

Appendix A

Rare and priority flora records from within 20km

Appendix A: Rare and priority taxa recorded by ecoscape (2015) or DPaW databases within a 20 km radius of the survey area. Status, Description and habitat according to DPaW (2013b).

Taxon	Status	Description & Habitat
<i>Acacia nitidula</i>	2	Spreading shrub, (0.2-)0.6-2(-3) m high. Fl. yellow. Granitic sandy Gravelly soils. Amongst granite boulders.
<i>Andersonia carinata</i>	2	Erect slender shrub, 0.1-0.45(-0.8) m high. Fl. pink/pink-white/pink-purple, Aug to Oct. White sand, gravelly lateritic soils. Plains.
<i>Anigozanthos bicolor</i> subsp. <i>minor</i>	T	Rhizomatous, perennial, herb, 0.05-0.2 m high. Fl. green&red, Aug to Oct. Sand. Well-watered sites.
<i>Caesia viscida</i>	2	Rhizomatous and tuberous, tufted perennial, herb, to 0.3 m high. Fl. white, Nov. Aeolian sand. Low dunes.
<i>Eucalyptus semiglobosa</i>	3	Mallee, to 6 m high, bark smooth grey over tan. Fl. cream-white-yellow, May or Oct to Dec or Jan. White sand over laterite, silty sand on edge of granite shelf, limestone. Hillslopes, gullies, cliffs.
<i>Gonocarpus pycnostachyus</i>	3	Erect annual, herb, 0.1-0.15 m high. Fl. green-red. Sand or clay soils. Wet depressions, granite rocks.
<i>Grevillea baxteri</i>	4	Erect to spreading shrub, 0.8-3.6 m high. Fl. green-yellow-orange-brown-red, Feb or May to Jul or Sep to Dec. Sand. Sandplains.
<i>Hibbertia hamata</i>	3	Erect shrub, to 0.5 m high. Fl. yellow, Oct to Dec. Granite. Inland outcrops.
<i>Isopogon alcornis</i>	3	Low, lignotuberous shrub, 0.3-0.5 m high, up to 0.6 m wide. Fl. yellow/white/pink, Oct to Dec or Feb. Sandy soils, skeletal loam on granite. Sandhills, salt lakes, sandplains.
<i>Kennedia becxiana</i>	4	Prostrate or twining shrub or climber. Fl. red, Sep to Dec. Sand, loam. Granite hills & outcrops.
<i>Leucopogon florulentus</i>	3	Erect slender shrub, 0.3-0.8 m high. Fl. white, Jun to Nov. White/grey or yellow sand, sandy clay, gravelly lateritic soils. Sandplains, gentle slopes.
<i>Myoporum velutinum</i>	T	Shrub, 1-2 m high. Fl. white, Sep. Sandy soils. Creek banks.
<i>Muriophyllum petraeum</i>	4	Aquatic annual, herb, stems 0.15-0.3 m long. Fl. white, Aug to Dec. Strictly confined to ephemeral rock pools on granite outcrops.
<i>Paracaleana parvula</i>	2	Perennial, herb, to 0.18 m high. Fl. yellow/green, Oct to Nov. Deep white sands. Plains.
<i>Persoonia spathulata</i>	2	Erect, spreading shrub, 0.2-0.6 m high. Fl. yellow, Dec or Jan. Sand.
<i>Pterostylis</i> sp. Ongerup (K.R. Newbey 4874)	4	Upright annual, herb, to 0.12 m high. Stony red loamy clay, calcareous grey sand, spongeolite. Sheltered slopes, base of cliffs and valley floors, in soil pockets.



Appendix B

Flora Species List

Appendix 2: Inventory of vascular plant taxa recorded in the flora survey of the State Barrier Fence (SBF) extension. New records on the SBF alignment and conservation status are noted. Voucher No. relevant to specimens forwarded to the Western Australian Herbarium, Kensington, Perth.

FAMILY & Taxon	New to SBF	Status	Voucher No.
ANARTHRIACEAE			
<i>Anarthria gracilis</i>	*		
APIACEAE			
<i>Xanthosia huegelii</i>			
ASPARAGACEAE			
<i>Chamaescilla corymbosa</i>	*		
<i>Laxmannia sessiliflora</i>	*		
<i>Lomandra micrantha</i> subsp. <i>teretifolia</i>			
BORAGINACEAE			
<i>Halgania anagalloides</i> var. Southern (A.E. Orchard 1609)			
CASUARINACEAE			
<i>Allocasuarina campestris</i>			
<i>Allocasuarina humilis</i>			
<i>Allocasuarina thuyoides</i>			
CELASTRACEAE			
<i>Stackhousia monogyna</i>			
Cupressaceae			
<i>Callitris drummondii</i>	*		
CYPERACEAE			
<i>Caustis dioica</i>			
<i>Gahnia ancistrophylla</i>			
<i>Lepidosperma</i> aff. <i>brunonianum</i>			DAR 1002
<i>Lepidosperma</i> aff. <i>gracile</i>	*		DAR 1003
<i>Schoenus obtusifolius</i>			
<i>Schoenus subbarbatus</i>	*		
DILLENIACEAE			
<i>Hibbertia gracilipes</i>			
<i>Hibbertia hamata</i>	*	Priority 3	DAR 1001
<i>Hibbertia psilocarpa</i>			
ERICACEAE			
<i>Acrotriche cordata</i>			
<i>Acrotriche ramiflora</i>			

FAMILY & Taxon	New to SBF	Status	Voucher No.
<i>Andersonia parvifolia</i>			
<i>Leucopogon carinatus</i>			
<i>Leucopogon fimbriatus</i>			
<i>Leucopogon</i> sp. Coujinup (M.A. Burgman 1085)			
<i>Lysinema ciliatum</i>			
EUPHORBIACEAE			
<i>Monotaxis paxii</i>			
FABACEAE			
<i>Acacia cochlearis</i>			
<i>Acacia cyclops</i>			
<i>Acacia glaucoptera</i>			
<i>Acacia gonophylla</i>			
<i>Acacia lasiocarpa</i> var. <i>bracteolata</i>			
<i>Acacia mutabilis</i> subsp. <i>mutabilis</i>			
<i>Acacia myrtifolia</i>	*		
<i>Acacia nigricans</i>			
<i>Acacia saligna</i>			
<i>Acacia varia</i> var. <i>parviflora</i>	*		
<i>Bossiaea preissii</i>			
<i>Chorizema aciculare</i> subsp. <i>aciculare</i>			
<i>Daviesia incrassata</i> subsp. <i>incrassata</i>			
<i>Daviesia lancifolia</i>			
<i>Daviesia teretifolia</i>			
<i>Gompholobium knightianum</i>	*		
<i>Gompholobium marginatum</i>			
<i>Hovea pungens</i>	*		
<i>Isotropis cuneifolia</i> subsp. <i>cuneifolia</i>	*		
<i>Kennedia prostrata</i>			
<i>Pultenaea heterochila</i>	*		
<i>Pultenaea indira</i> subsp. <i>indira</i>			
<i>Templetonia retusa</i>	*		
GOODENIACEAE			
<i>Anthotium rubriflorum</i>	*		
<i>Dampiera fasciculata</i>	*		
<i>Dampiera lavandulacea</i>			
<i>Goodenia concinna</i>			
<i>Goodenia scapigera</i> subsp. <i>scapigera</i>			

FAMILY & Taxon	New to SBF	Status	Voucher No.
<i>Lechenaultia formosa</i>			
<i>Velleia trinervis</i>			
HEMEROCALLIDACEAE			
<i>Johnsonia acaulis</i>	*		
IRIDACEAE			
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>			
LAURACEAE			
<i>Cassytha glabella</i>			
<i>Cassytha racemosa</i>	*		
LOGANIACEAE			
<i>Logania buxifolia</i>			
MALVACEAE			
<i>Lasiopetalum indutum</i>	*		
<i>Thomasia angustifolia</i>	*		
MYRTACEAE			
<i>Beaufortia schaueri</i>			
<i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>			
<i>Calothamnus gracilis</i>			
<i>Calytrix decandra</i>			
<i>Calytrix leschenaultii</i>			
<i>Chamelaucium ciliatum</i>	*		
<i>Conothamnus aureus</i>			
<i>Cyathostemon</i> aff. <i>tenuifolius</i>			DAR 1000
<i>Eucalyptus conglobata</i>			
<i>Eucalyptus extrica</i>			
<i>Eucalyptus flocktoniae</i>			
<i>Eucalyptus leptocalyx</i>			
<i>Eucalyptus occidentalis</i>			
<i>Eucalyptus phenax</i> subsp. <i>phenax</i>			
<i>Eucalyptus tumida</i>			
<i>Eucalyptus uncinata</i>			
<i>Melaleuca calycina</i>			
<i>Melaleuca incana</i> subsp. <i>tenella</i>	*		
<i>Melaleuca pulchella</i>			
<i>Melaleuca scabra</i>			
<i>Melaleuca societatis</i>			
<i>Melaleuca striata</i>			

FAMILY & Taxon	New to SBF	Status	Voucher No.
<i>Melaleuca suberosa</i>			
<i>Melaleuca undulata</i>			
<i>Taxandria spathulata</i>			
<i>Thryptomene saxicola</i>	*		
OLACACEAE			
<i>Olax benthamiana</i>			
ORCHIDACEAE			
<i>Caladenia longicauda</i> subsp. <i>rigidula</i>	*		
<i>Diuris laxiflora</i>	*		
<i>Elythranthera brunonis</i>			
<i>Pheladenia deformis</i>	*		
<i>Pterostylis recurva</i>	*		
<i>Thelymitra antennifera</i>	*		
<i>Thelymitra vulgaris</i>	*		
PHYLLANTHACEAE			
<i>Phyllanthus calycinus</i>			
PITTOSPORACEAE			
<i>Billardiera heterophylla</i>			
<i>Marianthus bicolor</i>	*		
POACEAE			
<i>Amhipogon turbinatus</i>			
<i>Neurachne alopecuroidea</i>			
POLYGONACEAE			
<i>Muehlenbeckia adpressa</i>			
PROTEACEAE			
<i>Banksia alliacea</i>	*		
<i>Banksia armata</i> var. <i>ignicida</i>	*		
<i>Banksia media</i>			
<i>Banksia nivea</i> subsp. <i>nivea</i>	*		
<i>Banksia obovata</i>			
<i>Banksia tenuis</i> var. <i>tenuis</i>			
<i>Grevillea nudiflora</i>			
<i>Grevillea oligantha</i>			
<i>Hakea cinerea</i>			
<i>Hakea denticulata</i>			
<i>Hakea laurina</i>			
<i>Hakea marginata</i>			

FAMILY & Taxon	New to SBF	Status	Voucher No.
<i>Hakea nitida</i>			
<i>Hakea trifurcata</i>	*		
<i>Hakea varia</i>			
<i>Isopogon formosus</i> subsp. <i>formosus</i>	*		
<i>Isopogon</i> sp. Fitzgerald River (D.B. Foreman 813)			
<i>Persoonia teretifolia</i>			
<i>Petrophile squamata</i> subsp. <i>northern</i> (J. Monks 40)			
<i>Petrophile teretifolia</i>			
<i>Stirlingia anethifolia</i>			
<i>Synaphea petiolaris</i> subsp. <i>petiolaris</i>	*		
RANUNCULACEAE			
<i>Clematis pubescens</i>	*		
RESTIONACEAE			
<i>Hypolaena exsulca</i>			
RHAMNACEAE			
<i>Cryptandra nutans</i>			
<i>Pomaderris brevifolia</i>	*		
<i>Spyridium globulosum</i>	*		
<i>Spyridium microcephalum</i>	*		
RUBIACEAE			
<i>Opercularia vaginata</i>			
RUTACEAE			
<i>Boronia crassifolia</i>			
<i>Boronia inornata</i> subsp. <i>inornata</i>			
SANTALACEAE			
<i>Exocarpos sparteus</i>			
SAPINDACEAE			
<i>Dodonaea pinifolia</i>			
SOLANACEAE			
<i>Solanum symonii</i>	*		
STYLIDIACEAE			
<i>Stylidium</i> sp.			
THYMELAEACEAE			
<i>Pimelea</i> sp.			
VIOLACEAE			
<i>Hybanthus floribundus</i>			

FAMILY & Taxon	New to SBF	Status	Voucher No.
XANTHORRHOACEAE			
<i>Xanthorrhoea platyphylla</i>			
ZAMIACEAE			
<i>Macrozamia dyeri</i>	*		

Appendix C

Level 1 Fauna Survey – Merivale Rd Esperance

Appendix D

Phytophthora dieback hygiene category assessment criteria

***Phytophthora dieback* hygiene category assessment criteria**

DPaW (2015) guidelines identify six potential disease hygiene categories based on presence/absence of the disease, or the unknown disease status of an area. An area can have an unknown disease status if the vegetation at the site is not susceptible to the disease or it cannot be assessed because of disturbance, eg fire. As a result, even if the pathogen is present, there may be no interpretable signs.

Only areas with suitable remnant native vegetation can be assessed. Areas that have been cleared or significantly altered are excluded from survey. In some cases small excluded areas may be afforded a hygiene category if they are small enough to be influenced by adjacent surveyed vegetation or situated such that topographical influences can be used to determine disease presence or absence.

The six possible disease categories are listed and described below:

1. **Infested** – Areas a registered interpreter determines to have plant disease symptoms consistent with the presence of *Phytophthora cinnamomi*.
2. **Uninfested** – Areas determined by a registered interpreter to be free of plant disease symptoms that indicate the presence of *P. cinnamomi*.
3. **Uninterpretable** – Natural, undisturbed areas where susceptible plants are absent, or are too few to make a determination of the presence or absence of *P. cinnamomi*.
4. **Temporarily uninterpretable** – Areas where disease presence or absence cannot be determined due to a level and type of site disturbance that will recover within the short to medium term, eg fire, rehabilitation.
5. **Not yet resolved** – *Phytophthora* occurrence diagnosis cannot be made because of inconsistent or incomplete evidence (including sample results). The category is only to be used in low interpretability zones (400mm to 600mm rainfall range).
6. **Disease risk roads (DRR)** – Interpreters will use the DRR category to show the disease status is unknown because of suspected or apparent recent use under unknown hygiene conditions.

Following the determination of disease categories, protectable areas are identified to determine areas that are likely to remain free from the disease with the application of appropriate disease hygiene as required.

Protectable areas are defined in the *Manual for Detecting and Mapping Phytophthora dieback disease (Draft)*, (DPaW, Jan 2015) as areas that:

- Have greater than 600mm of annual rainfall or are water gaining sites in the 400mm - 600mm rainfall zone;
- Are determined to be free from *Phytophthora cinnamomi* by a DPaW registered disease interpreter;
- Are positioned in the landscape and are of sufficient size that they will not be engulfed by *Phytophthora* via autonomous spread. Such an area is defined as being greater than 4ha with a minimum axis of 100m, and not down slope of an infested area;
- Have controllable human vectors; and
- Include high conservation and/or socio economic values.



Appendix E

VHS Certificate of Analysis – *Phytophthora* dieback samples

