



Australian Heritage Database

Places for Decision

Class : Natural

Identification

List: National Heritage List
Name of Place: Porongurup National Park
Other Names:
Place ID: 105982
File No: 5/01/081/0035
Primary Nominator: 104311 Australian Heritage Council
Nomination Date: 09/07/2007
Principal Group: Vegetation communities

Status

Legal Status: 09/07/2007 - Nominated place
Admin Status: 03/06/2008 - Assessment by AHC completed

Assessment

Recommendation: Place meets one or more NHL criteria
Assessor's Comments:
Other Assessments: :

Location

Nearest Town: Mount Barker
Distance from town (km): 15
Direction from town: E
Area (ha): 2620
Address: Mount Barker Porongurup Rd, Mount Barker, WA, 6324
LGA: Plantagenet Shire WA

Location/Boundaries:

About 2620ha, 15km east of Mount Barker.

Assessor's Summary of Significance:

The Porongurup National Park is a place of exceptional biological and ecological significance. The Park has one of the richest concentrations of plant species in Australia with more than 700 native plant species within the park of 2,621 hectares. The place is also highly endemic for a wide array of plant species, and represents an important remnant of the rich flora of south west Western Australia in a largely cleared agricultural landscape. Examples of plant groups which contribute to this

outstanding richness and endemism include: heaths (Epacridaceae) especially beard-heaths (*Leucopogon*); peas (Fabaceae) notably flame-peas (*Chorizema*) and also bitter-peas (*Daviesia* and *Bossiaea*), and poison-peas (*Gastrolobium*); native myrtles (Myrtaceae); pimeleas (Thymelaeaceae), notably rice flowers (*Pimelea*); sundews and pitcher plants (Nepentales); bloodroots, conostyles, kangaroo paws and their allies (Haemodorales); and banksias and grevilleas (Proteales). It is also important for richness in lilies, orchids and allies (Liliales), notably native lilies (Anthericaceae), irises and allies (Iridaceae), and orchids (Orchidaceae).

The Porongurup Range has acted as a refuge for invertebrate species. The granite outcrops of the Park provide damp refuges for Gondwanan relictual species, which are more closely related to groups in mountainous areas of eastern Australia, Tasmania, New Zealand and other Gondwanan continents, than to the surrounding lowlands in the region. The Porongurup National Park is significant at a national scale for endemism and richness in spiders, in particular primitive trapdoor spiders (mygalomorphs). These have a Gondwanan distribution, for example some genera have a restricted distribution in Australia, but are also found in southern Africa, and are thought to be a relict of Jurassic times when Africa was joined to Australia 140 million years ago.

Draft Values:

<i>Criterion</i>	<i>Values</i>	<i>Rating</i>
A Events, Processes	The south-west of Western Australia is one of only 34 internationally significant hotspots for biodiversity (Myers et al. 2000), and the Porongurup National Park is an important remnant of the flora of the south-west, with exceptional richness and endemism of species, particularly plant species. A minimum of 700 vascular plant species have been recorded within the park of 2,621 hectares, indicating a high concentration of species. (Keighery 1993, CALM 1999, ANHAT 2008). The place is one of the richest and highly endemic areas in Australia for a wide array of plant species including heaths (Epacridaceae) especially beard-heaths (<i>Leucopogon</i>); peas (Fabaceae) notably flame-peas (<i>Chorizema</i>) and also bitter-peas (<i>Daviesia</i> and <i>Bossiaea</i>), and poison-peas (<i>Gastrolobium</i>); native myrtles (Myrtaceae); pimeleas (Thymelaeaceae), notably rice flowers (<i>Pimelea</i>); sundews and pitcher plants (Nepentales); bloodroots, conostyles, kangaroo paws and their allies (Haemodorales); and banksias and grevilleas (Proteales). It is also important for richness in lilies, orchids and allies (Liliales), notably native lilies (Anthericaceae), irises and allies (Iridaceae), orchids (Orchidaceae), and flax-lilies and allies (Phormiaceae) (Keighery 1993, ANHAT 2008).	AT
	The granite outcrops of the Porongurup NP provide damp refuges for Gondwanan relictual species. The Porongurup NP is significant at a national scale for endemism and richness in spiders, in particular primitive trapdoor spiders	

(Mygalomorphae), including trapdoor spiders (Idiopidae) brushless-legged trapdoor spiders (Migidae), two-doored trapdoor spiders (Actinopodidae), and funnel-web spiders (Nemesiidae). These have a gondwanan distribution, for example genera of the Migidae family have a restricted distribution in Australia, but are also found in southern Africa, and are thought to be a relict of Jurassic times when Africa was joined to Australia 140 million years ago (Main 1993, ANHAT 2008).

Historic Themes:

Nominator's Summary of Significance:

The Porongurups contain a major vegetation remnant of the botanically rich south west Australian biome. The place holds a significant diversity of plants, 709 native species, in a relatively small area (less than 3,200ha).

Notably diverse plant groups include beard-heaths (*Leucopogons*), flame-peas (*Chorizema*) and bitter-peas (*Daviesia* and *Bossiaea*), orchids, banksias and hakeas and mountain bells (*Darwinia*). Plant diversity is highest especially in lower and open scrub and open forest areas of jarrah (*Eucalyptus marginata*) and marri (*E. calophylla*), which are remnants of the surrounding countryside now extensively cleared. The place is also notable for holding outliers of karri forest (*E. diversicolor*), which is a function of its 670 metre elevation and granitic substrate, which acts as a refuge for moisture loving species.

The place is one of the largest granite massifs in Western Australia and amongst the oldest in the world. South-west Australian granitic mountain tors, including the Porongurups, are of evolutionary interest supporting relict plant species, and the Porongurup Ranges reflect this in holding outlier karri forest (*E. diversicolor*), and at least nine endemic plant species, along with Gondwanan relict invertebrates such as trapdoor spider (myglomorphs) species (*Neohomogona bolganupsis* and *Moggridgea* sp.), unusual land snails and a giant earthworm (*Megascolex* sp.).

The ranges' dramatic mountain scenery and spectacularly colourful wildflower displays attract thousands of visitors each year.

The place also holds eight of the thirteen internationally recognised southwest Australian endemic bird species.

Description:

The Porongurup Range is spectacular in the surrounding landscape, its massive granite domes rising dramatically from the plains. This rugged forest 'island' contrasts with the largely cleared surrounding countryside and agricultural land patterns. The Porongurup National Park encompasses the majority of the Porongurup Range. Birdwatchers, photographers, botanists and wildflower enthusiasts are attracted to the Porongurup National Park by the beauty and diversity of the landforms and wildlife. The proximity to urban centres in the southwest including Albany and Mt Barker also makes it a popular destination for visitors.

The Porongurup National Park is located in the Shire of Plantagenet, 35 kilometres north of Albany in the south of Western Australia. The Park covers an area of about 2,621 hectares although the range itself is 3,200 hectares in size. The granite domes of the Porongurup Range are clearly visible from the coast around 30 kilometres to the south, as well as further inland from the Stirling Range 25 kilometres to the north. The Porongurup Range is 12 kilometres long and three kilometres wide, with the highest point of 670m at Devil's Slide. Other summits include Marmabup, Wall's Summit and the Rock of Gibraltar at the western end of the range and Morgan's View, Nancy Peak and Twin Peaks in the centre.

The Porongurup National Park lies within the traditional lands of the Minang group of the Nyungar people (Green 1984; South Australian Museum 2006). Although the importance of the Porongurups in Nyungar cosmology is documented (Colbung & Montrose 1994), neither the Porongurup National Park nor Stirling Range National Park has been subject to a systematic archaeological survey (CALM, 1999). However, accounts of Minang society (Hallam 1975; Meagher 1974; Anderson 1984) indicate such sites are likely to occur in the area.

The Porongurup National Park is the largest inland remnant between the coast and the Stirling Range and one of the largest granite massifs in Western Australia (Beard 1981). It is also among the oldest mountain ranges in the world. It owes its formation to the massive tectonic forces that have shaped the southern and western coasts of Australia. The range formed about 1,184 million years ago, the likely result of a collision between the Australian and Antarctic landmasses (Black *et al* 1992, Abbott 1980). It is representative of the Archaean plateau of Western Australia. The range consists of gneisses and granites formed of porphyritic biotite granite and adamellite. Over time the softer sediments surrounding the granite have eroded, forming the peaks, domes and ravines visible today. Outcropping granite rocks on the south coast of Western Australia are characterised generally by diverse and endemic plant species, and the diversity of microhabitats has enabled the persistence of species beyond their main range in the face of climatic fluctuations (Hopper *et al.* 1997).

At various times the Porongurup Range has been isolated as a true island, most recently during the Eocene period (55 million years ago) when the sea reached as far as the Stirling Range (Olver 1998). Evidence for this can be found in bands of laterite which are located throughout the south-west of Western Australia. Areas of deep sand similar to that found to the north and east of the range are also evident.

The Porongurup Range has a Mediterranean climate with cool to mild winters and warm, sunny summers (CALM 1999). Conditions become cooler and more humid higher up in the range. Typically, the northern slopes of the range receive 840mm of rainfall whereas the windward, southern slopes receive 900-1000mm (Olver 1998). Most rainfall is received between May and October although at times, occasional snow may fall on the taller peaks for short periods during winter and spring. Most drainage lines flow north or south, with Bolganup Creek and Cockatoo Creek the only significant creeks.

The Plantagenet Shire is among the most extensively cleared shires in South-Western Western Australia (Griffin 1995). Only two small areas of uncleared land about the

boundary of the Porongurup National Park. Wheat-growing, grazing, forestry and more recently vineyards have altered the appearance of the areas adjoining the park and have had an impact on the plants and animals that live there.

The Porongurup Range possesses a rich floral diversity. Researchers have identified 822 vascular plant taxa comprising 709 natives and 113 weeds (Keighery 1999). The majority of plant species can be found in the laterite soils of the lower slopes. The largest families are the Cyperaceae (31 natives, 2 exotics), Orchidaceae (57 natives, 1 exotic), Poaceae (17 natives, 17 exotics), Asteraceae (38 natives, 16 exotics), Epacridaceae (31 natives), Mimosaceae (21 natives), Myrtaceae (44 natives), Papilionaceae (47 natives, 11 exotics) and the Proteaceae (52 natives) (Keighery 1999). There are five species and five sub-species endemic to the Porongurup Range including the EPBC listed *Villarsia calthifolia* and *Apium prostratum* subsp. *Porongurup Range* (CALM 1999, Keighery 1999). Five species are confined to the boundary of the National Park – *Brachysema subcordatum*, *Hibbertia bracteosa*, *Billardiera granulata*, *Apium prostratum* ssp. nov and *Villarsia calthifolia* (Keighery 1989). In addition, at least 26 species occur at the inland margin of their ranges (CALM 1999).

The Porongurup Range has been recognised by Beard (1979) as a separate vegetation system from other vegetation systems in the south-west – the Porongurup System (CALM 1999). The system is characterised by bare massive domes surrounded by karri forest.

There are four major plant communities in the Porongurup National Park – tall open forest (wet sclerophyll); open forest (dry sclerophyll); lithic complex (granite outcrops); and low open woodland. Karri forest dominates the tall open forest area, where the deep red soil known as karri loam and the high rainfall sustains the population (Beard 1981, NatureBase 2007). The karri forest is believed to have survived as a disjunct population in the Porongurup Range for over 5,000 years and is floristically different from the main areas of karri forest some 50 kilometres to the south-west (Barrett 1996, CALM 1999).

The open forest, located on the lower slopes in sandy, duplex or lateritic soils, is dominated by jarrah and marri trees. The main understorey species in this area includes wattle (*Acacia leioderma*), beard heath (*Leucopogon revolutus*) guinea flower (*Hibbertia* spp.) bitter pea (*Bossiaea linophylla*) and grass trees (*Xanthorrhoea preissii*) (Abbott 1982). At levels near 300m, where drainage is hindered, the open forest changes to open scrub dominated by banksias (*Banksia littoralis*), native myrtles (*Agonis theiformis* and *Astartea fascicularis*) and *Kunzea recurva* (Abbott 1982).

Along the rock rills and glades of the granite outcrops, scrublands, sedges and herbs dominate (Smith 1962). Most of the species endemic to the Porongurup Range are found in these areas. Granite outcrops in the South West Botanical Province, of which the Porongurup Range is the largest, support the highest levels of plant diversity, compared with any other granite outcrop in Western Australia (Hopper 1997).

A swamp dominated by *Melaleuca preissiana* is located on the western margin of the National Park and extends beyond the boundary. Minor communities including mallee

heath, *Eucalyptus tetragona* and small areas of *E. decipiens* grow along Millinup Road. Higher up in the Porongurup Range regular cloud and fog cover provide an ideal environment for lichen, mosses and small flowering plants. Fifteen species of lichen and 300 species of fungi have been recorded in the Porongurup National Park (Herford 1996).

The varied topography of the Porongurup Range provides habitat for a wide variety of vertebrate species. The mammal species in the National Park include the western grey kangaroo (*Macropus fuliginosus*), brushtail possum (*Trichosurus vulpecular*), pygmy possum (*Cercartetus concinnus*), mardo (or yellow-footed antechinus – *Antechinus flavipes leucogaster*), mooti (or bush rat – *Rattus fuscipes fuscipes*), quenda (or southern brown bandicoot – *Isodon obesulus fusciventer*) and honey possum (*Tarsipes rostratus*). The honey possum is the only representative of the family Tarsipedidae, and is found only in the coastal plain heaths of south-west Western Australia (Olver 1998, Herford 1996). Seventy-one bird species including the red-eared firetail (*Emblema oculata*) and Baudin's black cockatoo (*Calyptorhynchus baudinii*) are also found in the park (Herford 1996). In addition, at least 17 reptile species are known to inhabit the park including King's skink (*Egernia kingii*), the southern heath monitor (*Varanus rosenbergi*) and the marbled gecko (*Phyllodactylus marmoratus*) (Herford 1996). Several tree frog and southern frog species are also evident (Herford 1996).

A number of vertebrate species are listed under federal and state legislation as vulnerable or in need of special protection. The western ringtail possum (*Pseudocheirus peregrinus occidentalis*), crested shrike tit (*Falcunculus frontatus whitei*) and Baudin's black cockatoo (*Calyptorhynchus baudinii*) are all recorded on the EPBC list of threatened flora and fauna species (EPBC Act 1999). Another listed species, the Noisy Scrub-bird was released into the Porongurup National Park in July and August 2006 as part of a translocation program.

The cool, wet mountain gullies of the Porongurup Range provide a refuge for a diversity of invertebrate species. A number of species have strong Gondwanan affinities, including the endemic trapdoor spider (*Neohomogona bolganupensis*), land snails (*Bothriembryon* spp.) and giant earthworm (*Megacolex* sp.) (Olver 1998, Herford 1996). Other species like the social crab spider (*Diaea socialis*) have outlying populations in the range (Olver 1998). Many of the relict species present in the Porongurup Range and in neighbouring Stirling Range are more closely related to invertebrate species found in mountainous areas of eastern Australia or on other Gondwanan continents than to the drier, low-lying areas surrounding the two ranges (Olver 1998). Other relict species found in the Porongurup Range include velvet worms (Oncophora), and an undescribed carnivorous snail (*Paryphantidae* sp). Land snails in particular, are an important indicator species of areas of moist refugia over long periods.

The Porongurup Range has the highest species richness and greatest abundance of spiders compared with other mountainous sites in south-west Western Australia. Twenty-seven species are found in the Porongurup Range compared with 26 from Bluff Knoll and 22 species from Mt Lindesay, both located in the Stirling Range National Park (Barrett 1996).

The spectacular seasonal wildflowers and the variety of outdoor activities draw thousands of tourists to the Porongurup National Park each year. Its conservation and management has strong support from among the local and wider community.

Analysis:

The nomination of the Porongurup Range was initiated by the Australian Heritage Council. The comparative analysis includes criteria (a), (e), (h) and (i). No specific claims were made for Indigenous values against the criteria. However, Indigenous stories are associated with the place, and are considered below in criterion (i).

Criterion (a)

The place has outstanding heritage value to the nation because of the place's importance in the course, or pattern, of Australia's natural or cultural history

Much of the Earth's species diversity is concentrated into a few relatively small areas. Thirty-four regions have been internationally identified as 'biodiversity hotspots', which together cover only 1.4 per cent of the Earth's land surface but contain nearly half of all plant species and a third of all terrestrial vertebrate species. These 'biodiversity hotspots' are based on the richness of species and on the occurrence of endemic species per area. The south-west of Western Australia, which is renowned throughout Australia and internationally for its species diversity and endemism, is one of these regions, and to date the only one in Australia (Myers et al. 2000; Mittermeier et al. 2004). The region has an estimated 8,000 plant species, and of these, at least 75 per cent are endemic (Hopper 1992, Hopper et al. 1996).

The South-West Botanical Province is one of only five 'hotspots' with Mediterranean-type ecosystems in the world, and rivals the exceptional species diversity found in the Cape Floristic region of South Africa, the California Floristic province of North America, and the Mediterranean Basin of Europe. Of more than 5,570 vascular plant species found here, nearly 2,950 are endemic (about 53 per cent). Impressive plant endemism in south-west Australia is attributed to millions of years of isolation from the rest of Australia by the country's vast central deserts. Extreme climate shifts and poor soils have also promoted specialisation of the region's flora.

The south-west hot spot incorporates the Porongurup National Park, as well as a number of other national parks including the larger Stirling Range National Park which is listed in the National Heritage List under criterion (a), and is located immediately to the north, the Fitzgerald River National Park in the south-east of the region and the Lesueur National Park north of Perth (which are both under assessment for the National Heritage List).

Flora:

Porongurup National Park constitutes a major centre of plant species richness, having one of the richest concentrations of plant species in Australia with more than 700 native plant species within the park of 2,621 hectares. This compares well with Stirling Range National Park, an area of 115,000 hectares which has about 1,500 plant species recorded. Stirling Range National Park is more than 43 times the size, with

just over double the number of plant species, and is considered to be an important remnant, recognised for its richness and endemism of plant species (Comer et al. 2001, Hopper et al 1996). The only other areas in Australia apart from a few select sites in the south-west that have comparable species richness and endemics, include an area in the wet tropics near Cairns, and an area on the border between NSW and Queensland.

A great diversity of plant species occurs in the park, due to the topographic diversity and range of microhabitats. An analysis was done using the Australian Natural Heritage Assessment Tool (ANHAT). In this analysis, the Mount Barker mapsheet, which encompasses the boundary of the Porongurup National Park, falls within the top one per cent of all 1:100 000 mapsheets across Australia for species richness and endemism for a number of plant families and genera. As not all plant families can be analysed in ANHAT, and as the Porongurup National Park is considerably smaller than the Mt Barker mapsheet, the analysis was complemented by using a full plant species list for the park (Keighery 1999, ANHAT 2007). The Porongurup National Park is the largest reserve on the Mt Barker mapsheet.

The Mt Barker area ranks exceptionally high for both richness and endemism values of vascular plants in general (ANHAT 2008). It ranks fourth in the country for Streptobionta (vascular plant) richness, behind the Swan coastal plain and Perth area. It is also among the top nine mapsheets in the country for vascular plant richness and endemism, rivalling the area around Stirling Ranges and Albany, an area of the wet tropics adjacent to Cairns in Queensland, around the Swan coastal plain and Perth, and an area around Lesueur National Park to the north of Perth. Effectively, along with the Stirling Range and Albany area, it is in one of the four major nodes of plant richness and endemism in the country.

Porongurup National Park is important for its endemism and richness in a wide array of plant species including heaths (Epacridaceae) especially beard-heaths (*Leucopogon*); peas (Fabaceae) notably flame-peas (*Chorizema*) and also bitter-peas (*Daviesia* and *Bossiaea*), and poison-peas (*Gastrolobium*); native myrtles (Myrtaceae); pimeleas (Thymelaeaceae), notably rice flowers (*Pimelea*); sundews and pitcher plants (Nepenthales); bloodroots, conostyles, kangaroo paws and their allies (Haemodorales); and banksias and grevilleas (Proteales). It is also important for richness in lilies, orchids and allies (Liliales), notably native lilies (Anthericaceae), irises and allies (Iridaceae), orchids (Orchidaceae), and flax-lilies and allies (Phormiaceae) (ANHAT 2008, Keighery 1999).

Invertebrates:

- At various times the Porongurup Range has been isolated as a true island, most recently during the Eocene period (55 million years ago) when the sea reached as far as the Stirling Range (Olver 1998). The Porongurup Range has acted as a refuge to invertebrate species, and many of the species here are recognised as Gondwanan, such as species of spiders, insects and land snails, which are more closely related to groups in mountainous areas of eastern Australia, Tasmania, New Zealand and other Gondwanan continents, than to the surrounding lowlands in the region (Olver 1998). Species from wetter Gondwanan times have been able to survive here in part because the moist granite outcrops provide an ideal refuge environment.

The ANHAT analysis (2008) indicates that the Porongurup National Park is significant at a national scale (it is amongst the top 1 per cent of places around Australia) for endemism and richness in spiders, in particular primitive trapdoor spiders (Mygalomorphae), including trapdoor spiders (Idiopidae) brushless-legged trapdoor spiders (Migidae), two-doored trapdoor spiders (Actinopodidae), and funnel-web spiders (Nemesiidae). These have a Gondwanan distribution, for example genera of the Migidae family have a restricted distribution in Australia, but are also found in southern Africa, and are thought to be a relict of Jurassic times when Africa was joined to Australia 140 million years ago (Main 1993). As a further comparison, in a survey of spiders in mountainous areas of the south west of Western Australia (Barrett 1996), the Porongurup Range was found to have the greatest species richness and the greatest abundance of spiders, and rivals the Stirling Range National Park, which is also recognised for its diversity and endemism of spiders.

A further analysis (ANHAT 2008) shows that the Mount Barker mapsheet is one of the richest places in Australia for land snails, particularly for species within the Bulimulidae family, which represents one of the dominant land snail and slug families in Australia. The richness of land snails is significant not only in itself, but because land snails have been demonstrated as an indicator species of areas of moist refugia over long periods, in addition to being indicative for areas that are significant for narrow range endemic invertebrates. These land snails have strong Gondwanan affinities. However, there is not enough evidence to determine whether the land snail richness of the mapsheet is reflected within the boundary of the Porongurup National Park. For other fauna, the Porongurup National Park was not found to be more than of regional or state-level significance.

The Porongurup National Park is a place of exceptional biological and ecological significance. Very high endemism and richness for vascular plant species concentrated in a relatively small remnant area, and high richness and endemism of spiders make the Porongurup Range an outstanding site. On this basis the Porongurup National Park has outstanding heritage value to the nation under criterion (a).

Criterion (e)

The place has outstanding heritage value to the nation because of the place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.

The Porongurup National Park has strong aesthetic appeal. Its granite domes and spectacular wildflower displays draw thousands of visitors to the park each year. The range area is also highly valued by the local community. The Friends of the Porongurup Range was established in 1990 to assist preservation of the Porongurup National Park and surrounding remnant areas (Friends of the Porongurup Range 2007). The group has been actively involved in weed mapping, fauna monitoring, bridge construction and ongoing surveying of rare flora in the park and is supportive of developing a corridor between the Porongurup and Stirling Range National Parks. In 2003, the Friends purchased a 511 hectare site four kilometres north of the Porongurup National Park and named it the Twin Creeks Conservation Reserve (Friends of the Porongurup Range 2007).

Nonetheless, under the aesthetic indicators derived in nationally comparative studies (Context 2003, Crocker and Davies 2005b) the Porongurup Range was not identified as being either regionally or nationally significant for its aesthetic characteristics. A working list of 68 places from across the country was developed for the study *Identifying Inspirational Landscapes* (Crocker and Davies 2005a & b) which included other mountain landscapes surrounded by cleared or low-relief environments, such as Purnululu National Park in the east Kimberley region (WA), Uluru Kata Tjuta National Park (NT), Stirling Ranges National Park (WA), and Warrumbungle National Park (NSW). Of these, only Warrumbungle National Park was among the 18 shortlisted places further analysed for their aesthetic indicators. The Warrumbungle National Park is listed in the National Heritage List under criterion (e).

In their study of places with high aesthetic values across Australia, Crocker and Davies (2005b) used a number of indicators as evidence of how well-known or popular each site is, one of which was the number of references on the internet. Using this methodology, an internet search of comparable sites around Australia returned 65,300 hits for the Porongurup Range compared to 1,980,000 for the Stirling Range; 2,060,000 for the Fitzgerald River; and 214,000 for Lesueur National Park (Google 2007). With respect to visitor numbers the Stirling Range receives a yearly average of 90,000 visitors compared to 43,000 for the Porongurup Range (CALM 1999).

While there is local community support for the park and it has spectacular scenery there is insufficient evidence to support a claim for outstanding value to the nation on the basis of aesthetic characteristics. It is therefore concluded that the Porongurup National Park is below threshold under criterion (e).

Criterion (h) The place has outstanding heritage value to the nation because of the place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.

The Porongurup National Park has links to a number of prominent colonial botanists, most notably James Drummond. James Drummond was appointed Government Naturalist to the new Swan River colony in Western Australia in 1829. Drummond was an enthusiastic collector. He established one of the colony's first nurseries adjacent to Government House in 1831 and later a vineyard and nursery at his farm in Helena Valley. In 1835, Drummond was commissioned by James Mangles, a director of the British East India Company, to collect seeds, plants and herbarium specimens for transportation to England. Drummond completed six exploratory visits to the south-west region, visiting the Porongurup Range in 1843 and again in 1848 (Barrett 1996, Olver 1998). One specimen that caught Drummond's eye was the endemic species *Villarsia calthifolia* (mountain villarsia) which he noted as being a 'fine yellow-flowered species' (Olver 1998). Drummond also paid particular attention to the karri trees growing in the Porongurup Range describing them as 'by far the finest I have seen in any county' (Olver 1998).

Drummond's work in the Porongurup Range brought to the attention of others, in Australia and overseas, the exceptional diversity of plant species in the south-west of Western Australia. His legacy is important and long-lasting. However, although Drummond's exploration to and collection of Porongurup Range flora shed new light on an area of outstanding biological significance, his work as a Government botanist,

and later as a privately funded botanist, was not defined by his association with the Porongurup Range. In comparison to palaeobiologists like Dr Isabel Cookson, who became world-renowned for her research into the history and evolution of Australian flora, of which the Yea Baragwanathia fossil site in Victoria (which is listed in the National Heritage List under criterion (h)) proved key, the association between Drummond and the Porongurup Range is not of outstanding significance.

On this basis, although James Drummond remains an interesting and important figure in the greater story relating to the flora of the south-west, the Porongurup National Park is below threshold under criterion (h).

Criterion (i) the place has outstanding heritage value to the nation because of the place's importance as part of Aboriginal tradition.

The Porongurup and Stirling Ranges are significant places for Nyungar people of south-west Western Australia and feature in local Nyungar traditions and beliefs, for example Borongah spirit beings (Colbung & Montrose 1994; CALM 1999).

Aboriginal traditions associated with the Porongurup National Park are similar in character to Aboriginal creation stories associated with other parts of Australia. Therefore there is insufficient evidence to demonstrate outstanding heritage value to the nation as part of Aboriginal tradition under criterion (i).

History:

The Porongurup National Park lies within the traditional lands of the Minang group of the Nyungar people (Green 1984; South Australian Museum 2006). They feature in Nyungar cosmological accounts of the beginning of the world. It was here that different forms of life emerged from the earth and began to grow and move about (Colbung & Montrose 1994). *Borongah*, local Nyungar peoples' totem beings first walked the earth during the 'Dreamtime', sometimes in the shape of human beings but not always. As Borongah walked the earth, they left marks of their travels resulting in the contours of the earth. Borongah and Waugal, the Rainbow Snake, made the shape of the earth and all its natural features (Colbung & Montrose 1994).

Traditionally, Minang Nyungar people followed a pattern of seasonal movement between the coast and the interior around the area of what is now the Porongurup National Park. While on the coast during the warmer months they built temporary homes from available material, including grass trees, bark, and branches. During April and September, groups travelled inland to each group's respective territory to avoid the heavy coastal rains and damp conditions and exploit winter resources such as roots, tubers, kangaroos, and possums (Hallam 1975; Meagher 1974; Anderson 1984).

First contact between Europeans and the Minang Nyungar people was in 1801 when Matthew Flinders visited what is now King George Sound. Friendly relations were established as was the case when Captain Nicolas Baudin visited the area in 1803 and when Admiral Phillip Parker King stopped at King George Sound in 1818 and 1821 (Green 1984).

In December 1826, Major Edmund Lockyer arrived at King George Sound aboard the *Amity*, and established a military garrison for the British colony. Lockyer established good relations with Nyungar, which were maintained over the next ten years. However, the development of the Albany settlement led to conflict over land and access to resources and these harmonious relations began to deteriorate (Green 1984).

In June 1828, Captain Joseph Wakefield led an expedition inland to map the Kalgan River and explore the mountains called *Purrengorup*. Wakefield's party, led by Aboriginal guides, Mokare and Nankina ascended the hill on the eastern side of the range, and enjoyed clear views to *Corjermurruf* (Stirling Ranges) (Mulvaney & Green 1992; Herford & Burchell 1996).

The Porongurup Range attracted the attention of early European settlers at King George Sound because of the richer green foliage of the karri contrasting with the surrounding country. The first pastoral lease to include the Range was taken out by John McKail in 1859. Logging of karri and jarrah commenced in the early 1900s and the Porongurup area once supported several timber mills. The Bolganup Homestead and Karribank were opened as guest houses in the 1920s.

The Porongurup Range was gazetted as a national park in 1925. By the 1930s it was a leading tourist destination. Historical sites within the Park include The Old Farm, Waddy's Hut, and the ruins of the old Mira Flores homestead (CALM 1999).

Condition:

The Porongurup National Park is the largest inland remnant between the Albany coastline and the Stirling Range. The overall condition and integrity of the Porongurup Range is relatively good, despite selective logging which began in the late nineteenth century and only ended in the 1960s. Most of the area surrounding the park has been extensively cleared for agriculture.

Fire has devastated areas of the Porongurup Range a number of times in the last century (CALM 1999). A severe fire spread into the park in March 1966, seriously damaging many mature karri trees. The karri forest and the granite outcrop communities, where most endemic species grow, are particularly sensitive to fire, having evolved without the presence of frequent fire (CALM 1999). Young karri trees need to be over 20 metres tall before being able to sustain even low intensity fires. An integrated approach to fire management has been introduced to reduce fuel in the jarrah-marri forest but maintain the karri forest as a 'no burn' block. In February 2007 approximately 2500 hectares of the National Park were burnt in a bushfire, resulting in a significant loss of habitat for many species including the ringtail possum, quenda, Moggridgea (trapdoor spider) and other invertebrates. However, there has been widespread regeneration, and good recovery of flora species that can germinate from the seed bank in the soil (Naturebase 2007).

Weeds present a significant challenge for park management with 113 species documented in the National Park (Keighery 1999). The incorporation of farmland into

the park boundary, good soils, and clearing have all hastened the spread and distribution of weed species (CALM 1999). Dieback disease, caused by the soil-born fungus *Phytophthora cinnamomi*, is present in the Jarrah forest/woodland community on the lower slopes of the range, however, it is less widespread than *Armillaria luteobubalina*, a native fungus (CALM 1999).

Feral foxes, feral cats, and the domestic dog have adversely affected native fauna populations, and are thought to have contributed directly to the decline of numerous species including the numbat, tammar wallaby and ringtail possum (CALM 1999). The European rabbit, house mouse, black rat, and feral bees are also present in the park (CALM 1999). Unconfirmed reports also indicate that feral goats and pigs live within the park boundary.

The Porongurup National Park offers a wide range of facilities including walking tracks and roads, carparks and picnic areas. The park is actively managed by a park ranger based on site.

This condition statement is taken primarily from the Stirling Range and Porongurup National Parks Management Plan (CALM 1999).

Bibliographic References:

- Abbott Ian (1980). 'The Avifauna of the Porongurup Range, an isolated habitat in South-Western Australia', *Emu*, vol. 81.
- Anderson, J (1984). *Between plateau and plain: flexible responses to varied environments in southwestern Australia*. Canberra: Australian National University, Research School of Pacific Studies.
- Australian Natural Heritage Assessment Tool (ANHAT), 2008. Analysis of the 1:100,000 Mt Barker mapsheet. Department of the Environment, Water, Heritage and the Arts, unpublished.
- Barrett S. (1996). *Biological Survey of Mountains in Southern Western Australia*. Department of Conservation and Land Management in conjunction with Australian Nature Conservation Agency National Reserves System Cooperative Program, September 1996.
- Beard J.S. (1979). *The Vegetation of the Albany and Mt. Barker Areas – Explanatory memoir to 1:250,000 map sheet*, Vegmap Publications, Perth.
- Beard J.S. (1981). *Vegetation Survey of Western Australia – Swan 1:1000 000 Vegetation Series Explanatory Notes to Sheet 7*, University of Western Australia Press, Western Australia, pp. 52, 75.
- Black L., Harris L.B. and Delor C.P. (1992). 'Reworking of Archaean and Early Proterozoic components during a progressive Middle Proterozoic tectonothermal event in the Albany Mobile Belt, Western Australia', *Precambrian Research*, vol. 59.
- Bondin A. (2006). 'Noisy scrub-birds in the Porongurups?', *Western Australian Bird Notes*, no. 199, September.
- Budd A. (2001). *Albany-Fraser Province Synthesis*, Geoscience Australia
- CALM (1989). *South Coast Region Draft Management Plan April 1989*. Department of Conservation and Land Management, Western Australia, pp. 36, 77.
- CALM (1991). *Fitzgerald River National Park Management Plan 1991-2001*. Department of Conservation and Land Management, Western Australia.
- CALM (1999). *Management Plan – Stirling Range National Park and Porongurup*

National Park 1999-2009, Management Plan no. 42. Department of Conservation and Land Management; National Parks and Nature Conservation Authority, Perth.

Colbung, K & Montrose, LB (1994). *Report of an Aboriginal heritage study*. Report prepared for the Australian Heritage Commission.

Crocker R. and Davies B. (2005a). *Identifying Inspirational Landscapes – Stage 2 Volume 1: Main project report*. Draft report for the Department of the Environment and Heritage, Robin Crocker and Associates, April 2005.

Crocker R. and Davies B. (2005b). *Identifying Inspirational Landscapes – Stage 2 Volume 2: Preliminary place reports and assessments*. Draft report for the Department of the Environment and Heritage, Robin Crocker and Associates, April 2005.

Context Pty Ltd (2003). *Inspirational Landscapes – Volume 4: Assessment Method Report*. Report for the Australian Heritage Commission.

Davies S.J.J. (ed.) (2004). *The Drummond Symposium: a review of the work of James Drummond, the first Botanist in Western Australia*, Department of Environmental Biology, Curtin University of Technology.

Department of the Environment and Heritage (2007). *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*. List of threatened species and communities.

Environment Australia (2003), Department National Reserve System Program, Project Assessment: Twin Creeks Conservation Reserve (unpublished).

Green, N (1984). *Broken Spears: Aboriginals and Europeans in the Southwest of Australia*. Perth, WA: Focus Education Services.

Griffin E.A. (1995). *Distribution and ecological significance of on-farm bush remnants in the southern wheatbelt region of Western Australia*. Division of Regional Operations Western Australian Department of Agriculture, June 1995.

Hallam, SJ (1975). *Fire and Hearth: a study of Aboriginal usage and European usurpation in south-western Australia*. Canberra: Australian Institute of Aboriginal Studies.

Hearn R., Williams K., Comer S. and Beecham B. (2003). 'Jarrah Forest 2 (JF2 – Southern Jarrah Forest subregion)', in *A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002*, Department of Conservation and Management, Western Australia.

Herford, I & Burchell, A (1996). Porongurup National Park: A Range of Attractions. *Landscape*, Autumn, pp28–35.

Hopper S.D. (1992). 'Patterns of plant diversity at the population and species levels in south-west Australian mediterranean ecosystems'. In Hobbs R.J. (ed) *Biodiversity in Mediterranean Ecosystems in Australia*, Surrey Beatty and Sons Pty Ltd, New South Wales.

Hopper S.D., Brown A.P. and Marchant N.G. (1997). 'Plants of Western Australian granite outcrops', *Journal of the Royal Society of Western Australia*, no. 80:141-158.

Keighery G. (1989). 'Endangered! – Porongurup Plants', *Landscape*, vol. 4, no. 4 Winter Edition, p. 34.

Keighery G. (1999). 'A checklist of the vascular flora of the Porongurup National Park, Western Australia', *The Western Australian Naturalist*, vol. 22, no. 3, 30 June.

Mackey Brendan and Bell Jocelyn (not dated). *Forest refugia: do they exist?*. Department of Geography, Faculty of Science School of Resource Management and Environmental Science, Australian National University.

Meagher, S (1974). The food resources of the Aborigines of the southwest of Western Australia. *Records of the Western Australian Museum* 3 (1) pp 14-65.

- Muhling P.C. and Brakel A.T. (1985). *Mount Barker – Albany Western Australia 1:250,000 Geological Series – Explanatory Notes Sheets SI/50-11*, Geological Survey of Western Australia, Perth.
- Mulvaney, J & Green, N (1992). *Commandant of Solitude – The Journals of Captain Collet Barker 1828-1831*. Melbourne: Melbourne University Press.
- Myers N., Mittermeier R.A., Mittermeier C.G., da Fonseca G. A. B. and Kent J. (2000). 'Biodiversity hotspots for conservation priorities', *Nature*, vol. 403, 24 February 2000.
- Myers J.S. (1997) Tectonic evolution of deep crustal structures in the mid-Proterozoic Albany-Fraser Orogen, Western Australia, in Sengupta S. (ed) *Evolution of Geological Structures in Micro- to Macro-scales*, Chapman & Hall, London.
- Olver R. and Olver S. (1998). *Dawn till Dusk – In the Stirling and Porongurup Ranges*. University of Western Australia Press, Western Australia.
- Ornduff R. (1986). *Islands on Islands: Plant Life on the Granite Outcrops of Western Australia*. University of Hawaii Press, Honolulu.
- Orr Kat, Danks Alan and Gillen Kelly (1995). *Two Peoples Bay Nature Reserve Management Plan 1995-2005*. Department for Conservation and Land Management. Pasqua, MA (1997). *Western Australia national estate indigenous values identification and assessment project: south-west forests of Western Australia: stage 1: data upgrade, validation and gap analysis*. Report prepared for Environment Forests Taskforce Department of Environment, Sport and Territories and the Department of Conservation and Land Management (CALM).
- Richardson R.M. and Richardson D.H.S. (1982). 'A systematic list with distributions of the lichen species of Western Australia, based on collections in the Western Australian Herbarium', *Western Australian Herbarium Research Notes*, no. 7.
- Sandiford L. (1988). *Rugged Mountains, Jewelled Sea. The South Coast Heritage Trail Network*. WA Heritage Commission and the Department of Conservation and Land Management, p. 11, 12, 15, 43.
- Saunders D.A. and Hobbs R.J. eds (1991). *Nature Conservation 2 – The Role of Corridors*, Surrey Beatty & Sons Pty Ltd.
- Smith G.T. (1962). 'The Flora of the Granite Rocks of the Porongurup Range, South-Western Australia', *Journal of the Royal Society of Western Australia*, 45 (1).
- South Australian Museum (2006). 'Minang (WA)', *Tindale's Catalogue of Australian Aboriginal Tribes*.
<http://www.samuseum.sa.gov.au/archives/hdms/aa338/tindaletribes/minang>. Accessed 20 April 2006.
- Webb, E & Gunn, RG (2004). Re-recording culturally significant Aboriginal sites in south-western Australia as a guide to Noongar usage of the region in the past. *Rock Art Research* 21(1), pp93-97.
- York Main B. (1987). 'Granite outcrops: A collective ecosystem', *Journal of the Royal Society of Western Australia*, no. 80, pp. 113-122.
- York Main B. (1987). 'Persistence of Invertebrates in small areas: Case studies of Trapdoor Spiders in Western Australia', in Saunders D.A et al, *Nature Conservation: The Role of Remnants of Native Vegetation*, Surrey Beatty & Sons Pty Ltd, NSW, p. 30.
- Internet 'Ferdinand von Mueller', Wikipedia, viewed 16/02/2007, <<http://www.adb.online.anu.edu.au/biogs/A010309b.htm>>
- Friends of the Porongurup Range, viewed 09/01/2007, <<http://www.porongurup.org>>
- <http://en.wikipedia.org/wiki/Ferdinand_von_Mueller>
- 'James Drummond', Wikipedia, viewed 16/02/2007,

<[http://en.wikipedia.org/wiki/James_Drummond_\(botanist\)](http://en.wikipedia.org/wiki/James_Drummond_(botanist))>

Media Releases, NatureBase, viewed 03/12/07

<<http://www.naturebase.net/content/blogsection/20/770/15/150/>>

Porongurup National Park, NatureBase, viewed 09/01/2007,

<http://www.naturebase.net/component/option,com_hotproperty/task,view/id,99/Itemid>

Porongurup Fire Recovery– Community Information Update, Porongurup National Park, NatureBase, viewed 03/12/2007,

<http://www.naturebase.net/component/option,com_hotproperty/task,view/id,99/Itemid,755/>

‘Southwest Australia’, Biodiversity Hotspots, viewed 05/02/2007,

<<http://www.biodiversityhotspots.org/xp/Hotspots/australia>>