



Woodland Watch 2002 Survey of Wheatbelt Woodlands



Western Australian Herbarium

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Introduction

Woodland Watch is a woodlands conservation project launched in 2000 by WWF-Australia, in collaboration with the Herbarium of the Department of Conservation and Land Management, and with the assistance of funding from the Natural Heritage Trust and Alcoa Australia. One of the major objectives of the project was to carry out floristic surveys of selected remnant eucalypt woodlands of the Avon Wheatbelt region – on private farmlands and other lands not within the conservation estate. The Avon Wheatbelt bioregion is situated in the South West Botanical Province of Western Australia, which roughly corresponds to one of WWF's Global 200 priority ecoregions - the Southwest Australia Ecoregion. It is bound by Jarrah forest in the southwest, and the Eremaean Botanical Province –the Murchison and goldfields districts, to the northeast. It encompasses an area of 93,520 square kms, of which 93% has been cleared – predominantly for agriculture (Beard 1990).

Four woodland types considered by WWF-Australia to be amongst the most threatened eucalypt woodland communities of the Avon Wheatbelt region were selected for the research and conservation project: those dominated by salmon gum (*Eucalyptus salmonophloia*), gimlet (*E. salubris*), York gum (*E. loxophleba*) and red morrel (*E. longicornis*).

The primary aims of the project were to identify woodlands of high conservation value in the Avon Wheatbelt, to assist private landowners and rural communities to better manage and conserve these remnant woodlands, and to help landholders to better understand the major threats to these woodlands and their management needs. These include consideration of such impacts as soil compaction, and over-clearing and grazing, which have contributed to the secondary and more important problems of salinity and rising water tables.

Conducting flora surveys in these woodland communities was considered an essential preliminary activity, to highlight their uniqueness and diversity, and to assess and report on their condition. Using this and other information, property owners could then be advised on how best to manage and protect their remnant vegetation through fencing and other management practices, and conservation support schemes such as covenants. Thus, through Woodland Watch, it is possible to address some of the threats to the woodlands, including salinity. Future monitoring of the sites may provide data on the ability and rate at which these eucalypt woodlands can recover from disturbance.

The role of the WA Herbarium in this project was to survey, identify and voucher all plant specimens collected from selected woodland sites. In the first year (2000) 41 sites were surveyed over a 10-week period. The following year (2001) another 21 sites were surveyed, bringing the total of sites surveyed to 62 and the total number of vouchered specimens collected to approximately 2400. In 2002, a further 25 sites were surveyed and 647 voucher specimens were collected, bringing the respective totals to 87 sites surveyed and 3,047 specimens collected.

Methodology

In 2002, the third year of surveys, all sites were surveyed and plants vouchered by Robert Davis of the WA Herbarium, in collaboration with Mike Davis and Mike Griffiths of WWF-Australia. As with the 2000 and 2001 surveys, the methodology for each site visited in 2002 comprised three parts:

Ten by ten metre quadrats

The location of each 10 × 10 metre quadrat was based on the area that best represented the species diversity of the selected woodland type. All species found were collected. Each quadrat was permanently marked by a steel stake on the north-western corner from which the coordinates were recorded using a GPS.

Random stratified collection

This involved a random walk covering the confines of the selected woodland, avoiding adjoining habitats to keep the integrity of survey purely to the targeted *Eucalyptus* woodland habitat.

Overall assessment

An overall assessment of the condition of each site was made using procedures adopted by the Wildflower Society of Western Australia (Trudgen 1991).

This methodology was considered the most effective to achieve the objectives of the project within the time constraints.

Results

In 2002 a total of 25 sites were surveyed, resulting in 647 collections. Of the 25 woodland sites surveyed, 9 were *Eucalyptus salmonophloia*, 5 *Eucalyptus loxophleba*, 4 *Eucalyptus longicornis*, and 3 *Eucalyptus salubris*. The 6 remaining sites were predominantly of other woodland types: 1 *Eucalyptus accedens*, 1 *Eucalyptus capillosa*, and 2 other mallee woodlands (modified *Eucalyptus salubris* woodlands). These selected woodlands varied greatly in size from 10 hectares to several hundred hectares; they also varied in condition.

Three sites were found to have high numbers of species. Site WW-66, an *Eucalyptus salmonophloia* woodland near Corrigin, produced voucher specimens of 46 species. Site WW-83, another *Eucalyptus salmonophloia* woodland at a Reserve near Westonia, produced 41 species. Site WW-70, a *Eucalyptus loxophleba* woodland north of Mt Caroline, yielded 40 species. The smallest collections were recorded for *Eucalyptus longicornis* woodlands, represented variously by 8 species (Site WW-72, near Pithara) to 11 species (Site WW-80, near Bencubbin), 18 species (Site WW-68, near Narembeen), and 21 species (Site WW-73, ENE of Kalannie).

From the 9 *Eucalyptus salmonophloia* woodland sites that were surveyed, a total of 320 specimens were vouchered - at an average of 36 species per site.

A total of 5 *Eucalyptus loxophleba* woodland sites were surveyed, with 192 specimens vouchered at an average of 38 species per site.

From the 5 *Eucalyptus salubris* woodland sites surveyed (including modified *Eucalyptus salubris* woodland types) 126 specimens were collected at an average of 25 species per site.

Represented by 4 sites, *Eucalyptus longicornis* was the least diverse of these woodland types with a total of only 60 specimens vouchered at an average of 15 species per site.



Gimlet woodland

[Photo: Richard McLellan/WWF-Australia]

Collections of note

Whilst the majority of gatherings made during the 2002 surveys provided small range extensions, a number were of even greater significance. Some of these, including several possible new species, new locations of Priority taxa, and more notable range extensions, are highlighted below.

Likely New Species

Four (4) possible new species were collected on Woodland Watch sites during the survey period. All require further study.

- ***Stylidium* sp.** (WW-65). This represents a new sub-species, namely *Stylidium coroniforme* subsp. *amblyphyllum*, a candidate for DRF status.
- ***Eremophila* aff. *ionantha* x *scoparia*.** (WW-82). This may represent a hybrid, or a new species.
- ***Austrostipa* sp.** (WW-82). This could possibly be a hybrid, or *A. elegantissima* or even a new species.
- ***Synaphea* aff. *decorticans*.** (WW-64). This could possibly be a hybrid, or a new species.
- Andrew Brown (CALM), who identified all the orchids collected in this survey, reports that there are numerous unnamed taxa in the genera *Diuris* and *Pterostylis*. All of the orchids collected were from different taxa.

Priority Taxa (confirmed)

Seven (7) new populations of DRF and Priority species were recorded during the 2002 surveys:

Taxon	Status	Site
• <i>Austrostipa exilis</i>	P2	WW-75
• <i>Austrostipa phaeocalyx</i>	P3	WW-65
• <i>Thysanotus tenuis</i>	P3	WW-70
• <i>Thysanotus tenuis</i>	P3	WW-67
• <i>Acacia ancistrophylla</i> var. <i>peracuata</i>	P3	WW-87
• <i>Acacia ancistrophylla</i> var. <i>peracuata</i>	P3	WW-85
• <i>Stylidium</i> ? <i>coroniforme</i>	DRF, possibly a new subspecies	WW-70

Significant Range Extensions, etc.

Three (3) taxa with significant range extensions were recorded, all at the same site:

Taxon	Site	Notes
• <i>Tribonanthes longipetala</i>	WW-70	At eastern extremity of species range
• <i>Stylidium obtusatum</i>	WW-70	At eastern extremity of species range
• <i>Drosera menziesii</i> subsp. <i>basifolia</i>	WW-70	At eastern extremity of species range

Site Records Identified to Genus

The Woodland Watch 2002 survey collected some voucher specimens that could not be readily identified. In some cases these are non-flowering or fruiting specimens and thus are inadequate to determine to species level. In other cases, specialist knowledge of a genus was not available at the time of determination. Because the material is vouchered in the WA Herbarium collection, it may later be studied by specialists and then reliably named. The current name of these and other Woodland Watch specimens can be found at the web site (see **References**).

Site 64

Synaphea aff. *decorticans* – possible new species

Site 67

Diuris aff. *corymbosa*

Site 82

Eremophila ? *ionantha* x *scoparia* – possible hybrid or new species

Site 65

Lachnostachys sp.

Site 69

Austrodanthonia sp.
Pterostylis aff. *nana*

Site 85

Atriplex sp.

Site 66

Austrodanthonia sp.
Diuris aff. *recurva*
Lepidosperma sp.
Pterostylis sp. inland

Site 70

Diuris aff. *corymbosa*

Site 86

Pogonolepis sp

Conclusion

The woodlands surveyed in 2002 were found to be largely comprised of species in the following plant families (in alphabetical order) — Asteraceae, Chenopodiaceae, Mimosaceae, Papilionaceae and Poaceae. In contrast with the 2001 survey, few species in the Amaranthaceae and Anthericaceae were encountered.

Although dominated by eucalypts, there are relatively few species of Myrtaceae within these woodlands, except for the genus *Melaleuca*. Even though melaleucas were relatively common, they were frequently located either on the periphery of these woodlands or in small pockets within, often near granite or by watercourses and in wet depressions. There were four common species of *Melaleuca* found in the woodlands visited in this survey, namely *Melaleuca acuminata*, *M. lanceolata*, *M. laterifolia* and *M. paperifolia*.

As with sites surveyed in 2000 and 2001, Proteaceae was also poorly represented in these woodland types.



Red Morrel woodland [Photo: Richard McLellan/WWF-Australia]

Acknowledgments

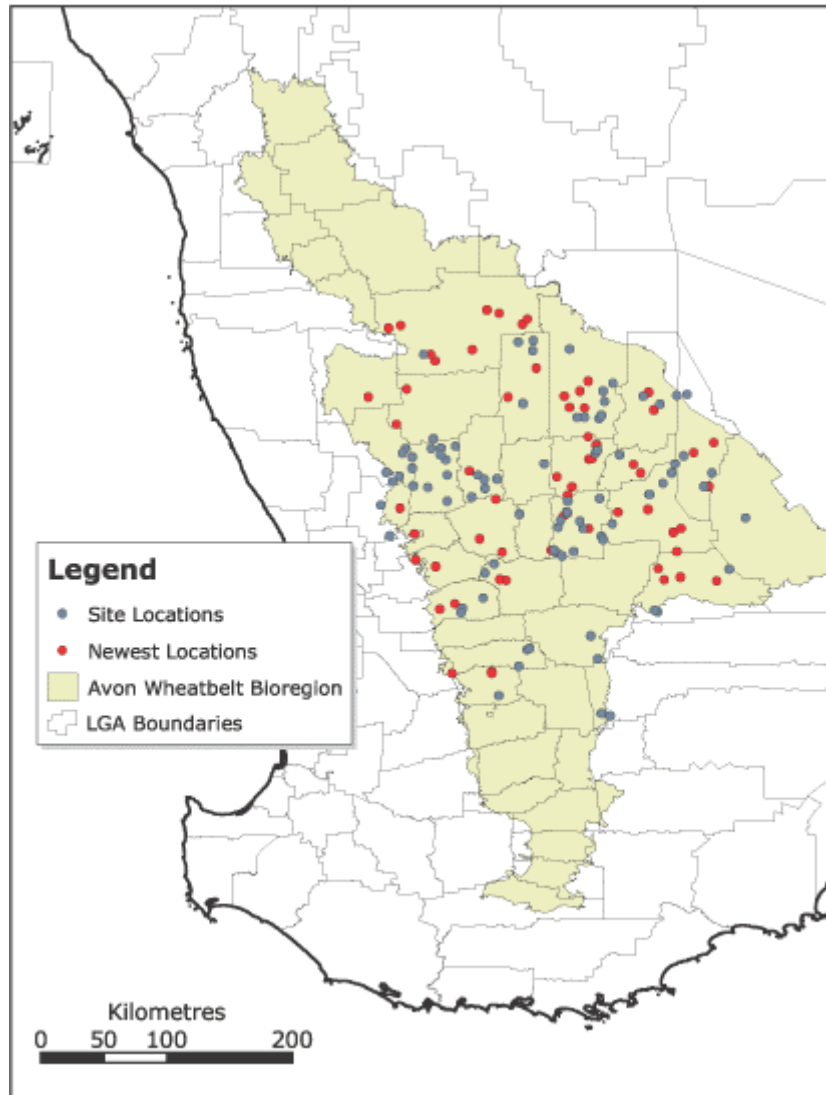
This document draws on information collected and provided by Rob Davis and Mike Hislop, and was compiled and edited by Nicholas Lander and Richard McLellan. Document design follows that devised by Alex Chapman for earlier reports in this series. The map was prepared by Paul Gioia and the accompanying web site by Ben Richardson (see **References**). Photographs by Richard McLellan/WWF-Australia.

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Map of Survey Sites



Site Species Lists

For a current listing of all Woodland Watch survey sites, please refer to the Western Australian Herbarium's *FloraBase - Woodland Watch* web site at <http://florabase.calm.wa.gov.au/special/wwatch/>

Site: WW-63 **No. of Species:** 29
Locality: Toodyay
Vegetation: *Eucalyptus loxophleba* woodland

Acacia acuminata
Acacia microbotrya
Acacia saligna
Austrostipa elegantissima
Carduus pycnocephalus
Cheilanthes austrotenuifolia
Corymbia calophylla
Cotula coronopifolia
Dichopogon capillipes
Dioscorea hastifolia
Drosera stricticaulis
Eucalyptus loxophleba subsp. *loxophleba*
Eucalyptus rudis subsp. *rudis*
Eucalyptus wandoo subsp. *wandoo*
Hibbertia commutata
Lepidosperma costale
Melaleuca raphiophylla
Neurachne alopecuroidea
Oxalis glabra
Oxalis perennans
Oxalis purpurea
Podolepis lessonii
Ptilotus declinatus
Rhodanthe manglesii
Stypandra glauca
Thysanotus patersonii
Trifolium subterraneum
Trymalium floribundum subsp. *floribundum*
Ursinia anthemoides

Site: WW-64 **No. of Species:** 41
Locality: Toodyay
Vegetation: *Eucalyptus accedens* woodland

Acacia celastrifolia
Acacia latipes subsp. *latipes*
Acacia pulchella var. *pulchella*
Adenanthos cygnorum subsp. *cygnorum*
Beaufortia incana
Blennospora drummondii
Boronia scabra subsp. *scabra*
Bossiaea eriocarpa
Caladenia flava subsp. *flava*
Calothamnus sanguineus
Calytrix variabilis
Corymbia calophylla

Dampiera lavandulacea
Dryandra sessilis var. *sessilis*
Dryandra squarrosa subsp. *squarrosa*
Ericksonella saccharata
Eucalyptus accedens
Gahnia australis
Gastrolobium microcarpum
Goodenia pinifolia
Hakea loranthifolia
Hibbertia commutata
Hovea chorizemifolia
Hypocalymma angustifolium
Kunzea praestans
Lechenaultia biloba
Leptospermum erubescens
Lomandra effusa
Macrozamia riedlei
Melaleuca aspalathoides
Neurachne alopecuroidea
Petrophile heterophylla
Scaevola platyphylla
Styphelia tenuiflora
Thysanotus patersonii
Trachymene pilosa
Verticordia acerosa var. *preissii*
Verticordia insignis subsp. *insignis*
Xanthorrhoea drummondii
Xanthosia atkinsoniana

Site: WW-65 **No. of Species:** 21
Locality: Quairading
Vegetation: *Eucalyptus salmonophloia* woodland

Acacia phaeocalyx P3
Acacia pulchella var. *glaberrima*
Allocasuarina campestris
Austrostipa elegantissima
Baeckea crispiflora
Beaufortia incana
Beyeria brevifolia var. *robustior*
Callitris canescens
Calothamnus quadrifidus
Dodonaea bursariifolia
Eucalyptus salmonophloia
Gastrolobium trilobum
Grevillea insignis subsp. *insignis*
Hakea multilineata
Hibbertia hemignosta
Hypocalymma angustifolium
Isopogon divergens
Lachnostachys sp.
Lomandra effusa
Santalum acuminatum
Stackhousia monogyna
Stylidium coroniforme subsp. *amblyphyllum*

Site: WW-66 **No. of Species:** 44
Locality: Corrigin

Vegetation: *Eucalyptus salmonophloia* woodland

Acacia acuminata
Acacia andrewsii
Acacia erinacea
Arthropodium curvipes
Austrodanthonia acerosa
Austrostipa elegantissima
Austrostipa scabra
Austrostipa trichophylla
Borya laciniata
Brachyscome pusilla
Bromus rubens
Caladenia flava subsp. *flava*
Caladenia hirta subsp. *rosea*
Comesperma integerrimum
Cotula bipinnata
Crassula natans var. *minus*
Dampiera lavandulacea
Daucus glochidiatus
Daviesia benthamii subsp. *benthamii*
Erodium cygnorum
Erymophyllum tenellum
Eucalyptus loxophleba subsp. *loxophleba*
Eucalyptus salmonophloia
Eucalyptus sheathiana
Hakea newbeyana
Hordeum glaucum
Hydrocotyle pilifera var. *glabrata*
Lomandra effusa
Melaleuca acuminata subsp. *acuminata*
Mirbelia ramulosa
Neurachne alopecuroidea
Opercularia spermacocea
Podolepis capillaris
Podolepis lessonii
Rhodanthe manglesii
Rhodanthe pygmaea
Stenanthemum tridentatum P4
Templetonia sulcata
Thysanotus patersonii
Trachymene cyanopetala
Waitzia acuminata var. *acuminata*

Site: WW-67

No. of Species: 27

Locality: Harrismith

Vegetation: *Eucalyptus loxophleba* woodland

Acacia acuminata
Allocasuarina huegeliana
Austrostipa elegantissima
Brachyscome pusilla
Bromus rubens
Bulbine semibarbata
Caladenia flava subsp. *flava*
Caladenia roei
Chamaescilla corymbosa var. *corymbosa*
Chthonocephalus pseudevax
Crassula colorata var. *colorata*

Dampiera lavandulacea
Drosera macrantha subsp. *macrantha*
Erodium cygnorum
Eucalyptus loxophleba subsp. *loxophleba*
Helichrysum leucopsideum
Hypoxis glabella
Lagenophora huegelii
Lomandra effusa
Neurachne alopecuroidea
Oxalis perennans
Pelargonium havlasae
Podolepis lessonii
Rhodanthe polycephala
Thysanotus patersonii
Thysanotus tenuis P3

Site: WW-68 **No. of Species:** 18
Locality: Narembeen
Vegetation: *Eucalyptus longicornis* woodland

Acacia acuminata
Acacia colletioides
Acacia enervia subsp. *enervia*
Acacia erinacea
Acacia hemiteles
Acacia merrallii
Eucalyptus longicornis
Eucalyptus loxophleba subsp. *loxophleba*
Eucalyptus myriadena subsp. *myriadena*
Eucalyptus sheathiana
Exocarpos aphyllus
Lomandra effusa
Melaleuca acuminata subsp. *acuminata*
Melaleuca lanceolata
Melaleuca lateriflora subsp. *lateriflora*
Santalum acuminatum
Schismus barbatus
Senna artemisioides subsp. *filifolia*

Site: WW-69 **No. of Species:** 25
Locality: Hines Hill
Vegetation: *Eucalyptus loxophleba* woodland

Actinobole uliginosum
Arthropodium curvipes
Austrostipa scabra
Calandrinia eremaea
Calotis hispidula
Chthonocephalus pseudevax
Cleretum papulosum subsp. *papulosum*
Crassula colorata var. *acuminata*
Drosera macrophylla subsp. *monantha*
Eucalyptus loxophleba subsp. *lissophloia*
Eucalyptus sheathiana
Goodenia berardiana
Hydrocotyle pilifera var. *glabrata*
Isoetopsis graminifolia
Lawrencella rosea

Medicago minima
Pentaschistis airoides
Podolepis tepperi
Rhodanthe pygmaea
Thysanotus patersonii
Trachymene cyanopetala
Velleia cycnopotamica
Vulpia myuros var. *myuros*
Waitzia acuminata var. *acuminata*

Site: WW-70 **No. of Species:** 40
Locality: Kellerberrin
Vegetation: *Eucalyptus loxophleba* woodland

Acacia acuminata
Allocasuarina campestris
Austrostipa elegantissima
Austrostipa variabilis
Borya sphaerocephala
Caladenia roei
Calandrinia eremaea
Chamaescilla corymbosa var. *corymbosa*
Cotula bipinnata
Dampiera lavandulacea
Desmocladius asper
Dianella revoluta
Drosera glanduligera Lehm.
Drosera macrantha subsp. *macrantha*
Drosera menziesii subsp. *basifolia*
Drosera subhirtella Planch.
Eucalyptus loxophleba subsp. *loxophleba*
Goodenia berardiana
Grevillea paniculata
Hyalosperma glutinosum subsp. *glutinosum*
Hydrocotyle pilifera var. *glabrata*
Lawrencella rosea
Lepidobolus preissianus
Lepidosperma costale
Lomandra effusa
Neurachne alopecuroidea
Podolepis capillaris
Podotheca gnaphalioides
Prasophyllum gracile
Santalum spicatum
Stylidium obtusatum
Stylidium petiolare
Thelymitra antennifera
Thysanotus tenuis P3
Trachymene cyanopetala
Trachymene ornata
Tribonanthes longipetala
Wurmbea graniticola
Wurmbea tenella

Site: WW-71 **No. of Species:** 27
Locality: Beacon
Vegetation: *Eucalyptus salubris/loxophleba* woodland

Acacia assimilis subsp. *assimilis*
Acacia mackeyana
Acacia patagiata
Brachyscome perpusilla
Caladenia roei
Cleretum papulosum subsp. *papulosum*
Dodonaea inaequifolia
Eucalyptus loxophleba subsp. *supralaevis*
Eucalyptus salubris
Eucalyptus subangusta subsp. *subangusta*
Exocarpos aphyllus
Goodenia berardiana
Hyalosperma glutinosum subsp. *glutinosum*
Maireana carnos
Maireana thesioides
Melaleuca lateriflora subsp. *lateriflora*
Olearia muelleri
Podolepis capillaris
Ptilotus obovatus
Rhagodia drummondii
Santalum acuminatum
Sclerolaena diacantha
Senna artemisioides subsp. *filifolia*
Templetonia sulcata
Trachymene cyanopetala
Trachymene ornata
Waitzia acuminata var. *acuminata*

Site: WW-72 **No. of Species:** 8
Locality: Pithara
Vegetation: *Eucalyptus longicornis* woodland

Acacia colletioides
Acacia erinacea
Arthropodium dyeri
[*Eucalyptus longicornis*]
Eucalyptus salubris
Maireana brevifolia
Maireana marginata
Melaleuca lanceolata
Spergula pentandra

Site: WW-73 **No. of Species:** 21
Locality: Kalannie
Vegetation: *Eucalyptus salubris* woodland

Acacia acuaria
Acacia enervia subsp. *explicata*
Acacia erinacea
Acacia mackeyana
Alyxia buxifolia
Austrostipa elegantissima
Enchylaena lanata
Eremophila clarkei
Eremophila oldfieldii subsp. *angustifolia*
Eremophila oppositifolia subsp. *angustifolia*
Eucalyptus salubris
Maireana carnos

Maireana marginata
Maireana trichoptera
Olearia muelleri
Rhagodia drummondii
Scaevola spinescens
Sclerolaena diacantha
Sclerolaena fusiformis
Trachymene cyanopetala
Waitzia acuminata var. *acuminata*

Site: WW-74 **No. of Species:** 39
Locality: Wialki
Vegetation: *Eucalyptus salmonophloia* woodland

Acacia colletioides
Acacia erinacea
Acacia hemiteles
Acacia mackeyana
Alyxia buxifolia
Aristida contorta
Austrostipa elegantissima
Austrostipa nitida
Austrostipa scabra
Calandrinia eremaea
Cleretum papulosum subsp. *papulosum*
Daviesia nematophylla
Dianella revoluta
Dodonaea inaequifolia
Enchylaena lanata
Eremophila papillata
Eucalyptus salmonophloia
Eucalyptus salubris
Eucalyptus yilgarnensis
Exocarpos aphyllus
Lomandra effusa
Maireana carnosae
Maireana trichoptera
Maireana triptera
Olearia muelleri
Olearia pimeleoides
Pittosporum angustifolium
Podolepis capillaris
Rhagodia drummondii
Rhagodia preissii subsp. *preissii*
Santalum acuminatum
Santalum spicatum
Scaevola spinescens
Sclerolaena diacantha
Sclerolaena drummondii
Senna charlesiana
Templetonia sulcata
Trachymene cyanopetala
Triglochin sp.A Flora of Australia

Site: WW-75 **No. of Species:** 35
Locality: Bencubbin
Vegetation: *Eucalyptus loxophleba* woodland

Acacia erinacea
Acacia prainii
Arthropodium dyeri
Austrodanthonia caespitosa
Austrostipa eremophila
Austrostipa trichophylla
Brachyscome perpusilla
Cephalopterum drummondii
Comesperma integerrimum
Daucus glochidiatus
Dianella revoluta
Eucalyptus loxophleba subsp. *loxophleba*
Eucalyptus loxophleba subsp. *lissophloia*
Eucalyptus moderata
Hakea recurva subsp. *recurva*
Hyalosperma glutinosum subsp. *glutinosum*
Hydrocotyle pilifera var. *glabrata*
Hypoxis glabella
Lawrencella rosea
Lomandra effusa
Maireana carnososa
Maireana marginata
Olearia pimeleoides
Podolepis capillaris
Podolepis lessonii
Santalum acuminatum
Schoenia cassiniana
Senna artemisioides subsp. *filifolia*
Senna stowardii
 **Tripteris clandestina*
Waitzia acuminata var. *acuminata*

Site: WW-76 **No. of Species:** 36
Locality: Bencubbin
Vegetation: *Eucalyptus salmonophloia* woodland

Acacia andrewsii
Acacia anthochaera
Acacia colletioides
Acacia erinacea
Acacia hemiteles
Acacia prainii
Acacia tetragonophylla
Asteridea athrixoides
Atriplex semibaccata
Calotis hispidula
Eremophila deserti
Eremophila oppositifolia subsp. *angustifolia*
Eucalyptus salmonophloia
Euphorbia drummondii
Exocarpos aphyllus
Hyalosperma glutinosum subsp. *glutinosum*
Maireana brevifolia
Maireana marginata
Maireana trichoptera
Olearia muelleri
Omphalolappula concava
Pittosporum angustifolium
Podolepis canescens

Pogonolepis muelleriana
Ptilotus exaltatus
Rhagodia drummondii
Rhagodia preissii subsp. *preissii*
Santalum acuminatum
Scaevola spinescens
Sclerolaena diacantha
Sclerolaena drummondii
Senecio glossanthus
Senna artemisioides subsp. *filifolia*
Senna stowardii
Solanum nummularium
Templetonia sulcata

Site: WW-77 **No. of Species:** 27

Locality: Nungarin

Vegetation: *Eucalyptus salubris* woodland

Acacia acuminata (narrow phyllode variant) ms
Acacia colletioides
Acacia erinacea
Acacia hemiteles
Acacia neurophylla subsp. *erugata*
Allocasuarina acutivalvis subsp. *acutivalvis*
Allocasuarina campestris
Alyxia buxifolia
Arthropodium dyeri
Dianella revoluta
Dodonaea caespitosa
Dodonaea inaequifolia
Enchylaena lanata
Eremophila clarkei
Eremophila drummondii
Eremophila oppositifolia subsp. *angustifolia*
Eucalyptus salubris
Grevillea paradoxa
Hakea recurva subsp. *recurva*
Maireana brevifolia
Olearia muelleri
Phebalium tuberculosum
Rhagodia preissii subsp. *preissii*
Santalum spicatum
Scaevola spinescens
Trymalium daphnifolium
Westringia cephalantha

Site: WW-78 **No. of Species:** 34

Locality: Kununoppin

Vegetation: *Eucalyptus salmonophloia* woodland

Acacia acuminata (narrow phyllode variant) ms
Acacia colletioides
Acacia enervia subsp. *enervia*
Acacia erinacea
Acacia hemiteles
Acacia merrallii
Arthropodium dyeri
Atriplex vesicaria

Austrostipa elegantissima
Austrostipa scabra
Daucus glochidiatus
Daviesia nematophylla
Enchylaena lanata
Eremophila deserti
Eremophila oppositifolia subsp. *angustifolia*
Eremophila papillata
Eucalyptus salmonophloia
Eucalyptus salubris
Eucalyptus yilgarnensis
Exocarpos aphyllus
Goodenia pusilliflora
Hydrocotyle pilifera var. *glabrata*
Maireana trichoptera
Melaleuca lateriflora subsp. *lateriflora*
Olearia muelleri
Ptilotus holosericeus
Rhagodia drummondii
Rhagodia preissii subsp. *preissii*
Santalum acuminatum
Schoenia cassiniana
Sclerolaena diacantha
Sclerolaena drummondii
Senna artemisioides subsp. *filifolia*
Templetonia sulcata

Site: WW-79 **No. of Species:** 29

Locality: Bencubbin

Vegetation: *Eucalyptus salubris* woodland

Acacia erinacea
Acacia hemiteles
Acacia merrallii
Acacia nyssophylla
Angianthus tomentosus
Asteridea athrixoides
Atriplex vesicaria subsp. *appendiculata*
Daviesia nematophylla
Eremophila ionantha
Erodium aureum
Erodium cicutarium
Eucalyptus myriadena subsp. *myriadena*
Eucalyptus salubris
Eucalyptus yilgarnensis
Exocarpos aphyllus
Grevillea acuaria
Lycium australe
Maireana marginata
Melaleuca lanceolata
Olearia muelleri
Podolepis capillaris
Rhagodia drummondii
Rhodanthe rubella (unusual white-flowered variant)
Santalum acuminatum
Sclerolaena diacantha
Senecio glossanthus
Senna artemisioides subsp. *filifolia*
Templetonia sulcata

Westringia rigida

Site: WW-80 **No. of Species:** 11

Locality: Bencubbin

Vegetation: *Eucalyptus longicornis* woodland

Acacia merrallii
Acacia nyssophylla
Atriplex vesicaria subsp. *appendiculata*
Enchylaena tomentosa var. *tomentosa*
Eucalyptus longicornis
Eucalyptus myriadena subsp. *myriadena*
Exocarpos aphyllus
Maireana trichoptera
Melaleuca lanceolata
Rhagodia drummondii
Sclerostegia disarticulata

Site: WW-81 **No. of Species:** 37

Locality: Bencubbin

Vegetation: *Eucalyptus salmonophloia* woodland

Acacia acuaria
Acacia erinacea
Acacia hemiteles
Acacia mackeyana
Acacia merrallii
Allocasuarina acutivalvis subsp. *acutivalvis*
Alyxia buxifolia
Arctotheca calendula
Aristida contorta
Austrodanthonia setacea
Austrostipa elegantissima
Austrostipa scabra
Austrostipa trichophylla
Daviesia nematophylla
Enchylaena lanata
Eremophila oppositifolia subsp. *angustifolia*
Eriochiton sclerolaenoides
Eucalyptus salmonophloia
Eucalyptus salubris
Exocarpos aphyllus
Grevillea acuaria
Grevillea huegelii
Hyalosperma glutinosum subsp. *glutinosum*
Maireana carnosae
Maireana marginata
Maireana trichoptera
Melaleuca pauperiflora subsp. *fastigiata*
Olearia muelleri
Philothea brucei subsp. *brucei*
Podolepis capillaris
Rhagodia drummondii
Rhodanthe pygmaea
Santalum acuminatum
Scaevola spinescens
Sclerolaena diacantha
Trachymene cyanopetala

Waitzia acuminata var. *acuminata*

Site: WW-82 **No. of Species:** 23

Locality: Warralakin

Vegetation: *Eucalyptus longicornis* woodland

Acacia erinacea
Acacia merrallii
Acacia nyssophylla
Austrostipa elegantissima
Austrostipa platychaeta
Bossiaea walkeri
Enchylaena lanata
Eremophila oppositifolia subsp. *angustifolia*
Eremophila scoparia
Eriochiton sclerolaenoides
Eucalyptus longicornis
Eucalyptus yilgarnensis
Exocarpos aphyllus
Lycium australe
Maireana trichoptera
Melaleuca lanceolata
Pittosporum angustifolium
Santalum acuminatum
Sclerolaena diacantha
Sclerolaena drummondii
Templetonia sulcata
Westringia rigida

Site: WW-83 **No. of Species:** 41

Locality: Westonia

Vegetation: *Eucalyptus salmonophloia* woodland

Acacia ancistrophylla var. *ancistrophylla*
Acacia deficiens
Acacia erinacea
Acacia merrallii
Brachyscome perpusilla
Carrichtera annua
Cheilanthes adiantoides
Daucus glochidiatus
Daviesia nematophylla
Eremophila drummondii
Eremophila granitica
Eremophila ionantha
Eremophila oppositifolia subsp. *angustifolia*
Erodium cicutarium
Eucalyptus longicornis
Eucalyptus loxophleba subsp. *lissophloia*
Eucalyptus melanoxydon
Eucalyptus salmonophloia
Eucalyptus salubris
Eucalyptus sheathiana
Eucalyptus yilgarnensis
Exocarpos aphyllus
Hyalosperma glutinosum subsp. *glutinosum*
Lawrencella rosea
Maireana trichoptera

Melaleuca pauperiflora subsp. *fastigiata*
Olearia muelleri
Plantago drummondii
Podolepis lessonii
Pododtheca gnaphalioides
Ptilotus exaltatus
Santalum acuminatum
Schoenus nanus
Sclerolaena diacantha
Senecio glossanthus
Senna artemisioides subsp. *filifolia*
Templetonia sulcata
Trachymene ornata
Velleia cycnopotamica
Wahlenbergia gracilentia
Waitzia acuminata var. *acuminata*

Site: WW-84 **No. of Species:** 35
Locality: Bodallin
Vegetation: *Eucalyptus capillosa* woodland

Acacia colletioides
Acacia hemiteles
Acacia merrallii
Allocasuarina acutivalvis subsp. *acutivalvis*
Allocasuarina spinosissima
Alyxia buxifolia
Callitris canescens
Calothamnus quadrifidus
Comesperma volubile
Daviesia nematophylla
Dianella revoluta
Eremophila drummondii
Eucalyptus capillosa subsp. *capillosa*
Eucalyptus loxophleba subsp. *lissophloia*
Eucalyptus sheathiana
Exocarpos aphyllus
Goodenia berardiana
Grevillea acuaria
Hyalosperma demissum
Lepidosperma sp. A2 Island Flat
Lomandra effusa
Melaleuca acuminata subsp. *acuminata*
Melaleuca lateriflora subsp. *lateriflora*
Olearia muelleri
Persoonia saundersiana
Phebalium laevigatum
Podolepis capillaris
Podolepis lessonii
Pododtheca gnaphalioides
Santalum acuminatum
Santalum spicatum
Schoenus nanus
Trachymene cyanopetala
Velleia cycnopotamica
Westringia cephalantha

Site: WW-85 **No. of Species:** 35

Locality: Merredin

Vegetation: *Eucalyptus salmonophloia* woodland

Acacia acuminata (narrow phyllode variant) ms
Acacia ancistrophylla var. *perarcuata*
Acacia erinacea
Austrostipa scabra
Cleretum papulosum subsp. *papulosum*
Daucus glochidiatus
Daviesia benthamii subsp. *acanthoclona*
Elymus scaber
Enchylaena lanata
Eremophila oppositifolia subsp. *angustifolia*
Eucalyptus erythronema var. *marginata*
Eucalyptus salmonophloia
Eucalyptus salubris
Grevillea huegelii
Hyalosperma glutinosum subsp. *glutinosum*
Maireana carnosae
Maireana georgei
Maireana marginata
Maireana trichoptera
Melaleuca pauperiflora subsp. *fastigiata*
Micromyrtus racemosa var. *racemosa* ms
Olearia muelleri
Phebalium megaphyllum
Podolepis capillaris
Podolepis lessonii
Podotroche gnaphalioides
Ptilotus holosericeus
Rhagodia drummondii
Rhagodia preissii subsp. *preissii*
Santalum acuminatum
Sclerolaena diacantha
Templetonia sulcata
Trachymene cyanopetala
Velleia cycnopotamica

Site: WW-86

No. of Species: 27

Locality: Merredin

Vegetation: *Eucalyptus salmonophloia* woodland

Acacia acuminata
Acacia erinacea
Acacia merrallii
Angianthus tomentosus
Austrostipa nitida
Callitris canescens
Daviesia nematophylla
Eremophila oppositifolia subsp. *angustifolia*
Erymophyllum tenellum
Eucalyptus capillosa subsp. *capillosa*
Eucalyptus myriadena subsp. *myriadena*
Eucalyptus salmonophloia
Eucalyptus salubris
Eucalyptus sheathiana
Grevillea huegelii
Hakea recurva subsp. *recurva*
Maireana carnosae

Maireana marginata
Melaleuca lanceolata
Microcybe multiflora subsp. *multiflora*
Olearia muelleri
Podolepis capillaris
Rhagodia preissii subsp. *preissii*
Rostraria pumila
Santalum acuminatum
Templetonia sulcata

Site: WW-87

No. of Species: 22

Locality: Nungarin

Vegetation: *Eucalyptus salubris* woodland

Acacia ancistrophylla var. *perarcuata*
Acacia erinacea
Acacia merrallii
Cleretum papulosum subsp. *papulosum*
Daviesia nematophylla
Enchylaena lanata
Eremophila drummondii
Eucalyptus moderata
Eucalyptus myriadena subsp. *myriadena*
Eucalyptus salubris
Eucalyptus sp.
Exocarpos aphyllus
Grevillea huegelii
Maireana carnosae
Maireana georgei
Melaleuca pauperiflora subsp. *fastigiata*
Olearia muelleri
Phebalium tuberculatum
Santalum acuminatum
Sclerolaena diacantha
Templetonia sulcata
Westringia cephalantha