



WESTERN SYDNEY PARKLANDS: AUSTRALIA'S LARGEST URBAN PARK

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ABSTRACT

The important role of large urban parks in biodiversity conservation is becoming more widely recognized. Because many large urban parks contain substantial areas that meet the IUCN definition of 'protected area' there is an urgent need for management to protect them from threats posed by more intense recreation uses and a range of environmental impacts. Sustainable development principles applied to the management of large urban parks can achieve a balance between protecting biodiversity values and providing opportunities for visitors to engage with, enjoy and appreciate nature. This paper makes the argument for greater recognition of the need to incorporate sustainable development principles in the planning, design, development and management of large urban parks to achieve a balance between biodiversity conservation and the wide range of other roles and functions they are required to perform. The 5,280 ha Western Sydney Parklands provide valuable lessons on how sustainable development principles can be applied to protect and manage biodiversity values while offering a diverse range of recreation facilities to meet the needs of a rapidly growing population in western Sydney. The Parklands also demonstrate a model for economic sustainability that could be relevant to other large urban parks located in major cities.

Key words: Large urban parks, sustainable development principles, biodiversity conservation, management model

INTRODUCTION

The conservation values associated with large urban parks are becoming more widely recognized and understood (IUCN, 2014). Many large urban parks contain substantial areas that could meet the IUCN definition of 'protected area'; primarily habitat/species management areas which relate to management category IV (Dudley, 2008). In addition to protecting biodiversity values large urban parks can play a valuable role in allowing large numbers of urban dwellers to experience nature (Trzyna, 2014). However, 'protected areas' in large urban parks are increasingly threatened by more intense recreation uses and environmental impacts from weeds, feral animals and wildfires.

A key challenge for management of large urban parks is to achieve a sustainable balance between protecting biodiversity values and providing opportunities for visitors to enjoy and appreciate nature. Meeting this challenge requires careful consideration of the physical form of fixed park facilities in contrast to the open ended character of ecological systems and cultural values (Czerniak & Hargreaves, 2007).

There is growing recognition of the need to integrate sustainable development principles with biodiversity conservation in planning and managing protected areas (Ervin, 2013). To achieve this goal requires a balance between ecological, social and economic values through a multi-disciplinary approach that draws on the knowledge and creativity of community members, park managers, design professionals and decision makers. This paper makes the argument for greater recognition of the need to incorporate sustainable development principles into the planning, design, development and management of large urban parks to achieve a balance between the conservation of biodiversity and the public recreation and cultural facilities that are provided.

Western Sydney Parklands[†] provides a model for the retention and management of biodiversity values in areas that could be defined as 'protected areas' within a large urban park located in a rapidly developing area of a major city. Primarily comprised of former rural land, the Parklands now incorporate areas of remnant native woodland, replanted and regenerating native vegetation, together with recreation and sporting facilities and infrastructure.

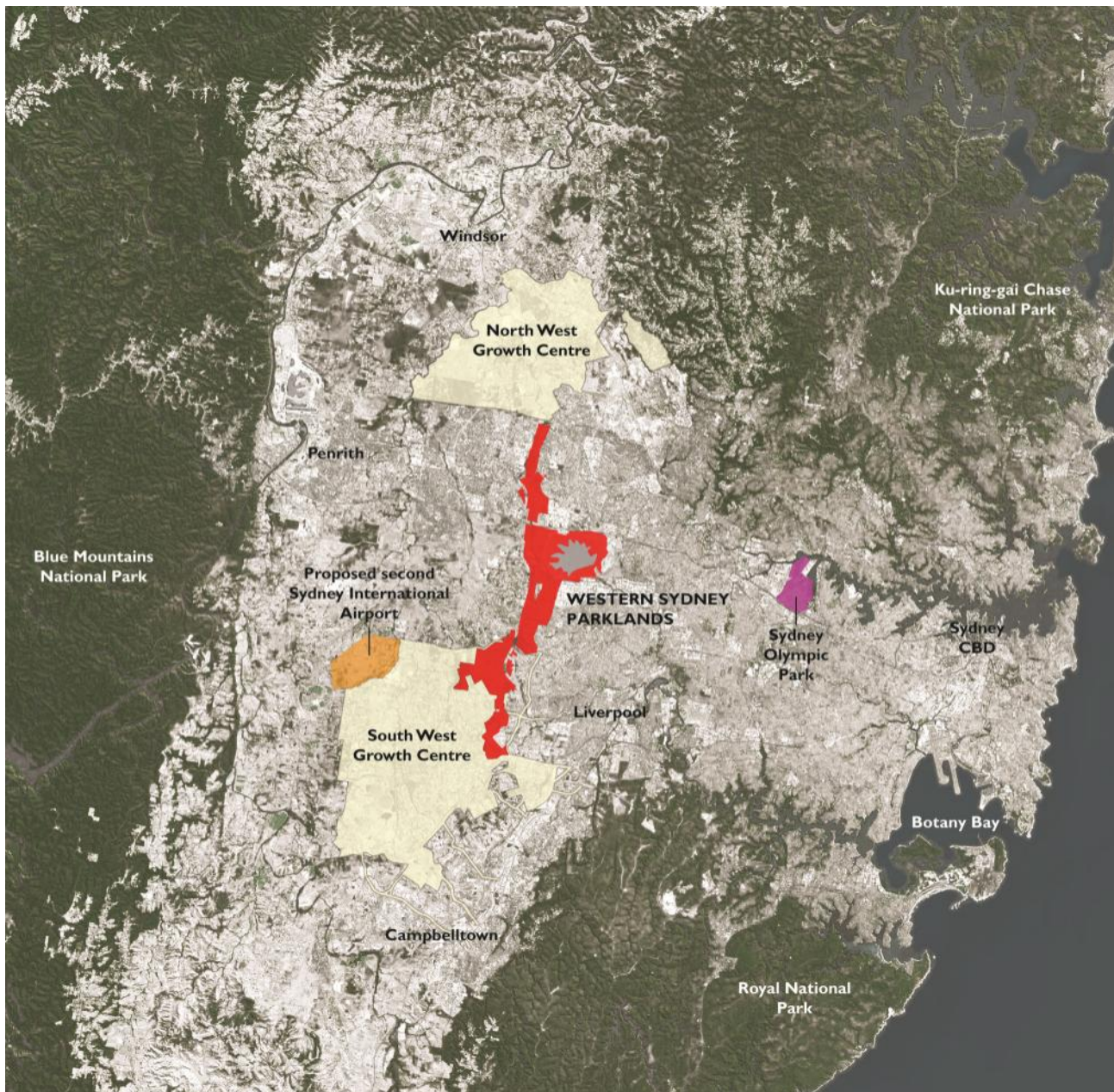


Figure 1: Context of the Western Sydney Parklands. Ariel Source: Bing Maps

CONTEXT OF THE PARKLANDS

Covering some 5,280 ha and extending for 25 km the Parklands constitute the largest area of urban parkland in Australia. The relative scale of the Parklands is indicated by a comparison with Central Park in New York City which covers 341 ha, Hyde Park in London 253 ha and Sydney Olympic Park 430 ha. Figure 1 illustrates the context of the Parklands, showing the metropolitan area's two major urban growth centres and the proposed location of a second international airport for Sydney. The current Western Sydney population of 2 million is predicted to grow to 2.92 million by 2031 and will represent 50 per cent of the capital city's population (NSW DP&E, 2014). The Western Sydney Parklands will provide the primary open space recreation area for local residents while serving the broader metropolitan region.

The Parklands form part of a network of public lands that includes National Parks covering approximately 39,680 ha to the north, west and south of the Sydney metropolitan area. The generally rural landscape character of the Parklands contains significant areas of remnant Cumberland Plain Woodland. Classified as a threatened ecological community (Australian Government Department of Environment, 2014), the Cumberland Plain Woodland patches are likely to meet the IUCN definition of a protected area (Dudley, 2008; Trzyna, 2014). These remnant vegetation areas form the basis for a system of ecological corridors that are being created throughout the Parklands. However, fragmentation of remnant vegetation poses a major challenge to achieving sustainability outcomes (Forman, 2008).

Recreation areas and sporting facilities within the Parklands are generally located near the boundaries to aid accessibility from the network of highways and local roads. The M7 Motorway running along the edge of the Parklands is connected to the Sydney motorway network. Public transport access is provided by railway stations near the northern and southern ends of the Parklands.

CREATION OF THE PARKLANDS

The story of how the Parklands were created is a long and intriguing one. It had its genesis in the New South Wales County of Cumberland Planning Scheme (Cumberland County Council, 1948), which incorporated the concept of a wide 'green belt' defining the future western edge of urban development (Evans & Freestone, 2009). As the population of Sydney grew and urban development expanded, the 'green belt' was pushed farther west and significantly reduced in width before forming the basis of the Western Sydney Parklands (Abercrombie, 2008).

The concept of a major regional open space corridor in western Sydney was suggested in the 1968 Sydney Region Outline Plan. The corridor was to accommodate high voltage power lines, gas pipelines and communications and provide sites for public institutional facilities while providing regional open space and recreation as the population of Sydney increased (State Planning Authority of New South Wales, 1968). In 1989 the NSW Government provided for development of key recreational facilities within the Parklands, which included the Eastern Creek International Raceway, through the creation of *State Environmental Planning Policy No 29—Western Sydney Recreation Area* (New South Wales Government, 2009a). The Parklands also provided event venues for the Sydney 2000 Olympic Games, including equestrian, shooting, baseball/softball and mountain biking facilities. Gazettal of the *Sydney Regional Environmental Plan (SREP) No 31—Regional Parklands* (New South Wales Government, 2001) created a framework for management of land uses throughout the Parklands.

In 2004 the Department of Infrastructure, Planning and Natural Resources (DIPNR) engaged consultants to prepare *The Western Sydney Parklands Management Vision and Concept Plan Options* (URS, 2004), which provided the framework for planning and management of the Parklands. The multidisciplinary project team led by landscape architects included specialists in ecology, Aboriginal archaeology and cultural heritage. Development of the Parklands Management Vision was overseen by an Advisory Group comprising representatives from key state agencies and the three



Remnant Cumberland Plain Woodland © Noel Corkery

local government areas in which the Parklands are located. A series of visioning workshops engaged the Advisory Group with experts in park planning and management.

A discussion paper prepared ahead of the workshops presented a review of large parks around the world to identify key issues and trends (Corkery, 2003). The paper provided a focus for discussions between participants who came with diverse backgrounds, knowledge and experience. Some key trends were identified in the discussion paper as follows. There is a significant move away from preparing traditional rigid master plans towards more flexible strategies and frameworks to allow the evolution of large urban parks in response to changing community expectations, availability of resources and new knowledge. Ecologically-based large urban parks are preferred over traditional 'fixed-in-time' landscapes that typically adopted a pastoral aesthetic and required resource intensive maintenance. There is recognition of the link between human health and environmental sustainability. Cultural heritage values are finding expression through the design of natural and cultural landscapes within urban parks; while the development of a unique aesthetic quality for individual precincts throughout urban parks has been found to contribute to their overall identity. Finally, the discussion paper recognized the critical need for robust management structures to ensure sustainable long-term commitment to implementation of the vision adopted for individual urban parks.

These trends informed the discussion about future directions for the Parklands. The following principles emerged to guide the Parklands Management Vision (URS, 2004):

- Achieve a balance between ecological conservation, recreation facilities and cultural values



Figure 2: View south over northern portion of Parklands

- Recognize the link between community health and ecological systems health
- Develop a clear image and branding for the Parklands
- Create opportunities for sustainable agriculture within the Parklands together with defined public access rights
- Enhance the potential for commercial recreation and tourism facilities
- Involve the community in determining the programme of uses throughout the Parklands
- Establish future 'virtual' links between the Parklands and people through the application of communications technology
- Encourage industry sponsorship, partnerships, alliances and stewardship within the Parklands
- Investigate the potential for Biosphere Reserve designation as a management strategy
- Consider opportunities for environmental offset allowances
- Explore options for management structures and funding.

There was general acknowledgement that development of the Western Sydney Parklands was a long-term project extending over 30 to 50 years that demanded commitment to a clear and shared vision. The overarching Management Vision developed in the workshops was that: 'The Western Sydney Parklands will form a unique component of the Sydney metropolitan open space system, linked to surrounding areas and providing a diverse range of recreation and cultural learning experiences integrated with the natural and cultural values of the land' (URS, 2004).

The Western Sydney Parklands were created in 2006 by the Western Sydney Parklands Act (NSW State Government, 2006) together with the Western Sydney Parklands Trust with management responsibility. Creation of the Parklands stands as a rare example of long-term commitment by state government over a period of 30 years that resulted in the assembly of 5,500 ha of public land from which the Parklands were created. It is particularly remarkable given the contemporary political and economic climate in which assembling a similar area of public open space within the urban context of a major Australian city would be problematic.

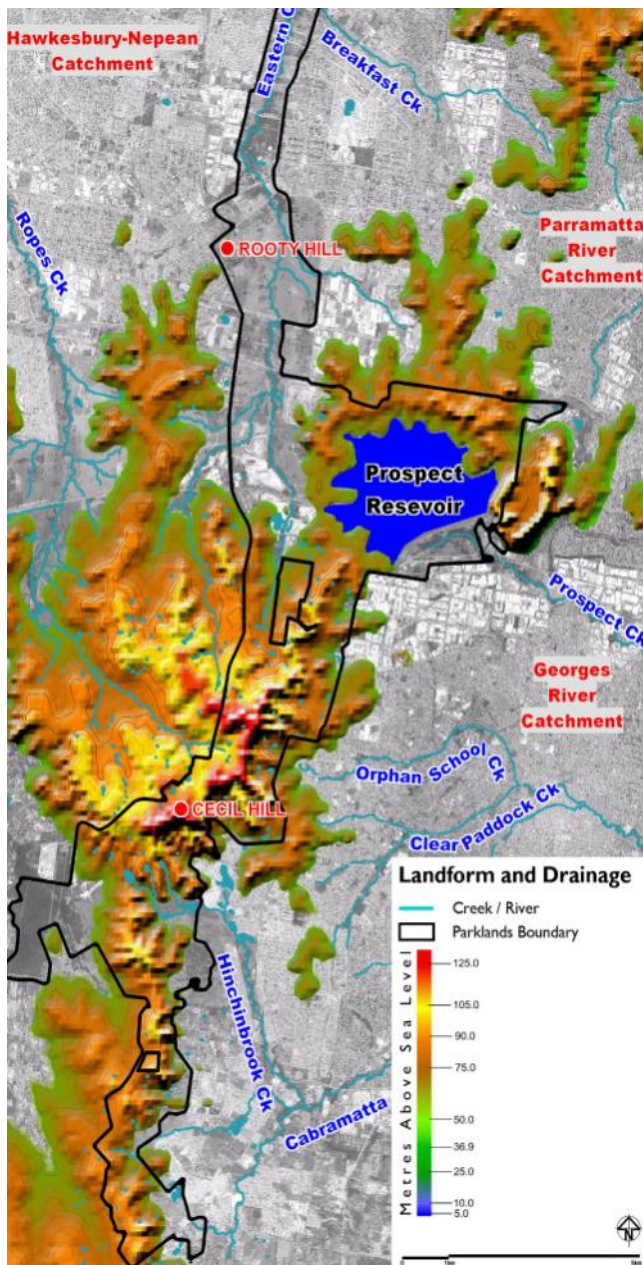


Figure 3: Landform and drainage catchments. Source: URS & Turf Design Studio

The generally rural landscape character of the Parklands is illustrated in Figure 2, which shows the northern portion of the Parklands. Substantial remnant vegetation is present along the South Creek corridor while urban development adjoins both sides and the M7 Motorway runs along the western edge.

REGIONAL DRAINAGE CATCHMENTS

The Parklands are located on the catchment boundary between the Hawkesbury-Nepean River to the west, Georges River to the east and Parramatta River to the north east, which are shown in Figure 3. This location along catchment boundaries provides an opportunity for the Parklands to play a key role in improving water quality and raising community awareness of water resources within the Sydney Region.

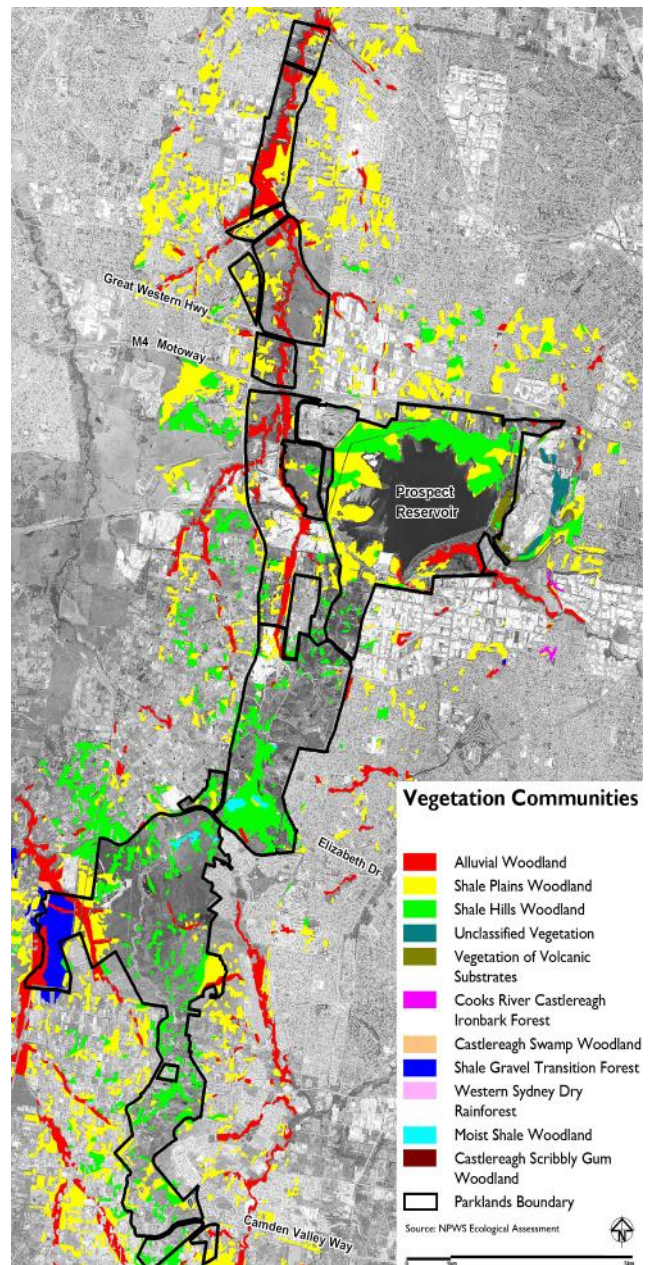


Figure 4: Vegetation communities mapping. Source: URS & Turf Design Studio

VEGETATION COMMUNITIES

The fragmented pattern of remnant native vegetation illustrated in Figure 4 is the result of agricultural land uses and urban development. The mapping was based on data from a number of sources (Perkins, 2004; National Parks & Wildlife Service, 2003) and showed the major components included: Shale Plains Woodland and Shale Hills Woodland components of the Cumberland Plain Woodlands, which is listed under both the NSW Threatened Species Conservation Act 1995 (TSC Act) and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act); and Alluvial Woodland component of the Sydney Coastal River Flat Forest, which is listed under the NSW Threatened Species Conservation (TSC) Act 1995.



Cumberland Plain Woodland © Noel Corkery

The TSC Act includes provision for the preparation of recovery plans to provide for the long-term protection of the listed threatened ecological communities. The Cumberland Plain Recovery (NSW DECCW, 2011) prepared under both the EPBC Act and the TSC Act applies to remnant vegetation throughout the Western Sydney Parklands. Part 7A of the TSC Act established a Biodiversity Banking and Offsets Scheme that provides for the establishment of biodiversity banking sites, creation and trading of biodiversity credits to offset the impact of development on biodiversity values.

PARKLANDS STRUCTURE PLAN

A key component of the Management Vision was preparation of the Structure Plan presented in Figure 5 that achieved the sustainable management of Parklands through the integration of: Ecological Corridors—protecting extant core habitat, areas of ecological restoration to link core habitat areas and buffer zones to protect the core habitat; Park Use Areas—providing for various recreation uses outside of the ecological corridors; and the Road and Path Network—including the M7 Motorway and pedestrian and cycle paths linking facilities along the Parklands corridor to improve access from adjoining urban areas.

Reconnecting fragmented areas of Cumberland Plain Woodland through a programme of ecological restoration involved the adoption of a well established biodiversity conservation strategy (Bennett, 2003). The Western Sydney Parklands Biodiversity Strategy 2012-2020 (WSPT, 2013) identifies a programme of biodiversity restoration and management to the year 2020. The Structure Plan identified a series of separate precincts throughout the Parklands, described the character of each and defined the desired future character to be achieved. A matrix illustrated potential suitable uses within each precinct. This framework provided flexibility in planning and development of facilities to respond to changing requirements as the population of western Sydney grows.

MANAGEMENT STRUCTURE

The crucial importance of establishing an effective management structure for the Parklands was realized early on in preparing the Management Vision. Options evaluated during the workshops included: assigning management responsibility to a single existing state government department; establishing a trust as a State-owned authority with legislated authority to manage the Parklands; appointing an existing state management

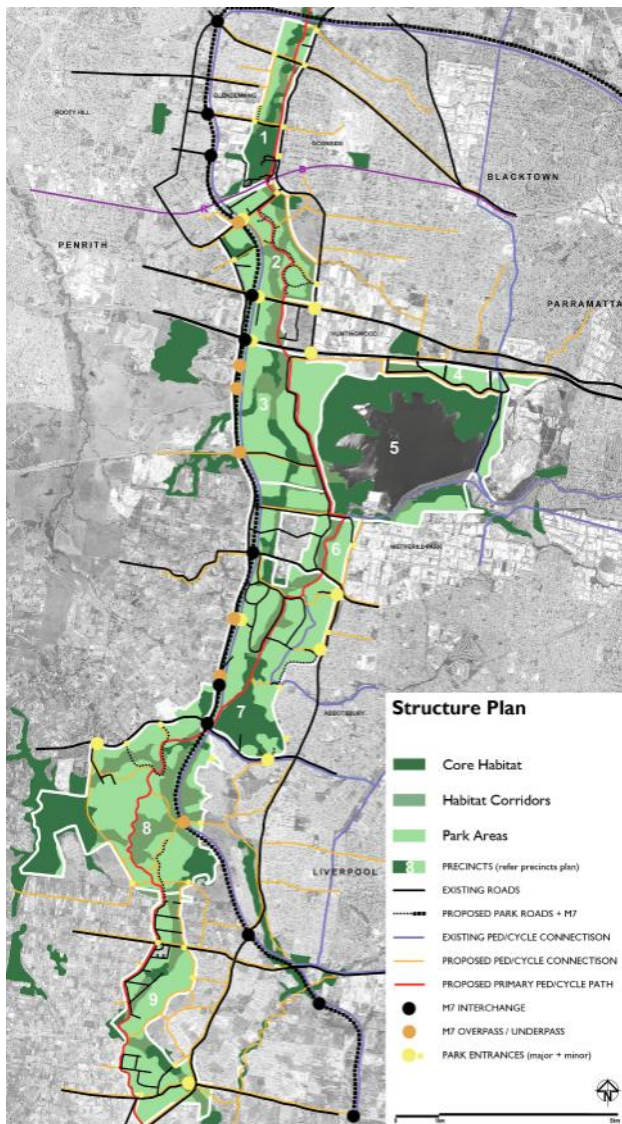


Figure 5: Parklands Structure Plan. Source: URS & Turf Design Studio

agency; establishing a community-based management organization; or dispersing management responsibilities between the three local government areas in which the Parklands are located.

Establishment of a State-owned enterprise was considered to be the most effective option because it would allow clearly defined accountability and provide focus. Creating a board structure would allow broader governance skills to be engaged. A State-owned enterprise would have the potential to create a high profile in the community. Lastly, it could provide the context for a business plan that focused on resources and outcomes, including revenue generation and budget control for the development and management of the Parklands.

Adoption of the trust management structure led to the creation of the Western Sydney Parklands Trust by the *Western Sydney Parklands Act* (NSW State Government,

2006). The boundaries of the Parklands were also defined by the Act which also transferred to the Trust approximately 3000 ha of land previously owned by the Department of Planning. The Act provided the Trust with statutory authority to develop and manage the Parklands in partnership with other state and local government agencies. The *State Environmental Planning Policy (SEPP) Western Sydney Parkland* (NSW State Government, 2009b) provided the necessary land use flexibility to implement the Trust's mandate under the Act and assign the primary planning approval role to the State planning agency rather than to local governments. The Trust prepared a Plan of Management (WSPT, 2011) to guide the development of facilities and programmes and a financially sustainable business strategy for the Parklands to 2020. The strategy was further developed in a Plan of Management Supplement prepared by the Trust in 2014, which provided more details on how the Trust intended to establish revenue streams to fund management of the Parklands (WSPT, 2014)².

Adoption of the *Western Sydney Parklands Regulation* (NSW State Government, 2013b) allowed the Trust to protect its natural and cultural values; assist the equitable enjoyment of the Parklands by promoting visitor safety, providing new facilities and protecting cultural and ecological values; and to facilitate organized events and charge a fee for commercial activities in the Parklands. Emphasis is placed on the provision of access to the natural environment for children and families as a learning experience and engagement with nature, including involvement in ecological restoration activities throughout the Parklands.

LESSONS LEARNT

A decade on from the creation of the Parklands Management Vision in 2004 and subsequent formation of the Western Sydney Parklands Trust it is timely to reflect on what has been achieved and the lessons learnt. It is also an opportunity consider where the Parklands are headed over the coming decades.

• Strategic direction

Given the scale of the Parklands and their significance at both the Sydney regional and national levels, the knowledge emerging from the first decade of development and management is valuable. It is particularly relevant to professionals and decision makers engaged in planning, design and management of other large urban parks within the context of major cities. The relevance of this knowledge will become increasingly apparent as current government policy focuses on greater urban density aimed at making more efficient use of infrastructure. A major consequence of



Lizard Log play space within remnant woodland and planted indigenous trees © Noel Corkery

this policy is an increasing demand for use of public open space. Within large urban parks effective management will be required to protect biodiversity and cultural values as public use increases. The resilience of urban parks to withstand the pressures of increased public usage will need to be strengthened and take account of climate change.

In 2010 the Trust committed to the implementation of a Plan of Management that sets out a ten year programme of development within the Parklands (WSPT, 2011). The Plan defines the target percentage cover of land uses to be achieved by 2020: native vegetation communities 37 per cent; sport and recreation 25 per cent; interim and long-term infrastructure 24 per cent; urban farming 10 per cent; business hubs 2 per cent; tourism 1 per cent; and community uses 1 per cent.

Although this clearly precludes the whole area of the Parklands being considered as a protected area under the IUCN definition (where at least 75 per cent of the area must be set aside for the conservation of nature), several areas within the Parklands could certainly be managed as protected areas within the larger Parklands landscape.

The targets form a clear basis for ongoing development and management of the Parklands. A significant aspect of social sustainability of the Parklands is the incorporation of employment and training opportunities that include tourism, recreation and environment management. These opportunities are expected to grow as new facilities are developed and the intensity of management is increased throughout the Parklands. Extensive areas within the Parklands are leased by the Trust for a variety of uses, which include agriculture, motor sports, field sports, tourism, theme parks and rural residential.



Plough & Harrow picnic facilities and planted indigenous tree © Noel Corkery

• **Involvement of landscape architects**

Landscape architects have played a key role in the planning and development of the Parklands, including preparation of the initial Management Vision (URS, 2004) and the subsequent Plan of Management (WSPT, 2011). The role of landscape architects has continued through the design of new facilities and ongoing management of the Parklands. This has involved working in collaboration with a range of other professions that include ecologists, fire management experts, artists, cultural heritage and community consultation specialists.

• **Recreation facilities**

The Trust has overseen development of a number of new facilities throughout the Parklands, all within the framework of the Plan of Management. Access between these facilities is provided by an extensive network of walking and cycling tracks. When the Parklands were officially established in 2006 they contained an equestrian centre, shooting centre, baseball and mountain bike facilities developed for the Sydney 2000 Olympics together with motor racing venues, a city farm, sports fields and recreation areas. The Plough and Harrow recreation area was developed using funds provided by the Roads and Traffic Authority as an offset to construction of the section of the M7 Motorway that runs along the boundary of the Parklands. A commercially operated Tree Top Adventure Park allows children and adults to move through tree tops on suspension bridges up to 20 m above the ground. Lizard Log Recreation Area was developed as a major new recreation facility with opportunities for children to engage in adventure play within a playground that is integrated with the natural landscape setting of the site. Other facilities developed by the Trust include a 12 km long international standards mountain bike trail. Recreation cyclists and walkers can access the whole

length of the Parklands along the Parklands Track, which connects to the street network in areas adjoining the Parklands. The rich indigenous and non-indigenous cultural heritage of this site is being protected and incorporated into the design of the new facilities.

About 40 per cent of the Parklands remain to be developed for long-term purposes in accordance with the Plan of Management. Consequently they currently have interim land uses, such as rural residential or they remain vacant. This land bank provides the Trust with a valuable level of flexibility to respond to changing community expectations and future needs over the coming decades.

• **Ecological restoration and monitoring**

While there are no sites within the Parklands listed on the World Database on Protected Areas, there are significant areas of native vegetation that are likely to meet the IUCN definition of a protected area as 'A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.' (Dudley, 2008). These include areas of endangered vegetation communities that are protected under state and federal legislation.

Priority conservation areas identified in the Cumberland Plain Recovery Plan (NSW DECCW, 2011) that are located in the Parklands include Prospect Reservoir (325 ha), Bungaribee Precinct (137 ha), Kemps Creek Nature Reserve (129 ha), Nurrangy Reserve (90 ha) and Hoxton Park Woodlands (41 ha). In addition smaller areas of endangered vegetation communities throughout the Parklands are also protected by legislation.

Vegetation monitoring carried out on 56 sites in 2012 compared them to the baseline surveys carried out in 2008 and 2010 (SMEC, 2012). Results of the monitoring indicated that more than 70 per cent of the sites had native grass cover within or above maximum benchmark values; herbaceous (non-grass) native ground cover was below benchmark values in over 70 per cent of the sites; and in regeneration areas the biodiversity condition of the over storey was low in all vegetation types.

The Western Sydney Parklands Biodiversity Strategy 2012-2020 (WSPT, 2013) provides a framework in which the biodiversity enhancement works are carried out. While about 1,000 ha of remnant Cumberland Plain Woodland is currently managed within the Parklands, the Trust plans to double the area by 2020 to achieve the

37 per cent target set by the Plan of Management. This will involve a financial investment of Aus\$10 million together with the participation of community volunteers and corporate groups to assist with tree planting and maintenance of native vegetation areas.

A current planting programme involves the Trust providing bus transport between schools and the Parklands for students and young people who are engaged in ecological restoration work. Planting of indigenous vegetation by the students is not only expanding the extent of native vegetation but also fostering a sense of engagement and attachment with the Parklands as well as enjoyment of nature. These ecological restoration works are consistent with the Cumberland Plain Recovery Plan (NSW DECCW, 2011).

Funding sources for biodiversity enhancement projects currently include: revenue from commercial activities of the Trust through leases and licences that will provide Aus\$500,000 per annum for ecological restoration until 2018; bio-banking and biodiversity offsets; government grants that include funding from the Commonwealth Biodiversity Fund to 2018 and short-term funding from the Catchment Management Authority.

Partnerships have been established between the Trust and education and training institutions as well as NGOs that provide training and 'transition to work' for unemployed and special needs groups via social procurement contracts.

• **Economic sustainability**

A key aspect of the economic sustainability of the Parklands is the capacity of the Trust to generate revenue and manage its own budget. This allows the establishment of a sustainable income stream to fund operations and invest in the development of new facilities and infrastructure. In 2012-2013 the total revenue of the Trust was Aus\$24.7 million (NSW State Government, 2013a), which included: income from the Office of Strategic Lands (Aus\$11.77 million that was the Trust's 25 per cent share of land sale proceeds provided in accordance with Government decisions made when the Trust was established); grants and contributions (Aus\$5.9 million); rental income (Aus\$2.5 million); compensation for infrastructure easements (Aus\$2.1 million); and bio-banking Trust Fund Interest (Aus\$0.24 million).

Expenses in 2012-2013 were Aus\$9.1 million and the Trust held financial assets valued at Aus\$22.46 million. Other assets included land and buildings (Aus\$489 million); infrastructure systems (Aus\$41.4 million);



Plough & Harrow pond and wildlife observation deck © Noel Corkery

environment and natural assets (Aus\$2.1 million) and plant and equipment (Aus\$0.78 million). The Trust facilitates public and private investment for the development and promotion of sport, recreation and tourism in the Parklands. By managing its own commercial activities and making land available for lease to private organizations, the Trust is able to achieve economic sustainability.

- **Management research and monitoring**

Management of the Parklands continues to be informed by ongoing research and monitoring. This includes user surveys and a focus on human health and wellbeing. Results of the research are providing a new perspective on the role of the Parklands by confirming the benefits they deliver to community health and wellbeing (Marshall & Corkery, 2009).

The Parklands provide a very relevant example of how to combine recreation facilities and health benefits together with the protection and management of biodiversity values within a large urban park. Opportunities and facilities for individuals to improve physical, emotional and spiritual health are provided throughout the Parklands. Given the very large scale of the Parklands these benefits are delivered in a diverse range of spatial and environmental settings.

Total visitation to the Parklands reached 3.5 million in 2014. This included visitors to various commercial recreation facilities that include a water play park, motor raceway, equestrian centre and sports fields. Annual surveys carried out by the Trust indicate that visitation to the picnic facilities, walking/cycle tracks and other informal recreation opportunities throughout the Parklands has increased by 20 per cent every year since 2007, reaching more than 1.3 million visitors in 2013-2014 (NSW State Government, 2013a). The surveys also show that visitors: represent diverse multicultural backgrounds; mostly come from local areas surrounding the Parklands; generally travel by motor vehicle to the Parklands; are predominantly between 20 and 40 years of age; mostly come to the Parklands on a regular basis, between two and 12 times a year; and predominantly engage in picnics and barbecues in groups of 10 or more, usually with family members and/or friends.

These user profile findings are consistent with the results of research carried out on visitors to the Georges River National Park located approximately 20 km south east of the Parklands (Byrne & Goodall, 2013).

In promoting diverse uses throughout the Parklands, the Trust is placing increased focus on health and wellbeing benefits working in partnership with other agencies and

user groups that include NSW Health. Community engagement involving consultation and programmed events is providing an effective means of raising awareness of the benefits that can be gained from a balance between human needs, economic factors and biodiversity values.

• Future directions

The Trust will respond to a range of factors that will influence future development and management of the Parklands. These include urban development in areas adjoining the Parklands, particularly the two major growth centres located at each end of the Parklands' corridor that will significantly increase the number of visitors. Development of additional facilities will be required to increase the capacity of the Parklands to accommodate the higher level of usage while protecting the cultural and biodiversity values.

The proposed second Sydney international airport development together with major new transport infrastructure required to service it, will have significant implications for the Parklands. Aircraft noise is likely to impact users of the Parkland while the airport and overflying aircraft will be visible from within the Parklands.

Although a sound funding structure is being established by the Trust, it has the potential to be impacted by broader economic factors beyond the control of the Trust. The risk associated with these factors will be reduced by diversifying revenue sources over time.

Community engagement will become increasingly significant as urban development occurs in areas adjoining the Parklands and the diversity of user groups broadens. The level of community engagement is expected to expand in relation to cultural and environmental issues that include education, food production, markets, arts, performances and festivals. Another aspect of community engagement will be the opportunity for the Trust to interact with professional and non-profit organizations. These include landscape architects, ecologists, horticulturalists, recreation planners, artists, archaeologists, heritage advisors, property development and asset managers. Such engagement will broaden and deepen the knowledge and understanding that the Trust can draw upon in relation to integration of sustainable development and biodiversity conservation. Engagement with these organizations may also assist the Trust to address political issues such as proposed new legislation or amendments to existing legislation that have implications for management of the Parklands.

CONCLUSION

This paper makes the argument for greater recognition of the need to incorporate sustainable development principles into the planning, design, development and management of large urban parks to achieve a balance between the conservation of biodiversity and provision of public recreation and cultural facilities.

Western Sydney Parklands provides a model for the retention and management of biodiversity values within large urban parks located near a major city. A key lesson to be taken from the creation of the Parklands includes the importance of establishing a sound management structure. The Trust is a corporate structure in which revenue is generated and invested in development and management of the Parklands in accordance with objectives clearly articulated in legislation and the Parklands Plan of Management. The Parklands also demonstrate the importance of flexibility within a well conceived management strategy to allow adaptation to changing social and economic context while maintaining a strong commitment to an agreed management vision. Planning and development of a programme of uses and facilities throughout the Parklands is an ongoing process that requires guidance from an agreed set of clearly articulated goals and procedures. Preferred activities and facilities are regional in nature and take advantage of the unique character of the site on which they are located. The Parklands provide an excellent venue for long-term research and monitoring that involves collaboration between the Trust, academic institutions and other organizations and authorities. The value of user surveys has been demonstrated by identifying the profiles of different user groups and understanding their needs and expectations as input to the planning and design of facilities.

A significant aspect of the Parklands development has been the key role played by landscape architects in contributing to the successful development and management of the Parklands, commencing with preparation of the Management Vision and Plan of Management and continuing through the design of award winning new facilities. This contribution includes the current Trust Director and a significant number of the management team.

The Parklands provide many valuable lessons for the establishment and management of large urban parks that incorporate areas of high biodiversity together with recreation and cultural facilities. These lessons begin with the importance of thoroughly understanding the bio-physical, cultural, social, economic and ecological context of the park as the basis for defining a clear vision



Bungarribee recreation area walking track © Noel Corkery

for its planning, development and management. Defining such a vision needs to draw on a diverse range of expertise and perspectives in an open and creative process. Translating the vision into the creation of a viable urban park requires not only perseverance but also the application of sustainable development principles to achieve a balance between social/cultural, environmental, ecological and economic values.

To achieve such a balance demands a management structure that incorporates diverse but complementary skills together with the statutory authority to generate revenue and directly manage a budget. A significant degree of flexibility is also required to allow urban park managers to respond to evolving circumstance together with new information gained from monitoring and research. Ongoing discussions and exchange of ideas and information will ensure the knowledge gained from the Western Sydney Parklands is available to assist others involved in the sustainable development and management of large urban parks in other cities.

ENDNOTES

¹ The term 'parklands' is used to denote that this contiguous land comprises multiple landscapes that form a series of connected parks and conservation areas that are managed by one authority.

² The Western Sydney Parklands Plan of Management can be accessed at:

www.westernsydneyparklands.com.au/assets/Uploads/244.pdf

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Noel Corkery is Managing Director of Corkery Consulting, urban design and landscape architecture consultants. He is a Registered Landscape Architect, Fellow and Past National President of AILA, with qualifications in Landscape Architecture (Cornell), Forestry (ANU), Business Administration (AGSM) and Cross-disciplinary Art & Design (UNSW). Noel has over 30 years of project experience throughout Australia and Asia, managing multi-disciplinary teams and applying his expertise in landscape analysis, visual assessment, master planning, urban design, landscape design of parks, open spaces, infrastructure and site restoration. Noel led the project team that prepared the Western Sydney Regional Parklands Management Vision and Concept Plan Options.

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RESUMEN

La importancia de los grandes parques urbanos en la conservación de la biodiversidad es reconocida de manera cada vez más amplia. Por cuanto muchos parques urbanos grandes contienen zonas extensas que cumplen con la definición de "área protegida" de la UICN, es imperativo protegerlos de las amenazas que suponen tanto los usos de recreación más intensos como el amplio abanico de repercusiones ambientales. Los principios del desarrollo sostenible aplicados a la gestión de los grandes parques urbanos pueden lograr un equilibrio entre la protección de los valores de la biodiversidad y la creación de oportunidades para que los visitantes puedan disfrutar, apreciar e interactuar con la naturaleza. Este documento presenta un poderoso argumento en defensa de un mayor reconocimiento de la necesidad de incorporar los principios del desarrollo sostenible en la planificación, diseño, desarrollo y gestión de los grandes parques urbanos con el fin de lograr un equilibrio entre la conservación de la biodiversidad y la amplia gama de otros papeles y funciones que deben desempeñar. Las 5280 hectáreas de parques de la región de Sídney occidental aportan experiencias valiosas sobre cómo se pueden aplicar los principios del desarrollo sostenible para proteger y gestionar los valores de la biodiversidad al tiempo que se ofrece una amplia gama de instalaciones de esparcimiento para satisfacer las necesidades de una población en rápido crecimiento en la parte occidental de Sídney. Estos parques también demuestran un modelo de sostenibilidad económica que podría ser de interés para otros grandes parques urbanos situados en grandes ciudades.

RÉSUMÉ

Le rôle important des grands parcs urbains pour la conservation de la biodiversité est de plus en plus largement reconnu. De nombreux grands parcs urbains comportent des zones considérables qui répondent à la définition de l'UICN de «zone protégée», et il existe un besoin urgent de gestion pour les défendre contre les menaces posées par une utilisation récréative plus intense et par toute une série d'impacts environnementaux. En appliquant les principes de développement durable à la gestion des grands parcs urbains, il est possible de parvenir à un équilibre entre la protection des valeurs de la biodiversité et les opportunités pour les visiteurs de profiter de la nature et de l'apprécier. Ce document met en avant le besoin d'une plus grande reconnaissance de la nécessité d'intégrer les principes de développement durable dans la planification, la conception, le développement et la gestion des grands parcs urbains, afin d'atteindre un équilibre entre la conservation de la biodiversité et le large éventail d'autres rôles et fonctions qu'ils sont tenus d'effectuer. Le parc à l'ouest de Sydney (Western Sydney Parklands) qui s'étend sur 5280 hectares, fournit de précieuses leçons sur la façon dont les principes du développement durable peuvent s'appliquer à la protection et à la gestion des valeurs de biodiversité, tout en offrant une vaste gamme d'installations de loisirs pour répondre aux besoins d'une population en croissance rapide dans l'ouest de Sydney. Ce parc constitue un modèle de durabilité économique qui pourrait être utile à d'autres grands parcs urbains situés dans les grandes villes.