

2008/2009 Five Year Capital Works Program

Foreshore Development & Natural Areas Management Program

2008/09

Approved

Project	Title	Description	Suburbs	Expenditure	Revenue	Fund Source
FNM008	Foreshore and Sand Stabilisation Fencing	Supply and installation of fencing for sand stabilisation and vegetation restoration of coastal dunes	Multiple Suburbs	44,000	0	MUNI
FNM1016	Bushland Reserve Fencing	Fencing of Reserves identified by Council to be protected under the District Planning Scheme 2.	NA	120,000	0	MUNI
FNM1026	Craigie Open Space: Fencing for Native Animals	Installation of Fencing around Craigie Open Space for the protection of Native Animals	Craigie	280,000	0	MUNI
FNM1021	Craigie Open Space – Design & Construct New Escarpment Steps	Remove existing steps leading down the escarpment and replace with new stairway and landings.	Craigie	125,000	0	MUNI

TOTAL PROJECTS: 4

\$569,000

\$0

2008/2009 Five Year Capital Works Program

2009/10

Approved

Project	Title	Description	Suburbs	Expenditure	Revenue	Fund Source
FNM1016	Bushland Reserve Fencing	Fencing of Reserves identified by Council to be protected under the District Planning Scheme 2.	N/A	\$45,000	0	MUNI
FNM1025	Medinah Park Connolly Path construction	Create pedestrian access from Shenton Avenue into Medinah Park and through to Fairway Circle	Connolly	\$85,000	0	MUNI

TOTAL PROJECTS: 2 \$230,000 \$0

2010/11

Approved

Project	Title	Description	Suburbs	Expenditure	Revenue	Fund Source
FNM1016	Bushland Reserve Fencing	Fencing of Reserves identified by Council to be protected under the District Planning Scheme 2.	N/A	150,000	0	MUNI

TOTAL PROJECTS: 1 \$150,000 \$0

2008/2009 Five Year Capital Works Program

2011/12

Approved

Project	Title	Description	Suburbs	Expenditure	Revenue	Fund Source
FNM1015	Bushland Reserve Fencing Removal	Removal of fencing and boundary control facilities to protect native and natural bushland system	Hillarys	100,000	0	MUNI

TOTAL PROJECTS: 1

\$100,000 \$0

2012/13

Approved

Project	Title	Description	Suburbs	Expenditure	Revenue	Fund Source
FNM1016	Bushland Reserve Fencing	Fencing of Reserves identified by Council to be protected under the District Planning Scheme 2	N/A	100,000	0	MUNI

Bushland Reserve Fencing Programme

RESERVE NAME	FENCING STATUS
Porteous Park Sorrento	Complete
Sandalford Park Beldon	Complete
Bonnie Doon Park Connolly	Complete
Fairway Park Connolly	On order
Carnaby Park (medinah) Connolly	No
Pine valley Park Connolly	No
St Michaels Park Connolly	No
Cawarra Park Craigie	No
Caledonia Park Currambine	No
Clermont Park Currambine	On order
Alfreton Park Duncraig	No
Glenbar Park Duncraig	On order
Lilburne Park Duncraig	Complete
Trigonometric Park Duncraig	No
Lake Valley Park Edgewater	No
Quarry Ramble Park Edgewater	No
Littorina Park Heathridge	No
Sir James Mcusker Park Iluka	No
Naturaliste Park Iluka	No
Candlewood Park Joondalup	No
Water tower Park Joondalup	No
Blue Lake Park Joondalup	No
Lakeside park Joondalup	NO
Central Park Joondalup	Commenced
Nanika Park Joondalup	No
Bridgewater park Kallaroo	No
Maritana Park Kallaroo	No
Cadogan park Kingsley	Complete
Cranston Park Kinross	No
Periwinkle Park Mullaloo	Complete
Beaumaris Park Ocean Reef	On order
Timberlane Park Woodvale	On order

CRAIGIE BUSHLAND NATIVE WILDLIFE SANCTUARY

Craigie Bushland is a 53 hectare bushland reserve to the north of Whitfords Avenue and west of the Mitchell Freeway and bounded by the Craigie Leisure Centre, the Quindalup dune escarpment and Craigie residential area and the Beenyup waste water treatment plant.

In April 2005 a report was prepared by Jean-Paul Orsini and Associates on the concept for a Wildlife Sanctuary in the Craigie Bushland. The Executive Summary was as follows:

Craigie Bushland is a precious and scenic bushland reserve located at the heart of Perth's northern suburbs and managed by the City of Joondalup. Craigie Bushland, with its 53ha area of well-preserved tuart/jarrah/banksias woodland of outstanding conservation value, has long been recognised as an important community asset, as demonstrated by its inclusion into the State Government's Bush Forever plan.

With the potential reintroduction into the Craigie Bushland of various species of native marsupials that have become rare or extinct in the Perth region, the reserve has the potential to become a sanctuary for Australian native wildlife and a centre of excellence for wildlife management, education and nature-based tourism in the Perth Metropolitan Area, attracting the local community as well as interstate and overseas visitors.

However, for the creation of a future Craigie Bushland Wildlife Sanctuary to be successful, a number of steps would be required.

- *Establishing adequate partnerships/linkages with various stakeholders and interested parties: wildlife authorities and other government organisations, community groups, indigenous custodians, private enterprise as well as teaching and research institutions*
- *Preparing a feasibility study and strategic business plan for the project based on existing expertise and knowledge and including a time table for the project.*
- *Providing the adequate capital works, expertise, personnel and support to carry the project through in the long term.*
- *Sourcing adequate funding and resources for all stages of the project.*

The project would be well placed as part of the City of Joondalup's Strategic Plan and Tourism Development Plan to provide significant benefits for the local community and Perth visitors alike, while enhancing the image of the City of Joondalup as an innovative and eco-friendly destination.

In July 2006, Bennett Environmental Consulting Pty Ltd completed the Management Plan for the Beenyup waste water treatment plant to the north of the site. The summary of this document is as follows:

The main function of the Beenyup Site is for wastewater treatment. The site is bounded by the Mitchell Freeway to the east, Ocean Reef Road to the north, the residential suburb of Craigie to the west and Craigie Open Space, an area of regionally significant bushland to the south.

The Beenyup Site includes:

- *Wastewater treatment infrastructure*

- *Commercial land*
- *Construction Branch Compound*
- *Woodlot area*
- *Bush Forever Site 303*
- *Other bush area*
- *Quindalup Dune; and*
- *Site entrance*

The Management Plan addresses the rehabilitation of the remnant bushland, both that included in Bush Forever 303 and other Areas. The Plan covers the following:

- *Background information on the geology and fauna*
- *Weeds and their management*
- *Flora of the Bush Forever section of the Site*
- *Soil preparation where required*
- *Rehabilitation techniques including seed collection, propagation of seedlings, timing of planting/sowing;*
- *Rehabilitation of the Quindalup Dune*
- *Monitoring the success or otherwise of rehabilitation*
- *Fire control*
- *Site aesthetics*
- *Corridors and linkage*
- *Community involvement*
- *Public access and*
- *Visual amenity*

Recommendations are made to employ qualified environmental weed specialists, seed collectors and nurseries to control the weeds and prepare the seeds and seedlings for sowing and planting. All seeds and plant material used for the rehabilitation must be collected from the Site or from the adjoining bush areas with the permission of the owners.

Rehabilitation of the Bush Forever area is to be undertaken first, progressing to the completely degraded sites with time. The first sections to be rehabilitated are the area around the proposed digesters, and the Quindalup Dune once a path and steps have been completed. A time frame has been constructed which allows 12 years for the complete rehabilitation of the Site and further 3 years to complete the monitoring. Recommendations are made for the preferred sites for future expansion. Waste management is also considered.

The City is currently working towards a partnership with the Water Corporation for the ongoing development of the proposed bush sanctuary to include areas of the bush surrounding the treatment plant and within Water Corporation land. This has resulted in the public access project from the Quindalup escarpment being jointly funded by the City and the Corporation.

In 2008 the City has committed to two parallel projects within the budgets. The first is a feasibility project with the following deliverables:

- *A feasibility study for the establishment of a sanctuary in the Craigie Bushland that involves the identification and consultation with key stakeholders taking into consideration natural, cultural and conservation issues surrounding the Craigie Bushland Reserve.*

- A report that details the justification for the type of sanctuary, the potential location (site assessments) and types of activities that need to occur.
- Make recommendation on the issues such as financial implications (capital and operating), funding sources, management structures, planning considerations and responsibilities for establishing a sanctuary.

The second is provision of \$280,000 in the 2008/09 budget for a feral animal fence to be erected around the bushland reserve (see attached diagram).

There have been ongoing surveys of fauna within the area of the reserve and the following list provides those which have been identified:

Fauna Species Recorded in Craigie Bushland	
Mammals	
Western Brush Wallaby	<i>Macropus irma</i>
Western Grey Kangaroo	<i>Macropus fuliginosus</i>
Common Brushtail Possum	<i>Trichosorus velpecula</i>
Southern Brown Bandicoot	<i>Isodon obesulus</i>
Black Rat	<i>Rattus rattus</i>
House Mouse	<i>Mus musculus</i>
European Fox	<i>Vulpes vulpes</i>
European rabbit	<i>Oryctolagus cuniculus</i>
Snakes	
Dugite	<i>Pseudonaja affinis</i>
Skinks	
Stripped Skink	<i>Ctenotus fallens</i>
Yellow Bellied Skink	<i>Hemiergis peronii quadrilineata</i>
Greys Skink	<i>Menetia greyii</i>
West Coast Morethia Skink	<i>Morethia lineoocallata</i>
Red Throated Skink	<i>Morethia obscura</i>
Bobtail Skink	<i>Tiliqua rugosa</i>
Dragons	
Western Bearded Dragon	<i>Pogona minor</i>
Birds	
Australian Kestrel	<i>Falco anatum</i>
Australian Shelduck	<i>Tadorna tadornoides</i>
Maned Duck	<i>Chenonetta jubata</i>
Rainbow Bee-eater	<i>Merops ornatus</i>
Sacred Kingfisher	<i>Halycon sancta</i>
Fan tailed Cuckoo	<i>Cuculus pyrrhophanus prionurus</i>
Shining bronze Cuckoo	<i>Chrysococcyx lucidus plagosus</i>
Pallid Cuckoo	<i>Cuculus pallidus</i>
Inland Thornbill	<i>Acanthiza apacalis</i>
Western warbler	<i>Gerygone fusca</i>
White Browed Scrubwren	<i>Sericornis frontalis maculatis</i>
Blackfaced Cuckoo Shrike	<i>Coracina novaehollandiae</i>
Australian Magpie	<i>Gymnorhina tibicen</i>
Australian raven	<i>Corvus corinoides</i>
Grey Butcherbird	<i>Cracticus torquatus torquatus</i>
Magpie Lark	<i>Grallina cyanoleuca</i>
Splendid Fairy Wren	<i>Malurus splendens splendens</i>

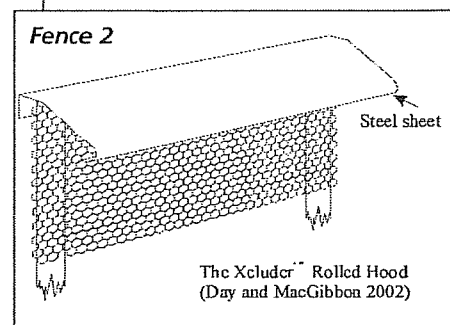
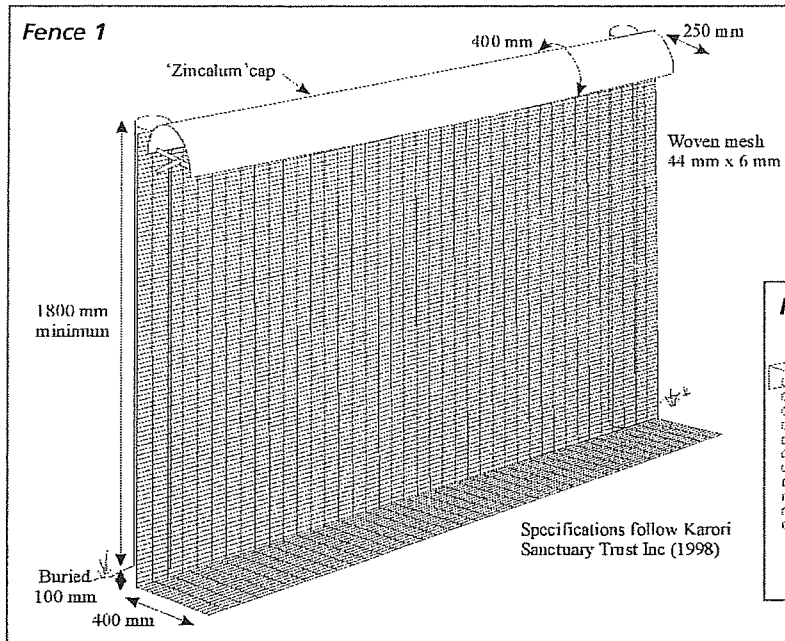
Brown Honey Eater	<i>Lichmera indistincta</i>
Red Wattlebird	<i>Anthocharia carunculata woodwardii</i>
Grey Fantail	<i>Rhipidura fuliginosa preissi</i>
Silver Eye	<i>Zosterops lateralis gouldi</i>
Galah	<i>Cacatua roseicapilla</i>
Ringnecked Parrot	<i>Platycercus zonarius</i>
Red Capped Parrot	<i>Purpuricephalus spurius</i>

Reports in the progress of these two projects will be provided as the information becomes available.

MARTYN GLOVER
Director Infrastructure Services

28 August 2008

Capped fences – for cats, rabbits and other mammalian pests



Designed to exclude:

All feral mammals (in N.Z.) including rabbits, cats, goats, pigs, mustelids, possums, and rodents.

Examples of use:

Fence 1. Used at the Karori Wildlife Sanctuary, New Zealand to protect native wildlife and native vegetation.

Fence 2. Used at Rapanui Point and Omaha Beach, New Zealand to protect native wildlife.

Features:

- Wire mesh forms an effective barrier
- Wire netting apron prevents animals passing beneath the fence
- Steel roll cap prevents animals climbing over the fence.
- Internal corner angles greater than 120° to prevent climbing animals jumping or bracing against adjacent fence panels.

Estimated cost of materials:

Exact material costs are not available for these designs but would exceed \$50,000/km.

Efficiency:

Extensive captive trials of these designs have been conducted. Of the species trialed, cats are of most interest to this report.

Fence 1. The Karori Sanctuary Trust Inc. trialed a small number of cats against this fence; none of which were able to cross it; possums were observed to be more proficient climbers than cats and, of the thirty individuals trialed, only two breached the fence. Neither of these animals crossed the fence in a second trial (Karori Sanctuary Trust Inc. 1998).

Fence 2. The Xcluder™ Pest Proof Fencing Company's rolled hood successfully excluded the 21 feral cats and 12 wild possums trialed against it (Day and MacGibbon 2002).

Bushland Maintenance Schedule 2007/08

Maint	Rubbish	Inspect	RDO DP,MS,RW
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RESERVE	Maint			Rubbish			Visits per year	July						August	
	Est hrs per visit	Est cost per visit	Est cost per year	Est hrs per visit	Est cost per visit	Est cost per year		Actual	2nd	9th	16th	23rd	30th	6th	
Conservation							0	0	0	0	0	0	0	0	
Hepburn Heights F	10	500	6500	3	120	1560	13	Maint	32		Inspect		Rubbish		
Craigie OS F	10	500	13000	3	120	1560	26/13	Maint	5	5	Inspect		6		
Shepards Bush F	10	500	6500	3	120	1560	13	Maint	32			22	4		
Warwick OS F	10	500	13000	3	120	1560	26/13	Maint	Rubbish	10	6	7.5	2.5		
Lilburne F	10	500	6500	3	120	1560	13	Maint	Rubbish		Inspect	Maint	Rubbish		
High Priority															
Lakeside	6	300	3000	2	100	1000	10	Inspect		6	Rubbish		Inspect		
Treetop/Quarry	6	300	3000	3	150	1500	10	Inspect		Maint	Rubbish		46		
St Clair/Quarry	6	300	3000	3	150	1500	10	Inspect		26.5	Rubbish		Inspect		
Timberlane	6	300	3000	3	150	1500	10	Inspect		Maint	Rubbish	1	Inspect		
Lakevalley	6	300	3000	2	100	1000	10	Inspect		Maint	Rubbish	1	3		
Cranston	6	300	3000	3	150	1500	10	Inspect		Maint	Rubbish		Inspect		
Beaumaris	8	320	3200	2	100	1000	10		20	32	Maint	Rubbish			
Naturaliste	6	300	3000	1.5	75	750	10		Inspect		6	Rubbish			
Central	6	300	3000	1.5	75	750	10		Inspect		12	Rubbish			
Neil Hawkins	6	300	3000	1.5	75	750	10		Inspect		6	Rubbish	8.5		
Clermont	6	300	3000	1.5	75	750	10		Inspect		10	Rubbish			
Bonnie doon	4	200	2000	1.5	60	600	10		Inspect		4	Rubbish			