

Mooliabeenee Nature Reserve Flora Inventory 2013



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EXECUTIVE SUMMARY

The Mooliabeenee Nature Reserve Flora Inventory 2013 Project has been prepared by Del Botanics on behalf of the Department of Parks and Wildlife (DPaW) to create a Flora Herbarium for future reference material. This project is funded by the DPaW and TRONOX.

Mooliabeenee Nature Reserve was created to conserve and protect the Flora and Fauna. The purpose of this project is to complete a flora inventory, including an illustrated flora report and a herbarium.

STATEMENT OF LIMITATIONS

This environmental report has been prepared in accordance with the scope of services set out in the original quotation. In preparing the report, Del Botanics has relied on data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations, most of which are referred to in the report. Del Botanics has not verified the accuracy or completeness of the data to the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report are based in whole or in part on the data, those conclusions are contingent upon the accuracy and completeness of the data. Del Botanics will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, unavailable, misrepresented or otherwise not fully disclosed.

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1. INTRODUCTION

1.1 BACKGROUND

The Mooliabeenee Nature Reserve Flora Inventory 2013 Project has been prepared by Del Botanicus on behalf of the Department of Parks and Wildlife (DPaW) to create a Flora Herbarium for future reference material. This project is funded by the DPaW and TRONOX.

Mooliabeenee Nature Reserve (Reserve Number 42743) is located on Mooliabeenee Road, Mooliabeenee. The site is approximately 155.1 ha. Mooliabeenee Nature Reserve was created to conserve and protect Flora and Fauna.

1.2 PURPOSE OF THIS REPORT

The purpose of this project is to complete a flora inventory, including an illustrated flora report and a herbarium.

2. PROJECT OVERVIEW

2.1 LOCATION

Mooliabeenee Nature Reserve is known as Reserve 42743. It is located on Mooliabeenee Road, Mooliabeenee, approximately 15.3km east from Gingin. It is currently managed for Conservation of Flora and Fauna.

2.2 METHODS

The site was transversed by foot, over a period of three months. Field visits were undertaken on the 9th August 2013, 19th September 2013 and 18th October 2013. Flora species with a good example of flowering material were collected, dried and pressed to be added to the reference herbarium. If some species were unable to be pressed a photograph was used and also added to the reference herbarium. Not all species observed on site were collected and photographed; weed species were recorded, but not collected or photographed. A full species list is available in **Appendix A**.

2.3 CURRENT LAND USES

The site is adjacent to a Riffle Range to the east, an Airstrip to the north and the south and west sides are adjacent to farmland. Although this reserve is adjacent to active areas the reserve is currently in good condition and provides a wide variety of flora species and fauna habitats.

2.3.1 *Vegetation types*

Vegetation types were determined by transversing the site by vehicle and foot and with the use of aerial photography. Three vegetation types were determined, however further investigations will be required to provide accurate vegetation types and boundaries. The three broad vegetation types have been mapped and have been described below. Vegetation types are shown on **Figure 3**.

- Jarrah/*Banksia* Woodland
- *Eucalyptus todtiana* Open Woodland
- Open Jarrah Woodland with dense shrubland on latertic soil

2.3.2 Dieback

There is evidence of dieback on site. It is suggested that hygienic procedures are put in place when accessing the site. It would also be beneficial; to undertake a dieback assessment and add signage if required.

2.3.3 Weeds

During the site visits only 7 weed species were recorded from a species list of 119. Weed species represent 5.8% of the flora species recorded. Weeds were scattered and at this stage would be easy to control and maintain. It is recommended that weed control is undertaken on site.

3. CONCLUSIONS AND RECOMMENDATION

Mooliabeenee Nature Reserve is currently in good condition with limited weeds and a variety of flora species. There is some evidence of dieback on site; however further testing will be required to determine the extent of the dieback. It is recommended that weed control is undertaken to reduce the spread of weed species through the reserve.

4. REFERENCES

Beard J. S. (1990). *Plant life of Western Australia*. Kangaroo Press, Perth.

Department of Conservation and Land Management (2003). *Declared Rare and Priority Flora database*. Publicly available list.

Western Australian Herbarium (1998-2003). *FloraBase - The Western Australian Flora*. Department of Conservation and Land Management. <http://florabase.calm.wa.gov.au/>

APPENDIX A
Flora Species



APPENDIX A: VASCULAR PLANT SPECIES RECORDED FROM MOOLIABEENEE NATURE RESERVE 2013




Family	Genus/Species
Anarthriaceae	<i>Lyginia imberbis</i>
Apiaceae	<i>Daucus glochidiatus</i>
Asparagaceae	<i>Chamaescilla corymbosa</i> <i>Lomandra sp</i> <i>Thysanotus multiflorus</i> <i>Thysanotus sp</i>
Asteraceae	* <i>Hypochaeris glabra</i> * <i>Ursinia anthemoides</i> <i>Centrolepis sp</i> <i>Hyalosperma cotula</i> <i>Lagenophora huegelii</i> <i>Podolepis lessonii</i> <i>Podotheca gnaphalioides</i> <i>Pterochaeta paniculata</i> <i>Siloxerus multiflorus</i>
Campanulaceae	* <i>Wahlenbergia capensis</i>
Casuarinaceae	<i>Allocasuarina humilis</i>
Celastraceae	<i>Tripterococcus brunonis</i>
Colchicaceae	<i>Burchardia congesta</i>
Crassulaceae	<i>Crassula colorata</i>
Cyperaceae	<i>Caustis dioica</i> <i>Lepidosperma costale</i> <i>Mesomelaena pseudostygia</i> <i>Mesomelaena tetragona</i>
Dasyogonaceae	<i>Calectasia narragara</i>
Dilleniaceae	<i>Hibbertia acerosa</i> <i>Hibbertia huegelii</i> <i>Hibbertia hypericoides</i> <i>Hibbertia subvaginata</i>
Droseraceae	<i>Drosera bulbosa</i> <i>Drosera erythrorhiza</i> <i>Drosera leucoblata</i> <i>Drosera macrantha</i> <i>Drosera menziesii</i>
Elaeocarpaceae	<i>Tetratheca hirsuta</i>
Ericaceae	<i>Astroloma pallidum</i> <i>Astroloma xerophyllum</i> <i>Conostephium pendulum</i> <i>Conostephium sp.</i> <i>Leucopogon sprengelioides</i> <i>Lysinema ciliatum</i>
Fabaceae	<i>Acacia pulchella</i>



	<i>Acacia restiacea</i>
	<i>Acacia stenoptera</i>
	<i>Bossiaea eriocarpa</i>
	<i>Daviesia horrida</i>
	<i>Daviesia nudiflora</i>
	<i>Daviesia triflora</i>
	<i>Gompholobium knightianum</i>
	<i>Gompholobium tomentosum</i>
	<i>Hovea trisperma</i>
	<i>Jacksonia floribunda</i>
	<i>Sphaerolobium medium</i>
Goodeniaceae	<i>Dampiera linearis</i>
	<i>Lechenaultia biloba</i>
	<i>Lechenaultia floribunda</i>
Haemodoraceae	<i>Anigozanthos humilis</i>
	<i>Anigozanthos manglesii</i>
	<i>Conostylis setigera</i>
	<i>Conostylis sp</i>
	<i>Haemodorum laxum</i>
	<i>Haemodorum spicatum</i>
Hemerocallidaceae	<i>Johnsonia pubescens</i>
	<i>Tricoryne elatior</i>
Iridaceae	* <i>Gladiolus caryophyllaceus</i>
	<i>Patersonia sp</i>
Lauraceae	<i>Cassytha racemosa</i>
Loranthaceae	<i>Nuytsia floribunda</i>
Myrtaceae	<i>Baekea sp</i>
	<i>Calothamnus sanguineus</i>
	<i>Calytrix flavescens</i>
	<i>Calytrix leschenaultii</i>
	<i>Calytrix variabilis</i>
	<i>Corymbia calophylla</i>
	<i>Eremaea pauciflora</i>
	<i>Eucalyptus marginata</i>
	<i>Eucalyptus todtiana</i>
	<i>Hypocalymma xanthopetalum</i>
	<i>Kunzea ericifolia</i>
	<i>Leptospermum erubescens</i>
	<i>Verticordia acerosa</i>
	<i>Verticordia serrata</i> var <i>ciliata</i>
Orchidaceae	<i>Caladenia flava</i> R.Br. subsp. <i>flava</i>
	<i>Caladenia sp</i>
	<i>Diuris longifolia</i>
	<i>Elythranthera brunonis</i>
Poaceae	* <i>Avena fatua</i>
Poaceae	* <i>Romulea flava</i>
	<i>Amphipogon turbinatus</i>



	<i>Austrostipa compressa</i>
	<i>Neurachne alopecuroidea</i>
Primulaceae	* <i>Lysimachia arvensis</i>
Proteaceae	<i>Adenanthos cygnorum</i>
	<i>Banksia attenuata</i>
	<i>Banksia bipinnatifida</i>
	<i>Banksia grandis</i>
	<i>Banksia menziesii</i>
	<i>Banksia nivea</i>
	<i>Banksia sessilis</i>
	<i>Conospermum sp</i>
	<i>Conospermum stoechadis</i>
	<i>Hakea ruscifolia</i>
	<i>Hakea trifidata</i>
	<i>Petrophile linearis</i>
	<i>Petrophile serruriae</i>
	<i>Petrophile striata</i>
	<i>Stirlingia latifolia</i>
	<i>Synaphea petiolaris</i>
	<i>Synaphea spinulosa</i>
Restionaceae	<i>Desmocladius flexuosus</i>
	<i>Hypolaena exsulca</i>
Rutaceae	<i>Philotheca spicata</i>
Stylidiaceae	<i>Stylidium diuroides</i> subsp <i>diuroides</i>
	<i>Stylidium scariosum</i>
	<i>Stylidium sp</i>
	<i>Stylidium sp.</i> Darling Range
Xanthorrhoeaceae	<i>Xanthorrhoea acanthostachya</i>
	<i>Xanthorrhoea gracilis</i>
	<i>Xanthorrhoea preissii</i>



APPENDIX B
Illustrated Flora Report




Family	Genus/Species	Common Name	Photograph
Anarthriaceae	<i>Lyginia imberbis</i>		
Apiaceae	<i>Daucus glochidiatus</i>	Australian Carrot	
Asparagaceae	<i>Chamaescilla corymbosa</i>	Blue Squill	
	<i>Lomandra sp</i>		
	<i>Thysanotus multiflorus</i>	Many-flowered Fringe Lily	
	<i>Thysanotus sp</i>		
Asteraceae	<i>*Hypochaeris glabra</i>	Smooth Catsear	
	<i>*Ursinia anthemoides</i>	Ursinia	
	<i>Centrolepis sp</i>		
	<i>Hyalosperma cotula</i>	Poached Eggs	
	<i>Lagenophora huegelii</i>	Velvet Daisy	
	<i>Podolepis lessonii</i>		




	<i>Podotheca gnaphalioides</i>		
	<i>Pterochaeta paniculata</i>		
	<i>Siloxerus multiflorus</i>		
Campanulaceae	* <i>Wahlenbergia capensis</i>	Cape Bluebell	

Casuarinaceae	<i>Allocasuarina humilis</i>	Dwarf Sheoak	
Celastraceae	<i>Tripterooccus brunonis</i>	Winged Stackhousia	




Colchicaceae	<i>Burchardia congesta</i>	Milkmaids	
Crassulaceae	<i>Crassula colorata</i>	Dense Stonecrop	
Cyperaceae	<i>Caustis dioica</i>		
	<i>Lepidosperma costale</i>		
	<i>Mesomelaena pseudostygia</i>		

	<i>Mesomelaena tetragona</i>	Semaphore Sedge	
Dasygonaceae	<i>Calectasia narragara</i>	Blue Tinsel Lily	
Dilleniaceae	<i>Hibbertia acerosa</i>		
	<i>Hibbertia huegelii</i>		



	<i>Hibbertia hypericoides</i>	Yellow Buttercups	
	<i>Hibbertia subvaginata</i>		
Droseraceae	<i>Drosera bulbosa</i>	Red-leaved Sundew	
	<i>Drosera erythrorhiza</i>	Red Ink Sundew	
	<i>Drosera leucoblata</i>	Wheel Sundew	
	<i>Drosera macrantha</i>	Bridal sundew	
	<i>Drosera menziesii</i>	Climbing Sundew	



Elaeocarpaceae	<i>Tetratheca hirsuta</i>		
Ericaceae	<i>Astroloma pallidum</i>	Kick Bush	
	<i>Astroloma xerophyllum</i>		
	<i>Conostephium pendulum</i>	Pearl Flower	
	<i>Conostephium</i> sp.		




	<i>Leucopogon sprengelioides</i>			
	<i>Lysinema ciliatum</i>	Curry Flower		
Fabaceae	<i>Acacia pulchella</i>	Prickly Moses		




	<i>Acacia restiacea</i>		
	<i>Acacia stenoptera</i>	Narrow Winged Wattle	
	<i>Bossiaea eriocarpa</i>	Common Brown Pea	
	<i>Daviesia horrida</i>	Prickly Bitter-pea	
	<i>Daviesia nudiflora</i>		
	<i>Daviesia triflora</i>		




	<i>Gompholobium knightianum</i>		
	<i>Gompholobium tomentosum</i>	Hairy Yellow Pea	
	<i>Hovea trisperma</i>	Common Hovea	
	<i>Jacksonia floribunda</i>	Holly Pea	
	<i>Sphaerolobium medium</i>		



Goodeniaceae	<i>Dampiera linearis</i>	Common Dampiera		
	<i>Lechenaultia biloba</i>	Blue Lechenaultia		
	<i>Lechenaultia floribunda</i>	Free flowering lechenaultia		




Haemodoraceae	<i>Anigozanthos humilis</i>	Catspaw	
	<i>Anigozanthos manglesii</i>	Mangles Kangaroo Paw	
	<i>Conostylis setigera</i>		
	<i>Conostylis sp</i>		
	<i>Haemodorum laxum</i>		
	<i>Haemodorum spicatum</i>	Mardja	



Hemerocallidaceae	<i>Johnsonia pubescens</i>	Pipe Lily	
	<i>Tricoryne elatior</i>	Yellow Autumn Lilly	
Iridaceae	<i>*Gladiolus caryophyllaceus</i>	Wild Gladiolus	
	<i>Patersonia sp</i>		
Lauraceae	<i>Cassytha racemosa</i>	Dodder Laurel	



Loranthaceae	<i>Nuytsia floribunda</i>	Christmas Tree	
Myrtaceae	<i>Baekea sp</i>		
	<i>Calothamnus sanguineus</i>	Silky-leaved Blood Flower	
	<i>Calytrix flavescens</i>		

	<i>Calytrix leschenaultii</i>		
	<i>Calytrix variabilis</i>		
	<i>Corymbia calophylla</i>	Marri	
	<i>Eremaea pauciflora</i>		
	<i>Eucalyptus marginata</i>	Jarrah	
	<i>Eucalyptus todtiana</i>	Coastal Black Butt	




	<i>Hypocalymma xanthopetalum</i>		
	<i>Kunzea ericifolia</i>	Spearwood	
	<i>Leptospermum erubescens</i>	Roadside Teatree	
	<i>Verticordia acerosa</i>		



	<i>Verticordia serrata</i> var <i>ciliata</i>		
Orchidaceae	<i>Caladenia flava</i> R.Br. subsp. <i>flava</i>	Cowslip orchid	
	<i>Caladenia</i> sp		
	<i>Diuris longifolia</i>	Common Donkey Orchid	
	<i>Elythranthera brunonis</i>	Purple Enamel Orchid	




Poaceae	<i>*Avena fatua</i>	Wild Oat	
Poaceae	<i>*Romulea flava</i>	Guildford Grass	
	<i>Amphipogon turbinatus</i>	Top Grey Beard Grass	
	<i>Austrostipa compressa</i>	Compact Needle Grass	
	<i>Neurachne alopecuroidea</i>	Foxtail Mulga Grass	
Primulaceae	<i>*Lysimachia arvensis</i>	Pimpernel	



Proteaceae	<i>Adenanthos cygnorum</i>	Common Woollybush	
	<i>Banksia attenuata</i>	Slender Banksia	
	<i>Banksia bipinnatifida</i>		


	<i>Banksia grandis</i>	Bull Banksia		
	<i>Banksia menziesii</i>	Firewood Banksia		
	<i>Banksia nivea</i>	Honeypot Dryandra		

	<i>Banksia sessilis</i>	Parrot Bush	
	<i>Conospermum sp</i>		
	<i>Conospermum stoechadis</i>	Common Smokebush	
	<i>Hakea ruscifolia</i>	Candle Hakea	
	<i>Hakea triflicata</i>	Two-leaf Hakea	
	<i>Petrophile linearis</i>	Pixie Mops	

	<i>Petrophile serruriae</i>		
	<i>Petrophile striata</i>		
	<i>Stirlingia latifolia</i>	Blue Boy	
	<i>Synaphea petiolaris</i>		

	<i>Synaphea spinulosa</i>	Spikey Synaphea	
Restionaceae	<i>Desmocladus flexuosus</i>		
	<i>Hypolaena exsulca</i>		
Rutaceae	<i>Philothea spicata</i>	Pepper and Salt	

Stylidiaceae	<i>Stylidium diuroides</i> subsp <i>diuroides</i>		
	<i>Stylidium scariosum</i>		
	<i>Stylidium sp</i>		
	<i>Stylidium sp.</i> Darling Range	Pink Fountain Trigger Plant	
Xanthorrhoeaceae	<i>Xanthorrhoea acanthostachya</i>		
	<i>Xanthorrhoea gracilis</i>	Graceful Grass Tree	

	<i>Xanthorrhoea preissii</i>	Grass Tree		
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FIGURES

Figure 1: Location of Subject Site

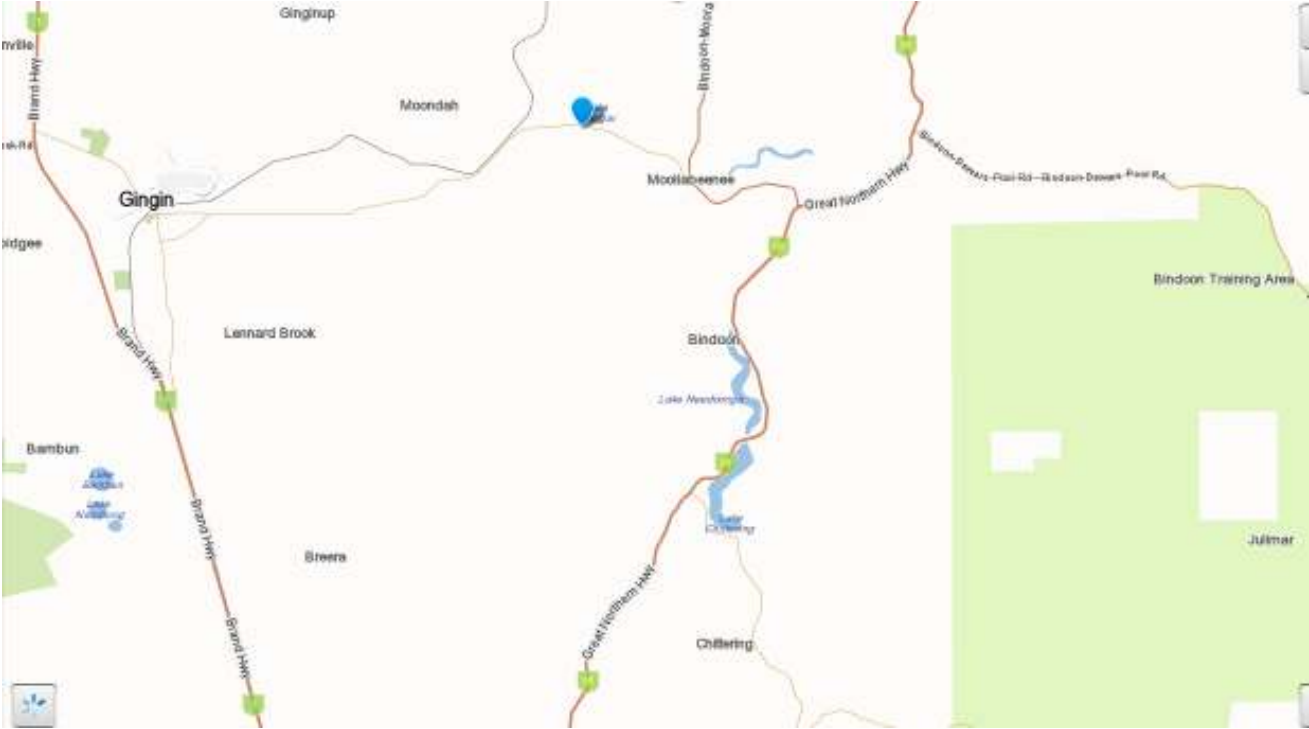


Figure 2: Extent of Subject Site

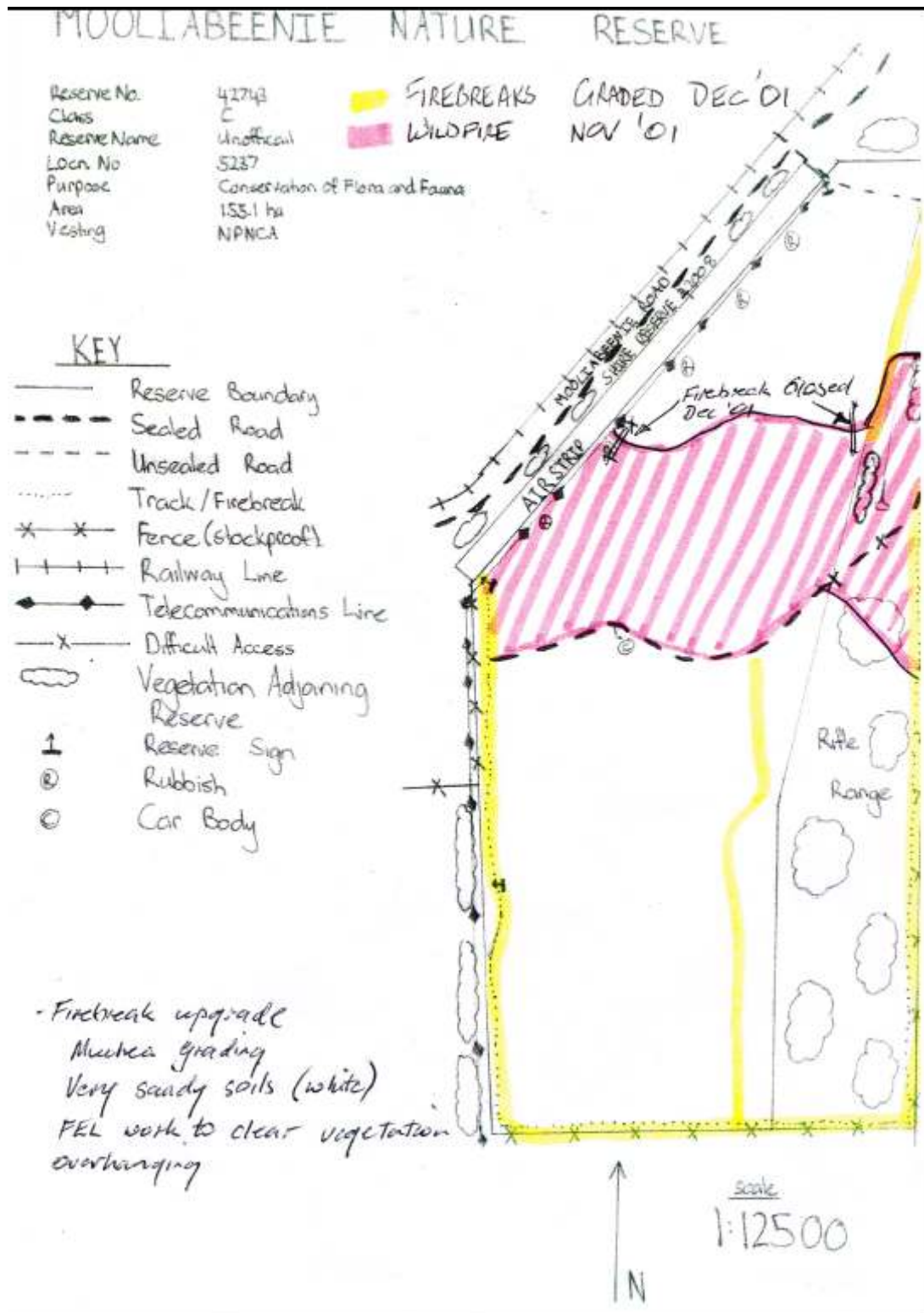


Figure3: Vegetation Types



PHOTOGRAPHIC PLATES



Photographic Plate 1: Jarrah/*Banksia* Woodland



Photographic Plate 2: *Eucalyptus tottiana* Open Woodland



Photographic Plate 3: Open Jarrah Woodland with dense shrubland on lateritic soil



Photographic Plate 4: Evidence of Dieback on site