Wara Wayingga - Tennyson Dunes Conservation Reserve

Wara Wayingga - Kaurna language meaning moving sands place

Draft Management Plan 2018

Government of South Australia
Department for Environment and Water

Your comments are invited

Wara Wayingga - Tennyson Dunes Conservation Reserve is a unique area, home to one of the last remnant coastal dune systems along the Adelaide metropolitan coast. The reserve is rich in biodiversity with over fifty species of local native plants and many birds and reptiles.

It is a place for people to connect with nature in an urban area through recreation, quiet reflection and education. The reserve lies within the traditional Country of the Kaurna People of the Adelaide Plains and is highly valued by the Traditional Owners as well as the local community and volunteers.

The Wara Wayingga - Tennyson Dunes Conservation Reserve Draft Management Plan 2018 will guide the future protection of this special place by addressing conservation needs and providing sustainable public access for all to enjoy.

This draft plan describes the vision, directions and opportunities for the future management of the reserve. It includes objectives and strategies outlining the natural, cultural and social values and how these values can be managed into the future.

The Wara Wayingga - Tennyson Dunes Conservation Reserve Draft Management Plan 2018 is open for public comment and members of the community are encouraged to make a submission on this draft plan.

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Developing this draft plan

This draft management plan for Wara Wayingga - Tennyson Dunes Conservation Reserve was prepared by the Tennyson Dunes Working Group and Natural Resources Adelaide and Mount Lofty Ranges.

The Tennyson Dunes Working Group was appointed by the Minister for Sustainability, Environment and Conservation in 2016 to assist the Department for Environment and Water (DEW), Natural Resources Adelaide and Mount Lofty Ranges, in the management of the Tennyson Dunes Conservation Reserve through the provision of advice, input, review and feedback on management matters. Membership includes representatives of Kaurna, Ramindjeri, DEW, City of Charles Sturt and the Tennyson Dunes Group.

This Plan was informed by existing action plans including the Tennyson Dunes Biodiversity Action Plan (Telfer, 2015) and the Vegetation Management Plan for Tennyson Dune Reserve (Cordingley and Petherick 2006).

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Directions for management

The Wara Wayingga - Tennyson Dunes Conservation Reserve Draft Management Plan describes the vision for the future management of the Reserve, and strategies and opportunities for action that will deliver on the vision. This draft plan is supported and will be implemented through a number of action plans relating to key areas of management with more detailed information and operational requirements. As required under the *Crown Land Management Act 2009* this draft plan seeks to promote ecologically sustainable land management and is consistent with the goals and strategic directions of the Adelaide and Mount Lofty Ranges Natural Resources Management Plan.

Ecologically sustainable development principles require the use, development and protection of the environment that supports economic, social and physical well-being without compromising the foreseeable needs of future generations, protects ecosystem services and avoids, mitigates or remedies any adverse effects of activities on the environment. Ecologically sustainable land management requires consideration of both long and short term impacts when planning for environmental protection, restoration and enhancement.

This draft management plan refers primarily to the parcels of Crown Land identified as the Wara Wayingga - Tennyson Dunes Conservation Reserve (refer Map 1). Two adjoining parcels of crown land adjacent to Military Road (the car parks) are also referred to and are included in a number of associated strategies. Together these parcels are referred to as the Wara Wayingga - Tennyson Dunes precinct.

Vision

Wara Wayingga - Tennyson Dunes Conservation Reserve will be a place to enjoy and nurture the unique coastal environment through:

- Working together to protect the dunes so they continue to safeguard the coast as our climate changes.
- Learning about coastal biodiversity and processes.
- Learning about the connection between plants, animals, environment and seasons to Kaurna and Aboriginal Culture and lore.
- Developing deep connections with nature that inspire people to value and protect the dune ecosystem into the future.

Management principles

The following seven principles will guide the management of Wara Wayingga - Tennyson Dunes Conservation Reserve to deliver on the vision and achieve effective, high quality management of the reserve's natural resources:

1. The reserve will be managed with reference to Kaurna and Aboriginal environmental and cultural heritage, recognising the significance to the coast and dunes to Kaurna Meyunna (Kaurna people) and other Aboriginal people.
2. The reserve will be managed in the broader context of the coast, particularly as it relates to pest plant and animal management, Coast Park and opportunities for tourism and visitation
3. This draft management plan will align with State and Federal plans and strategies to enable implementation, particularly relating to coast and biodiversity management and the *Healthy Parks Healthy People SA* approach
4. Management decisions and action will be supported by scientific information
5. Monitoring and evaluation will be undertaken to support an adaptive management approach to protect valued features and respond to emerging issues
6. The management of the reserve will be characterised by collaboration with multiple stakeholders to deliver on the vision
7. All strategies and opportunities will aim to build the resilience of the reserve to better respond to disturbance and change, whether natural or human induced.

Reserve significance and purpose

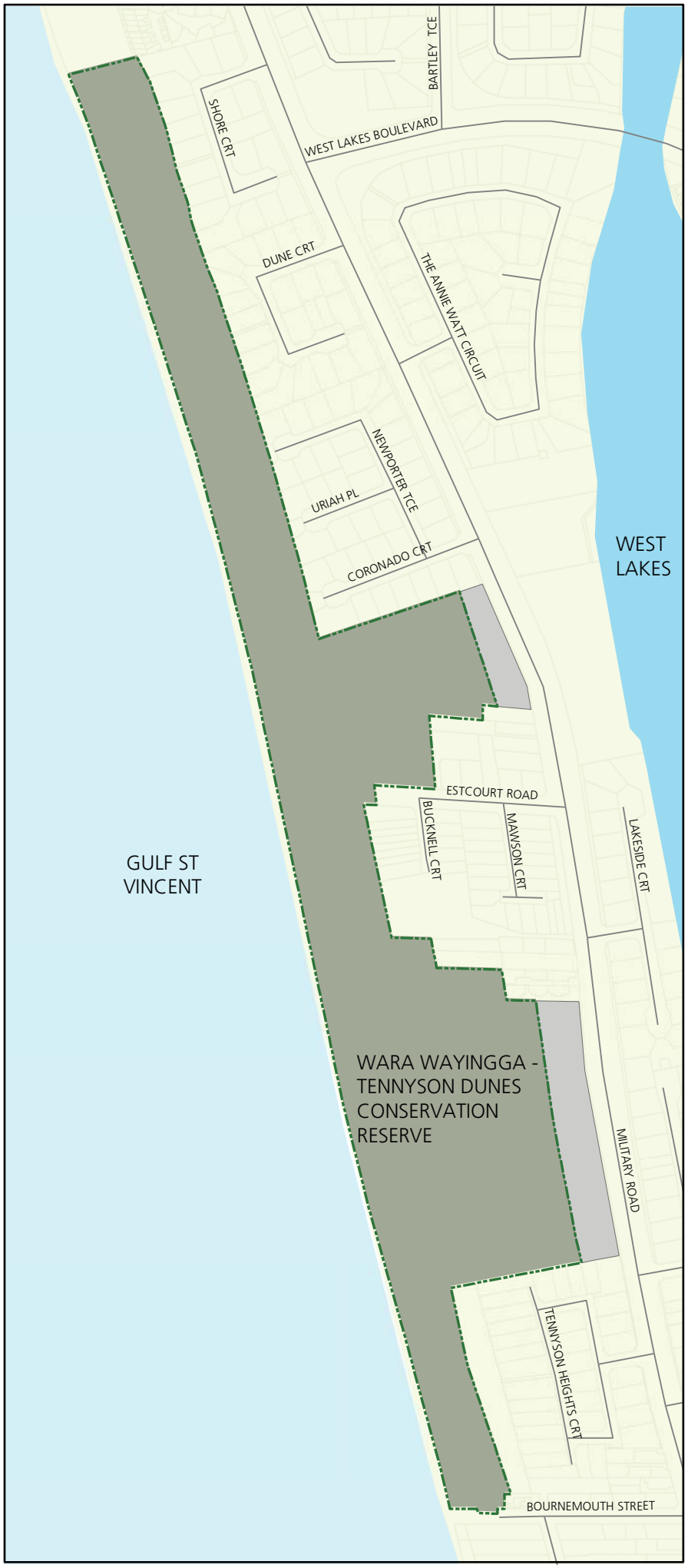
The 17ha Wara Wayingga - Tennyson Dunes Conservation Reserve and 1.4 ha of adjoining crown land is situated on the Adelaide metropolitan coastline, between West Lakes and the sea (Figure 1). The reserve is amongst the most culturally and ecologically significant strips of remnant dunes on the Adelaide metropolitan coastline. The mature, well-established native vegetation is one of the last representations of the original dune system once common along the Adelaide metropolitan coast. The reserve lies within the traditional lands of the Kaurna Meyunna of the Adelaide Plains who share their Culture and Country with other Aboriginal people.

The vegetated semi-stable dunes at Tennyson range from 60m to 200m in width. This width, along with the maturity of vegetation and its potential for natural regeneration, make the dunes comparatively more resilient to the impacts of storm damage and disturbance when compared to the narrow strips of dunes common elsewhere along the metropolitan coast.

Importantly, the reserve provides habitat for remnant plants, local native birds, reptiles and insects including for species of local, regional and state significance. It also contributes to a corridor of coastal habitat between North Haven and West Beach.

The proximity of the reserve to metropolitan Adelaide provides opportunities for an accessible educational experience where people can learn about the coastal environment, local plants and animals, coastal processes and the impacts of urbanisation, and how the land and its plants and animals are valued by Kaurna Meyunna.

The reserve is integral to the cultural and spiritual wellbeing of the Kaurna Meyunna and other Aboriginal people. The reserve is highly valued by the local and broader community. It is a place of significance to the local community and volunteers who care for it. It provides a place for walking, observing nature and quiet reflection. The adjacent beach is very popular for swimming, exercise, water sports, relaxation and social gatherings. A section of the 70km Coast Park linear walking and cycling trail passes through the reserve running north-south, providing opportunity for recreation and access along the length of the metropolitan Adelaide coastline.



LEGEND

- Wara Wayingga - Tennyson Dunes Conservation Reserve
- Adjoining Crown Land containing car parks
- Roads

0 m 100 200 300

Figure 1

Wara Wayingga - Tennyson Dunes Conservation Reserve

What are we looking after?

Wara Wayingga - Tennyson Dunes Conservation Reserve provides and protects:

- Plants, animals and a coastal environment valued by Kaurna Meyunna and other Aboriginal people.
- A line of sight to other sites of Kaurna and Aboriginal cultural significance, demonstrating connection to Country, song lines and stories.
- A remnant dune landscape comprising four vegetation communities progressing from the fore dunes through to the hind dunes:
  1. *Spinifex hirsutus* with emergent *Olearia axillaris* and *Atriplex cinerea* Open grassland.
  2. *O. axillaris / Acacia longifolia* var. *sophorae* Low open shrubland.
  3. *O. axillaris / Leucopogon parviflorus +/- Nitraria billardierei* Low shrubland.
  4. *M. lanceolata* Tall shrubland.

- A remnant coastal dune system that provides habitat for local native plants and animals (birds, reptiles and invertebrates) and contributes to a corridor of vegetation and habitat along the urban coastline.
- 57 species of local native plants including 18 species of conservation significance at a state or regional level (Telfer, 2015) (see Table 1).
- A diversity of local native birds (52 species) and reptiles (13 species) have been observed at the site (Telfer, 2015), including 15 species of conservation significance at a state or regional level (Table 2). A 2011 study of coastal reserves on the Lefevre Peninsula by the SA Herpetology Group concluded that "Tennyson still provides the best remnant habitat for coastal reptiles along the Adelaide foreshore".
- Coast Bitter-bush (*Adriana quadripartita)* occurs at the site (remnant and planted) providing habitat for the rare Bitterbush Blue Butterfly (*Theclinesthes albocincta*). The rare Cynone Grass Skipper (*Anisynta cynone cynone*) has been reported in tussock grass at the reserve.
- Opportunities to learn about Kaurna and Aboriginal environmental and cultural heritage.
- An accessible education experience in metropolitan Adelaide for people to learn about the natural heritage of the region.
- Built infrastructure to support the protection of and access to the reserve, including fencing, bins, paths and signage.
- A place for people to connect with nature in the midst of an urban area through passive recreation, quiet reflection and education or participation in the management of the reserve.

Over more than two decades, thousands of hours of work by the Tennyson Dunes Group have substantially contributed to the protection and enhancement of the reserve. Works undertaken include weed and feral animal control, collection and propagation of local native plant seed, revegetation, animal and plant surveys and community education, including the design of interpretive signs and conducting tours and presentations.

Table 1 - Flora of conservation significance

FLORA SPECIES	COMMON NAME	CONSERVATION STATUS*	
		NPW Act SA	REGIONAL (AMLR)
Picris squarrosa	Hawkweed / Squat Picris	R	EN
Lomandra leucocephala ssp. robusta	Woolly Mat-rush		VU
Scaevola crassifolia	Cushion Fanflower		VU
Podolepis rugata var. rugata	Coast Copper-wire Daisy		VU
Acacia cupularis	Cup Wattle		RA
Acacia ligulata	Dune Wattle / Umbrella Bush		RA
Actites megalocarpus	Coast Sow-thistle		RA
Adriana quadripartita	Coast Bitter-bush		RA
Alyxia buxifolia	Dysentery Bush / Sea Box		RA
Kunzea pomifera	Muntries		RA
Nitraria billardierei	Nitre-bush		RA
Melaleuca lanceolata	Black Tea-tree / Dryland Tea-tree		RA
Pelargonium australe	Australian Pelargonium / Austral Stork's-bill		RA
Santalum acuminatum	Quandong		RA
Senecio pinnatifolius var. maritimus	Variable Groundsel		RA
Lepidosperma gladiatum	Sword Rush / Coastal Sword-sedge		NT
Lotus australis	Australian Trefoil		NT
Callitris gracilis	Native Pine		LC

Table 2 - Fauna of conservation significance

FAUNA SPECIES	COMMON NAME	CONSERVATION STATUS*	
		NPW Act SA	REGIONAL (AMLR)
Thinornis rubricollis	Hooded Plover	V	EN
Neophema petrophila	Rock Parrot	R	EN
Falco hypoleucos	Grey Falcon	R	
Ctenophorus pictus	Painted Dragon		EN
Larus pacificus	Pacific Gull		VU
Zosterops lateralis	Hooded Plovers		VU
Aprasia striolata	Lined Worm-Lizard		LC
Christinus marmoratus	Marbled Gecko		LC
Falco centriodes	Nankeen Kestrel		LC
Phylidonyris novaehollandiae	New Holland Honeyeater		LC
Pogona barbata	Eastern Bearded Dragon		LC
Pseudonaja textilis	Eastern Brown Snake		LC
Ptilotula virescens	Singing Honeyeater		LC
Tiliqua rugosa	Sleepy Lizard		LC
Tiliqua scincinoides	Eastern Blue-Tongue		LC

Conservation Status

NPW Act SA Status Codes: X = extinct, E = endangered, V = vulnerable, R = rare

REGIONAL (AMLR): Adelaide and Mount Lofty Ranges Region (Gillam and Urban, 2014): RE = regionally extinct, CR = critically endangered, EN = endangered, VU = vulnerable, RA = rare, NT = near threatened, LC = least concern, DD = data deficient, NE = not evaluated

What are the challenges?

Challenges to the management of the Wara Wayingga - Tennyson Dunes Conservation Reserve include:

- Managing visitor access to enable people to enjoy the reserve and learn about its Aboriginal and non-Aboriginal history and ecology whilst protecting the natural environment and preventing damage and habitat disturbance.
- Limiting negative impacts to the reserve resulting from inappropriate behaviour, including off-path access, unplanned or uncontrolled fires, damage to infrastructure, anti-social behaviour, poaching and littering.
- Reducing adverse impacts on native vegetation associated with vegetation clearance and fire breaks, edge effects, *Phytophthora,* disruption to ecosystem balance, fragmentation and genetic isolation.
- Reducing the distribution and preventing the incursion of pest plants, including garden escapees.
- Controlling feral animals and their impacts including predation by feral and pet cats, and habitat damage and native animal death caused by off-leash dogs.
- Limiting storm damage to the dunes caused by wave action. The damage is exacerbated by the lack of sand and sand removal along the adjacent Gulf St Vincent, and the decline of seagrasses in the gulf.
- Climate change impacts including erosion and plant damage from increased storm events, lower water availability for plants and animals due to declining rainfall, and heat stress of plants and animals during heat waves.
- Ensuring adequate long-term funding and inter-governmental cooperation to support management of the reserve.
- Limiting impacts and encroachment from adjacent developments and residential areas.
- Preventing the overharvesting of remnant plant seed without permission.
- Ensuring the establishment of appropriate, attractive, sensitive and durable infrastructure.
- Maintaining and building community support
- Retaining organised, capable and dedicated volunteers.

Management themes and strategies

This section of the draft management plan addresses the most important management issues for Wara Wayingga - Tennyson Dunes Conservation Reserve, focusing on five key themes. For each theme, an objective and strategies have been identified. Broad measures of success including the collection of baseline or project data are suggested as a means to track the plan's achievements. The Biodiversity Action Plan contains additional recommendations for monitoring and evaluation.

Protecting and restoring a treasured environment

Objective	Improve and maintain the condition of natural and cultural assets

Significant work has been undertaken to protect and enhance the biodiversity of the reserve. Natural asset management action must be informed by Kaurna and Aboriginal cultural heritage management priorities to improve and maintain vegetation condition, habitat for native fauna and the dunes' resilience to sea level rise and storm surge.

Strategies	• Document cultural heritage management priorities in a cultural heritage management plan • Continue to improve, maintain and enhance the condition of the reserve through the implementation of the Biodiversity Action Plan • Investigate re-wilding opportunities • Support ecological research and use knowledge to inform management • Review opportunities for enhanced fire management including fuel load monitoring and management, risks to current vegetation condition and neighbouring properties and potential for post-fire regeneration
Measures of success	• Improved condition of dune vegetation • Populations of native birds, animals, reptiles and invertebrates are stable or increasing • Populations of pest plants and animals decline • Knowledge of dune biodiversity is enhanced and used to inform action • Completion and implementation of cultural heritage management plan

Balancing access and protection

Objective	Minimise the environmental and aesthetic impact of increased access

Popular natural areas such as Wara Wayingga - Tennyson Dunes must find a balance between providing access for all (including those with limited mobility) and protecting the natural values which attract visitors for recreation and amenity. The reserve contains a network of fenced soft-sand and hardened paths through and across the dunes. There is limited access for people with disabilities including people with wheelchairs, ambulatory and sensory disabilities and management of sand-drift across paths is an on-going issue. Incidents of anti-social behaviour in the reserve are common and visitor management is required to minimise adverse impacts on the dune system.

Strategies	• Develop a reserve asset management plan that considers access and access restrictions, materials choices, environmental sensitivity and maintenance requirements • Increase signage, monitoring and policing including increasing the presence of patrol officers (eg staff, ranger or police) to deter inappropriate behaviour
Measures of success	• Preparation and implementation of a reserve precinct asset management plan • Reserve is accessible for all people • Access is restricted in some areas to protect significant cultural and natural values • Reports of negative visitor impacts are reduced • Reducation in the number and length of informal access tracks • Reduction in the edge effect of formal access trails

Creating a place to come together to learn, connect and act

Objective	Establish Wara Wayingga - Tennyson Dunes as a place for interpretation and education

The Wara Wayingga - Tennyson Dunes Conservation Reserve provides a unique opportunity for Kaurna Meyunna and other Aboriginal people to be involved in activities and programs to enhance awareness of Kaurna and Aboriginal cultural heritage. The reserve protects a unique natural environment located on the metropolitan coast. The reserve has been used for a range of education and awareness raising activities however a lack of facilities limits current opportunities. Increased signage, tours and Kaurna and Aboriginal involvement have the potential to enhance interpretation and education.

Strategies	• Develop plant and animal identification tools that include Kaurna and common names and describe Aboriginal use of plants and animals, including for bush medicine • Develop interpretation tools that demonstrate the line of sight from the reserve to other culturally significant locations, demonstrating connections to Country, song lines and stories • Develop tour programs that describe the significance of Kaurna Culture and heritage and dune habitats and ecology to be run by Kaurna People • Develop opportunities for Kaurna involvement in on-ground management action • Educate the community (targeting young people and migrants) about coast and marine environments (including water safety) • Develop an interpretive facility on adjacent car parks that includes: > Collaborative learning areas for environmental and cultural education > Formal and informal education opportunities for a range of people including schools and community groups > Plant nursery, seed orchard and seed bank > Community meeting places and spaces for shared activities > Shared research into coast and marine environments > A design that reflects Kaurna values and is environmentally sensitive and aesthetically pleasing > Stormwater management for buildings and car parks that includes water sensitive urban design
Measures of success	• Increase Kaurna involvement in the day-to-day management of the reserve • Increase in the number and variety of education and awareness raising events and activities • Construction of an interpretative facility

Building capacity to look after the dunes

Objective	Improve the capacity of staff, volunteers and others to manage the reserve

Improving the capacity of volunteers and other staff working at the reserve is important to ensure appropriate skills of those working at the reserve, and to motivate, retain and recognise volunteers.

Strategies	• Continue to provide opportunities for training and up-skilling for volunteers, DEW and council staff and others • Celebrate the success of the reserve's volunteers • Support research to improve knowledge and practice • Encourage reserve neighbours and local residents to learn about dune biodiversity and protection
Measures of success	• Increase in the number of volunteers actively working to protect the reserve • Reduction in human impacts on the dunes, in particular vandalism and littering • Reduction in garden encroachments establishing in dunes

Committing to an agreed management approach

Objective	Develop an integrated, collaborative management approach

The management of the Wara Wayingga - Tennyson Dunes Conservation Reserve requires an integrated approach that involves Kaurna Meyunna and other Aboriginal people, government agencies and the community to take advantage of the combined knowledge, skills and passion for the reserve and with roles and responsibilities clearly defined. Achieving financial sustainability may require the reserve to develop its own revenue stream, potentially sourced through an interpretative facility and visitor events and activities. The development of a community and engagement strategy is also required to identify potential partners for engagement activities and support for community participation.

Regular review and evaluation is required to support an adaptive management approach and to report success to the broader community.

Strategies	• Develop a funding strategy and identify potential funding sources to support the long-term management of the reserve • Develop and implement a community engagement strategy • Undertake regular evaluation of progress towards implementing this draft management plan
Measures of success	• Kaurna involvement at all levels of management, from planning to on-ground works • Development of an independent revenue stream • Regular reporting of progress toward the vision and objectives of this draft management plan

Prioritising opportunities

With limited resources, the implementation of the strategies identified in this draft management plan will need to be targeted and considered to achieve the best outcomes for the reserve. Management actions are identified in a number of action plans for key areas of management at Wara Wayingga - Tennyson Dunes Conservation Reserve.

Prioritising these actions should consider the contribution to the following four primary prioritisation criteria:

- Application of a culturally appropriate approach, aligning Kaurna and Aboriginal values, customs and traditions
- Delivering the best biodiversity outcome for the reserve
- Application of an integrated (cross-theme) approach with multiple benefits
- Consistency with the vision for the reserve.

Secondary prioritisation criteria that may be considered include:

> Alignment with other plans and programs, and the ability to attract funding for the action
> Contribution to a self-sustaining natural environment
> Increasing awareness of dune values
> Reducing neighbouring land owners' impact on the reserve
> Risk to reserve current or future condition if opportunity is not progressed.

References

Cordingley, S. and Petherick, C. (2006) Vegetation Management Plan, Tennyson Dune Reserve, Yaitya Worra (True Indigenous Sand), prepared by SA Urban Forest Biodiversity Program for the City of Charles Sturt, August 2006.

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For further information please contact:

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Lomandra leucocephala p1
Silvereye on *Atriplex cinerea* p2
Enchylaena tomentosa, Nankeen Kestral, *Lotus australis* p4
Painted Dragon p6
Helichrysum leucopsideum p8
Tennyson Dunes Group at work p11
Kunzea pomifera p12: all courtesy of Kym Murphy from the Tennyson Dunes Group.

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