



Appendix V4
Submission to change
status of *Daviesia*
***elongata* subsp.**
***elongata* (Bennett 2008)**

(unsuccessful)



Form to nominate a Western Australian species for listing as threatened, change of category or delisting.

To fill out this form you **must** refer to the Guidelines. Incomplete forms may result in delays in assessment, or rejection of the nomination.

Answer all relevant sections, filling in the white boxes and indicating when there is no information available. To mark boxes with a cross : on the **View** menu, point to **Toolbars**, and then click **Forms**. Click **Protect Form** , then check the box. Unlock the form by clicking  and you will then be able to type text in the white table cells.

Note, this application form applies to both flora and fauna species, and hence some questions or options may not be applicable to the nominated species – for these questions, type “N/A”.

SECTION 1. NOMINATION	
1.1. Nomination information	
Flora <input checked="" type="checkbox"/>	Fauna <input type="checkbox"/>
Nomination for: Addition <input type="checkbox"/> Change of category <input type="checkbox"/> Delisting <input checked="" type="checkbox"/>	
1.2. Scientific Name	
This name will be used to identify the species on all official documentation. Use the approved name used by the Western Australian Museum or Herbarium. If this is not possible, use unpublished names or numbers of voucher specimens.	
Daviesia elongata subsp. elongata	
1.3. Common Name	
If the species has a generally accepted common name, please show it here. This name will be used on all official documentation.	
Long-leaved Daviesia	
1.4. Current Conservation Status. If none, type 'None'.	
International IUCN Red List Category and Criteria applicable to the highest rank category only e.g. Vulnerable (B1ab(iv);D(1))	None
National EPBC Act 1999 Category	Vulnerable
State of WA Wildlife Conservation Notice Schedule	Declared Rare Flora (Schedule 1)
State of WA IUCN Category	None
State of WA Priority	None
Is the species listed as 'Threatened' in any other Australian State or Territory? If Yes, list these States and/or Territories and the status for each.	
No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>	
Does the species have specific protection (e.g. listed on an annex or appendix) under any other legislation, inter-governmental or international arrangements e.g. CITES? If Yes, please provide details.	
No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>	

1.5. Nominated Conservation Status. Type one category for each of the fields. If none, write 'None'.	
International IUCN Red List Category and Criteria applicable to the highest rank category only e.g. Vulnerable (B1ab(iv);D(1))	none
National EPBC Act 1999	Remove from list
State of WA Wildlife Conservation Notice Schedule	none
State of WA IUCN Category	none
State of WA Priority	Priority 4
1.6. Reasons for the Nomination.	
Briefly summarise the reasons for the nomination in dot points. Please include details relevant to the IUCN Categories and Criteria where appropriate.	
<ul style="list-style-type: none"> • Many new populations of this species have been identified in the last five years • Location of these new populations extends quite considerably the known range of this species • Significant numbers of plants of this species have been located 	
SECTION 2. SPECIES	
2.1. Taxonomy.	
Describe the taxonomic history, using references, and describe the key distinguishing features that can be used to separate this taxon from closely related taxa. Include details of the type specimen, changes in taxonomy, scientific names and common names used for the species.	
<p>Daviesia elongata was described by Bentham in Flora Australiensis Vol 2 page 74 (1864). The type collection was listed as Drummond 2nd Collection n136. A photograph of this collection is held at the Western Australian Herbarium</p> <p>M. Crisp described a second subspecies so the status of subsp. elongata was made by Crisp in Australian Systematic Botany 8: 119, Fig 13 (1995).</p> <p>Daviesia longifolia can resemble D.elongata but differs in having an inflorescence of 4-11 flowers (D.elongata has 2-4 flowers), yellow standard and wings (D. elongata is reddish brown). When vegetative can be mistaken for Labichea punctata but L. punctata has leaves with a spine tip whereas D. elongata has a rounded tip with a small point.</p>	
Is this species conventionally accepted? If no, explain why. For example, is there any controversy about the taxonomy? For undescribed species, detail the location of voucher specimens (these should be numbered and held in a recognised institution and be available for reference purposes).	
No <input type="checkbox"/> Yes <input checked="" type="checkbox"/>	
Describe any known hybridisation with other species in the wild, indicating where this occurs and how frequently.	
None known	
2.2. Description	
Describe the physical appearance, habit, behaviour/dispersion and life history. Include anatomy or habit (e.g. size and/or weight, sex and age variation, social structure) and dispersion (e.g. solitary, clumped or flocks etc), and life history (eg short lived, long lived, geophytic, etc).	
<p>Spreading multi-stemmed shrub to 75cm tall, but with a spread to 1.5m. The leaves are alternate, flat, straight, coriaceous and up to 25cm long, linear to linear oblong. Inflorescence is 2-4 flowered, shorter than the leaves. Flowers are yellow-orange in colour with a red keel. Bracts 2, shorter than flowers. Flowering December to February</p>	

<p>2.3. Distribution Describe the distribution of the species in Australia and, if possible, provide a map.</p>
<p>Known populations identified between Gwindinup, Shire of Capel and Poison Gully a tributary to the south of the Blackwood River, Shire of Nannup in the SW of Western Australia. Eleven different locations for this taxon have been recorded, ranging from the Shire of Capel, through the Shire of Busselton and Shire of Augusta-Margaret River and into the Shire of Nannup, covering a distance of approximately 70km (direct). Locality map is attached.</p>
<p>2.4. Habitat Describe the non-biological habitat (e.g. aspect, topography, substrate, climate) and biological habitat (e.g. forest type, associated species, sympatric species). If the species occurs in various habitats (e.g. for different activities such as breeding, feeding, roosting, dispersing, basking etc) then describe each habitat.</p>
<p>Non-biological habitat</p> <p>Soils – grey sandy loam, yellow sand, yellow sand over clay, grey sand, grey sandy loam over laterite Occurs in dense to open bushland and one location along a track outside private property Topography – flat or low slope or upper middle slope</p>
<p>Biological habitat</p> <p>Vegetation Communities: Woodland of <i>Corymbia calophylla</i>, <i>Eucalyptus marginata</i> subsp. <i>marginata</i>; Woodland <i>Eucalyptus marginata</i> subsp. <i>marginata</i>, <i>Allocasuarina fraseriana</i>, <i>Banksia grandis</i>, <i>Persoonia longifolia</i>; Low Woodland <i>Eucalyptus marginata</i> subsp. <i>marginata</i>, <i>Banksia grandis</i>, <i>Corymbia haematoxylon</i>; Woodland <i>Banksia attenuata</i>, <i>Eucalyptus haematoxylon</i>, <i>Xylomelum occidentale</i> Associated species – <i>Stirlingia latifolia</i>, <i>Hibbertia hypericoides</i>, <i>Kingia australis</i>, <i>Dryandra lindleyana</i>, <i>Adenanthos meisneri</i>, <i>Boronia humifusa</i>, <i>Dasyopogon hookeri</i>, <i>Ricinocarpus cyanescens</i>, <i>Daviesia nudiflora</i></p>
<p>Does the (fauna) species use refuge habitat e.g. in times of fire, drought or flood? Describe this habitat.</p>
<p>Unknown, but would not think it is a refuge habitat.</p>
<p>Is the species part of, or does it rely on, a listed threatened ecological community? Is it associated with any other listed threatened species?</p>
<p>No</p>
<p>2.5. Reproduction Provide an overview of the breeding system. For fauna: Provide an overview of the breeding system and breeding success, including: when does it breed; what conditions are needed for breeding; are there any breeding behaviours that may make it vulnerable to a threatening process? For flora: When does the species flower and set fruit? Is the seed produced viable? What conditions are needed for this? What is the pollinating mechanism? If the species is capable of vegetative reproduction, a description of how this occurs, the conditions needed and when. Does the species require a disturbance regime (e.g. fire, ground disturbance) in order to reproduce?</p>
<p>Flowering - November to February Fruiting - December to March</p>

2.6. Population dynamics Provide details on ages of sexual maturity, extent of breeding success, life expectancy and natural mortality. Describe population structure (presence of juveniles/seedlings, mature and senescing individuals).
Within well established dense understorey bushland the shrubs are tall with an excellent spread. In the more open bushland there are shrubs of varying ages. After fire many seedling germinate which slightly decrease in numbers as the other taxa in the bushland regenerate. Seedlings are not uncommon along tracks through the Forest reserves. The plants flower at about 1-2years of age, as observed after areas had been burnt. Within some well established populations some mature plants appeared to be senescing but very few were observed to be completely dead. Life expectancy is unknown but the vegetation at the Treeton Block appeared not to have been burnt in decades and yet there were many hundreds of plants there of varying ages. It would appear that this taxon could be readily propagated from seed.
Questions 2.7 and 2.8 apply to <u>fauna</u> nominations only
2.7. Feeding Summarise food items or sources and timing/availability.
Briefly describe feeding behaviours, including those that may make the species vulnerable to a threatening processes.
2.8. Movements Describe any relevant daily or seasonal pattern of movement for the species, including relevant arrival/departure dates if migratory. Provide details of home range/territories.
SECTION 3. INTERNATIONAL CONTEXT
For species that are distributed both in <u>Australia</u> and in <u>other countries</u> .
3.1. Distribution Describe the global distribution.
N/A
Provide an overview of the global population size, trends, threats and security of the species outside of Australia.
N/A
Explain the relationship between the Australian population and the global population. What percentage of the global population occurs in Australia? Is the Australian population distinct, geographically separate or does part, or all, of the population move in/out of Australia's jurisdiction? Do global threats affect the Australian population?
N/A
SECTION 4. CONSERVATION STATUS AND MANAGEMENT
4.1. Population What is the total population size in terms of number of mature individuals? Has there been any known reduction in the size of the population, or is this likely in the future? – provide details. Are there other useful measures of population size and what are they? Or if these are unavailable, provide an estimate of abundance (e.g. scarce, locally abundant etc).
Many thousands of mature plants have been identified significantly increasing the size of the known population
Provide locations of: captive/propagated occurrences or <i>ex situ</i> collections; recent re-introductions to the wild; and sites for proposed re-introductions. Have these sites been identified in recovery plans?
Not known

How many locations do you consider the species occurs in and why? Where a species is affected by more than one threatening event, location should be defined by considering the most serious plausible threat.

Plants have been identified in 10 known locations, many within State Forest or Shire Reserves. Within one location there are often several populations and these are listed and mapped in Appendix 1.

For flora, and where applicable, for fauna, detail the location, land tenure, estimated number of individuals, area of occupancy, and condition of site for each known location or occurrence.

Location	Land status	Date of most recent survey	Number of individuals at location	Area of occupancy at location	Condition of site
Carbunup Townsite Reserve	Shire of Busselton Reserve	2008	Many hundreds	Ca 5ha	Excellent
Butler Block	State Forest	1998	Many 1000's		Unknown
Smith and Jacka Roads	Unknown	1998	Locally abundant where burnt	<1ha	Good
Treeton Block	Forest Reserve	2005	Many 1000's	Unknown	Excellent
Kemp Road, Whicher Range	State Forest	2003	12	Unknown	Good
Ambergate Reserve	Shire Reserve	2005	Many 100's	Ca 2ha	Very good - Excellent
Argyle Block	State Forest	2007	Many 1000's	20ha	Excellent
Goulden Rd	Minor road verge & private	2003	12	<1ha	Good to degraded
Poison Gully	Unknown	2005	Not known	Unknown	Unknown but possibly excellent
Harrington Forest Block	State Forest		3	Unknown	Unknown but possibly very good

Has the number of individuals been counted, or is this an estimate? Provide details of the method of determining the number of individuals.

Counted and estimated depending on the population size

Has there been any known reduction in the number of locations, or is this likely in the future? – provide details.

No the number of known locations has increased

What is the extent of occurrence (in km²) for the species; explain how it was calculated and datasets used. If an accurate estimate is unavailable, provide a range of values or a minimum or maximum area estimate. Include estimates of past, current and possible future extent of occurrence. If available, include data that indicates the percentage decline over 10 years or 3 generations (whichever is longer) that has occurred or is predicted to occur.

The known range of this species is approximately 70km. The exact areal extent of each of these populations totals about 10 km²

Is the distribution of the species severely fragmented? Why?

This species appears to be selective for soil type. Where there are large numbers of plants recorded and within each of the locations these are not fragmented

Identify important occurrences necessary for the long-term survival and recovery of the species? This may include: key breeding populations, those near the edge of the range of the species or those needed to maintain genetic diversity.

This species appears to respond well to disturbance events such as fire to regenerate

4.2. Survey effort

Describe the methods to conduct surveys. For example, (e.g. season, time of day, weather conditions); length, intensity and pattern of search effort (including where species not encountered); any limitations and expert requirements.

Targeted surveys by qualified botanists during spring and autumn by driving to potential locations and walking the area. Opportunistic observations during flora and vegetation surveys being conducted for resource and development projects.

Known survey dates conducted by the applicant include;
 1-3rd December 2003
 12th December 2003
 4-6th December 2005
 6th - 7th September 2007
 24th January 2008

Provide details on the distinctiveness and detestability of the species, or the distinctiveness of its habitat, that would assist survey success.

Typically this taxon is located in yellow sand. When the detailed survey was undertaken yellow sand areas were targetted. Not all recorded the species. The species with which it occurs are relatively common taxa in the area. Within the Argyle block it is typically associated with *Daviesia nudiflora* and *Ricinocarpos cyanescens* but not in the other locations.

Has the species been reasonably well surveyed? Provide an overview of surveys to date (include surveys of known occurrences and surveys for additional occurrences) and the likelihood of its current known distribution and/or population size being its actual distribution and/or population size. Include comments on potential habitat and surveys that were conducted, but where the species was not present/found.

See Appendix 1

4.3. Threats

Identify past, current and future threats indicating whether they are actual or potential. For each threat describe:

- a). how and where they impact this species
- b). what the effect of the threat(s) has been so far (indicate whether it is known or suspected)
- c). present supporting information/research
- d). does it only affect certain populations?
- e). what is its expected effect in the future (is there supporting research/information; is the threat only suspected; does it only affect certain populations?).

If possible, provide information threats for each occurrence/location:

Location	Past threats	Current threats	Potential threats	Management requirements (see section 4.4)
Carbunup Townsite Reserve	Unknown		Public pressure, dieback	Management Plan prepared by Shire of Busselton
Butler Block	Unknown	Logging	Logging, dieback	
Smith and Jacka Roads	Unknown		Widening of road	

Treeton Block	Unknown	Logging, illegal firewood collection	Logging, dieback, illegal firewood collection	
Kemp Road, Whicher Range	Unknown	Logging	Logging, dieback	
Ambergate Reserve	Unknown	Public pressure as is close to designated track	Public pressure, dieback	Management Plan prepared by Shire of Busselton
Argyle Block	Unknown	Logging	Logging, dieback	
Goulden Rd	Unknown	Cars driving over plants	Widening of road	
Poison Gully	Unknown		Unknown	
Harrington Forest Block	Unknown	Logging	Logging, dieback	

Identify and explain why additional biological characteristics particular to the species are threatening to its survival (e.g. low genetic diversity). Identify and explain any models addressing the survival of the species.

n/a

4.4. Management

Identify key management documentation for the species e.g. recovery plans, conservation plans, threat abatement plans etc.

Suggest collection of seed and propagation. Where known areas of this plant are disturbed then plants can be introduced into that area.

Does this species benefit from the management of another species or community? Explain.

Not that has been observed to date

How well is the species represented in conservation reserves or covenanted land? Which of these are actively managed for this species? Provide details.

It is well represented in Shire Reserves and Forestry lands

Are there any management or research recommendations that will assist in the conservation of the species? Provide details.

4.5. Other

Is there any additional information that is relevant to consideration of the conservation status of this species?

SECTION 5. NOMINATOR

Nominator(s) name(s)

Dr Eleanor Bennett

Organisation(s)

Bennett Environmental Consulting

Address(s)

PO Box 341 Kalamunda WA 6926

Telephone number(s)

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Email(s)

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Date

12/2/08

If the nomination has been refereed or reviewed by experts, provide their names and contact details.

Dr Darren Brearley
Onshore Environmental Consulting
83 Norfolk St
Dunsborough, W.A. 6281
97 56 7073

SECTION 6. REFERENCES

What references or sources did you use to prepare your nomination? Include written material, electronic sources and verbal information. Include full references, address of web pages and the names and contact details of authorities with whom you had verbal communications.

Bennett Environmental Consulting Pty Ltd (2004). *Search of Significant Species Gwindinup*. Unpublished report for Cable Sands (WA) Pty :Ltd

Hearn, R., Williams, K., Comer, S. and Beecham, B. (2002). Jarrah Forest 2 (JF2 – Southern Jarrah Forest Region).

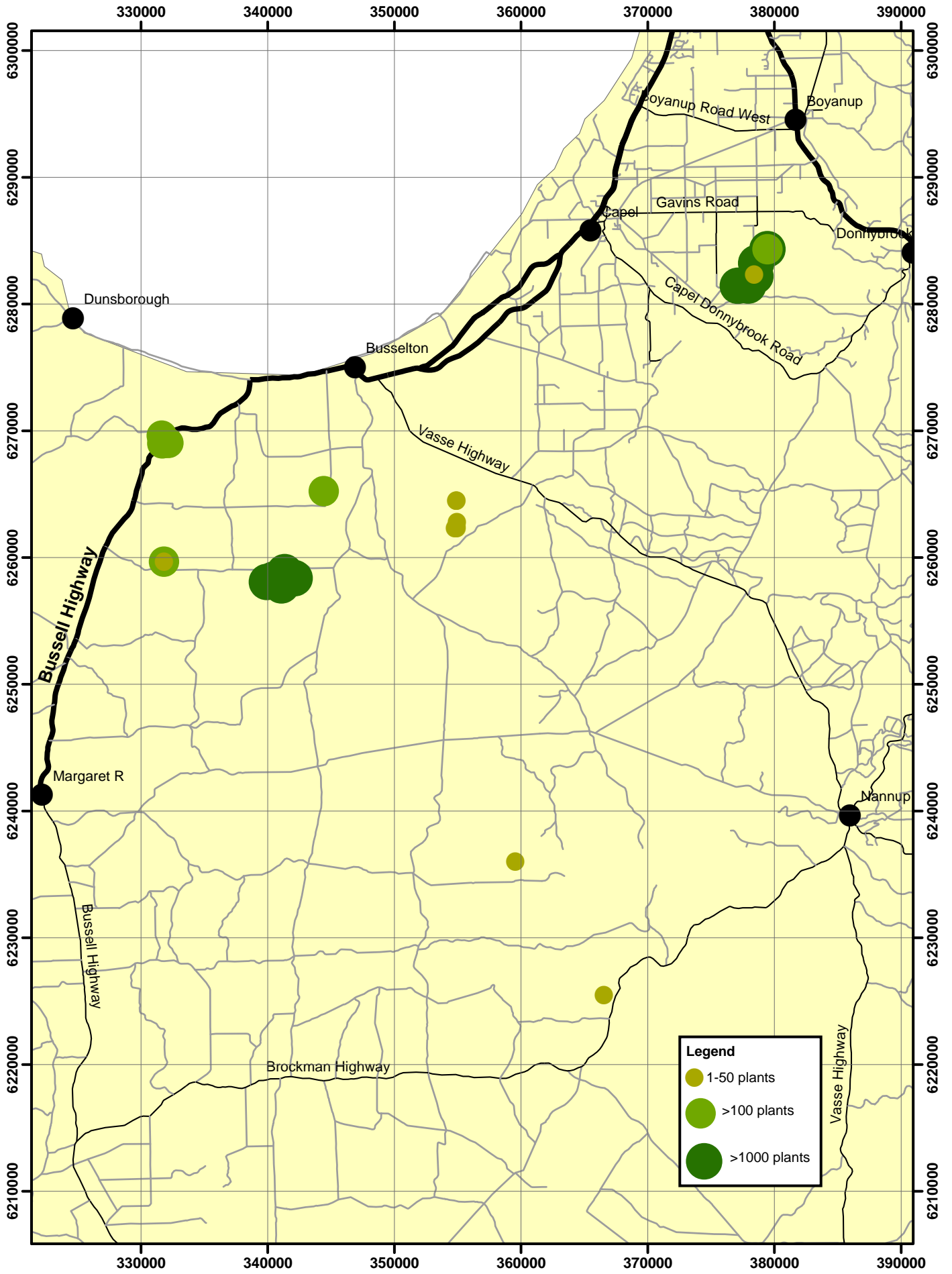
Mattiske Consulting Pty Ltd (2005): *Review of the flora and vegetation on the South West Yarragadee project areas*. Unpublished report for the Water Corporation, Perth.

Andrew Webb, DEC Botanist pers comm., (2004)

Appendix 1: Locations of *Davesia elongata subsp. elongata* 2003-2008

INFORMATION	GPS (WGS84)		<i>Davesia elongata</i> subsp. <i>elongata</i>	Distribution Map Abbreviation
	Northing	Eastings		
Population 1	6281442N-	377111E-	Argyle Block	POP01 – POP1B
Frequency	6281657N	377446E	Many 1000's	
Year of collection			2003, 2005,2007	
Population 2	6281456N-	377919E-	Argyle Block	POP02 – POP2B
Frequency	6281600N	378069E	Many 1000's	
Year of collection			2003, 2005, 2007	
Population 3	6282207N-	378500E-	Argyle Block	POP03 – POP3B
Frequency	6281985N	378646E	Many 1000's	
Year of collection			2003, 2004, 2007	
Population 4	6284333N-	379448E-	Cable Sands lease	POP04-POP04B
Frequency	6284823N	379848E	Many 100's	
Year of collection			2003, 2005, 2007	
Population 5	6283228 –	378554 –	Argyle Block beside	DAV01-DAVO2
Frequency	6282660	378652	creek	
Year of collection			Many 1000's	EB01
			2005, 2007	
Population 6	6259676	331812	Ambergate Reserve	DB10
Frequency			>100	
Year of collection			2005	
Population 7	6265243	344416	Ambergate Reserve	DAV11
Frequency			>100	
Year of collection			2005	
Population 8	6258267	340486	Treeton Block	EB03, DAV04
Frequency			Many 1000's	
Year of collection			2005	
Population 9	6258073-	339935-	Treeton Block	DAV05-06
Frequency	6258338	340727	>1000	
Year of collection			2005	
Population 10	6258714-	341256-	Treeton Block	DAV07-08
Frequency	6458820	341246	>1000	
Year of collection			2005	
Population 11	6258847-	341339-	Treeton Block	DAV09-10
Frequency	6258811	341738	>1000	
Year of collection			2005	
Population 12	6258160	340404	Treeton Block	DB03
Frequency			>1000	
Year of collection			2003	

Population 13	6257802	341079	Treeton Block	DB04
Frequency			>1000	
Year of collection			2003	
Population 14	6258336	341739	Treeton Block	DB05
Frequency			>1000	
Year of collection			2003	
Population 15	6258374	342125	Treeton Block	DB06
Frequency			>1000	
Year of collection			2003	
Population 16	6262333	354770	Goulden Road	DB07
Frequency			5	
Year of collection			2003	
Population 17	6262304	354925	Goulden Road	DB12
Frequency			6	
Year of collection			2003	
Population 18	6264461	354892	Goulden Road	DB14
Frequency			1	
Year of collection			2003	
Population 19	6264461	3548932	Junction Goulden/ Yoongarillup Roads	DB14
Frequency			3	
Year of collection			2003	
Population 20	6262777	354943	Goulden Road	EB05
Frequency			<10	
Year of collection			2005	
Population 21	6262488	354896	Goulden Road	EB07
Frequency			<10	
Year of collection			2005	
Population 22	6259676	331812	Kemp Road	DB11
Frequency			12	
Year of collection			2003	
Population 23	6269049	332161	Carbunup Reserve	DB01
Frequency			>100	
Year of collection			2005	
Population 24	6269010	331673	Carbunup Reserve	DB08
Frequency			>100	
Year of collection			2005	
Population 25	6269073	331774	Carbunup Reserve	DB09
Frequency			>100	
Year of collection			2005	
Population 26	6269073	331774	Carbunup Reserve	DB13
Frequency			>100	
Year of collection			2005	
Population 27	6269625	331636	Carbunup Reserve	DB15
Frequency			>100	
Year of collection			2005	
Population 28	6269068- 6269119- 6269172-	331824 331857 331840	Carbunup Reserve	DB16
Frequency			>100	
Year of Collection			2008	
Population 29	6282316 – 6282727	378385 – 378315	Argyle Block	EB08
Frequency			About 50	
Year of collection			2007	



Known Location of *Davesia elongata* subsp. *elongata*

