

Nomination form

NOMINATION FORM

| To help your nomination be successful, please fill out this form with as much information as possible. |
|--|
| Feel free to expand the answer fields as much as you require or append information to the form. |
| It is important that you attach images and a map of what you are nominating by email or by fax. |

For assistance with this form you may contact:

Your local historical society or council heritage adviser may be of assistance OR You may telephone a DEWNR heritage assessment officer on (08) 8124 4951.

BY: 12
HERITAGE BRANCH

A. Nominated Place

5 MAR 2013

| 1. Name | | | | | RECEIVED | |
|---|---|-------------------|--|--|--|--|
| Name of Place / Object: | Tennyson Dunes Reserve | | | | | |
| Any other or former name(s): | Estcourt House Dunes, West Lakes Dunes | | | | | |
| Is the place already on another heritage list? | National Trust Heritage at Risk List | | | | | |
| | | | | | | |
| | | | | | | |
| 2. Location | | | | | | |
| Street Location: | 12 kilometre | s north west | of the City of | Adelaide on Milita | ary Road Tennyson | |
| | Suburb / Town: No specific street address Post Code: 5022 | | | | | |
| Local Council Name: | City of Charles Sturt | | | | | |
| Land Description: Table attached | Title: Multiple | Volume: | Folio: | Parcel Type: | Parcel No: | |
| | Plan Type: | Plan No: | Section: | Hundred: | | |
| GPS Location/s: (If known) | Longitude / Easting Northern Extremity: 138_28' 46.83" E SouthernExtremity: 138_29' 0057" E | | Nor 34_ | Latitude / Northing (Datum =) Northern Extremity: 34_52'14.00" S Southern Extremity: 35_53'01.96" S | | |
| 3. Ownership | | | | | | |
| Name of Owner(s): | - | 3. | 1 1 | The second section of the secti | The second secon | |
| Contact person: (if different from owner explain relationship) | | | | | | |
| Postal Address: | - | Non-regulation of | Nagarata da Santa da | | . Toles. | |

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Ownership History:

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| | section of | of the dun | es to p | reserve them. | Since 199 | in and bought a la 5 The Tennyson I The City of Charle | Dunes |
|------------------------------|--|------------|--|--|---|---|-------|
| 4. Nominators (your details) | THE STATE OF THE S | | | | | | |
| Your Name: | | | | The second secon | 4/3 | waste ball | |
| Organisation/Position: | c ¹ | | d, | | | | |
| Daytime Phone: | - | | AND DESCRIPTION OF THE PARTY OF | - Annual | and Commission and Commission of the Commission | | |
| Fax: | Fig. 67 | | - NACHTHANDS | | | | |
| Postal Address: | The second secon | | | | | | |
| Email Address: | i i | | | and the second s | | Andreas | |

The care and control of the Tennyson Dunes is complex and under a number of Titles listed above. This public ownership came about as a result of a concerted campaign against the development for housing of the dunes in the

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B. Description

| Description of the nominated place or object and its current condition: | The Tennyson Dunes Reserve occupies 20.5 hectares on Adelaide's metropolitan coastline with a foreshore frontage of 1.5 kilometres. The dunes are 12 kilometres north west of the city of Adelaide on Military Road. They form a parallel dune barrier of coastal grass and shrubland and are part of the interconnected system surrounding the locally historic Estcourt House. The dunes have been described as the most environmentally significant system remaining in any capital city in Australia (Tim Holle, Marine Discovery Centre, pers com). They are a major open space for the Adelaide plains and the most significant coastal vegetation remnant where plants and animals co-exist. They provide habitat and food resources for local birds, reptile and insects in an urban area. They are the only three tiered dune system, that is with a front, swale and rear dune in the metropolitan area. The Tennyson Dunes are part of a significant corridor for indigenous fauna of local and regional significance along the coastal strip between Port Adelaide and Somerton Park. The ownership of the Tennyson Dunes is divided into eight allotments, the main owner being the Coast Protection Board which purchased most of the dunes in the 1970's. The other owner is the City of Charles Sturt who support this application for State Heritage Listing, there is also some un-alloted Crown land. The Coast Protection Board visited the Tennyson Dunes Reserve in March 2011 with a view to gaining an appreciation of the area and the issues that affect it. The Board did not make a resolution on the long term future of the dunes at its visit but did discuss a number of management options as follows. Protection under the National Parks and Wildlife Act 1972 State Heritage Act (Section 16) Crown Land Management Act 2009 (Sections 11, 12 and 61) Coast Protection Act 1972 (Section 34) Native Vegetation Act 1991 The Board has stated, "The Tennyson Dunes are remnants of the original Adelaide Coastal Dune Field and will be |
|--|--|
| re you aware of any modifications or additions of the place or object? In you provide dates for these changes? | preserved and restored accordingly". Walking paths, fences, car parks and a viewing platform. |
| o you believe there may be historical items nder the ground? hould an archaeological investigation a considered? | No |
| | No . |
| te you inspected the place or object: | 5 th October 2012 |
| rrent use of the place or object: | Environmental activities such as revegetation, weed removal, general care, education and recreation. |
| iginal or former use(s): | Kaurna visiting place, recreation, hunting and sand mining. |
| | |
| e there any current or long term threats the nominated place or object? | There are many threats both current and long term. Pollution from stormwater, industrial effluent and wastewater has decreased South Australia's coastal water quality, destroying more than 10,000 ha of seagrass meadows in Gulf St. Vincent. This has disrupted the movement of sand, causing erosion |



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Predicted sea level rise along with global warming are also grave threats to the long term future of the dunes.

In 2005 the SA Urban Forest Biodiversity Team's Simon Cordingly and Claire Petherick compiled a Vegetation Management Plan (VMP) for the Tennyson Dunes. The purpose of the plan is to identify management issues that threaten the integrity of the region's coastal native vegetation. The aims of the plan are:

• to protect and restore native vegetation, particularly species of conservation significance;

• protect existing native fauna and provide habitat and conditions that encourage their return (i.e. habitat

 encourage and support community participation in dune management and an appreciation in the wider community.

The VMP made recommendations regarding threats, which include:

- · weed, pest and animal invasion
- · pedestrian access
- stormwater discharge
- · erosion and fire

It is stated in the VMP that a co-ordinated approach is crucial to prevent further degradation and to enhance the natural biodiversity of this fragile coastal environment.

The VMP features:

- site and vegetation community descriptions, including species lists and aerial vegetation maps;
- a weed control plan that includes a list of priority weed species, weed distribution maps and weed control methodology;
- a revegetation plan detailing a list of suitable species, quantities required and revegetation methodology;
- recommendations for addressing native vegetation.
 management issues including fire, access and fencing, erosion, introduced fauna and stormwater outfall areas.
- background information, including history, current status and possible future sand management strategies;
- identification of opportunities for educational activities and signage.

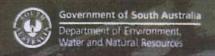
This plan has been implemented by the City of Charles Sturt in conjunction with the Tennyson Dunes Group over the past five years.

Lack of legislative protection is a concern for local Dune Groups, for example the Native Vegetation Act does not apply in the Metropolitan area.

The Tennyson Dune Group, along with other local dune groups, are extremely concerned that any further development in the dunes such as the proposed State Government bike/walk path could threaten their integrity.

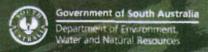
| And desired of the last | Name of Builder: | |
|--------------------------------|------------------------|------------|
| Name and Address of the Owner, | Any other information: | ********** |

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C. History

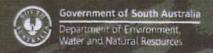
| 6. Origins and history | | |
|---|--|--|
| Years of Construction: | Start: | Finish: |
| Name of Designer / Architect: | State of the state | |
| History of the nominated place or object: | of development and pre and early Euro. The Kaurna people accessing the natu Peninisular to their death'. They also | nes Reserve highlights the historical pattern d urbanisation of Adelaide's coastline from pean settlement. e visited the Dunes on a regular basis, and resources of the coastal strip of LeFevre north known as Yerta Bulti – 'land of sleep or inhabited the estuarine wetlands from Port tawalonga to the south known as Witoinga – |
| | 'the reedy place' and These areas provid life and native flax. | nd it appears led a semi sedentary life. ded abundant fish, shellfish, crustaceans, bird The area was also rich in samphire re swamps and covered with extensive native |
| | | ree and honeysuckle tree forests - all |
| | The dunes from Gi popular with bird or were either shot for it was recorded by Adelaide coastline occurred. Early set a useless mixture of it was generally ab | deneig to what is now West Lakes were collectors such as John Gould and many birds or collections or sent back to Britain in cages, the early settlers that the dunes fringing the were well vegetated and that few blowouts of sandy scrub and boggy, reedy swamp and bused, goats were grazed and trees were cut |
| | Estcourt House, where Frederick Estcourt arriving at Port Ade In 1932 Fenner and described it thus: "House between the | of colonial construction is the Heritage Listed hich was built in the dunes 1882-1884 by Bucknall enabling him to view his ships |
| | immediately eastwood by a shallow depret part of the dunes, will state the sandhille sand, but for the mare covered with a The early coastal to the Torrens outlet will enabling the Torrent the swampy area but much of the sea gradirectly reached the dissipated amongst | red yards. On the seafront is a sharp rise and of the highest tidal limits. This is followed assion (swale) and then usually by the highest with a fairly sharp descent on the landward of the between the between two swales. In a sare bare and of shifting dazzling white cost part, except on the actual seafront, they vegetation of their own. (Cleland 1932) ownships remained isolated until 1938 when was cut through the dunes for the first time as to flow directly out to sea. This resulted in seing drained and the consequent death of ass. Prior to 1938 the River Torrens never a Gulf, even in peak winter floods. Instead it the inland coastal dunes and slowly filtered out River and southward toward the |
| | The first was the dr the Torrens' floodw land to be reclaimed At first the land was replaced by housing Lakes the 1970s, we marshes removed. | Torrens Outlet had two profound effects, rainage of the Reedbeds, which depended on raters for survival, this enabled large areas of d and urbanised. Is used for vegetable growing which was later g, culminating in the development of West which saw the last of the mangroves and salt. It was also at that time that local residents are the dunes from further housing |



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|---|--|-----------------|
| | The state of the s | |
| | | g van varit tij |
| | | |
| Historical sources used to support your nomination: Please attach copies of pages from publications or newspaper articles as appropriate. | Lists attached | |

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D. Heritage Significance

7. Statement of State Significance - Why is the place or object important to South Australia?

It is of State heritage significance because the Tennyson Dunes illustrate the geological and morphological evolution of the Adelaide coastline.

The Tennyson Dunes contain an unusual richness of diversity of flora, fauna and landscape and are a unique reminder of what the Adelaide Coastline looked like before European settlement. They are the only three tiered vegetated dune system left in the metropolitan area and contain rare plants now found nowhere else along the metropolitan coast.

The Tennyson Dunes contribute to a wider understanding of South Australian natural history, by virtue of its value as a research, teaching, reference and benchmark site.

The Tennyson Dunes are a major open space for Adelaide and it is important to preserve existing natural processes, natural landscapes and geomorphology.

8. Significance Criteria

The South Australian Heritage Places Act 1993 lists seven criteria by which places are assessed as 'State significant.' Please tick the criteria you feel the place demonstrates and explain your reasons.

It demonstrates important aspects of the evolution or pattern of the State's history.

Demonstrates changes in the public's attitude and in the population as a whole to the Tennyson Dunes. From seeing it as a source of hunting, grazing, wood gathering and sand mining and general destruction to preservation and restoration.

It has rare, uncommon or endangered qualities that are of cultural significance. The Tennyson Dunes contain many of the original plants that were there before European settlement and that were used by the Kauma people for food, medicines and crafts. It is known that they visited the dunes on a seasonal basis to collect birds' eggs, mammals, reptiles, fish, shellfish and native flax. The flax was essential for making mats, baskets and nets used in hunting. They called the dunes Yerla Bulti ('land of sleep'). It is documented that the Kauma used to bury their dead in the dunes and evidence has been uncovered near the Torrens outlet and in the Reedbeds at Kidman Park, but none has been found at Tennyson.

it may yield information that will contribute to an understanding of the State's history, including its natural history.

The Tennyson Dunes are the end result of events that began when the land was still joined to Antarctica as part of the Gondwana super continent. The geology and biodiversity from the Precambrian age to the present time provide ongoing information about the history of this large coastal area. The Mount Lofty Ranges, twenty kilometres east of Port Adelaide, are part of an ancient and geologically complex region. The ranges began as sedimentary layers of sandstone, shales and limestone laid down in a great basin called the Adelaide geosyncline in Precambrian and Cambrian times about 500 and 1,400 million years ago.

The sedimentary deposits of the Adelaide Plains and Gulf St. Vincent are formed from the alluvial deposits of this timeless erosion. Where the river met the sea these alluvial deposits accumulated to form a crescent shaped ridge of sand that sweeps in an arc from St. Kilda to join the Tennyson sand dune system. In the last few thousand years the shoreline and plain have remained in a continuous process of change. Early Europeans discovered the recently formed sand dunes running parallel to the coast and other lines of sand dunes further inland marking the lines of much older shores.

Geologically, the sand along most of Adelaide's coast is known as 'Semaphore' sand named after its type locality. The sand consists mainly of siliceous grains reworked from sediments that are most likely of Permian origin, i.e. 300 to 350 million years old. (DEH 2005)

The underlying structure of Tennyson Dunes is a light clay soil and limestone cap rock from the previous sea floor. The main soil type is known as Pedocal because of its alkanity.

According to Dr. Vic Semeniuk B.Sc. (Hons) Ph.D., Environmental scientist and Natural History Research Scientist, "The present Tennyson Dunes are

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only a fragment of a once much larger quartz-sand dominated Holocene barrier dune (termed here the Tennyson Dune Barrier)*

This dune system formed a barrier to the Port River which was deflected northwards and southwards to form a long linear leeward wetlands and estuary complex with the estuary (called the Port River Estuary) well developed to the north.

Originally the barrier was 10 kilometres long and in the Tennyson Dunes area about 500 metres wide and barred a wetland and estuary complex that was 100-200 metres wide. The barrier itself was comprised of a main central moderately high-relief single barrier (100-150 metres wide and 10-12 metres high) oriented north south and a series of three lower relief beach ridges (or fore dunes) each 15-20 metres wide and some 3-5 metres high. These beach ridges are now stranded. This geomorphology shows that the "Tennyson Dune Barrier" had a two stage history. One of high barrier construction that would have also initially barred the Port River to form the wetland and estuary.

in a National context, it is believed that the Tennyson Barrier Dune cum leeward wetlands and estuary complex formed one of only 6 Holocene linear barrier dune and leeward lagoon systems in Australia.

It is thought the former Tennyson Dune Barrier would have qualified as nationally significant had the West Lakes development not disturbed it. Almost the entire leeward wetland and estuary complex has been developed or modified.

However, although fragmented and remnant there is still enough left of the former Tennyson Dune Barrier to satisfy the criteria of the AHC as being nationally important in illustrating the evolution of the Australian coast. At the very least, the Tennyson Dunes are of State significance and should be conserved for geoheritage values. (Semenuik, 2012)

Today the Tennyson Dunes are the most significant area of remnant vegetation along Adelaide's metropolitan coastline and together with remnant dunes equate to only 3% of what used to be. Alarmingly, the Tennyson Dunes Reserve, which itself is located within the 12 842 ha Reedbeds IBRA (Interim Biogeographic Regionalisation for Australian Association) has less than 0.1% of its original vegetation. This means that it is classified as relictual and the Tennyson dunes that exist within it are considered a fragment, and their long term survival is in jeopardy. Due to its isolation, relictual patches of vegetation such as those at Tennyson Dunes face several threats, one of which is the "Edge Effect" which provides environments less favourable for habitat of local species and more conducive to introduced species. Weed species, especially from nearby homes, are competing with native plants thereby changing the biological balance. They can increase soil nutrient levels and change vegetation cover, causing disruptions to the sand movement processes essential to dune formation, as well as altering dune shape. Seed dispersal and quality, inbreeding of plants and loss of genetic diversity due to pollinators being unable to reach the area are also threats.

In 2009 The NRM extensively mapped the coastline from Sellicks Beach to Outer Harbour, producing "The Metropolitan Adelaide and Northern Coastal Action Plan (MANCAP). This plan was about identifying areas that needed protection and identifying natural coastal assets.

The Tennyson Dunes recorded High to Medium on the detailed analysis with plant communities of threatened and endemic value supporting the most significant stands of coastal remnant vegetation remaining on the Adelaide Plains. Fifty two indigenous plant species were identified, sixteen of which are of conservation significance for South Australia, four are rare and nine uncommon in the SLR(Southern Lofty Ranges) floristic region. Among them were a few old stunted trees of dryland tea-tree, probably the last remnants of their kind along this part of the coastal strand, according to conservationist Darrell Kraehenbuehl.

The dunes provide critical habitat for native fauna and invertebrates and numerous native bird and reptile species have been observed, some of conservation status. Nankeen kestrels regularly hunt in the dunes and sometimes the rare black-shouldered kite. The rich source of seeds and

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geckos and lined worm lizards.

Recent herpetology surveys have revealed that the dune swales at Tennyson are a hot spot for painted dragons as well as eastern bearded dragons, four-toed skinks and eastern brown snakes.

Matejcic (2012) states that "Tennyson still provides the best remnant habitat for coastal reptiles along the Adelaide foreshore and is worthy of further conservation efforts to protect remaining land from development and further fragmentation. Tennyson also provides excellent opportunities for additional studies on thermoregulation for painted dragons, coastal bearded dragons and other small skinks."

Recent ant surveys have revealed that there are 16 different types of ants in the dunes, a very high number. The Tennyson Dunes Group believe that ants play a vital role in the overall health of the dune system and that more research is needed in this area.

It is an outstanding representative of a particular class of places of cultural significance. Aesthetic Values: It is the largest and only three tiered dune system in the metropolitan area of Adelaide and of any major Australian City. It is a coastal system that is important to the understanding of South Australian environmental and cultural heritage.

It is a major open space and recreation area for locals and visitors alike with its height and viewing platform giving wonderful views of the sea, beach and surrounding coast. It is widely used by walkers and runners who value its healthy environment and appealing backdrop of attractive flowering indigenous plants.

People with an interest in the local Kaurna culture also visit the dunes to see food and lifestyle plants that are used in medicines and crafts. Some plants found in the Tennyson dunes no longer exist in other dunes along the metropolitan coast.

The area has excellent educational values for students of all years and is widely used by the local community as an education resource. It is on the migratory trail for many birds that winter here from as far away as Siberia and provides an excellent food source. Walking through the original bush in the dunes gives people a perspective of what the Adelaide coastline originally looked like to the first settlers. They highlight the historical pattern of development and urbanisation of Adelaide's coastline from pre and early European settlement.

The Heritage Listed Estcourt House built in the dunes between 1882-1884 by Frederick Estcourt Bucknall and now a private residence can still be viewed from the path and viewing platform.

- It demonstrates a high degree of creative, aesthetic or technical accomplishment or is an outstanding representative of particular construction techniques or design characteristics.
- It has strong cultural or spiritual associations for the community or a group within it.

The Tennyson Dunes have been under constant threat over the years mainly from developers and each time the public has come to the rescue. In the 1970s development plans caused such widespread outrage that the Coast Protection Board purchased a considerable portion of the dunes. Again in the 1980s plans by the then government to develop another portion of the dunes caused the CFMEU Union to put a Green Ban on any development and the sign is still there in the dunes.

Although the dunes were saved from destruction then, it was not until 1995 that the Tennyson Dunes Group was established with the support of Coastcare, the local Council (now City of Charles Sturt) and The West Lakes Kiwanis.

The Tennyson Dunes Group have been actively involved in various projects such as pest, weed and animal control, fencing and propagation of local native plants, revegetation projects and rare plant recovery. They have held native plant workshops to educate people on growing native

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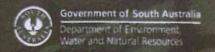
plants in their gardens. A self guided walk has been provided at the dunes and an Open Day is held once a year with local experts, council and group members taking visitors through the dunes.

It has a special association with the life or work of a person or organisation or an event of historical importance.

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The Tennyson dunes have a special association with the life of Frederick Escourt Bucknall, entrepreneur, who constructed the Heritage Listed Estcourt House in the dunes between 1882-1884. He arrived in Australia in 1860 and was a business man and developer who became Mayor of Hindmarsh. He also was a State politician from 1881-1884 during which time he tried to gain approval for a plan to have a channel cut through the dunes adjacent his house from Port Adelaide. The Estcourt House site was chosen because of the view it gave him of his ships arriving at Port Adelaide. He went broke however and he retreated to England. His house was deserted until 1896 when it was purchased by the James Brown Memorial Trust to be used as a home for incapacitated children. Today it is a private home and the dunes around it have been subdivided for housing. A recent book on eminent early omithologist, John Gould, reveals that he visited the dunes several times on his visit to South Australia in 1837, when he stayed for two months with Charles Sturt in his cottage. The birds that he collected here formed an important part of his collection and he later wrote several letters to friends he made while here.

The eminent scientists, naturalists and ornithologists John Cleland & Charles Fenner described the dunes eloquently in their book published in 1932. We know from their descriptions of the plants existing in the dunes at that time that many of the plants existing then are still in the dunes today. Hallam, Lord Tennyson, after whom the dunes are named, was Governor of South Australia from 1899-1902 and the second Governor General of Australia from 1902-1903. During his time here he helped design South Australia's Seal and flag and the Tennyson Medal for students is named after him. Lord Tennyson had a holiday residence in the dunes that was later converted into a dairy and the cattle allowed to wander the dunes. Count Ferdinand Von Mueller arrived in Adelaide in 1847 and the very next day was out collecting the plant Helichrysum leucopsideum in the dunes and this specimen is preserved in the Melbourne Herbarium.

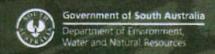


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View to west from the viewing platform showing the two front dunes of the three tier dunal system

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E. Additional Information

9. Images/Maps/Diagrams/Site Plans

A full range of images including maps, site plans, and photographs will help your nomination. Please provide:

- · a clear outline of the place or object being nominated within any maps or plans provided (attached)
- high quality images of the place or object (please list the total number of images being provided) 8 plus those in reference documents
- the subject of each image
- · the date each image was created
- the author of each image, and
- the copyright holder of each image (if



Views across the dunes to the north from the viewing platform showing the historic Estcourt House

(Fernando M. Gonçalves) (09/2011)

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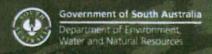
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Two of the many interpretive signs through the dunes. (Fernando M. Gonçalves)

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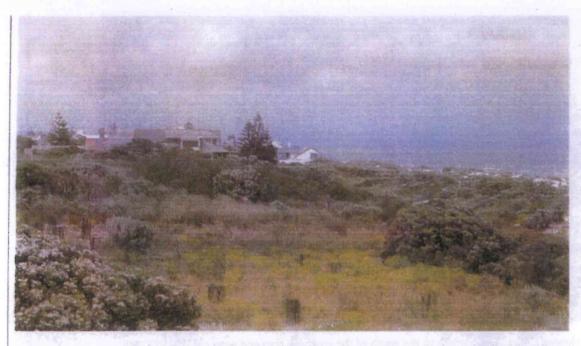




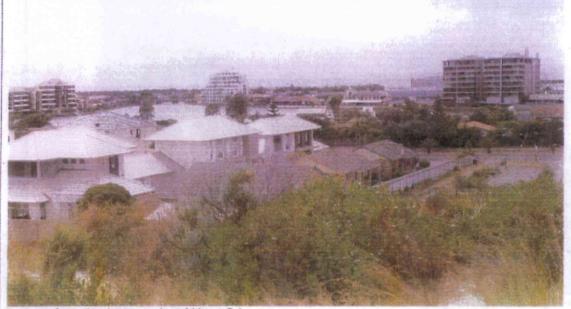
Assoc Prof. Victor Gostin and Val Wales leading a group on a Tennyson Dunes Open Day 2011 (Fernando M. Gonçalves)

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The Tennyson Heights Court development to the south of the southern area and west of DP21017 A45

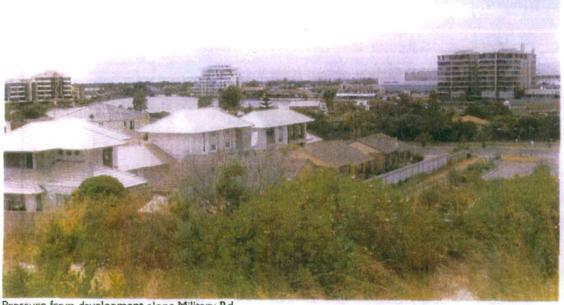


Pressure from development along Military Rd (Fernando M. Gonçalves) mages here:

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The Tennyson Heights Court development to the south of the southern area and west of DP21017 A45



Pressure from development along Military Rd (Fernando M. Gonçalves) mages here:

Location for Tennsyon Dunes







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Your Signature.

The personal information collected from this form will be handled in accordance with the Department of Environment, Water and Natural Resources privacy statement. Personal information provided in this application may be provided to other SA Government agencies.

Nomination Form Checklist

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Please check that your nomination includes:

A clear indication of the location of the place or object (including map/s). Where a number of features are nominated, show the location of each and/or a boundary surrounding the significant elements of the site.

A history of the place or object explaining important aspects relevant to the nomination.

This should generally help support arguments of cultural significance.

EA clear description of the nominated place or object/s.

🗷 A statement of significance and indication on how the place or object satisfies one or more of the significance criteria.

A heritage officer may contact you to discuss aspects of the nomination.

Email: DEWNRHeritage@sa.gov.au

Post: Executive Officer, South Australian Heritage Council Department of Environment, Water and Natural Resources GPO Box 1047, Adelaide 5001