

Appendix V3
Review of Conservation
Significant taxa



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REVIEW OF THE SIGNIFICANT FLORA WITHIN THE HAPPY VALLEY PROPOSAL AREA

1. FLORA WITHIN THE PROPOSAL AREA

Recent vegetation surveys undertaken within the Proposal area indicate that it is floristically rich as are most areas located on the Whicher Scarp. The four key vegetation surveys undertaken by ESM (1999), Bennett (2003), Bennett (2006), and Smith (2008) within the Proposal area combined identified 381 taxa belonging to 182 genera and 56 vascular families (Appendix x).

2. DECLARED RARE FLORA

One Declared Rare flora species, *Daviesia elongata* subsp. *elongata* was identified to occur within the Proposal area (Bennett 2004). The species is Declared Rare for the combined reasons:

- it is poorly reserved as is known from only a few populations in reserves;
- uncommon in the area;
- it is a local endemic species with less than 100km range within the south-western Australia (SWA) and Jarrah forest (JF) bioregions on the Whicher Scarp; and
- it has a distinct habitat preferences (Keighery et al. 2008).

This species is a spreading shrub, 0.4-1m high, with yellow, red and orange flowers that occurs on sandy soils, geographically restricted to the Jarrah Forest of the south-west of Western Australia (Figure 1). A search of the records of *D. elongata* subsp. *elongata* held by the Western Australia Herbarium by Bennett (2004) revealed the following ecological requirements and details about the species:

- regeneration is more prolific after disturbance given that the species is common in disturbed areas e.g. along tracks, road verges and very common after a fire;
- soil preferences are grey sand often overlying laterite, or red-brown or yellowish-brown sandy loam;
- topographic position preferred is flat ground or a gentle slope;

- occurs in *Eucalyptus* Woodland or *Eucalyptus/Banksia* Woodland with varying understorey species; and
- restricted to two locations on the eastern Swan Coastal Plain (Carbanup and Ambergate) and slopes of Whicher Range.

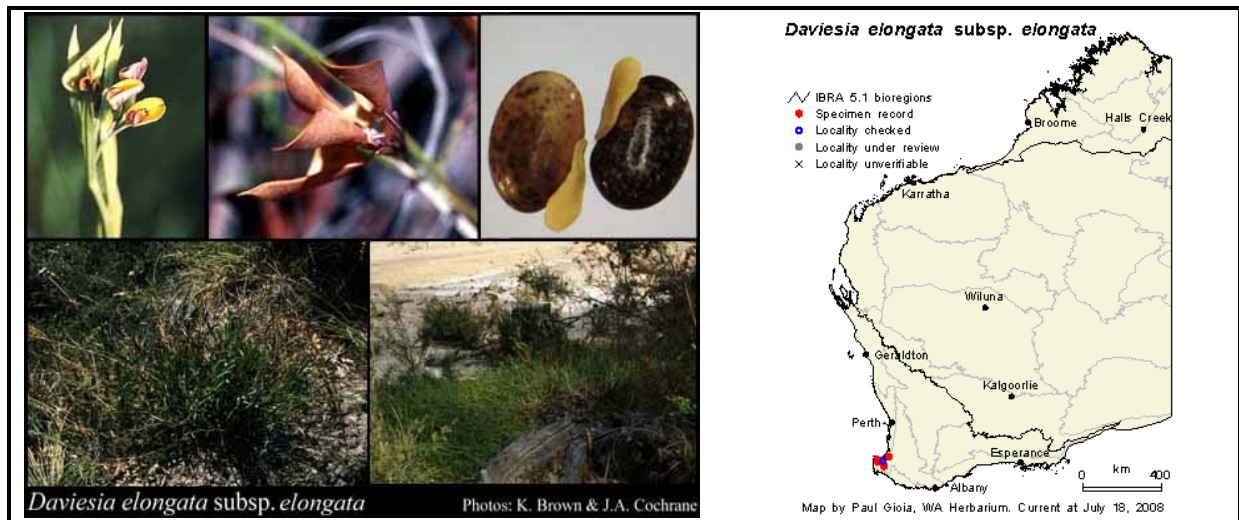


Figure 1 *Daviesia elongata* subsp. *elongata* and its distribution within Western Australia.

Source: <http://florabase.dec.wa.gov.au/help/copyright>

The above ecological requirements of the species are supported by the survey undertaken by Bennett (2004). Within the proposal area, *D. elongata* subsp. *elongata* was only recorded from one area in yellow-orange coloured sand and was typically associated with *Eucalyptus marginata* often with some trees of *Allocasuarina fraseriana* or *Corymbia calophylla* with the following indicator species:

- *Ricinocarpos cyanescens*;
- *Daviesia nudiflora* subsp. *nudiflora*;
- *Stirlingia latifolia*; and
- *Synaphea gracilis*.

Where the soil became grey in colour and *Hibbertia hypericoides* became the dominant shrub *Daviesia elongata* subsp. *elongata* was no longer located. Hence, the restricted and specific habitat preference.

More abundant populations in healthier condition were recorded outside the Proposal area, to the south in State Forest (Bennett 2004) where over 1000 plants were recorded in several populations (Figure 2). In contrast, within the Proposal area only small populations of plants ranging from 1-30 were recorded (Bennett 2004).

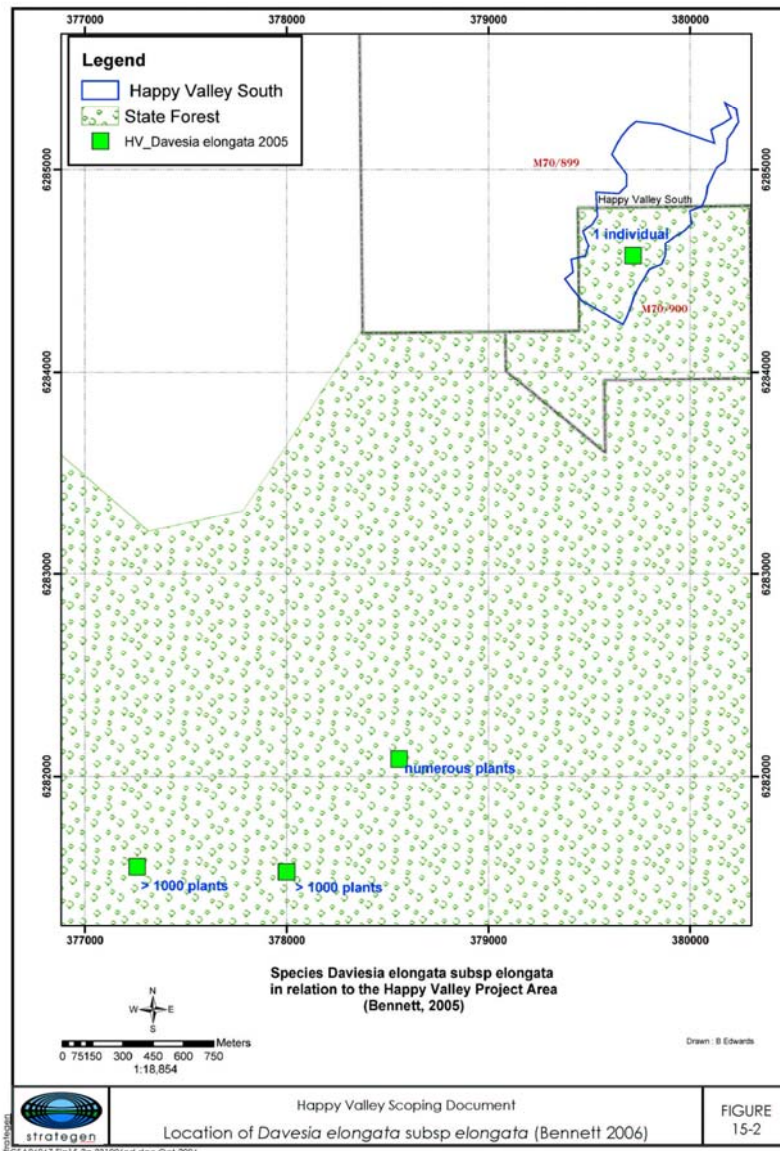


Figure 2 Location of *Daviesia elongata* subsp. *elongata* within and outside the HVS mining tenement - quadrats only (Bennett 2006).

3. PRIORITY FLORA SPECIES

Eleven Priority Flora species have been identified to occur within the Proposal area. The reasoning behind their Priority classification are as follows:

- *Acacia semitrullata* (Priority 3) – poorly reserved, uncommon to the area and populations disjunct from their known geographic range;

- *Andersonia ferricola* MS (Priority 1) – recently recognised taxa, a local endemic species with less than 100km range at its southern most range range-end on the Whicher Scarp, poorly reserved and uncommon to the area;
- *Boronia humifusa* (Priority 1) – poorly reserved, uncommon to the area with populations disjunct from their known geographic range and local endemic species of the Whicher Scarp with a distinct habitat preference;
- *Evandra aristata* (Priority 4) – at its northern range-end that extends well south of the Whicher Scarp, uncommon to the area, populations disjunct from their known geographic range and has a distinct habitat preference;
- *Hemigenia rigida* (Priority 1) – poorly reserved and uncommon in the area;
- *Laxmannia jamesii* (Priority 4) – a relictual species at its northern range-end, populations disjunct from their known geographic range, poorly reserved and uncommon to the area;
- *Logania wendyae* (Priority 1) – a recently recognised taxa, poorly reserved and uncommon to the area, endemic to the Whicher Scarp and has a distinct habitat preference;
- *Stenanthemum sublineare* (Priority 2) – poorly reserved with populations disjunct from their known geographic range and uncommon to the area;
- *Stylidium barleei* (Priority 3) – species at its northern most range-end on the Whicher Scarp and endemic to the Whicher Scarp, poorly reserved and uncommon to the area with a distinct habitat preference;
- *Synaphea petiolaris* subsp. *simplex* (Priority 2) – endemic to the Whicher Scarp, poorly reserved and uncommon to the area with a distinct habitat preference; and
- *Synaphea whicherensis* (Priority 3) – a recently recognised taxa endemic to the Whicher Scarp and at its northern most range-end (Keighery et al. 2008).

4. OTHER FLORA OF SIGNIFICANCE

Several available floristic investigations of the Whicher Scarp (Bennett 2004; Keighery et al. 2008a and b) have identified additional flora species that are considered to be of conservation significance for 1 or a combination of the following reasons:

- a recently recognised taxa;
- significance due to geographical locations e.g. southern or northern limit of their known geographical location
- poorly reserved and/or uncommon to the area;
- local endemism with less than 100km range;
- taxa with distinct habitat preference;
- a relictual species; and/or
- a morphological or genetic variant of the taxa.

About 256 flora species of significance were identified, 36 of which occur within the Proposal area. Table 1 summaries the reasons for significance and the distribution within the Proposal area, Whicher Scarp and within Western Australia.

Table 1 Significant flora species that occur within the Proposal area, Whicher Scarp and the wider Region.

Species	Reason for significance	Local distribution	Distribution within the Whicher Scarp	Regional distribution
<i>Acacia browniana</i> var. <i>browniana</i>	northern range-end of the Gwindinup Reserve on the Whicher Scarp	3 vegetation units EmCcAfChPeHh EmCcChBgXoPIXpXaDhHhCsDI EmCcChXoKaMtPeKrSIHhMt	Gwindinup Reserve	SW: ESP, JF, SWA, WAR.
<i>Acacia mooreana</i>	Northern range-end of the Dardanup Reserve on the Whicher Scarp	1 vegetation unit EmChXoBgRcDnSIHhSwDI	Dardanup	SW: JF, SWA, WAR.
<i>Adenanthos barbiger</i>	Recently recognised taxa; northern range-end; taxa with regional preference for Whicher Scarp and distributed well south of the Scarp	10 vegetation units EmAfChBaBgDhMtSIHhPc EmAfChMtHh EmCcAfChPeHh EmCcChBaMtHhPc EmCcChBgXoPIXpXaDhHhCsDI EmCcChXoKaMtPeKrSIHhMt EmChBaBgMtHhSIPc EmChBgXpLmHg EmChXaXpAlBarmLpBpLp EmChXoBgRcDnSIHhSwDI	Dardanup	SW: JF, SWA, WAR.
<i>Agonis flexuosa</i> var. <i>flexuosa</i>	Restricted distribution; uncommon in the area; distinct habitat preference	1 vegetation unit EmCcChXoKaMtPeKrSIHhMt		SW: ESP, GS, JF, SWA, WAR.
<i>Allocasuarina thuyoides</i>	Populations disjunct from their natural range; restricted distribution; uncommon in the area;	1 vegetation unit EmCcChBaMtHhPc		ER: COO; SW: AW, ESP, GS, JF, MAL, SWA.
<i>Banksia armata</i> var. <i>armata</i>	Populations disjunct from their natural range; restricted distribution; uncommon in the area; distinct habitat preference	1 vegetation unit EmChBgXpLmHg		SW: AW, ESP, GS, JF, MAL, SWA, WAR.
<i>Banksia sphaerocarpa</i> var. <i>sphaerocarpa</i>	Northern range-end; populations disjunct from their known geographic range	1 vegetation unit EmCcChBaMtHhPc	Abba vegetation complex on the Whicher Scarp	SW: AW, ESP, GS, JF, MAL, SWA, WAR.
<i>Calytrix fraseri</i>	Populations disjunct from their known geographic range; uncommon in the area; distinct habitat preference	2 vegetation units EmCcChXoKaMtPeKrSIHhMt EmChXoBgRcDnSIHhSwDI		SW: AW, GS, JF, MAL, SWA.

<i>Cheilanthes austrotenuifolia</i>	Populations disjunct from their known geographic range; poorly reserved; uncommon in the area; distinct habitat preference	5 vegetation units CcChXoPc EmAfChBaBgDhMtSIHhPc EmCcChBgXoPIXpXaDhHhCsDI EmCcChXoKaMtPeKrSIHhMt EmChXoBgRcDnSIHhSwDI		N: NK, OVP; ER: CAR, COO, CR, GAS, GD, GSD, MUR, PIL, YAL; SW: AW, ESP, GS, JF, MAL, SWA, WAR.
<i>Craspedia variabilis</i>	Populations disjunct from their known geographic range; uncommon in the area	1 vegetation unit EmCcAfChPeHh		SW: AW, ESP, JF, SWA, WAR.
<i>Cyathochaeta avenacea</i>	Morphological and genetic variant	1 vegetation unit EmCcChXoKaMtPeKrSIHhMt		SW: ESP, GS, JF, SWA, WAR.
<i>Dampiera linearis</i>	Morphological and genetic variant	5 vegetation units EmAfChBaBgDhMtSIHhPc EmCcAfChPeHh EmCcChBgXoPIXpXaDhHhCsDI EmChKaDhXpAI EmChXoBgRcDnSIHhSwDI		ER: COO; SW: AW, ESP, GS, JF, MAL, SWA, WAR.
<i>Darwinia vestita</i>	North-western range-end; poorly reserved; uncommon in the area	1 vegetation unit EmAfChBgDhHh	Dardanup and extends well south from the Whicher Scarp	SW: AW, ESP, JF, MAL, SWA, WAR.
<i>Dasyopogon hookeri</i>	Northern range-end; distinct habitat preference; relictual species	8 vegetation units EmAfChBaBgDhMtSIHhPc EmAfChBgDhHh EmAfChMtHh EmCcAfChPeHh EmCcChBgXoPIXpXaDhHhCsDI EmCcChXoKaMtPeKrSIHhMt EmChKaDhXpAI EmChXoBgRcDnSIHhSwDI	Boyanup	SW: JF, SWA, WAR.
<i>Daviesia divaricata</i> subsp. <i>divaricata</i> MS	Populations disjunct from their known geographic range; uncommon in the area; distinct habitat preference	2 vegetation units EmCcChBgXoPIXpXaDhHhCsDI EmChBaBgMtHhSIPc		SW: AW, GS, JF, SWA

<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>	Southern range-end; Populations disjunct from their known geographic range; uncommon in the area; distinct habitat preference; morphological variant	4 vegetation units EmCcAfChPeHh EmCcChBgDhHhSI EmCcChBgXoPIXpXaDhHhCsDI EmChXoBgRcDnSIHhSwDI	Argyle	ER: COO; SW: AW, ESP, GS, JF, MAL, SWA
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	Populations disjunct from their known geographic range; uncommon in the area; distinct habitat preference	4 vegetation units EmCcAfChPeHh EmCcChXoKaMtPeKrSIHhMt EmChBaBgMtHhSIPc EmChXoBgRcDnSIHhSwDI		ER: COO; SW: AW, ESP, GS, JF, MAL, SWA
<i>Hakea cyclocarpa</i>	Significant populations in reference to the Whicher Scarp; distinct habitat preference	4 vegetation units CcChXoPc EmCcChBgXoPIXpXaDhHhCsDI EmChXaXpAlBarmLpBpLp EmChXoBgRcDnSIHhSwDI		SW: JF, SWA, WAR
<i>Hakea stenocarpa</i>	Populations disjunct from their known geographic range; uncommon in the area; significant populations in reference to the Whicher Scarp	1 vegetation unit EmAfChBgDhHh		SW: AW, GS, JF, SWA
<i>Hibbertia acerosa</i>	Populations disjunct from their known geographic range; uncommon in the area; significant populations in reference to the Whicher Scarp	7 vegetation units CcChXoPc EmAfChBaBgDhMtSIHhPc EmAfChMtHh EmCcChBgDhHhSI EmCcChBgXoPIXpXaDhHhCsDI EmChXaXpAlBarmLpBpLp EmChXoBgRcDnSIHhSwDI		SW: AR, ESP, GS, JF, MAL, SWA, WAR
<i>Hibbertia huegelii</i>	Southern range-end; populations disjunct from their known geographic range; uncommon in the area; significant populations in reference to the Whicher Scarp	9 vegetation units CcChXoPc EmAfChBaBgDhMtSIHhPc EmAfChBgDhHh EmAfChMtHh EmCcAfChPeHh EmCcChBaMtHhPc EmCcChBgXoPIXpXaDhHhCsDI EmChBaBgMtHhSIPc EmChXoBgRcDnSIHhSwDI	West Whicher Scarp	SW: AW, GS, JF, SWA

<i>Hibbertia lasiopus</i>	Northern range-end; populations disjunct from their known geographic range; uncommon in the area; significant populations in reference to the Whicher Scarp; poorly reserved	2 vegetation units EmAfChMtHh EmChXoBgRcDnSIHhSwDI	Argyle	SW: AF, JF, SWA
<i>Hibbertia mylnei</i>	Populations disjunct from their known geographic range; uncommon in the area; significant populations in reference to the Whicher Scarp	1 vegetation unit EmChXoBgRcDnSIHhSwDI		SW: AW, GS, JF, SWA
<i>Hyalosperma demissum</i>	Southern range-end; populations disjunct from their known geographic range; uncommon in the area; significant populations in reference to the Whicher Scarp	1 vegetation unit CcChXoPc	Abba vegetation complex on the Whicher Scarp	ER: COO, GAS, MUR, YAL; SW: AW, ESP, GS, JF, MAL, SWA
<i>Hypolaena exsulca</i>	Endemic to the Whicher Scarp; morphological variant	10 vegetation units CcChXoPc EmAfChBaBgDhMtSIHhPc EmAfChBgDhHh EmAfChMtHh EmCcAfChPeHh EmCcChBaMtHhPc EmCcChBgXoPIXpXaDhHhCsDI EmCcChXoKaMtPeKrSIHhMt EmChBaBgMtHhSIPc EmChXoBgRcDnSIHhSwDI		SW: AW, ESP, GS, JF, NAL, SWA, WAR
<i>Johnsonia acaulis</i>	Significant populations in reference to the Whicher Scarp; distinct habitat preference; morphological variant	3 vegetation units EmAfChBaBgDhMtSIHhPc EmCcChBaMtHhPc EmChBaBgMtHhSIPc		SW: ESP, JF, MAL, SWA, WAR
<i>Johnsonia lupulina</i>	Distinct habitat preference; endemic taxa that extends well south of the Whicher Scarp	2 vegetation units EmChXaXpAlBarmLpBpLp EmChXoBgRcDnSIHhSwDI		SW: EASP, JF, SWA, WAR
<i>Lambertia multiflora</i> var. <i>darlingensis</i>	Southern range-end; disjunct from their known geographic range; poorly reserved; significant populations in reference to the Whicher Scarp; distinct habitat preference	1 vegetation unit EmChBgXpLmHg	Abba vegetation complex on the Whicher Scarp	SW: JF, SWA
<i>Lomandra spartea</i>	Southern range-end; disjunct from their known geographic range; significant populations in reference to the Whicher Scarp; distinct habitat preference; uncommon in the area	3 vegetation units EmCcAfChPeHh EmCcChBgXoPIXpXaDhHhCsDI EmChXaXpAlBarmLpBpLp		SW: AW, JF, SWA

<i>Lomandra whicherensis</i>	Recently recognised taxa; southern range-end; poorly reserved; disjunct from their known geographic range; significant populations in reference to the Whicher Scarp; distinct habitat preference; uncommon in the area; relictual species	2 vegetation units EmCcChBgXoPIXpXaDhHhCsDI EmChXaXpAlBarmLpBpLp		SW: GS, JF, SWA
<i>Paragonis grandiflora</i> MS	Southern range-end; significant populations in reference to the Whicher Scarp	3 vegetation units EmCcChBgXoPIXpXaDhHhCsDI EmChBgXpLmHg EmChXaXpAlBarmLpBpLp		SW: GS, JF, SWA
<i>Patersonia occidentalis</i> <i>var. angustifolia</i>	Recently recognised taxa; distinct habitat preference; endemic taxa that extends well south of the Whicher Scarp; significant populations in reference to the Whicher Scarp; uncommon to the area	2 vegetation units EmCcChBgXoPIXpXaDhHhCsDI EmChXaXpAlBarmLpBpLp		SW: JF, SWA, WAR
<i>Patersonia umbrosa</i> var. <i>umbrosa</i>	Northern range-end; populations disjunct from their known geographic range; uncommon in the area; significant populations in reference to the Whicher Scarp; distinct habitat preference; endemic to the Blackwood Plateau	4 vegetation units EmAfChBgDhHh EmCcChBaMtHhPc EmCcChXoKaMtPeKrSIHhMt EmChXoBgRcDnSIHhSwDI	Gwindinup	SW:ESP, JF, WAR
<i>Petrophile striata</i>	Populations disjunct from their known geographic range; uncommon in the area; significant populations in reference to the Whicher Scarp	3 vegetation units EmCcAfChPeHh EmCcChBgXoPIXpXaDhHhCsDI EmChXaXpAlBarmLpBpLp		SW:AW, GS, JF, SWA
<i>Platytheca</i> sp. Argyle (G.J. & B.J. Keighery 281) PN	Recently recognised taxa; poorly reserved; significant populations in reference to the Whicher Scarp; uncommon in the area; endemic to the Whicher Scarp; significant habitat preference; relictual species	2 vegetation units EmCcAfChPeHh EmCcChXoKaMtPeKrSIHhMt		SW: JF
<i>Ricinocarpos</i> aff. <i>cyanescens</i> (A.Webb sn 27 October 2003)	Recently recognised taxa; poorly reserved; significant populations in reference to the Whicher Scarp; uncommon in the area; endemic to the Whicher Scarp; significant habitat preference	3 vegetation units CcChXoPc EmChBaBgMtHhSIPc EmChXoBgRcDnSIHhSwDI		SW:ESP, JF

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Family	Scientific name	Common name	WA	IUCN	Com	Occurrence in mining tenement	Description (DEC 2008)	Soil type	Distribution in locality (# of units)	Impact of mining (% cleared)	Distribution in WA (IBRA regions)	OS	Endemic	Reference
Mimosaceae	<i>Acacia browniana</i> var. <i>browniana</i>	Brown's Wattle				Y	Erect or spreading shrub, 0.3–2 m high. Fl. cream, yellow, Jul–Oct. Grey sandy or lateritic soils. Low-lying areas near swamps, rises & hills, granite outcrops.	lower slope/grey sand, drainage line/greybrownyellow sand	3	insignificant impact given that >78% of each unit will be retained	SW: ESP, JF, SWA, WAR.	r(N,GwindinupReserve,WHS)	WA	(BEC 2003; Keighery et al. 2008b)
Mimosaceae	<i>Acacia mooreana</i>	Moore's Wattle		2		Y	Erect, slender, pungent shrub, 0.2–1(–2) m high. Fl. yellow, cream, May–Sep. Mainly sandy soils, often over laterite. Swampy areas & along drainage lines.	Mid slope/greyyelloworangesand	1	significant given that it only occurs within 1 unit of which only 49% will be cleared.	SW: JF, SWA, WAR.	r(N,Dardanup,WHS),s,h	WA	(ESM 1999; BEC 2003; Smith 2008; Keighery et al. 2008b)
Mimosaceae	<i>Acacia semitrilata</i>	Wattle		3		Y	Slender, erect, pungent shrub, (0.1–)0.2–0.7(–1.5) m high. Fl. cream, white, May–Oct. White/grey sand, sometimes over laterite, clay. Sandplains, swampy areas.	Mid slope/greyyelloworangesand	1	significant given that it only occurs within 1 unit of which only 49% will be cleared.	SW: JF, SWA, WAR.	p,s,u,h	WA	(ESM 1999; Keighery et al. 2008b)
Proteaceae	<i>Adenanthos barbiger</i>	Hairy Jugflower				Y	Lignotuberous shrub, 0.2–1 m high. Fl. red, Feb/Jul–Dec. Laterite, gravel, sand, sandy clay. Jarrah forest.	Mid slope/greybrown sandy loam, drainage line/greybrownyellow sand, lower slope grey sand, upper slope ridge/brown sandy loam, lower slope grey sand, mid slope/ heavy grey clay loam, mid slope/greyyelloworange sand	10	little impact given that it occurs within 10 units of which 5 units have >98% retention and the remaining 51-90% retention	SW: JF, SWA, WAR.	z,r(N,Dardanup,WHS),s,Se	WA	(ESM 1999; BEC 2003; Smith 2008; Keighery et al. 2008b)
Myrtaceae	<i>Agonis flexuosa</i> var. <i>flexuosa</i>	Peppermint				Y	Tree or shrub (wind-pruned), to 10 m high. Fl. white, Sep–Dec. Calcareous soils, sand, loam & clay, granite. Near-coastal areas.	Lower slope/grey sand	1	minor given that 99% of the unit will be retained	SW: ESP, GS, JF, SWA, WAR.	s,u,h	WA	(BEC 2003; Keighery et al. 2008b)
Casuarinaceae	<i>Allocasuarina thuyoides</i>	Horned Sheoak				Y	Monoecious or dioecious shrub, 0.3–2 m high, cone with long spines. Fl. Jan–Dec. Sandy soils, clay. In heath on lateritic foothills & sandplains.	Lower slope/grey sand	1	moderate given that the sp. Only occurs in 1 unit of which 90% will be retained	ER: COO; SW: AW, ESP, GS, JF, MAL, SWA.	d,s,u	WA	(BEC 2003; Keighery et al. 2008b)
Epacridaceae	<i>Andersonia ferricola</i> MS	Ironstone Andersonia	P1			Y	Shrub, 0.2–0.5 m high. Fl. purple, Oct. White sand or red-brown loam over ironstone. Seasonally wet flats.	Drainage Line/greybrownyellow sand, mid slope/ heavy grey clay loam, lower slope/grey loamy sand	3	little impact given that 2 units are undisturbed and the third unit has >98% retention	SW: JF, SWA.	z,r(S,Treeton,WHS),p,s,u,eSWA(B)WHS,h	WA	(BEC and Brearly 2005; Keighery et al. 2008b)
Proteaceae	<i>Banksia armata</i> var. <i>armata</i>	Prickly Dryandra d				Y	Lignotuberous shrub, 0.4–2 m high. Fl. red, brown, purple, yellow, orange, Jan–Jul. Sandy soils over laterite, laterite, lateritic gravel.	Mid slope/heavy grey clay loam	1	minor given that 100% of the unit will be retained	SW: AW, ESP, GS, JF, MAL, SWA, WAR.	d,s,u,h	WA	(BEC 2003; Smith 2008; Keighery et al. 2008b)
Proteaceae	<i>Banksia sphaerocarpa</i> var. <i>sphaerocarpa</i>	Fox Banksia				Y	Lignotuberous shrub, 0.4–2 m high. Fl. red, brown, purple, yellow, orange, Jan–Jul. Sandy soils over laterite, laterite, lateritic gravel.	Lower slope/grey sand	1	moderate impact given that the species only occurs in 1 unit of which 90% will be retained	SW: AW, ESP, GS, JF, MAL, SWA, WAR.	r(W,Abba,WHS),d,s	WA	(ESM 1999; BEC 2003; Smith 2008; Keighery et al. 2008b)
Rutaceae	<i>Boronia humifusa</i>	Whicher Boronia		1		y	Low-growing, wiry perennial, herb, 0.1–0.2 m high. Fl. pink, red, Jun/Sep. Gravelly clay loam over laterite. Jarrah-marri open forest.	Mid slope/greybrown sandy loam, lower slope/ greybrown sandy loam, drainage line/greybrownyellow sand, upper slope ridge/brown sandy loam, lower slope grey sand, mid slope/heavy grey clay loam, mid slope/greyyelloworange sand	8	minor impact given that it occurs in 8 units, 4 of which have >98% retention, 3 between 70-80% retention and 1 with 51% retention	SW: JF, SWA.	p,s,u,eWHS,h	WA	(ESM 1999; BEC and Brearly 2005; Keighery et al. 2008b)
Myrtaceae	<i>Calytrix fraseri</i>	Pink Summer Starflower				Y	Shrub, 0.2–1(–2) m high. Fl. pink, purple, yellow, Nov–Aug. White, grey or yellow sand. Sandplains, coastal dunes, rocky granite outcrops.	Lower slope/grey sand, mid slope/greyyelloworange sand	2	moderate impact given that it only occurs in 2 units, 1 of which has 51% retention and the oth 100% retention	SW: AW, GS, JF, MAL, SWA.	d,s,u,h	WA	(ESM 1999; Keighery et al. 2008b)
Adiantaceae	<i>Cheilanthes austrotenuifolia</i>	Rock Fern				Y	Rhizomatous, perennial, herb (fern), 0.1–0.8 m high, blade 3-4-pinnate at the base; sori marginal or continuous along margin; margin slightly inrolled. Red to brown, sandy to clayey loam. Exposed rocky areas, granitic outcrops.	Mid slope/pale grey sand, mid slope/greybrown sandy loam, upper slope ridge/brown sandy loam, lower slope grey sand, mid slope/greyyelloworangesand	5	minor impact given that it occurs within 5 units of which 3 have >78% retention but 2 between 51-58% retention	N: NK, OVP; ER: CAR, COO, CR, GAS, GD, GSD, MUR, PIL, YAL; SW: AW, ESP, GS, JF, MAL, SWA, WAR.	d,p,s,u,h	> AUST	(ESM 1999; Keighery et al. 2008b)
Asteraceae	<i>Craspedia variabilis</i>	Bachelor's Buttons				Y	Erect annual or perennial, herb, 0.1–0.6 m high. Fl. yellow, Aug–Dec. Grey, red/brown or black sand, lateritic soils. Seasonally wet flats, granite outcrops, slopes.	Drainage Line/greybrownyellow sand	1	moderate impact as it only occurs in 1 unit but 98% of this unit will be retained	SW: AW, ESP, JF, SWA, WAR.	d,s,u	AUST	(BEC 2003; Keighery et al. 2008b)
Cyperaceae	<i>Cyathochaeta avenacea</i>	Cyathochaeta				Y	Rhizomatous, tufted perennial, grass-like or herb (sedge), 0.4–1.6 m high, to 1 m wide. Fl. brown, Nov–Mar. White, grey or brown sand, lateritic loam. Peaty swamps.	Lower slope/grey sand	1	moderate impact as only occurs in 1 unit but 99% of this unit will be retained	SW: ESP, GS, JF, SWA, WAR.	v,t,g	WA	(Bennett 2003; Keighery et al. 2008b)
Goodeniaceae	<i>Dampiera linearis</i>	Dampiera				Y	Erect perennial, herb, 0.15–0.6 m high, leaves obovate to elliptic, entire or lobed. Fl. blue, Jul–Dec. Sandy or clayey soils, laterite. Plains, stony ridges, seasonally wet flats.	Mid slope/greybrown sandy loam, drainage line/greybrownyellow sandy loam, upper slope ridge/brown sandy loam, lower slope/grey loamy sand, mid slope/greyyelloworangesand	5	minor impact given that 1 occurs within 5 units of which 2 have >8% retention, 2 between 74-79% retention and 1 unit with 51% retention	ER: COO; SW: AW, ESP, GS, JF, MAL, SWA, WAR.	v,g	WA	(BEC 2003; Keighery et al. 2008b)
Myrtaceae	<i>Darwinia vestita</i>	Pom-pom Darwinia				Y	Erect, bushy shrub, 0.2–1 m high. Fl. white, red, pink, Jul–Dec. White, grey or yellow sand, laterite. Stony hillsides, sandplains, granite outcrops, coastal areas, swamps.	Lower slope/greybrown sandy loam	1	significant given that it only occurs in 1 unit or which 76% will be retained	SW: AW, ESP, JF, MAL, SWA, WAR.	r(NW,Dardanup,WHS),p,s,u,Se	WA	(BEC 2003; Keighery et al. 2008b)
Dasygongonaceae	<i>Dasygogon hookeri</i>	Hooker's Pineapple Bush				Y	Rhizomatous, perennial, herb or tree-like monocot, 0.5–3 m high. Fl. white, black, Aug–Jan. Grey or black sand, sandy gravel, sandy clay, often wet.	Mid slope/greybrown sandy loam, lower slope/greybrown sandy loam, mid lower slope/grey sand, drainage line/greybrownyellow slope, upper slope ridge/brown sandy loam, lower slope/grey sand, mid slope/greyyelloworange sand	8	minor impact given that it occurs within 8 units of which 3 units have >98% retention, 4 between 74-84% retention and 1 with 51% retention.	SW: JF, SWA, WAR.	r(N,Boyanup,WHS),s,S,e,h,a	WA	(ESM 1999; BEC 2003; Smith 2008; Keighery et al. 2008b)
Papilionaceae	<i>Daviesia divaricata</i> subsp. <i>divaricata</i> MS	Daviesia				Y	Erect, spreading shrub, 0.4–2 m high, 0.45-4 wide. Fl. yellow, orange, red, purple, Aug–Nov. Sand, limestone, laterite. Woodlands, low open heath, roadside sandplain, gentle slopes	Upper slopeRidge/brown sandy loam, lower slope/grey sand	2	moderate given that it only occurs in 2 units but 1 unit has 100% retention and the other 78% retention	SW: AW, GS, JF, SWA.	d,s,u,h	WA	(ESM 1999; BEC 2003; Smith 2008; Keighery et al. 2008b)
Papilionaceae	<i>Daviesia elongata</i> subsp. <i>elongata</i>	Spreading Daviesia	R	V	V	Y	Spreading shrub, 0.4–1 m high. Fl. yellow, orange, red, Dec–Feb. Sandy soils.	Mid slope/greyyelloworangesand	1	significant given that it only occurs in 1 unit of which only 51% will be retained	SW: JF, SWA.	p,s,u,eSWA(B)WHS,h	WA	(BEC 2003, 2004; Keighery et al. 2008b)
Papilionaceae	<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>	Leafy Daviesia				Y	Bushy shrub, 0.3–1.5 m high. Fl. orange, yellow, red, brown, Jun–Sep. Sandy & clayey soils, often on laterite. Undulating low rises.	Drainage Line/greybrownyellow sand, upper slope/greyyellow sand, upper slope ridge/brown sandy loam, mid slope/greyyelloworange sand	4	moderate impact given that even though it occurs in 4 units, for 2 units only 51-58% of the unit will be retained but for the other 2 78 and 98% retention.	ER: COO; SW: AW, GS, JF, MAL, SWA.	r(S,Argyle,WHS),d,s,u,h,v	WA	(ESM 1999; BEC 2003, 2004; BEC and Brearly 2005; Smith 2008; Keighery et al. 2008b)
Myrtaceae	<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	Sandplain Eremaea				Y	Erect to spreading shrub, to 2 m high. Fl. orange, yellow, Jul–Dec. White, grey, yellow or brown sand, sandy clay, gravel, granite, laterite. Undulating flats, hillslopes, plateaus, floodplains.	Drainage Line/greybrownyellow sand, lower slope/grey sand, mid slope/greyyelloworange sand	4	minor impact given that it occurs in 4 units of which 3 units have >98% retention and the toerh 51% retention.	ER: COO; SW: AW, ESP, GS, JF, MAL, SWA.	d,s,u,h	WA	(ESM 1999; BEC 2003; Smith 2008; Keighery et al. 2008b)
Cyperaceae	<i>Evandra aristata</i>	Graceful Evandra		4		Y	Rhizomatous, tufted perennial, grass-like or herb (sedge), 0.5–2.2 m high. Fl. brown, Oct–Dec. Grey-black sand, winter wet. Swamps, seepage areas.				SW: JF, SWA, WAR.	r(N,WestWHS),d,s,u,S,e,h	WA	(BEC and Brearly 2005; Keighery et al. 2008b)
Proteaceae	<i>Hakea cyclocarpa</i>	Ramshorn Hakea				Y	Spindly, lignotuberous shrub, 1–2.5 m high. Fl. white, red, brown, Aug–Oct. Sand, clay, gravel, laterite.	Mid slope/pale grey sand, upper slope ridge/brown sandy loam, mid slope/greyyelloworange sand	4	moderate impact given that it occurs within 4 units, 2 of which have 57% and 51% retention, 1 unit with 78% nad the other with 100% retention.	SW: JF, SWA, WAR	s,h	WA	(BEC 2003; Smith 2008; Keighery et al. 2008b)
Proteaceae	<i>Hakea stenocarpa</i>	Narrow-fruited Hakea				Y	Rounded, lignotuberous shrub, 0.3–1(–2) m high. Fl. white, Sep–Oct. Gravelly sand or clay over laterite.	Lower slope/greybrown sandy loam,	1	significant impact given that it only occurs in 1 unit of which 76% will be retained	SW: AW, GS, JF, SWA	d,s,u	WA	(BEC 2003; Keighery et al. 2008b)
Lamiaceae	<i>Hemigenia rigida</i>	Hemigenia		1		Y	Upright or spreading shrub, 0.1–0.6(–1) m high. Fl. blue, purple, violet, Aug–Jan. Sandy soils, lateritic gravelly soils. Hillslopes, granite outcrops, flats, ironstone ridges.	Mid slope/greybrown sandy loam, drainage line/greyyellow sand, upper slope ridge/brown sandy loam	3	minor given that it occurs within 3 units, 1 of which has 99% retention and the other 2 74% and 78% retention.	SW: AW, JF, SWA, WAR.	p,s,h	WA	(BEC 2003; Smith 2008; Keighery et al. 2008b)

Family	Scientific name	Common name	WA	IUCN	Com	Occurrence in mining tenement	Description (DEC 2008)	Soil type	Distribution in locality (# of units)	Impact of mining (% cleared)	Distribution in WA (IBRA regions)	OS	Endemic	Reference
Dilleniaceae	<i>Hibbertia acerosa</i>	Needle-leaved Hibbertia				Y	Low, spreading, mat-forming or ascending shrub, (0.02-)0.1-0.6 m high. Fl. yellow, Jul-Feb. Sandy or gravel soils, laterite, granite.	Mid slope/pale grey sand, mid slope/greybrown sandy loam, mid lower slope/grey sand, upper slope/greyyellow sand, upper slope ridge/brown sandy loam, mid slope/greyyelloworange sand	7	minor given that it occurs in 7 units, 1 which is completely retained, 1 with 84%, 2 with 74% and 78% retention and 3 with 51-58% retention.	SW: AW, ESP, GS, JF, MAL, SWA, WAR.	d,s,u	WA	(ESM 1999; BEC 2003; Keighery et al. 2008b)
Dilleniaceae	<i>Hibbertia huegelii</i>	Huegel's Hibbertia				Y	Erect, open, spreading to prostrate shrub, 0.1-0.6(-1.5) m high. Fl. yellow, Jul-Dec. Sandy soils, lateritic gravelly soils.	Mid slope/pale grey sand, mid slope/greybrown sandy loam, lower slope/greybrown sandy loam, mid lower slope/grey sand, drainage line/greybrownyellow sand, lower slope/grey sand, mid slope/greyyelloworange sand	9	minor impact given that it occurs within 9 units of which 2 have >98% retention, 4 have 74-84% retention and 2 have 51 and 57% retention.	SW: AW, GS, JF, SWA.	r(S,WestWHS),d,s,u	WA	(ESM 1999; BEC 2003; Keighery et al. 2008b)
Dilleniaceae	<i>Hibbertia lasiopus</i>	Hibbertia				Y	Prostrate, ascending or rarely erect shrub, 0.1-0.5 m high. Fl. yellow, Jul-Nov. Gravelly lateritic soils.	Mid/Lower slope/grey sand, mid slope/greyyelloworange sand	2	significant given that it only occurs in 2 units of which have 52% and 76% retention.	SW: AW, JF, SWA.	r(N,Argyle,WHS),d,p,s,u,t	WA	(BEC 2003; Keighery et al. 2008b)
Dilleniaceae	<i>Hibbertia myriner</i>	Hibbertia				Y	Erect, multi-stemmed shrub, 0.15-0.35 m high. Fl. yellow, Jul-Sep. Lateritic sand or gravel. Hills, breakaways, ridges.	Mid slope/greyyelloworange sand	1	significant impact given that it only occurs in 1 unit of which 51% will be retained	SW: AW, GS, JF, SWA.	d,s,u	WA	(BEC 2003; Keighery et al. 2008b)
Asteraceae	<i>Hyalosperma demissum</i>	Hyalosperma				Y	Much-branched, rounded annual, herb, to 0.02 m high. Fl. white, yellow, Aug-Nov. Shallow soils over granite, lateritic soils, clay loam. Winter-wet areas, granite slopes, sandplains.	Mid slope/pale grey sand	1	significant impact given that it only occurs in 1 unit of which 57% will be retained	ER: COO, GAS, MUR, YAL; SW: AW, ESP, GS, JF, MAL, SWA.	r(S,Abba,WHS),d,s,u	WA	(BEC 2003; Keighery et al. 2008b)
Restionaceae	<i>Hypolaena exsulca</i>	Hypolaena				Y	Dioecious rhizomatous, tussocky perennial, herb, 0.25-0.75 m high. Fl. brown, grey, Sep-Dec. Grey or black sand. Sometimes in winter-wet depressions.	Mid slope/pale grey sand, mid slope/greybrown sandy loam, lower slope/greybrown sandy loam, mid lower slope/grey sand, drainage line/greybrownyellow sand, lower slope/grey sand, upper slope ridge/brown sandy loam, lower slope/grey sand, mid slope/greyyelloworange sand	10	insignificant given that it occurs in 10 units of which 5 units have >90% retention, 4 with 74%-84% retention and 2 with 51-57% retention.	SW: AW, ESP, GS, JF, MAL, SWA, WAR.	eSWA(B)/WHS,v	WA	(BEC 2003; Smith 2008; Keighery et al. 2008b)
Papilionaceae	<i>Jacksonia horrida</i> DC (formerly <i>Jacksonia sparsa</i>)			3		Y	Erect or spreading to prostrate shrub, 0.1-2.5 m high. Fl. yellow, orange, red, Jan-Mar/Jun-Dec. Sandy soils. Coastal areas, sand dunes, seasonally-wet areas.	Lower slope/greybrown sandy loam, lower slope/grey sand	2	moderate impact given that it only occurs in 2 units with 78% and 100% retention.	SW: ESP, JF, SWA, WAR.			(ESM 1999; BEC 2003)
Anthericaceae	<i>Johnsonia acaulis</i>	Small Johnsongrass				Y	Rhizomatous, tufted perennial, grass-like or herb (often on stilt roots), 0.05-0.1(-0.2) m high. Fl. white, pink, green, Aug-Dec. White, grey or lateritic sand.	Mid slope/greybrown sandy loam, lower slope/grey sand	3	minor given that it occurs in 3 units with 100%, 90% and 74% retention.	SW: ESP, JF, MAL, SWA, WAR.	s,h,v	WA	(BEC 2003; Keighery et al. 2008b)
Anthericaceae	<i>Johnsonia lupulina</i>	Elegant Johnsongrass				Y	Rhizomatous, tufted, clump forming perennial, grass-like or herb, 0.3-0.8(-1) m high, to 0.5 m wide. Fl. cream, white, Sep-Dec. Grey or black peaty sand, lateritic gravel. Dunes, roadsides, damp locations.	Mid slope/greyyelloworange sand	2	significant impact given that it only occurs in 2 units with 51% and 100% retention.	SW: ESP, JF, SWA, WAR.	Se,h	WA	(BEC 2003; Keighery et al. 2008b)
Proteaceae	<i>Lambertia multiflora</i> var. <i>darlingensis</i>	Golden Lambertia				Y	Many-stemmed shrub, to 2 m high. Fl. yellow, Jun-Nov. Deep white-yellow sands or loamy, clayey or gravelly soils, laterite, granite. Flats, gorges, base of scarp, rocky hills, plateaus, roadsides.	Mid slope/heavy grey clay loam	1	minor as although it occurs in only 1 unit it will be completely retained	SW: JF, SWA.	r(S,Abba,WHS),d,p,s,Ne,h	WA	(BEC 2003; BEC and Brearly 2005; Smith 2008; Keighery et al. 2008a and b)
Anthericaceae	<i>Laxmannia jamesii</i>	James' Paper Lily		4	V*	Y	Tufted, stilt-rooted perennial, herb, 0.05-0.2 m high. Fl. red, white, May-Jul. Grey sand. Winter-wet locations.	Mid slope/pale grey sand, mid slope/greybrown sandy loam	2	significant impact given that it only occurs in 2 units with 57% and 74% retention.	SW: JF, WAR.	r(N,Whicer NP,WHS),d,p,s,u,a	WA	(BEC 2003; Keighery et al. 2008b)
Loganiaceae	<i>Logania conzii</i>					Y								(BEC 2004)
Loganiaceae	<i>Logania wendyae</i>	Wendy's Logania		1		Y	Decumbent, dwarf shrub, to 0.17 m high. Fl. white, blue, Oct. Brown clay to sandy clay, laterite gravel.	Lower slope/greybrown sandy loam, upper slope ridge/brown sandy loam, mid slope/greyyelloworange sand	4	minor impact given that it occurs in 4 units with the following retention percentages 51%, 75%, 78% and 100%.	SW: JF, SWA	z,p,s,u,eWHS,h	WA	(BEC 2003; BEC and Brearly 2005; Keighery et al. 2008b)
Dasygogonaceae	<i>Lomandra spartea</i>	Lomandra				Y	Dioecious rhizomatous, caespitose perennial, herb, 0.1-0.4 m high. Fl. purple, Jul-Sep. Lateritic soils.	Drainage Line/greybrownyellow sand, upper slope ridge/brown sandy loam	3	minor impact given that it occurs in 3 units with the following retention percentages 78%, 98% and 100%.	SW: AW, JF, SWA.	r(S,WhicerNP,WHS),d,s,u,h	WA	(BEC 2003; Keighery et al. 2008b)
Dasygogonaceae	<i>Lomandra whicherensis</i>	Whicher Lomandra				Y		Upper slopeRidge/brown sandy loam	2	moderate given that it only occurs in 2 units, 1 with 78% retention and the other completely retained.		z,r(S,Argyle,WHS),p,s,u,e,h,a	WA	(BEC 2003; BEC and Brearly 2005; Keighery et al. 2008b)
Myrtaceae	<i>Paragonis grandiflora</i> MS	Strange Peppermint				Y	Erect, open, many-stemmed shrub, to 1 m high. Fl. white, pink, Jul-Nov. Stony, gravelly soils, brown clay, sandy clay, laterite, granite. Plateaus, hillsides, valleys, along tracks.	Upper slopeRidge/brown sandy loam, mid slope/heavy grey clay loam	3	minor impact given that it occurs in 3 units with the following retention percentages 78%, 100% and 100%.	SW: GS, JF, SWA.	r(S,WhicerNP,WHS),s	WA	(BEC 2003; Keighery et al. 2008b)
Iridaceae	<i>Paterosonia occidentalis</i> var. <i>angustifolia</i>	Swamp Flag				Y	Rhizomatous, perennial, herb, to 1.5 m high. Fl. purple, Sep-Nov. Grey-brown sand or sandy clay loams, red-brown clayey loam over ironstone. Flats and slopes, seasonally-wet sites, swampy areas, along riverbanks.				SW: JF, SWA, WAR.	z,d,s,u,Se,h	WA	(BEC 2003; Smith 2008; Keighery et al. 2008b)
Iridaceae	<i>Paterosonia umbrosa</i> var. <i>umbrosa</i>	Purple Flag				Y	Rhizomatous, tufted perennial, herb, 0.3-0.9 m high. Fl. blue, violet, Aug-Nov. Sand, sandy or clayey loam. Winter-wet swamps, drainage lines.	Upper slopeRidge/brown sandy loam	2	moderate given that it only occurs in 2 units with 78% and 100% retention.	SW: ESP, JF, WAR.	r(N,Gwindinup,WHS),d,p,s,u,eSWA(B)/BP,h	WA	(ESM 1999; BEC 2003; Smith 2008; Keighery et al. 2008b)
Proteaceae	<i>Petrophile striata</i>	Petrophile				Y	Erect rigid or sprawling shrub, 0.2-1(-2) m high. Fl. yellow, cream, white, Aug-Dec. Gravelly sandy soils, laterite, granitic soils, clay. Coastal plains, sandplains.	Drainage Line/greybrownyellow sand, upper slope ridge/brown sandy loam,	3	minor impact given that it occurs in 3 units with the following retention percentages 78%, 98% and 100%.	SW: AW, GS, JF, SWA.	d,s,u	WA	(ESM 1999; BEC 2003; Smith 2008; Keighery et al. 2008b)
Tremandraceae	<i>Platytheca</i> sp. <i>Argyle</i> (G.J. & B.J. Keighery 281) <i>PN</i>	Argyle Platytheca				Y		Drainage Line/greybrownyellow sand, lower slope/grey sand	2	minor as although it occurs in only 2 units it will be 98% and 99% retained.	SW: JF.	z,p,s,u,eWHS,h,a	WA	(BEC 2003; BEC and Brearly 2005; Keighery et al. 2008b)
Euphorbiaceae	<i>Ricinocarpos</i> aff. <i>cyanescens</i> (A. Webb sn 27 October 2003)	Whicher Ricinocarpos				Y	Shrub, 1.2-3 m high. Gravel.	Mid slope/pale grey sand, lower slope/grey sand, mid slope/greyyelloworange sand	3	moderate as it occurs in 3 units of 51-57% of 2 units will be retained and the other completely retained.	SW: ESP, JF.	z,p,s,u,eWHS,h	WA	(BEC 2003; BEC 2004; BEC and Brearly 2005; Keighery et al. 2008b)
Rhamnaceae	<i>Stenanthemum sublineare</i>	Stenanthemum		2		Y	Erect shrub, to 0.1 m high. Fl. green, Oct-Dec. Littered white sand. Coastal plain.	Lower slope/grey sand	1	significant given that it only occurs in 1 unit of which 90% will be retained.	SW: ESP, SWA.	d,p,s,u	WA	(BEC 2003; BEC and Brearly 2005; Keighery et al. 2008b)
Stylidiaceae	<i>Stylidium barleei</i>	Tooth-leaved Triggerplant		3		Y	Rosetted perennial, herb, 0.1-0.45 m high, Leaves tufted, oblanceolate, 2-6 cm long, 2.5-13 mm wide, apex subacute, margin serrate, glandular. Scape glandular throughout. Inflorescence racemose. Fl. white, Oct-Dec. White, grey or brown sand over laterite. Upland. Eucalyptus woodland, Allocasuarina shrubland.	Upper slopeRidge/brown sandy loam	1	significant given that it only occurs in 1 unit of which 78% will be retained.	SW: JF, SWA.	r(N,ActonPark,WHS),p,s,u,eSWA(B)/WHS/BP,h	WA	(BEC 2003; Keighery et al. 2008b)
Proteaceae	<i>Synaphea petiolaris</i> subsp. <i>simplex</i>	Synaphea		2		Y	Tufted shrub, 0.1-0.6 m high. Fl. yellow, Sep-Oct. Sandy soils. Flats, winter-wet areas.	Mid slope/greybrown sandy loam, drainage line/greybrown sandy loam	3	minor impact given that it occurs in 3 units with the following retention percentages 78%, 98% and 100%.	SW: JF, SWA.	p,s,u,eSWA(B)/WHS,h	WA	(ESM 1999; Keighery et al. 2008b)
Proteaceae	<i>Synaphea whicherensis</i>	Whicher Synaphea		3		Y	Compact, tufted shrub, 0.15-0.4 m high. Fl. yellow, Oct-Nov. Gravelly lateritic soils, white/grey sand. Winter-wet depressions, flats.	Drainage Line/greybrownyellow sand, upper slope ridge/brown sandy loam, lower slope/grey sand, mid slope/heavy grey clay loam, mid slope/greyyelloworange sand	7	insignificant given that it occurs in 7 units 5 of which have >98% retention, and the others with 78% and 51% retention.	SW: JF, SWA.	z,r(N,Argyle,WHS),s,eSWA(B)/WHS/BP	WA	(ESM 1999; BEC 2003; Keighery et al. 2008b)
Xanthorrhoeaceae	<i>Xanthorrhoea acanthostachya</i>	Prickly Balga				N	Perennial tree-like monocot, 0.8-3 m high, trunk to 1.5 m, scape length 0.4-0.5 m, spike length 0.4-0.5 m. Fl. cream, white, Aug-Dec. White or grey sand with lateritic gravel.				SW: GS, JF, SWA.	r(S,Abba,WHS),s,u,Ne,h,v,t	WA	(BEC and Brearly 2005; Smith 2008; Keighery et al. 2008a and b)
Mimosaceae	<i>Acacia inops</i>	Wattle		3								d,p,s,u,Se,h	WA	(Keighery et al. 2008b)
Mimosaceae	<i>Acacia luteola</i>	Wattle										r(N,Dardanup,WHS),d	WA	(Keighery et al. 2008b)
Mimosaceae	<i>Acacia preissiana</i>	Preiss's Wattle										r(S,WHS),s	WA	(Keighery et al. 2008b)

Family	Scientific name	Common name	WA	IUCN	Com	Occurrence in mining tenement	Description (DEC 2008)	Soil type	Distribution in locality (# of units)	Impact of mining (% cleared)	Distribution in WA (IBRA regions)	OS	Endemic	Reference
Mimosaceae	<i>Acacia tayloriana</i>	Taylor's Wattle	4									r(N,Abba,WHS),p,s,u,e WHS/BP	WA	(Keighery et al. 2008b)
Mimosaceae	<i>Acacia tetragonocarpa</i>	Wattle										d,s,u	WA	(Keighery et al. 2008b)
Mimosaceae	<i>Acacia uliginosa</i>	Wattle										r(N,Whicher,WHS),p,s, u,Se	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Acinodum cunninghamii</i>	Albany Swamp Daisy										p,s,u,h,g	WA	(Keighery et al. 2008b)
Cupressaceae	<i>Acinostrobos acuminatus</i>	Creeping Cypress										d,p,s,u,h	WA	(Keighery et al. 2008a and b)
Apiaceae	<i>Acinotus whicheranus</i>	Whicher Flannel Flower	2									z,p,s,u,eWHS,h	WA	(Keighery et al. 2008b)
Adiantaceae	<i>Adiantum aethiopicum</i>	Common Maidenhair										d,p,s,u,h	AUST	(Keighery et al. 2008b)
Asteraceae	<i>Amblysperma minor</i>	Claypan Native Gerbera										z,r(N,Dardanup,WHS), d,s,u,h	WA	(Keighery et al. 2008b)
Euphorbiaceae	<i>Amperea micrantha</i>	Amperea	2									p,s,u	WA	(Keighery et al. 2008b)
Euphorbiaceae	<i>Amperea volubilis</i>	Amperea										r(N,Whicher,WHS),d,p ,s,u	WA	(Keighery et al. 2008b)
Epacridaceae	<i>Andersonia aristata</i>	Andersonia										r(S,Gale RdIronstones,WHS),d, s,u,h	WA	(Keighery et al. 2008b)
Epacridaceae	<i>Andersonia barbata</i>	Andersonia										r(N,Abba,WHS),d,p,s,u ,Se	WA	(Keighery et al. 2008b)
Epacridaceae	<i>Andersonia fallax</i> MS	Andersonia										z,r(N,WhicherNP,WHS ,p,s,u,eWHS/BP,h	WA	(Keighery et al. 2008b)
Epacridaceae	<i>Andersonia heterophylla</i>	Andersonia										r(S,WhicherNP,WHS), d,s,u,h	WA	(Keighery et al. 2008b)
Epacridaceae	<i>Andersonia micrantha</i>	Andersonia										r(N,Boyanup,WHS),p,s ,u,Se	WA	(Keighery et al. 2008b)
Goodeniaceae	<i>Anthotium juncliforme</i>	Anthotium	4									p,s,u,h	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Actis cordifolia</i>	Swamp Astroloma	3									p,s,u,h	WA	(Keighery et al. 2008b)
Epacridaceae	<i>Astroloma sp. Nannup (R.D.Royce 3978) PN</i>	Nanup Astroloma	4									z,r(N,Abba,WHS),p,s,u ,Se	WA	(Keighery et al. 2008b)
Proteaceae	<i>Banksia baxteri</i>	Baxter's Dryandra										r(N,Abba,WHS),d,s,u,h	WA	(Keighery et al. 2008b)
Proteaceae	<i>Banksia formosa</i>	Showy Dryandra										r(N,WhicherNP,WHS), d,s,u,h,a,g	WA	(Keighery et al. 2008b)
Proteaceae	<i>Banksia meisneri subsp. ascendens</i>	Meisner's Banksia	4									p,s,Se	WA	(Keighery et al. 2008b)
Proteaceae	<i>Banksia mimica</i>	Summer Honeypot	R	V	E*							r(S,WhicherNP,WHS), d,p,s,u,eSWA/WHS,h, a,g	WA	(Keighery et al. 2008b)
Proteaceae	<i>Banksia nivea subsp. uliginosa</i>	Bush Honeypot	R	E	E							z,d,p,s,u,eSWA/WHS/ SC,h	WA	(Keighery et al. 2008b)
Proteaceae	<i>Banksia sessilis</i>	Parrotbush d										d,u,h	WA	(Keighery et al. 2008b)
Proteaceae	<i>Banksia squarrosa subsp. argillacea</i>	Ironstone Pingle	R	V	V							z,d,p,s,u,eSWA(B)WH S,h	WA	(Keighery et al. 2008b)
Dasygongonaceae	<i>Baxteria australis</i>	Baxteria										s,Se,h,a	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Beaufortia sparsa</i>	Swamp Beaufortia										d,p,s,u,h,g	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Beaufortia squarrosa</i>	Sandplain Beaufortia										r(N,Abba,WHS),d,p,s,u ,Ne,h,g	WA	(Keighery et al. 2008b)
Rutaceae	<i>Boronia capitata subsp. gracilis</i>	Slender Boronia	2									r(SW,Yelverton,WHS), p,s,u,eSWA/WHS,h	WA	(Keighery et al. 2008b)
Rutaceae	<i>Boronia purdieana subsp. purdieana</i>	Yellow Boronia										r(S,WHS),d,s,u,Ne,h	WA	(Keighery et al. 2008b)
Rutaceae	<i>Boronia tetragona</i>	Pink Boronia	3									d,p,s,u,Se,h	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Bossiaea pulchella</i>	Beautiful Bossiaea										r(S,Abba,WHS),p,s	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Bossiaea sp. Waroona (B.J.Keighery & N.Gibson 229) PN</i>	Foothills Bossiaea										z,r(S,GoodwoodRd,W HS)	WA	(Keighery et al. 2008b)
Orchidaceae	<i>Caladenia longicauda subsp. clivicola</i>	Spider Orchid	4									p,s,u,e	WA	(Keighery et al. 2008b)
Orchidaceae	<i>Caladenia plicata</i>	Crab-lipped Spider Orchid	4									p,s,u	WA	(Keighery et al. 2008b)
Orchidaceae	<i>Caladenia speciosa</i>	Sandplain White Spider Orchid	4									z,r(S,WhicherNP,WHS ,p,s,u	WA	(Keighery et al. 2008b)
Dasygongonaceae	<i>Calectasia narragara</i>	Blue Tinsel Lily										r(S,WhicherNP,WHS), s,u,h	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Calothamnus schaueri</i>	Schauer's Calothamnus										d,s,u	WA	(Keighery et al. 2008a and b)
Myrtaceae	<i>Calothamnus sp. Scott River (R.D.Royce 84) PN</i>	Scott River Calothamnus	2									z,r(N,Treeton,WHS),p, s,u,eWHS/SC,h	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Calothamnus sp. Whicher (B.J.Keighery & N.Gibson 230) PN</i>	Ironstone Calothamnus	4									z,p,s,u,eSWA(B)WHS ,h	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Calytrix sp. Tutunup (G.J.Keighery & N.Gibson 2953) PN</i>	Ironstone Starflower	2									z,p,s,u,eSWA(B)WHS ,h,t	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Calytrix tenuiramea</i>	Starflower										r(W,WhicherNP,WHS), d,s,u,h	WA	(Keighery et al. 2008b)
Cyperaceae	<i>Caustis dioica</i>	Caustis										r(S,Treeton,WHS),d,p, s,u,h,g	WA	(Keighery et al. 2008b)
Cephalotaceae	<i>Cephalotus follicularis</i>	Albany Pitcher Plant										r(N,HaagNR,WHS),d,p ,s,u,h,a	WA	(Keighery et al. 2008b)
Dasygongonaceae	<i>Chamaexeros serra</i>	Little Fringe-leaf										d,s,u	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Chamaelaucium erythrochlorum</i> MS	Blackwood Wax	4									z,r(N,Dardanup,WHS), p,s,u,eSWA(B)WHS/B P,h	WA	(Keighery et al. 2008a and b)
Restionaceae	<i>Chordifex isomorphus</i>	Chordifex	4									p,s,Se	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Chorizema reticulatum</i>	Showy Flame Pea	3									r(N,Argyle,WHS),p,s	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Chorizema spathulatum</i>	Flame Pea										r(N,WhicherNP,WHS), d,Se	WA	(Keighery et al. 2008b)
Proteaceae	<i>Conospermum acerosum subsp. acerosum</i>	Needle-leaved Smokebush										d,s,u,h	WA	(Keighery et al. 2008b)
Proteaceae	<i>Conospermum caeruleum subsp. marginatum</i>	Blue Smokebush										s,u,eSWA(B)WHS/BP	WA	(Keighery et al. 2008b)
Proteaceae	<i>Conospermum paniculatum</i>	Wiry Smokebush 3 p	3									p,s,Se	WA	(Keighery et al. 2008b)
Proteaceae	<i>Conospermum teretifolium</i>	Spider Smokebush										r(N,Argyle,WHS),d,s,u Se,h	WA	(Keighery et al. 2008b)
Rutaceae	<i>Crowea angustifolia var. angustifolia</i>	Crowea										r(N,WhicherNP,WHS), d,s,u,Se,h	WA	(Keighery et al. 2008b)
Cyperaceae	<i>Cyathochaeta clandestina</i>	Cyathochaeta										d,s,h	WA	(Keighery et al. 2008b)
Cyperaceae	<i>Cyathochaeta equitans</i>	Cyathochaeta										d,s,h	WA	(Keighery et al. 2008b)
Cyperaceae	<i>Cyathochaeta sp. Carbinup (G.J.Keighery 14123)</i>	Carbinup River Cyathochaeta										z,d,p,s,u,eSWA(B)WH S,h	WA	(Keighery et al. 2008b)
Cyperaceae	<i>Cyathochaeta sp. Sabina (SAB103806)</i>	Sabina River Cyathochaeta										z,p,s,u,eWHS,h	WA	(Keighery et al. 2008b)

Family	Scientific name	Common name	WA	IUCN	Com	Occurrence in mining tenement	Description (DEC 2008)	Soil type	Distribution in locality (# of units)	Impact of mining (% cleared)	Distribution in WA (IBRA regions)	OS	Endemic	Reference
Papilionaceae	<i>Daviesia flexuosa</i>	Flexible Daviesia										r(N,WestWHS),d,s,u,Se	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Daviesia major</i>	Daviesia										r(S,Abba,WHS),d	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Dillwynia sp. Capel</i> (P.A. Jurjevich 1771) PN	Capel Dillwynia										z,r(N,WHS),p,s,u,eWHS/BP	WA	(Keighery et al. 2008b)
Droseraceae	<i>Drosera hyperostigma</i>	Sundew										d,s,u	WA	(Keighery et al. 2008b)
Droseraceae	<i>Drosera myriantha</i>	Rainbow										r(N,GoodwoodRd,WH S),d,s,u	WA	(Keighery et al. 2008b)
Restionaceae	<i>Empodisma gracillimum</i>	Empodisma										d,p,s,u,Se,h,a	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Eremaea asterocarpa</i>	Star-fruited Eremaea										r(S,Argyle,WHS),d,s,u,eSWA/WHS,h	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Eucalyptus decipiens</i> subsp. <i>chalarata</i>	Swamp Limestone Marlock										z,r(N,GoodwoodRd,WH S),p,s,u,h	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Eucalyptus haematoxylon</i>	Mountain Marri										r(S,Treeton,WHS),d,s,Ne,g	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Eucalyptus megacarpa</i>	Bullich										d,s,u,h	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Eucalyptus relicta</i>	Whicher Mallee		2								z,p,s,u,eWHS/BP,h,a	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Eucalyptus relicta x lane-poolii</i>	Hybrid Whicher Gum										p,s,u,eWHS	WA	(Keighery et al. 2008b)
Proteaceae	<i>Franklandia lucifolia</i>	Yellow Franklandia										r(NE,Abba,WHS),d,p,s,u,Se,h,v,g	WA	(Keighery et al. 2008b)
Proteaceae	<i>Franklandia triaristata</i>	Beautiful Franklandia		4								d,p,s,u,Se,h	WA	(Keighery et al. 2008b)
Cyperaceae	<i>Gahnia decomposita</i>	Swamp Sawsedge										d,s,u,Se,h	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Gastrolobium modestum</i>	Modest Gastrolobium	R	V	V							z,p,s,u,eWHS/BP,h	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Gastrolobium whicherense</i>	Whicher Gastrolobium		2								z,p,s,u,eWHS,h	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Gompholobium cyaninum</i> MS	Blue Gompholobium										s,u,h	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Gompholobium villosum</i>	Hairy Gompholobium										d,s,u	WA	(Keighery et al. 2008b)
Proteaceae	<i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>	Fuchsia Grevillea										d,s,u	WA	(Keighery et al. 2008b)
Proteaceae	<i>Grevillea brachystylis</i> subsp. <i>Busselton</i> (G.J. Keighery s.n. 28/8/1985) PN	Whicher Grevillea	R	CR	*							z,p,s,u,eSWA(B)/WHS	WA	(Keighery et al. 2008b)
Proteaceae	<i>Grevillea bronwenae</i>	Bronwen's Grevillea										p,s,u,eWHS/BP	WA	(Keighery et al. 2008b)
Proteaceae	<i>Grevillea pulchella</i> subsp. <i>ascendens</i> Whicher Scarp Form	(G.J. Keighery & B.J. Keighery 938)										z,s,u,eWHS,h	WA	(Keighery et al. 2008b)
Cyperaceae	<i>Gymnoschoenus aenops</i>	Western Button Grass										r(N,WestWHS),d,s,u,Se,h,a	WA	(Keighery et al. 2008b)
Proteaceae	<i>Hakea falcata</i>	Forest Hakea										r(N,WhicherNP,WHS),d,s,u,Se,h	WA	(Keighery et al. 2008b)
Proteaceae	<i>Hakea lasianthoides</i>	River Hakea										d,s,h	WA	(Keighery et al. 2008b)
Proteaceae	<i>Hakea linearis</i>	Swamp Hakea										r(N,WestWHS),d,s,u,Se,h	WA	(Keighery et al. 2008b)
Proteaceae	<i>Hakea oldfieldii</i>	Oldfield's Hakea		3								d,p,s,u,h,g	WA	(Keighery et al. 2008b)
Dilleniaceae	<i>Hibbertia aurea</i>	Hibbertia										d,s,u,v,g	WA	(Keighery et al. 2008b)
Dilleniaceae	<i>Hibbertia ferruginea</i>	Ferruginous Hibbertia										z,s,u,Se	WA	(Keighery et al. 2008b)
Dilleniaceae	<i>Hibbertia serrata</i>	Serrate-leaved Hibbertia										d	WA	(Keighery et al. 2008b)
Anthericaceae	<i>Hodgsoniola junceiformis</i>	Rush lily										p,s,u,Se,h	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Homalospermum firmum</i>	Homalospermum										d,s,u,h	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Hovea stricta</i>	Prickly Hovea										d,s,u,Ne	WA	(Keighery et al. 2008b)
Restionaceae	<i>Hypolaena caespitosa</i>	Hypolaena										Se	WA	(Keighery et al. 2008b)
Restionaceae	<i>Hypolaena grandiuscula</i>	Hypolaena										r(N,Whicher,WHS),d,p,s,u,Se,h,a	WA	(Keighery et al. 2008b)
Proteaceae	<i>Isopogon attenuatus</i>	Coneflower										r(N,Abba,WHS),s	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Jacksonia lehmannii</i>	Lehmann's Jacksonia										r(S,Whicher,WHS),d,s,u	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Jacksonia sp. Whicher</i> (G.J. Keighery 9953)	Whicher Jacksonia										z,s,eSWA(B)/WHS/BP,h	WA	(Keighery et al. 2008b)
Anthericaceae	<i>Johnsonia inconspicua</i>	Hidden Johnsonia		3								z,r(S,Yelverton,WHS),D,p,s,g	WA	(Keighery et al. 2008b)
Myrtaceae	<i>Kunzea rostrata</i>	Orange-fruited Kunzea										r(N,Dardanup,WHS),s,eSWA(B)/WHS/BP	WA	(Keighery et al. 2008b)
Proteaceae	<i>Lambertia rariflora</i> subsp. <i>rariflora</i>	Whicher Lambertia		4								d,p,s,u,eWHS/BP,h	WA	(Keighery et al. 2008b)
Cyperaceae	<i>Lepidosperma aff. resinosum</i> (A. Webb 10)	Busselton Lepidosperma										s,u,eSWA(B)/WHS	WA	(Keighery et al. 2008b)
Cyperaceae	<i>Lepidosperma obtusum</i>	Lepidosperma										r(W,Treeton,WHS),d,s,u,h,g	WA	(Keighery et al. 2008b)
Restionaceae	<i>Lepyrodia heleocharoides</i>	Lepyrodia		3								r(SW,Yelverton,WHS),d,p,s,u,Se	WA	(Keighery et al. 2008b)
Epacridaceae	<i>Leucopogon oliganthus</i>	Beard Heath										r(S,Abba,WHS),d,s,u,a,g	WA	(Keighery et al. 2008b)
Epacridaceae	<i>Leucopogon sp. Whicher Range</i> (G.J. Keighery 11763) PN	Whicher Beard Heath										r(N,Abba,WHS),s,eWHS/BP	WA	(Keighery et al. 2008b)
Dasygogonaceae	<i>Lomondra</i> sff. <i>Nutans</i> (GK 15.307)													(Keighery et al. 2008a)
Restionaceae	<i>Loxocarya magna</i>	Loxocarya		3								z,p,s,u,Se,h	WA	(Keighery et al. 2008b)
Restionaceae	<i>Loxocarya striata</i> subsp. <i>implexa</i> MS	Loxocarya										z,p,s,u,eSWA(B)/WHS,h	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Nemcia whicherensis</i>													(Keighery et al. 2008a)
Asteraceae	<i>Olearia homolepis</i>	Olearia										d(Kemp Rd),u	WA	(Keighery et al. 2008b)
Asteraceae	<i>Olearia strigosa</i>	Olearia										r(S,WhicherNP,WHS),p,s,u,eSWA(B)/WHS	WA	(Keighery et al. 2008b)
Iridaceae	<i>Patersonia limbata</i>	Hairy Flag										r(N,Dardanup,WHS),d,p,s,u,Se	WA	(Keighery et al. 2008a and b)
Iridaceae	<i>Patersonia maxwellii</i>	Maxwell's Flag										r(S,Yelverton,WHS),d,p,s,u	WA	(Keighery et al. 2008b)
Proteaceae	<i>Petrophile latericola</i> MS	Ironstone Petrophile	R	CR	E*							z,d,p,s,u,eSWA(B)/WHS,h	WA	(Keighery et al. 2008b)
Rafflesiaceae	<i>Pilostyles hamiltonii</i>	Stemflower										s,u	WA	(Keighery et al. 2008b)
Lamiaceae	<i>Pityrodia bartlingii</i>	Woolly Foxglove										r(SW,Whicher,WHS),d,p,s,u,Ne,h,g	WA	(Keighery et al. 2008b)
Apiaceae	<i>Platysace haplosciadia</i>	Platysace										r(N,Abba,WHS),d,s,u	WA	(Keighery et al. 2008b)
Tremandraceae	<i>Platytheca sp. Sabina</i> (G.J. & B.J. Keighery 295) PN	Sabina River Platytheca										z,p,s,u,eWHS,h,a	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Pultenaea brachytropis</i>	Pultenaea										r(N,Abba,WHS),Se	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Pultenaea pinifolia</i>	Tree Pultenaea		3								d,p,s,u,eSWA(B)/WHS/BP,h	WA	(Keighery et al. 2008b)
Papilionaceae	<i>Pultenaea radiata</i>	Whicher Pultenaea										r(N,Dardanup,WHS),s,eWHS/BP,h	WA	(Keighery et al. 2008a and b)

