands had been filled in and reclaimed, and pollutants from 50 years of rubbish dumping were leaching into the waterways.

Despite this degradation, high ecological values still remained. Remnant forest and wetlands, international migratory birds, and the rare Green and Golden Bell Frog all still persisted on the site in good numbers – it was an ecological oasis in the middle of suburbia.

In 1993, Sydney was awarded the 2000 Sydney Olympic Games, and transformation of the site began. This was Australia's largest-ever land remediation project, works were done on a landscape scale, After the waste was dealt with, entire landscapes were built from scratch – the topography, the soils and the plantings over hundreds of hectares are all man-made, and now about 15 years old.

The ecological component of these works sought to rebuild functional naturalistic ecosystems within an urban parkland environment. Restoration works included:

- Remediation of 160 hectares of contaminated land and on-site containment of nine million cubic metres of excavated waste in Australia's largest land remediation project
- Restoration of remnant eucalypt forest and estuarine wetlands
- Removal of two kilometres of concrete stormwater canal and replacement with a naturalistic estuarine creek edged by saltmarshes
- Restoration of tidal flushing to land-locked estuarine wetlands to improve habitat for migratory shorebirds protected under international intergovernmental agreements
- Design and construction of new grassland, wetland, forest, saltmarsh and intertidal habitats
- Construction of over 90 freshwater ponds and wetlands as habitat for the endangered Green and Golden Bell Frog.

The frog conservation works in particular received considerable local and international media attention in the lead-up to the Games, and the Bell Frog became an icon for frog conservation and for endangered species conservation generally.

Development of the built environment occurred concurrently with the ecological restoration works and included building of the road network, infrastructure for stormwater, sewerage and water, Olympic sporting stadiums, hotels, transport infrastructure, and a new 2000-dwelling residential suburb initially used as the Olympic athletes village.

Design of the site looked beyond the Games to create a new township with a unique mix of residential, commercial and sporting facilities in an extensive parklands environment that would provide for both active and passive recreation.

Sydney Olympic Park Authority – a State government agency – now has responsibility for ongoing management and development of the site. Development is focussing on creating a denser urban centre with a greater variety of uses, to support a daily population of 50,000 visitors by 2030 while retaining the ability to host 250,000 event visitors per day. The aim is to build a community that is enriched by the Park's environment and has access to a superior range of recreational and sporting facilities.

How was it achieved

Ecological restoration works benefited from the environmental framework established for Olympic development. The high public profile and inflexible timeframe of the 'Green Games' provided a strong social driver for fast-tracking these works and led to their integration with ecologically sustainable development initiatives occurring as part of the Games development.

Sydney's successful bid to host the Games included a set of Environmental Guidelines for implementation by host cities. These were developed by a range of environmental stakeholders, and were based on the ESD principles adopted at the 1992 United Nations Earth Summit. The Environmental Guidelines contained commitments to the preservation and protection of natural ecosystems and endangered species, energy and water conservation, waste minimisation, and air, water and soil quality. The Games were seen by many as a platform to showcase effective mainstream environmental solutions to environmental issues, and the environment has now been officially adopted as the third dimension of the Olympic Charter, along with sport and culture.

Key factors contributing to the success of the ecological restoration works were:

- Strong environmental vision, commitment and pride – from government leaders, executive, staff, consultants and contractors – ecological protection and enhancement was viewed as an essential and legitimate goal that went hand-in-hand with site redevelopment
- Early identification of ecological values – maps of remnant vegetation and their buffer zones were incorporated into legislative planning instruments and safeguarded from development; other species targeted for protection and enhancement were identified and prioritised in land-use planning and design
- Strong legislative, planning and policy framework
- Multidisciplinary teams of scientists, engineers, planners, designers, builders and managers worked together to maximise project outcomes
- An expert advisory panel of ecologists provided advice on project development and conservation strategies
- Environmental tendering specifications applied to both design and construction works – companies tendering for works needed to demonstrate how they would address the Environmental Guidelines – this was a key tender assessment criteria and resulted in innovation and environmental competitiveness between tenderers
- Staff and contractor training in the ESD vision, commitments and work practices
- Strong corporate environment team – providing advice to project managers and auditing environmental performance of individual projects
- Public reporting of environmental performance and achievements
- External scrutiny and formal reviews by international media and by environmental watchdogs such as the Earth Council, Greenpeace, and GreenGamesWatch
- Funding

Although the Olympics are long-over, many of the tools and practices that applied then have been refined and brought forward into our activities today. Many of these practices are still implemented post-Games:

- A commitment to ecologically sustainable development is still central to operations of the Authority
- The Environmental Guidelines have been updated and are incorporated into legislation – they must be considered in all new developments
- Planning instruments identify and protect lands with environmental conservation and environmental management zonings
- The Parklands are subject to a legislated management plan, which seeks to conserve and enhance their values
- A Biodiversity Management Plan provides guidance in managing the Park's habitats. An ongoing adaptive ecological management program is implemented, guided by comprehensive ecological monitoring, investigation and reporting

Development outcomes

The redevelopment of Sydney Olympic Park demonstrates that large-scale and complex works can be delivered in an environmentally sensitive way and that good ecological outcomes can be achieved in conjunction with urban development.

Nearly 15 years after the Olympic Games, the Park supports both a thriving ecology and a growing community of residents, workers, students and visitors. The Park provides:

- An enduring community asset with much of its environmental value restored.
- 430 hectares of parklands, one of the largest urban parklands in Australia and a leisure resource for the people of Sydney
- State-of-the-art sporting and event facilities, which together with the Parklands, attract over 13 million visitors per year
- Over 250 hectares of restored and reconstructed habitats that support a rich diversity and abundance of native species. The Park is recognised as a 'top 25 ecological restoration site' in Australia and New Zealand, and recipient of several major national and international environmental awards
- Curriculum-based environmental programs and events provided to 36,000 school children annually
- A natural environment that provides significant support to commercial and residential development within the Park, and is promoted as an asset by property developers and businesses in their marketing materials.
- State of the art sporting and event facilities
- 2000 homes in the former Olympic athletes village and a growing number of new apartment towers in the Town Centre
- 205 businesses operating at the Park, employing 17,000 people

Challenges for the future

There are plenty of challenges ahead.

- Habitats are constructed, right down to the soils, and even the remnant habitats are highly modified and isolated in a sea of suburbia - hence our habitats have a low resilience to disturbance
- Some of the short-term fixes needed to get the ground stabilised and the site looking good for the Olympics don't have the desired habitat results in the longer term, and need retrofitting and improvement
- There is increasing demand for human access, as the local population continues to grow. The Parklands – just the greenspace - attracted over 2.7 million visitors last year (up from zero in most areas 15 years ago) and this number is likely to continue to grow

Our Park is very young, and still evolving.

So far we have the organisational commitment that is essential to the future of the Park's biodiversity.

Hopefully this groundwork started only a relatively short time ago in ecological terms will continue to be valued by the community and to show ecological success well into the future.

Information correct as of January 2015
www.sopa.nsw.gov.au
Photo: Paul K Robbins