Australian Heritage Database

Places for Decision

Class : Natural

Item: 1

Identification

List:	**National Heritage List**
Name of Place:	Stirling Range National Park
Other Names:	
Place ID:	105818
File No:	5/01/073/0001
Nomination Date:	25/07/2005
Principal Group:	Vegetation communities

Status

Legal Status:	25/07/2005 - Nominated place
Admin Status:	05/07/2006 - Assessment by AHC completed

Assessment

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

Location

Nearest Town:	Cranbrook
Distance from town (km):	11
Direction from town:	E
Area (ha):	115920
Address:	Chester Pass Rd, Cranbrook, WA 6321
LGA:	Cranbrook Shire WA Albany City WA Plantagenet Shire WA Gnowangerup Shire WA

Location/Boundaries:

About 115,920ha, Chester Pass Road, 11km east of Cranbrook, comprising National Park Reserve A14792, National Park and Water Reserve 1090, and that part of the national park surrounding Hamilla Hill being Location 7094.

Assessor's Summary of Significance:
Stirling Range National Park is one of the top ranking places across Australia for biodiversity. The place represents one of the most important remnants of the rich flora of the south-west, in an area that is predominantly cleared for agriculture. The Stirling Range provides an example of the extraordinarily diverse flora of the south-west, and over 1500 species have been recorded in the Park, which represents almost one fifth of all the flora species found in the south-west. The Stirling Range also exemplifies the abundance of endemic species found in the south-west, with 87 species being found solely within the Park.

The Stirling Range is one of the most important areas in Australia for eucalypt richness and endemism. Examples of other plant groups which are of outstanding richness and endemicity at Stirling Range include the epacrids, the Fabaceae (the peas), and genera within the Myrtaceae, including *Darwinia* (mountains bells), *Melaleuca*, and *Verticordia* (feather flowers). The Stirling Range also has particularly high species richness and endemicity within the Proteaceae, including for dryandras, banksias, and hakeas.

Stirling Range has a diverse array of relict endemic invertebrates, many of which are recognised as Gondwanan, and many of the species here 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. Deeply incised south-facing gullies provide refuge for Gondwanan relictual species such as ancient trapdoor spider species (mygalomorphs), and species of land snail, and other relict invertebrate species, including scorpions, pseudoscorpions, earthworms and primitive isopod crustaceans. The Stirling Range is one of most important areas in Australia for endemic mygalomorph species, and is also one of the richest areas for land snails, particularly within the *Bothriembryon* genus. 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.

Draft Values:

Criterion	***Values***	***Rating***
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 Stirling Range National Park is a very important remnant of the flora of the south-west, with exceptional richness and endemicity of species, particularly for plant species (Comer et al. 2001, Hopper et al 1996). For example, the place is one of the richest areas in Australia for families such as Myrtaceae, including the eucalypts, and Proteaceae, including dryandras, banksias, and hakeas (Keighery 1993, ANHAT 2005). A minimum of 1,500 plant species have been recorded within the park of 115,000 hectares (Keighery 1993, CALM 1999, Paczkowska & Chapman 2000), and there are also 87 recorded endemics, or species that are found nowhere else (CALM 1999, Keighery 1993).	AT

	Deeply incised south-facing gullies provide refuge for Gondwanan relictual species such as ancient trapdoor spider species (mygalomorphs), and species of land snail, and other relict invertebrate species, including scorpions, pseudoscorpions, earthworms and primitive isopod crustaceans (Thomson et al. 1993; Comer et al. 01, ANHAT 2005). The Stirling Range is one of most important areas in Australia for endemic mygalomorph species, and is also important for land snail richness, particularly within the *Bothriembryon* genus (ANHAT 2005).	
D Principal characteristics of a class of places	Stirling Range National Park is one of the top ranking places across Australia representing areas of richest biodiversity (ANHAT 2005, CALM 1999, Hopper et al. 1996, Keighery 1993, Paczkowska & Chapman 2000). The place represents one of the most important remnants of the rich flora of the south-west (Hopper et al 1996). The Stirling Range National Park provides an example of the extraordinarily diverse flora of the south-west, and over 1500 species have been recorded in the Park, which represents almost one fifth of all the flora species found in the south-west. The Stirling Range also exemplifies the abundance of endemic species found in the south-west, with 87 species being found solely within the Park (CALM 1999, Keighery 1993).	AT
E Aesthetic characteristics		BT

Historic Themes:

Nominator's Summary of Significance:
Stirling Range National Park is one of the most botanically diverse places in the world outside the tropics. It supports 1530 species more than in the entire British Isles and represents some 20% of the known flora of south western Australia. It is especially rich in the families Proteaceae (banksias etc) Epacridaceae (heaths) Myrtaceae (eucalypts and myrtles) and Fabaceae (acacias and peas).
It is of great biogeographic and evolutionary interest because it supports at least 82 plant species both relict and recently evolved that are found nowhere else. Such endemics include some of the Darwinias (mountain bells), Eucalypts and Dryandras. It also provides a vital refuge for a number of Gondwanan relict invertebrates (eg trapdoor spiders, pseudoscorpions and land snails).
Its dramatic mountain scenery and spectacularly colourful wildflower displays attract thousands of visitors.
An important bushland remnant it contains many species representative of the WA wheatbelt, a botanically diverse region that has predominantly been cleared for agriculture.

Description:
Stirling Range National Park is located in the south-west of Western Australia, 48 kilometres north of Albany. Rising out of the surrounding plains and extending for 62

kilometres within the Park, Stirling Range is a prominent landmark that is clearly visible from up to 60 kilometres away. The range consists of a series of isolated jagged hills and peaks rather than a continuous range. A small area in the Hamilla Hills to the north-west of the main range is also part of the Park. Stirling Range contains Bluff Knoll
(1 059 m), the highest mountain in southern Western Australia, and four other peaks that exceed 1 000 metres. The Park is situated on the southern edge of the Yilgarn Craton. This ancient (2 500 - 2 900 million yrs old) bedrock is the remains of part of the original continental land mass. Stirling Range is composed mainly of metamorphosed sandstones and shales, which were laid down as part of an ancient sea. The soils are of low to extremely low fertility due to the great age of the landscape, and the low levels of phosphate in the parent rocks (AHC 2001, CALM 1999 & 2005).

Situated within a largely cleared agricultural landscape, Stirling Range National Park stands out as an island of bushland. It supports a rich and varied flora of more than 1 500 species, 87 of which are found nowhere else. Spectacular and colourful wildflower displays in spring attract many interstate and overseas visitors. Of particular note is the exceptional variety of mountain bells or darwinias (11 species), eucalypts (45 species) and orchids (more than 120 species). Five major vegetation communities occur within the Park, namely thicket and mallee-heath on the higher ground; woodlands, wetlands and salt lake communities on the lower slopes and plains (AHC 2001, CALM 1999 & 2005, Thomson et al. 1993).

Thicket grows on all the major peaks and on the Hamilla Hills and is a mass of flowering shrubs in spring, growing to a maximum height of 3 m. It contains many of the species that are endemic to the Stirling Range such as the Stirling Range woollybush (*Adenanthos filifolia*), Stirling Range banksias (*Banksia solandri*), feather-leafed banksia (*B. brownii*) and *Dryandra* species. Many of the dominant species are killed by fire, so fire history has an influence on the height and structure of the community. Much of this community, particularly plants in the Proteaceae family, including banksias and grevilleas, is susceptible to dieback disease (CALM 2005, Thomson et al. 1993).

Mallee-heath is the most common community of the Stirling Range. On the peaks and slopes it is dominated by mallee jarrah (*Eucalyptus marginata*). On the lower slopes Albany blackbutt (E. *staeri*) or spearwood mallee (*E. doratoxylon*) may replace jarrrah as the dominant species.

Woodlands occur in two forms: low woodland (trees 5-10 m high) and woodland (trees up to 26m). The woodland communities are generally lower down the slope, and grade into low woodland with increasing altitude. Much of the low woodland is dominated by jarrah and mallee (*Corymbia calophylla*). Woodland may be dominated by a range of eucalypt species, including jarrah, marri, wandoo (*E. wandoo*), and flat-topped yate (*E. occidentalis*). Another less common type of woodland, found on deep sandy soils, is dominated by banksia species (CALM 1999, Keighery 1993, Thomson et al. 1993).

Wetland communities include sedge swamps, the largest being Pillenorup Swamp;

and samphire communities, which fringe some of the salt lakes.

The Park also contains a number of minor but distinctive plant communities and habitats, including rock screes, herbfields on open rock slabs and cliffs, and peaty bogs. In the lowland areas there are freshwater claypans, granite rock herbfields, and permanent and temporary creeklines, many of which have distinctive plant communities associated with them.

The climate is warm Mediterranean; rain falls mainly in winter while summers are dry. Snow falls on the highest peaks several times each year. Rainfall varies from less than 500 mm annually in the north-east to 600 mm in the south-west and increases with altitude to about 1000 mm near Coyanarup Peak and Bluff Knoll. Most of the surface water flow in the Stirling Range ceases in summer during the dry season. However, a few permanent pools and springs that are fed by groundwater discharge can be found along some of the rivers and their tributaries. Groundwater salinity is usually high. On the north-eastern side, there is a semi-permanent water supply below the slopes of Coyanarup Peak. Other creeks and drainage lines, such as the deep gullies below Pyungoorup Peak, are ephemeral with flows primarily associated with winter rains (CALM 1999, Thomson et al. 1993).

The numerous plant species and vegetation communities and the varied topography of the Park provide shelter and food sources for many different bird species. More than 140 species of birds are known from the Park including a number of parrots, honeyeaters and smaller bush birds such as robins, whistlers, fairy-wrens and thornbills.

Of the 36 species of native mammals believed to have existed in the Stirling Range at the time of European settlement, only 20, including the numbat (re-introduced to the Park in 1999) have been recorded in the Park in the last 25 years. Current residents include the western pygmy-possum (*Cercatetus concinnus*), honey possum (*Tarsipes rostratus*), western brush wallaby (*Macropus irma*), western grey kangaroo (*Macropus fuliginosus*) and several species of bats, marsupial mice and native rodents (ANHAT 2005, CALM 1999 & 2000, Thomson et al. 1993).

Although no comprehensive surveys of invertebrates have been conducted, a number of species known to occur within Stirling Range National Park are of particular interest because they are Gondwanan relicts, whose closest relatives are found in wetter mountainous areas of eastern Australia, Tasmania and New Zealand. These include a number of trapdoor spiders including the endemic palisade spider (*Neohomogona stirlingii*). Land snails too, inhabit the moist uplands of the Range as does a species of giant earthworm (*Megascolex* sp.). Like the trapdoor spiders and land snails, it is a relict species and depends on very wet soil and shaded sites (CALM 1999, Thomson et al. 1993).

At least 26 species of plants and 9 species of animals that are listed as threatened under State or Commonwealth legislation are found in Stirling Range National Park. Plants include the pea *Nemcia lehmanii*, which was presumed extinct until a population was rediscovered in the Stirling Range in 2000, and several other species that are critically endangered in Western Australia and endangered nationally such as Gilham's bell (*Darwinia oxylepis*), the Stirling Range dryandra (*Dryandra montana*)

and the small-flowered snottygobble (*Persoonia micranthera*). Nationally threatened animals recorded in the Park include the endangered Carnaby's cockatoo (*Calyptorhynchus latirostris*), the vulnerable western whipbird (*Psophodes nigrogularis oberon*) and the quokka (*Setonix brachyurus*) (ANHAT 2005, CALM 1999 & 2000, DEH 2005).

The Stirling Range is highly regarded in southern WA as an iconic landmark feature that protrudes from the flat plains and is visible from a long distance and dominates the vista from all directions. The vegetation of low flora with high diversity is renowned for its natural beauty. The regional community identifies with the range.

Analysis:
Comparative Analysis

The nominator claims that the Stirling Range has natural heritage values at the national level under criteria (a), (d) and (e). These claims are addressed below under the relevant criteria and considered in a national context using available literature.

Claims

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

The nominator claimed that Stirling Range National Park is one of the most botanically diverse places in the world outside the tropics, that it supports 1530 species, more than in the entire British Isles, and represents some 20% of the known flora of south western Australia. The nominator also claimed the place is of great biogeographic and evolutionary interest because it supports at least 82 plant species both relict and recently evolved that are found nowhere else. Another claim is that it provides a vital refuge for a number of Gondwanan relict invertebrates (eg trapdoor spiders, pseudoscorpions and land snails).

In publications on international hotspots for vertebrate and plant biodiversity, the south-west of Western Australia is identified as one of only 34 internationally significant hotspots recognised worldwide and the only one in Australia (Myers et al. 2000; Mittermeier et al. 2004). Hotspots were identified based on the richness of species and on the occurrence of endemic species per area. The south-west region has a particularly high level of plant species diversity, with an estimated 8 000 species, and of these, at least 75% are endemic to the region (Hopper 1992, Hopper et al. 1996).

It has long been recognised that there are exceptionally rich floras in the Stirling Range National Park, along with the Fitzgerald River National Park, and the Lesueur National Park area to the north of Perth (Hopper et al. 1996). Although it is possible that both the Fitzgerald River and Lesueur National Parks would meet National Heritage List criteria, this assessment is confined to the potential values of the Stirling Range National Park.

Flora

An analysis using ANHAT (2005) indicates that the Borden and Tambellup mapsheets, which encompass Stirling Range National Park, are within the top 1% of all 1: 100 000 mapsheets in Australia for both species richness and endemism of several plant families and genera. As not all the plant families can be analysed in ANHAT as yet, the analysis was complemented by drawing on the full plant species list for the Park (Keighery 1993).

Further analysis showed that the Stirling Range is one of a very small group of places in Australia that are outstanding for richness and concentrations of endemic species for a number of taxa. Several groups have their richest concentration in the country here, including epacrids, particularly *Leucopogon*, or bearded heaths, the *Fabaceae* (peas), particularly *Daviesia* (bitter peas), and *Gastrolobium* (poison peas), and genera within the *Myrtacea*e, including the darwinias, which have the richest and highest number of endemics in the country.

Plant groups that are particularly diverse in the south-west, and that are exceptionally rich in the Stirling Range include: the melaleucas, with the Stirlings having close to the highest number nationally, Fitzgerald National Park being the only other place with comparable richness. Species within the Proteaceae are well represented here, with the south-west being the stronghold for both banksias and dryandras. Along with Lesueur National Park, Stirling Range ranks first in the country for both numbers of endemics and richness for these two genera. Other species within the Proteaceae family also have important concentrations in the south-west, including the hakeas and isopogons, with the highest richness and endemicity occurring in the Stirlings (ANHAT 2005).

Other groups that have exceptional concentrations here include orchids, acacias, *Chirozema* and *Bossiaea* of the pea family, and *Verticordia* of the Myrtaceae family. The Stirling Range is also among the most important areas in Australia for a number of eucalypts including species in the Monocalyptus, Eudesmia and Symphyomyrtus groups (ANHAT 2005).

This result is consistent with the Stirling Range National Park being of outstanding value for plant diversity. Only a handful of other places in Australia that are renowned for their flora richness compare with the Stirlings, all within the south-west region. Examples include the considerably larger Fitzgerald River National Park to the west, and the smaller Lesueur National Park to the north (CALM 1999, Hopper et al. 1996).

Invertebrates:

The Stirling Range has acted as a refuge to invertebrate species since the Cretaceous period, when much of Australia was covered by lakes and inland seas, and the Stirlings became an isolated island (Thomson et al. 1993). Stirling Range has a diverse array of relict endemic invertebrates, many of which are recognised as Gondwanan. Many of the species here, such as species of spiders, scorpions, insects and land snails 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. Species from wetter Gondwanan times have been

able to survive here in part because the climate has remained moist under the influence of sea breezes and fogs, and by the steep topography which forms protected gullies throughout the range (Keighery 1993).

An ANHAT analysis (ANHAT 2005) shows that Stirling Range 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 snails and slugs 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 of areas that are significant for narrow range endemic invertebrates. All the land snails of the Stirling Range have strong Gondwanan affinities.

Another group that has a significant number of species that are endemic to the Range is the mygalomorph spiders, and the ANHAT anlysis (2005) found that the Stirlings are amongst the top 1% of places around Australia for numbers of endemic mygalomorph species. The place also records two endemic genera. Others 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).

The south-west region of Western Australia has particularly high species richness and endemism for a number of plant families and genera, and for invertebrates, and the flora of the south-west has the highest concentration of local endemic species in Australia. On this basis, the Stirling Range meets criterion (a).

CRITERION (b) - *The place has outstanding heritage value to the nation because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.*

While the nominator did not make any specific claims against this criterion, there is some evidence in the literature for values under this criterion.
As outlined in the Place Description above, the Stirling Range supports a number of species that are listed as being threatened, and at least 17 plant species and 6 fauna species are listed as threatened under Commonwealth legislation. Plant species include the pea *Nemcia lehmanii*, which was presumed extinct until a population was rediscovered in the Stirling Range in 2000, and several other species that are critically endangered in Western Australia and endangered nationally, such as Gilham's bell (*Darwinia oxylepis*), the Stirling Range dryandra (*Dryandra montana*) and the small-flowered snottygobble (*Persoonia micranthera*). Nationally threatened animals recorded in Stirling Range include the endangered Carnaby's cockatoo (*Calyptorhynchus latirostris*), the vulnerable western whipbird (*Psophodes nigrogularis oberon*) and the quokka (*Setonix brachyurus*).

In an assessment using ANHAT (2005) of numbers of species that are listed in the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), it was found that the Sydney 1:100 000 mapsheet area contains more threatened species listed in the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) than any other 1: 100 000 mapsheet area across Australia (ANHAT 2005,

DEH 2005). The Sydney mapsheet has fifty-eight EPBC listed species, whereas the Borden and Tambellup mapsheets both have approximately twenty-seven species.

Approximately twenty-three nationally threatened species have been recorded within the Stirling Range National Park (ANHAT 2005 and Keighery 1993). This compares well with the assessment of the Ku-ring-gai Chase National Park, which has fifteen species recorded. However, Ku-ring-gai is approximately one eighth the size of the Stirling Range at around 15,000 hectares, whereas Stirling Range is 115,000 hectares.

To meet this criterion, a place must have an outstanding concentration of rare or threatened species when compared to other places around the country, and it was found that while the place does contain numbers of rare and threatened species, there are other places that contain a comparatively far higher concentration of nationally recognised rare and threatened species.

The Stirling Range does not meet this criterion.

CRITERION (d) - *The place has outstanding heritage value to the nation because of the place's importance in demonstrating the principal characteristics of:(i) a class of Australia's natural or cultural places; or (ii) a class of Australia's natural or cultural environments.*
The nominator claimed that the Stirling Range is an important bushland remnant that contains many species representative of the WA wheatbelt, which is a botanically diverse region that has predominantly been cleared for agriculture.

Stirling Range National Park is one of the top ranking conservation areas across Australia representing areas of richest biodiversity (ANHAT 2005, CALM 1999, Hopper et al. 1996, Keighery 1993, Paczkowska & Chapman 2000). The place represents one of the most important remnants of the rich flora of the south-west, in an area that is predominantly cleared for agriculture (Hopper et al 1996). Species from both the wheatbelt and the wetter coastal areas are found here, and representatives of the wheatbelt flora are at their southern margin of distribution in the Stirling Range, while flora of the wetter coastal margin are also found here (Thomson et al. 1993). As an area of over 115,000 hectares, Stirling Range National Park is substantially larger than the average area for reserves in the wheatbelt region of 114 hectares. There are few other places in the south-west that are both as large in size, and as exceptionally rich in species as the Stirling Range.

The Stirling Range meets criterion (d).

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 nominator claimed that the dramatic mountain scenery and spectacularly colourful wildflower displays of the Stirling Range attract thousands of visitors.

The aesthetic features for the Stirling Range are described under two aesthetic indicators: powerful landscapes, and uncommon landscapes, which were indicators developed in studies by Crocker & Davies (2005a) and Context (2004). This

assessment also draws on the detailed assessments by Crocker & Davies (2005b) and the desk top review of four landscapes by Context (2006), and also considers how the aesthetic characteristics are valued by the community.

Powerful Landscapes

The Stirling Range is regarded as having aesthetic characteristics that create a strong emotional response, as noted in the following quotes from CALM and R. Hammond respectively (Crocker and Davies 2005:85).

'The brooding beauty of the mountain landscape, its stunning and unique wildflowers and the challenge of climbing Bluff Knoll have long drawn bushwalkers and climbers to the Stirling Range National Park. At 1,095 metres above sea level, Bluff Knoll is the highest peak in the south-west of Western Australia. …' (CALM Internet site)

In a personal response to calls for input into development of the Inspirational Landscapes study (Crocker & Davies 2005b), R Hammond stated:

'The Stirling Range is a spectacular uplifted ancient landform with a brooding and enticing aura that is unusual in WA. The challenge of a climb up Bluff Knoll, at 1095 metres, or an inspirational walk amid 1500 species of vegetation, many found no where else on earth, attract visitors from around the world. The Stirling Range is a landscape of unquestionable scenic beauty .., but more importantly, it is a landscape that inspires deep emotional responses from both traditional owners and visitors. ..' (R Hammond CALM, quoted in Crocker & Davis 2005b:85).

Notwithstanding the above quotes, Crocker & Davies (2005b) found that the strength of the data to support the Stirling Range as an inspirational landscape is moderately low. The report found there to be no data available on artistic and creative associations, and moderate levels only for the numbers of historical studies, appearances in popular publications and for the level of information on the internet.

In its detailed aesthetic assessment of the Stirling Range, Context (2006) states that the Stirling Range rates highly at a regional scale only against the Powerful Landscapes indicator. The report goes on to say that the Range is a distinctive landscape form that is unusual within the region, but that there is limited to no evidence to show that it is recognised at the national level.

Uncommon Landscape

Uncommon aesthetic characteristics relate to the diversity and profusion of wildflowers of the Stirling Range, and the CALM website states: 'the number and beauty of the wildflowers is staggering. …spring wildflower viewing is incredible.'(CALM 2005).

In considering the wildflower displays of the Stirling Range, Context (2006) reports that wildflowers are an important tourist attraction in Western Australia. Tourism Western Australia listed eight broad areas in the southern region as being popular for wildflower viewing, including the Stirling Ranges, although the Wildflower Society of Western Australia described the best areas as being north of Perth. However, there is limited data available on which are the most popular specific wildflower destinations in Western Australia (Context 2006).

The Inspirational Landscapes study also mentions the importance of wildflowers displays for the Flinders Ranges, the Grampians, and the Alpine National Park. While there is evidence that this is an important aesthetic value to the community, there is not an established framework for determining which sites possess national significance for this value, and therefore the Stirling Range could not be shown to meet this criterion.

Community value

The landscape of the Stirling Range is comparable with the Grampians as a range with many natural aesthetic features that protrudes from a flat plain and is regarded as a regional icon. Due to its more isolated location and with few internal roads, it does not have the high visitation or the recognition of the Grampians.

The inspirational landscapes study (Crocker & Davies 2005a), lists the Stirling Range as one of 68 landscapes in Australia that have been proposed as being potentially significant as an inspirational landscape at a national scale. In this study, the strength of supporting data was rated and used to determine which places had sufficient relevant information for further assessment as potentially significant inspirational landscapes. The ranking for each place was determined by four main criteria, these being: the number of artistic and other creative references; the number of historic studies; the number of tourism publications, guidebooks and large format books; and the number of references on the internet, thereby helping to determine which places rank highly in terms of how well known they are to the Australian community.

In comparison with a number of mountain ranges studied, Crocker and Davies (2005a & b) found that the Stirling Range had moderate strength in its supporting information and was ranked lower than most other mountain landscapes for supporting evidence as an inspirational landscape. Out of 25 mountain landscapes considered, Stirling Range ranked 25th, along with the Gammon Ranges, and King Leopold Ranges. Other places that might intuitively be considered to be more isolated, or less well-known included Lawn Hill in Queensland, Mutawinji in NSW, Mount Field in Tasmania, Karajini in WA, and the Warrumbungles in NSW. All these places however, ranked more highly for supporting information than the Stirling Range in the Crocker & Davies (2005a) report.

When comparing the Stirling Range to other sandstone ranges, all other sandstone mountains considered in Crocker and Davies (2005a & b) ranked more highly for evidence as an inspirational landscape, including for the Grampians in Victoria, the Flinders Ranges in SA, the Blue Mountains in NSW, the West Macdonnell Ranges and Kakadu (Arnhemland Escarpment) in the NT, and Purnululu in WA.

Of this selection of mountainous sandstone landscapes, the Inspirational Landscapes report found that most of the above places demonstrated outstanding value to the community, ranking highly or very highly for the indicators of historic studies, artistic and literature references, popular and tourism publications, and internet references. The Stirling Range, however, while being arguably spectacular, ranked poorly for the four categories.

The Stirling Range was one of 10 places identified in WA as being an indicative

inspirational landscape (Crocker & Davies 2005a). Of these, two had insufficient information to be ranked. Of the remaining eight, the Stirling Range ranked 7th, along with the King Leopold Ranges, and the Mitchell River and Prince Regent Nature Reserve. Places that ranked more highly in WA for the strength of supporting information included the Pinnacles, Karijini in the Pilbara, and Shark Bay.

In its detailed aesthetic assessment of the Stirling Range, Context (2006) states that: 'the Stirling Range rates highly at a regional scale against the two indicators, Powerful Landscapes and Uncommon Landscapes.' The same report concludes that the place is not recognised nationally for its aesthetic qualities.

There is insufficient evidence to show that the aesthetic characteristics of the Stirling Range are of outstanding value to the nation, nor is there evidence to show that the place is strongly valued by a community or cultural group, as required in determining if the place has outstanding heritage value to the nation.

The Stirling Range does not meet criterion (e).

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

The nominator makes no specific claims for Indigenous values against the criteria. However, Indigenous stories are associated with the place, and are considered below.

Archaeology
While archaeological evidence for Aboriginal occupation of the south west region exists, no information about Indigenous occupation of the area was located during the desktop assessment. A project is being undertaken jointly with DIA and University of WA to identify the appropriate Nyungah custodians and to determine heritage research and management requirements. The project will include a desktop study of existing cultural heritage research and literature for the Stirling Range National Park and surrounding area, and site surveys to document significant sites, places and cultural materials (Indigenous Cultural Heritage Research in the Stirling Range National Park Project 2005-06). This project is likely to provide additional information about the Indigenous values of the Stirling Range.

Oral history
The preservation of mythology associated with the Stirling Range and its associated cultural significance is of major concern to the park's Nyungah custodians, both in the surrounding areas and Nyungah country as a whole. Of interest in regard to material evidence of Indigenous tradition and values for the place, the Mineng and Goreng people told many stories about the Stirling Range and in many of them the mountains are referred to as dangerous. No detailed information has been found for the NHL assessment about these stories.

To conclude, while there is documented information about Aboriginal traditions associated with the Stirling Range National Park, there is insufficient evidence to demonstrate that Aboriginal stories or traditions associated with the Stirling Range are different to Aboriginal creation stories associated with other landscapes in Australia.

The Stirling Range does not meet criterion (i).

History:
During the Late Holocene, it is believed that Aboriginal groups in the south west dispersed from the coast in the winter and moved into the interior, exploiting roots, tubers, and marsupials (Hallam 1987, Meagher 1974, Anderson 1984, Gibbs 1987), and Stirling Range is ideally located for such subsistence activities during the winter months.

The Mineng and Goreng people originally lived in and around the Stirling Range and surrounding country. In cold weather they wore kangaroo skin cloaks reaching nearly to the knee. They also built small, conical huts in wet weather. Sticks were placed in the ground and bent to form a cone, then threaded with paperbark, rushes or leafy branches. They told many stories about the Stirling Range and in many of them the mountains are referred to as dangerous (CALM 2005, Thomson et al. 1993).

Bluff Knoll located within SRNP is called *Bular Mial* (many eyes) or *Bala Mial* (his eyes) by Nyoongar people, depending on the intent of the speaker. This was because the rocks on the bluff were shaped like the eyes of the ancestral master spirit that are visible on the mountain. The peak is often covered with mists that curl around the mountain tops and float into the gullies. These constantly changing mists were believed to be the only visible form of the *Noyt* (meaning spirit) (CALM 2005, Thomson et al. 1993)**.**

The Stirling Range was first recorded by Matthew Flinders on the 6th January 1802 during his exploration of the southern coast of Australia in the Investigator. Flinders mentions the range when in the vicinity of Cape Knob: *'Inland we see irregular shaped mountains'* and later on the same day: *'The irregular shaped mountains still in sight being 7 leagues inland, and these entirely distinct, are beginning to shew themselves. Except these we see nothing inland.'* (Flinders 1802). The Stirling Range was named 33 years later in 1835 by surveyor John Septimus Roe, who described them as *'remarkable and elevated peaks'*. Septimus named the range after Captain James Stirling, who was the first Governor of Western Australia (CALM 2005, Jenkins 1980).

The area was declared a national park in 1913, at a time where the dominant culture was towards clearing the bush and converting it to farmland (CALM 2005).

Condition:
The Park has experienced a number of extensive fires during the past 20 years, some caused accidentally, some deliberately lit and others resulting from escapes of planned fires. Most of the eastern third of the park was burnt in 1991 and over 37 000 ha in the centre of the Park was burnt in 1996 and 1997. Lightning strikes occur regularly, mainly during the summer months. Lightning was responsible for the 1996 and 1997 fires and also for one in 1999 which again burnt 2 000 ha in the central area of the Park. Some areas of vegetation that have not been burnt for more than 50 years remain, mainly in the south-east of the Park and are important as biological reference areas.

Dieback disease, caused by the soil-borne fungus *Phytophthora cinnamomi*, has been widespread throughout the Park since the 1970s and is a serious threat to the diversity of plant species. Dieback generally affects woody shrubs with plants of the Proteacea family such as banksias especially susceptible. The pathogen thrives in waterlogged soils that are common within the Park. Virtually all tracks in the Park are now infected along at least part of their length, with the higher and more accessible peaks being particularly affected. The disease has had a dramatic impact on plant communities within the Park, changing both their structure and species composition. To minimize the further spread of dieback, access restrictions were introduced in 1994. Disease-free areas within the Special Conservation Zone are closed to vehicles and walkers unless they have an access permit for scientific or management purposes.

Two other plant diseases caused by fungi - canker and Armillaria dieback - also occur in the Park. Canker has caused the decline of some plant species such as *Banksia coccinea* but is not seen as a major threat at present. Armillaria dieback has had a major impact on wandoo plant communities in some areas of the Park. Weeds are largely confined to road verges, amenity areas and some drainage lines.

The Park has a number of facilities, including tracks and roads, carparks, camping and picnic areas, and a visitors' centre.

Condition Statement taken primarily from the Stirling Range Management Plan (CALM 1999).

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