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Whole Farm Plan

26 Lancefield-Woodend Rd

Lancefield

VIC 3435

Prepared by Annemaree Docking of Plan-It Rural P/L on behalf of Kylie and Shane Sankey

17 January, 2019

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Property Summary

Description of Intent

Kylie and Shane Sankey purchased their block at 26 Lancefield-Woodend Rd, Lancefield five years ago, with a vision to make it a farming home for their large family as well as their, and their clients, horses. Their ambition is to establish a farming business based on horse breeding and racehorse spelling. Shane also services the local farming community as an earthworks and heavy machinery contractor and this property would also act as a central location for housing this equipment.

The family is well established in the district, being 'locals' for over 25 years. Shane and Kylie have been involved in countless local community projects as contractors, as well as being enthusiastic volunteers in various community groups and sports clubs in the region.

Kylie has been involved with horses all her life and wishes to put this knowledge and experience to work on her own racehorse spelling business. The property lends itself to this enterprise, being gently undulating and with quality soils and pastures suited to the grazing of horses. Kylie has strong links to the Thoroughbred racing industry in the area, having worked in stables and on stud farms in the region since the mid-80's. Kylie's extensive experience includes time as a track rider at the Kyneton Racecourse, strapper at Blue Ribbon Bloodstock in Woodend and six years employed by John Meagher (trainer of 'What a Nuisance' 1985 Melbourne Cup winner) at Huntly Lodge as a track rider and strapper. Her current employment is with Spring Mount Stud where she assists with foaling mares and general stud work. Kylie is also breeds a small number of Quarterhorses for training and sale. These animals are currently agisted off the property due to the lack of supervision and previous horse losses experienced due to not living on the site.

At the time of inspection, there was evidence of the impact of a significant storm that had done damage on the property 18 months ago. A shed had been destroyed, trees uprooted, fences damaged and horses injured, including a valuable broodmare and a young horse that had to be destroyed. As the family was not living on the property at the time, and the storm cell was very small, the damage was localised and the animal injuries and infrastructure damage were not immediately identified by the Sankey's, who were notified of the impact by neighbours. This resulted in both animal welfare concerns and increased the financial impact of the storm for the Sankeys. This incident has further motivated them to live on the property to ensure they are on site to deal with any similar issues in the future. Three horses owned by the Sankey's are currently agisted at other supervised facilities rather than their own property due to lack of monitoring and presence on site. Given also that Kylie is planning to expand the use of the property into the spelling of valuable racehorses for clients, living on site to manage the animals care is essential. The business is ready to commence once the infrastructure is in place with client relationships already established for both spelling and training.

To assist them in achieving their vision, they have teamed with Plan-It Rural to support them with property design, and environmental management advice, including ongoing support to ensure they meet the requirements of any future 173 agreement.

To ensure that the capacity of the property is increased to meet these ambitions, Kylie and Shane are planning a comprehensive agricultural development of the site, including dwelling, stables, arena, spelling yards, rotational grazing system, soil improvement and revegetation program. The property has not received investment in these assets for many years.

This is all to be achieved with good environmental conscience, striving for best practice in soil conservation, biodiversity and vegetation management. There is also an awareness of the property's place in the broader landscape, both from an environmental and community/social perspective.

Property Description

Note: Please click the following links for interactive aerial mapping of the property and surrounds.

<https://www.mapsmadeeasy.com/maps/public/7ab61209f536440a8abb1954c003fe7b>

The traditional owners of the property are the Wurundjeri people.

The property is approximately 5.3 kms southwest of Lancefield and 20.7 kms northeast of Woodend. It is close to both the Calder Fwy and the Melbourne-Lancefield rd, and to the Woodend railway stations, so has excellent transport links. This lot forms part of a rural neighbourhood with similar sized adjoining lots. It is situated with views of the surrounding landscape quintessential to the area which will be capitalized upon through the design and orientation of the residence and outbuildings.

The property is located in the Farming Zone and is unaffected by any overlays or Aboriginal cultural heritage protections.

The nominated building site for the property is sensitive to the somewhat limited biodiversity assets on the property, which will be substantially improved as a part of the farm development. No native trees will be removed in this development.

The property is gently undulating, with some low lying areas prone to waterlogging. This will be managed through the use of land class fencing to ensure grazing pressure can be applied appropriately and prevent stock access to waterlogged areas when wet to reduce the incidence of pugging and compaction. Areas around the dams on the site are particularly prone to waterlogging, especially around the over flows. For this reason, and for the protection of water quality, all dams on the property will be fenced out and water supply reticulated for the stock. These areas will be crash grazed in late Spring for fuel reduction purposes only. This waterlogging issue is further exacerbated at the front of the property by the inflow of an unnamed waterway to the site.

There is little evidence of weed infestation other than the common annual weeds, such as thistles and cape weed. In the previously mentioned waterlogged area around the front dam on the property, there is some Salsify (*Tragopogon porrifolius*). This is actually an edible plant that is cultivated in gardens. It seems to have established in this swampy area which is particularly suited to it. It will be removed but is unlikely to offer significant weedy issues ongoing. There are a small number of established willows in this waterlogged area. Although technically a weed, they are offering substantial stock shelter and they have not shown signs of spreading. It is suggested, due to the low number of trees on the property, that these trees remain, at least until the proposed shelter belts and biodiversity plantings are established.

The Ecological Vegetation Classes (EVC's) on the property are of interest. You will see from the maps comparing the EVC's from pre-1750 to today that the natural ecological characteristics of the area have been substantially impacted by previous farming practice in the region. There are two different EVC's across the property – a small pocket of Valley Grassy Forest towards the front of the property, predominantly around the front dam, then Herb Rich Foothill Forest across the balance of the block. These changes are evident in the landscape itself and are reflected in the topography changes across the site. These EVC's will be respected when designing the revegetation program.

The stock and garden water for the property will primarily be sourced from tanks and the dams. The dams will have a solar pump to feed a header tank and reticulate the water via gravity feed throughout the property. Stock will not have direct access to the dams except for crash grazing and fuel reduction purposes in Spring.

The majority of the property has been previously cleared. The grass cover is phalaris dominated with a general mix of introduced grasses and clovers. Few, if any, native grass species are present. No improvement in pastures or addition of lime or fertiliser appears to have taken place for some time. Good ground cover has been maintained with a light stocking rate.

Interestingly the soil geology maps show that the southeast of the property is an unnamed colluvium, while the northwest of the property is Smokers Creek Volcanic Subgroup - mugearite lava. This is a relatively young and fertile soil geology (quaternary). The soil is kandosol. These soils are relatively robust and productive. They are very well suited to the proposed use. However care should still be taken that these soils are not set stocked, or ground cover removed at any time as they are still subject to wind and water erosion. They will be particularly prone to compaction if not managed well with suitable rotation and rest periods, and removal of stock when wet. This is particularly relevant to those areas of the property prone to waterlogging.

There are few paddock trees scattered across the property. There are no shelter belts to slow wind across the farm and offer stock shelter. This plan proposes a comprehensive network of shelter belts to reduce wind speed, enhance stock productivity, protect soil moisture and ground cover, reduce erosion and create habitat for local flora and fauna. These plantings are networked across the property, taking a biolinked approach connecting the roadside vegetation to the water assets on the farm and traverse from boundary to boundary.

Native fauna species expected on the property are kangaroos, wedge tailed eagles, echidnas, a variety of possums and a wide array of birds. The Valley Grassy Forest EVC can be home to significant species such as Long-nosed Bandicoots, Brush Tailed Phascogale and Barking Owl. The Herb-rich Foothill Forest can offer habitat to the Greater Glider, Southern Boobook, Tawny Frogmouth, Superb Lyrebird and Mountain Dragon. Snakes and wombats have already been observed on the property. Keeping an ongoing record of fauna and flora sightings is recommended. NatureShare is an excellent platform to record, share and verify identification of observations of both flora and fauna. (<https://natureshare.org.au/>)

Description of neighbouring landholdings.

This lot forms part of a rural neighbourhood with similar sized adjoining lots and some larger allotments through the adjacent landscape. Lifestyle farming, commercial livestock farming (beef and sheep) and equine production and/or training are the most common local agricultural pursuits.

East – Residence approximately 318m from the proposed development site

South – Residence approximately 298m from the proposed development site

West – Residence approximately 594m from proposed development site (new development).

North – Residence approximately 1656.7m from the proposed development site.

Property details

Size of Property:	8.5 Ha
Catchment:	Port Phillip and Westernport CMA
Water Courses:	Unnamed
Water Supply:	2 dams
Services:	Electricity to the street
Planning Zone:	Farming Zone
Planning Overlays:	None
Bioregion:	Central Victorian Uplands
Ecological Vegetation Classes (EVC):	Valley Grassy Forest Herb-rich Foothill Forest
Land Degradation Hazard Region:	Southern Plains and Hills.
Land Class:	Class 3
Improvements:	Boundary and internal fencing Dams (3) Shedding
Pest Plants:	Salsify (<i>Tragopogon porrifolius</i>) Willow (<i>Salix spp.</i>)

Pest Animals:

Rabbits (*Oryctolagus cuniculus*)

Light infestation throughout property. Will be managed by regular shooting and ripping of burrows.

Hare (*Lepus capensis*)

Seen occasionally in the area. Will be managed by regular shooting.

Fox (*Vulpes vulpes*)

Seen occasionally throughout property. Will be managed by regular shooting.

Soil Type:

Kandosol

Geology:

Southeast:

Unit	colluvium(Qc1): generic
History	Pliocene to Holocene (sheet flow - colluvial)
Lithology	diamictite (dominant); rubble (significant); clay [lithology] (significant); silt [material] (significant); sand (significant); gravel [material] (significant)

Northwest:






























Unit	Smokers Creek Volcanic Subgroup - mugearite lava (Neam): generic
History	Miocene to Pliocene (explosive eruption - eruption centre [environment]; lava flow [process] - eruption centre [environment])
Lithology	lava flow [rock type] (major [proportion]); mugearite (major [proportion]); scoria (minor [proportion])



















Annual Rainfall:

600-700 mm

Climatic information:

Statistics provided by the Bureau of Meteorology for Kilmore Gap (nearest comparable weather site to Kilmore East. It should be noted that due to location, climatic changes and seasonal variability, average rainfall figures are likely to be lower on this site than stated in weather station data).

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Years	Plot	Map	
Temperature																	
Mean maximum temperature (°C)	25.0	24.8	21.6	17.1	12.9	9.9	9.1	10.6	13.2	16.3	19.8	22.4	16.9	25	1993 2018		
Mean minimum temperature (°C)	12.4	12.7	11.1	8.9	6.9	4.9	4.0	4.2	5.6	6.9	9.1	10.4	8.1	25	1993 2018		
Rainfall																	
Mean rainfall (mm)	47.5	48.2	44.6	54.3	57.2	67.2	61.9	61.4	60.7	50.8	67.7	48.6	684.9	23	1994 2018		
Decile 5 (median) rainfall (mm)	42.9	30.0	37.9	44.5	50.4	66.2	70.0	64.6	52.6	33.8	53.4	36.2	670.2	25	1994 2018		
Mean number of days of rain ≥ 1 mm	5.6	4.9	6.2	6.2	8.6	9.9	12.2	11.1	9.1	8.1	7.2	5.4	94.5	24	1994 2019		
9 am conditions																	
Mean 9am temperature (°C)	15.6	15.4	13.2	11.2	8.5	6.2	5.2	5.9	8.1	10.1	12.3	13.9	10.5	17	1993 2010		
Mean 9am relative humidity (%)	74	77	80	81	87	91	92	88	83	78	76	73	82	17	1993 2010		
Mean 9am wind speed (km/h)	26.2	26.6	23.8	23.2	22.5	25.2	24.9	25.3	25.6	25.7	25.6	25.5	25.0	16	1993 2010		
9am wind speed vs direction plot																	

3 pm conditions																	
Mean 3pm temperature (°C)	22.7	22.7	20.0	15.8	11.8	9.0	8.1	9.4	11.9	14.3	17.9	20.0	15.3	17	1993 2010		
Mean 3pm relative humidity (%)	48	49	51	59	73	81	81	74	68	61	56	51	63	17	1993 2010		
Mean 3pm wind speed (km/h)	25.4	25.1	24.2	23.3	23.7	26.1	25.4	26.4	26.6	25.6	24.8	24.7	25.1	16	1993 2010		
3pm wind speed vs direction plot																	

Action Plan

Key Issues

- Pest Plant Management
 - There are no Weeds of National Significance on the property.
 - For annual weeds such as cape weed, an ongoing rotational grazing management program will be implemented, including enhancing the rotational grazing capacity of the property with additional fencing, cross grazing and gradual pasture and soil fertility improvement. Soil testing will be conducted to facilitate this work.
- Pest Animal Management
 - Light infestation observed. Ongoing management including ripping of rabbit burrows, shooting and trapping as required. Calicivirus has recently impacted the rabbits in the area.
- Waterlogging, compaction and soil management
 - Rotational grazing program to maintain ground cover at all times – not grazed below 10 cms.
 - Establishment of a rotational grazing system and stabling / yarding to get animals off pasture to maintain ground cover in extremely wet or dry conditions.
 - Fencing according to land classes to facilitate grazing management and soil conservation.
 - Increase revegetation in key locations to increase shelter protection to stock, reduce wind and water erosion and top soil loss.
 - Minimum tillage techniques will be employed wherever possible in pasture renovation programs.
 - Estimated stocking rates for the property is 15 Dry Sheep Equivalent (DSE) per hectare. The available grazing hectares are estimated at 5.87Ha. This allows 88.05 DSE carrying capacity. Allowing for the variations in horse type, if horses are taken at an average 12 DSE, 7-8 horses could be grazed. This plan indicates a mix of stock is proposed by the landholder, therefore this should be assessed so the numbers do not exceed the 56.7 DSE outlined in this plan. Note: Grazing pressure shall be adjusted according to seasonal conditions and ground cover should be maintained at all times. Carrying capacity of the property will be improved over time through the implementation of the grazing and soil health program.

Key projects

The initial priority will be to get the house, shedding, stables, arena and yards established. After this time, the improvement of the balance of the property will be staged over the next 10 years. The key projects are listed below:

- Business Development.
 - Establishing the stable complex, including arena, yards and spelling paddocks early in the property development will allow Kylie to start taking spelling clients on the property once the house is completed.
 - Shedding for Shane's machinery to be established.

- Ongoing fencing improvements.
 - The house yard will be completed alongside the dwelling construction within 12 months. Boundary fences will be refurbished as required to ensure stock containment.
 - Stable complex, yarding, spelling paddocks and arena will be completed in the two years subsequent to the completion of the dwelling.
 - The rotational grazing paddocks will be established in stages over subsequent the 2-4 years.
- Comprehensive revegetation for stock shelter, erosion and salinity management, and biodiversity.
 - A biolinked approach has been taken to the revegetation plan. This will protect the unnamed water course and dams, provide screening around the residence and stable complex and wind protection to stock and the development area.
 - Shelter belts will be at least 10m wide with at least three planted rows of mixed indigenous trees and shrubs suited to the respective EVC's (See Appendix Three and Eight) to create stock shelter and to reduce wind speeds and associated soil erosion across the property. The exception to this will be the tree belts between the spelling paddocks, which will be one or two rows of trees and shrubs to allow horses to still see each other but not to play over fences, reducing the risk of injury. It will also provide shade and shelter, which will be supplemented by shedding in these paddocks.
 - Stock will be excluded from the dams other than for crash grazing for fuel reduction in Spring. These areas will be revegetated but planting will not be done on the dam walls or in overflows.
- Ongoing pasture management to maintain constant groundcover (no less than 10 cms) through appropriate stocking rates (no more than 8 horses or equivalent) for the property and confinement of stock to yard area (arena, stables, day yards and holding paddocks) when the soils and pastures are fragile, such as during extended dry or wet periods. This is particularly important for the areas of the property prone to water logging.
- Pasture restoration and soil health
 - Given the property's pastures are predominantly improved species, no pasture renovation is recommended. Soil testing should be done to set a baseline for enhancing soil health
 - Soil health should be maintained through good ground cover and introduction of additional organic matter, composts and organic fertilisers. Any soil amendment program should be designed in reference to five yearly soil testing.
- Water Security
 - The existing dams and riparian area will be fenced off as a wetland biodiversity asset. Water will be provided to stock via a reticulated water supply with no stock access to the dams except in emergency situations and occasional crash grazing.
 - Water will be pumped via a solar pump to a header tank and gravity fed to the paddock troughs, stable complex and house garden.

- **Revegetation**
 - Revegetation will be conducted according to the industry standard of 500 plants per hectare with species selected according to the Ecological Vegetation Classes (Valley Grassy Forest and Herb-rich Foothill Forest).
 - Due to the degraded nature of the revegetation areas from a native vegetation perspective, species selection for the first 10 years will concentrate on upper and mid storey species. Once established, ground cover and lower storey herbs can be considered.
 - 10 year survival targets are 50 overstorey plants (Eucalyptus) per hectare and 200 understorey trees and shrubs (acacia, cassurina etc.). To achieve this 500 plants per hectare will be planted initially (20% large trees, 80% large, medium and small shrubs).
 - Plantings will be monitored and dead plants replaced if the mortality falls below the survival targets outlined in the previous point.
 - Species are to be selected from Appendix Eight and located on the property according to Appendix Three.
 - All tubestock are to be staked and guarded on planting and protected from stock by permanent, electrified fencing.
 - Tubestock are to be sourced from local nurseries respecting species provenance – such as Western Plains Flora or Valley of a Thousand Hills.
 - Planting is to be conducted in August-October each year (subject to rainfall) to provide adequate soil moisture for establishment.
 - Ground preparation must be conducted through spraying out or close grazing and deep ripping where appropriate.

The land management program is described below. Stock husbandry is not included in the timeline, but is completed on an ongoing basis as necessary.

Business operation and dwelling construction details are not included in this plan.

LAND MANAGEMENT DEVELOPMENT PLAN. YEAR	OBJECTIVE	WORK PROGRAM
2019	Property establishment	<ul style="list-style-type: none"> • Infrastructure - Commence work on dwelling, outbuildings and stable complex (see plan in Appendix One). • Fencing – Boundary fencing refurbishment complete. • Water –Install header tanks, solar pump and troughs for stock water. • Earthworks – Roads and tracks complete. • Soil testing – Sampled according to land classes. Baseline. • Weed control – Removal of salsify. Monitor for re-emergence. Monitor property for Weeds of National Significance (WoNS http://www.environment.gov.au/biodiversity/invasive/weeds/weeds/lists/wons.html)

		<ul style="list-style-type: none"> • Pest animal control – Monitor and take action as necessary. • Groundcover – Monitor / rotate grazing. Maintain 10cm cover.
2020	Property establishment Infrastructure establishment Weed and erosion rehabilitation	<ul style="list-style-type: none"> • Infrastructure - Finalise work on dwelling, outbuildings and stable complex. • Fencing – Commence work on internal fencing – focus on spellers paddocks as a priority. • Water – Maintenance as required. • Weed control –Monitor. Chip or spray as required. • Pest animal control – Monitor and take action as necessary. • Groundcover – Monitor / rotate grazing. Maintain 10cm cover. • Soil Amendments - Spread lime over the grazing areas of the property in accordance with soil test results. • Reporting – Progress report on action plan implementation required for submission to Council.
2021		<ul style="list-style-type: none"> • Infrastructure – Commence work on spellers paddock shelters. • Fencing – Continue work on internal fencing Spellers paddocks complete. Work on rotational paddocks and shelter belts. • Water – Maintenance as required. • Weed control –Monitor. Remove as required. • Pest animal control – Monitor and take action as necessary. • Groundcover – Monitor / rotate grazing. Maintain 10cm cover. • Soil Amendments – Consider fertiliser choices according to soil test results. • Revegetation – Commence work on shelterbelt plantings (Late Winter / early Spring).
2022		<ul style="list-style-type: none"> • Infrastructure – Completed. Maintenance. • Fencing – Continue work on internal fencing – finalise rotational grazing fencing. • Water – Maintenance as required. • Weed control –Monitor. Remove as required. • Pest animal control – Monitor and take action as necessary. • Groundcover – Monitor / rotate grazing. Maintain 10cm cover. • Soil Amendments – Apply according to soil test results.

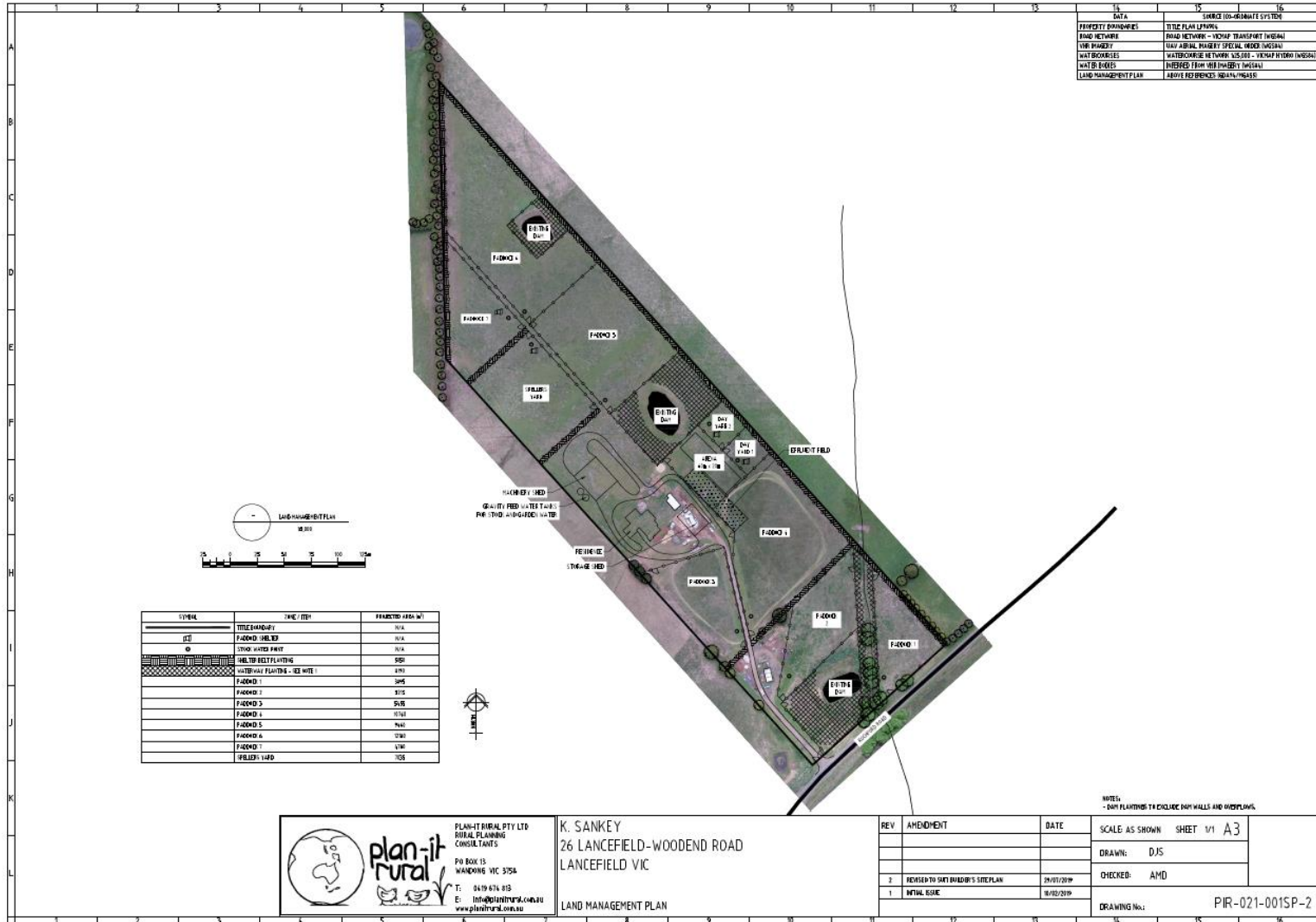
		<ul style="list-style-type: none"> • Revegetation – Continue shelter belt planting. (Late Winter/early Spring) • Reporting – Progress report on action plan implementation required for submission to Council.
2023		<ul style="list-style-type: none"> • Infrastructure –Maintenance as required. • Fencing – Finalise work on internal fencing. • Water – Maintenance as required. • Weed control –Monitor. Remove as required. • Pest animal control – Monitor and take action as necessary. • Groundcover – Monitor / rotate grazing. Maintain 10cm cover. • Soil Amendments – Observe impact of application. • Revegetation – Continue shelter belt planting. (Late Winter/early Spring)
2024		<ul style="list-style-type: none"> • Infrastructure –Maintenance as required. • Fencing – Maintenance as required. • Water – Maintenance as required. • Weed control – Monitor. Remove as required. • Pest animal control – Monitor and take action as necessary. • Groundcover – Monitor / rotate grazing. Maintain 10cm cover. • Soil Amendments – Monitor pasture response and make decisions about pasture renovation or soil management options. Conduct soil testing to compare to baseline and inform decisions for next year. • Revegetation – Finalise shelter belt planting. (Late Winter/early Spring) • Reporting – Progress report on action plan implementation required for submission to Council.
2025		<ul style="list-style-type: none"> • Infrastructure –Maintenance as required. • Fencing – Maintenance as required. • Water – Maintenance as required. • Weed control – Monitor. Remove as required. • Pest animal control – Monitor and take action as necessary. • Groundcover – Monitor / rotate grazing. • Water – Maintenance as required. • Soil Amendments – Consider pasture renovation or soil management program as indicated by pasture response to initial soil amendment program and soil test results.

		<ul style="list-style-type: none"> • Revegetation – Monitor shelter belt planting for mortalities. Replace as required (Late Winter/early Spring)
2026		<ul style="list-style-type: none"> • Infrastructure –Maintenance as required. • Fencing – Maintenance as required. • Water – Maintenance as required. • Weed control – Monitor. Remove as required. • Pest animal control – Monitor and take action as necessary. • Groundcover – Monitor / rotate grazing. • Water – Maintenance as required. • Soil Amendments – Continue pasture renovation or soil management as indicated by pasture response to initial soil amendment program and soil test results. • Revegetation – Monitor shelter belt plantings for mortalities. Replace as required (Late Winter/early Spring)
2027		<ul style="list-style-type: none"> • Infrastructure –Maintenance as required. • Fencing – Maintenance as required. • Water – Maintenance as required. • Weed control – Monitor for re-emergence of weeds. Remove as required. • Pest animal control – Monitor and take action as necessary. • Groundcover – Monitor / rotate grazing. • Soil Amendments – Continue pasture renovation or soil management as indicated by pasture response to initial soil amendment program and soil test results. • Revegetation – Monitor shelter belt plantings for mortalities. Replace as required (Late Winter/early Spring)
2028		<ul style="list-style-type: none"> • Infrastructure –Maintenance as required. • Fencing – Maintenance as required. • Water – Maintenance as required. • Weed control – Monitor for re-emergence of weeds. Remove as required. • Pest animal control – Monitor and take action as necessary. • Groundcover – Monitor / rotate grazing. • Water – Maintenance as required. • Soil Amendments – Continue pasture renovation or soil management as indicated by pasture response to initial soil amendment program and soil test results.

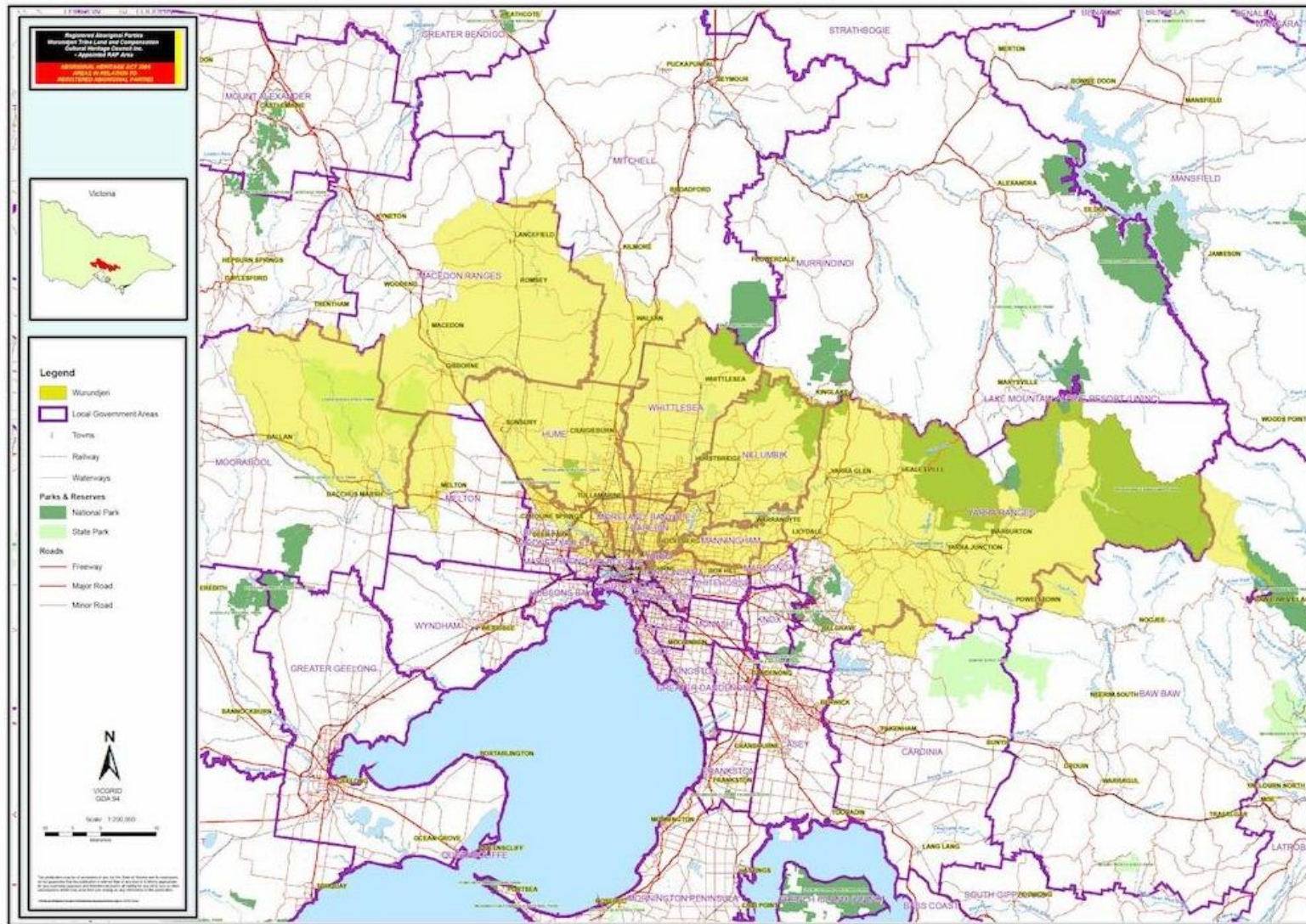
		<ul style="list-style-type: none"> • Revegetation – Monitor shelter belt plantings for mortalities. Replace as required (Late Winter/early Spring)
2029		<ul style="list-style-type: none"> • Infrastructure –Maintenance as required. • Fencing – Maintenance as required. • Water – Maintenance as required. • Weed control – Monitor for re-emergence of weeds. Remove as required. • Pest animal control – Monitor and take action as necessary. • Groundcover – Monitor / rotate grazing. • Soil Amendments – Continue pasture renovation or soil management as indicated by pasture response to initial soil amendment program and soil test results. • Revegetation – Monitor shelter belt plantings for mortalities. Replace as required (Late Winter/early Spring) • Reporting – Progress report on action plan implementation required for submission to Council.

Appendices

Appendix One - Farm plan

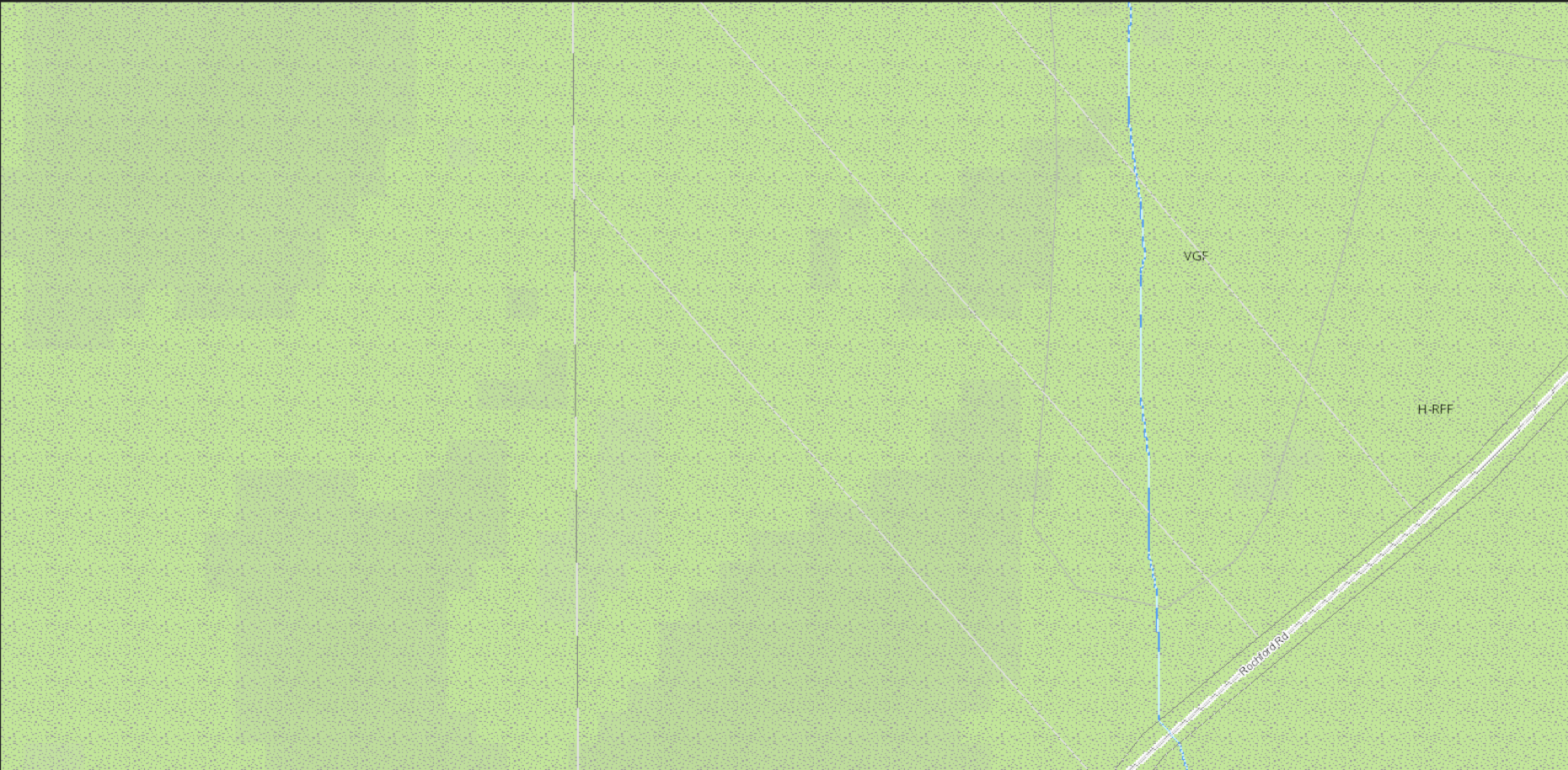


Appendix Two – Wurundjeri traditional owners map

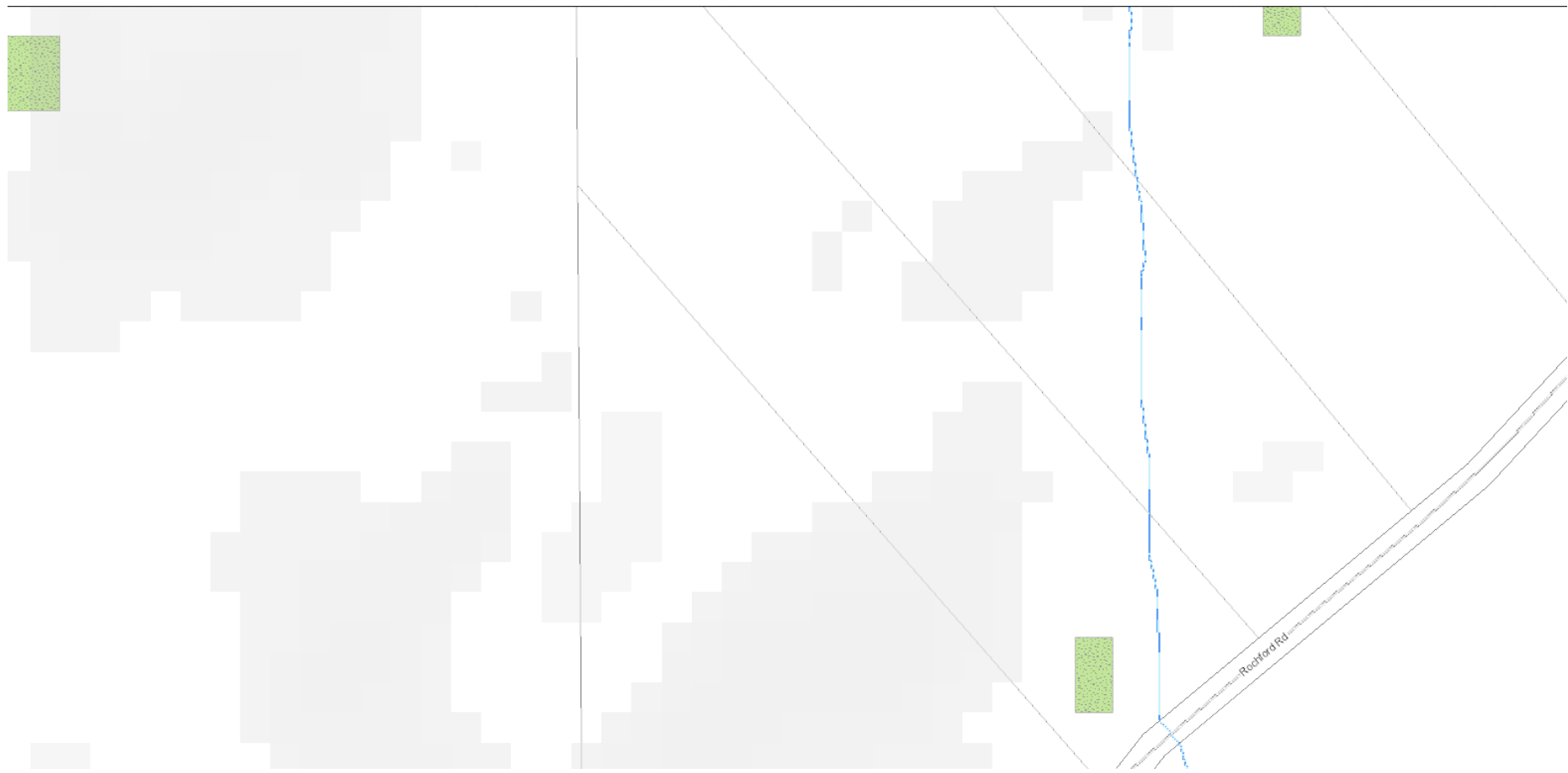


Appendix Three - Ecological Vegetation Classes (EVC)

- Valley Grassy Forest and Herb-rich Foothill Forest

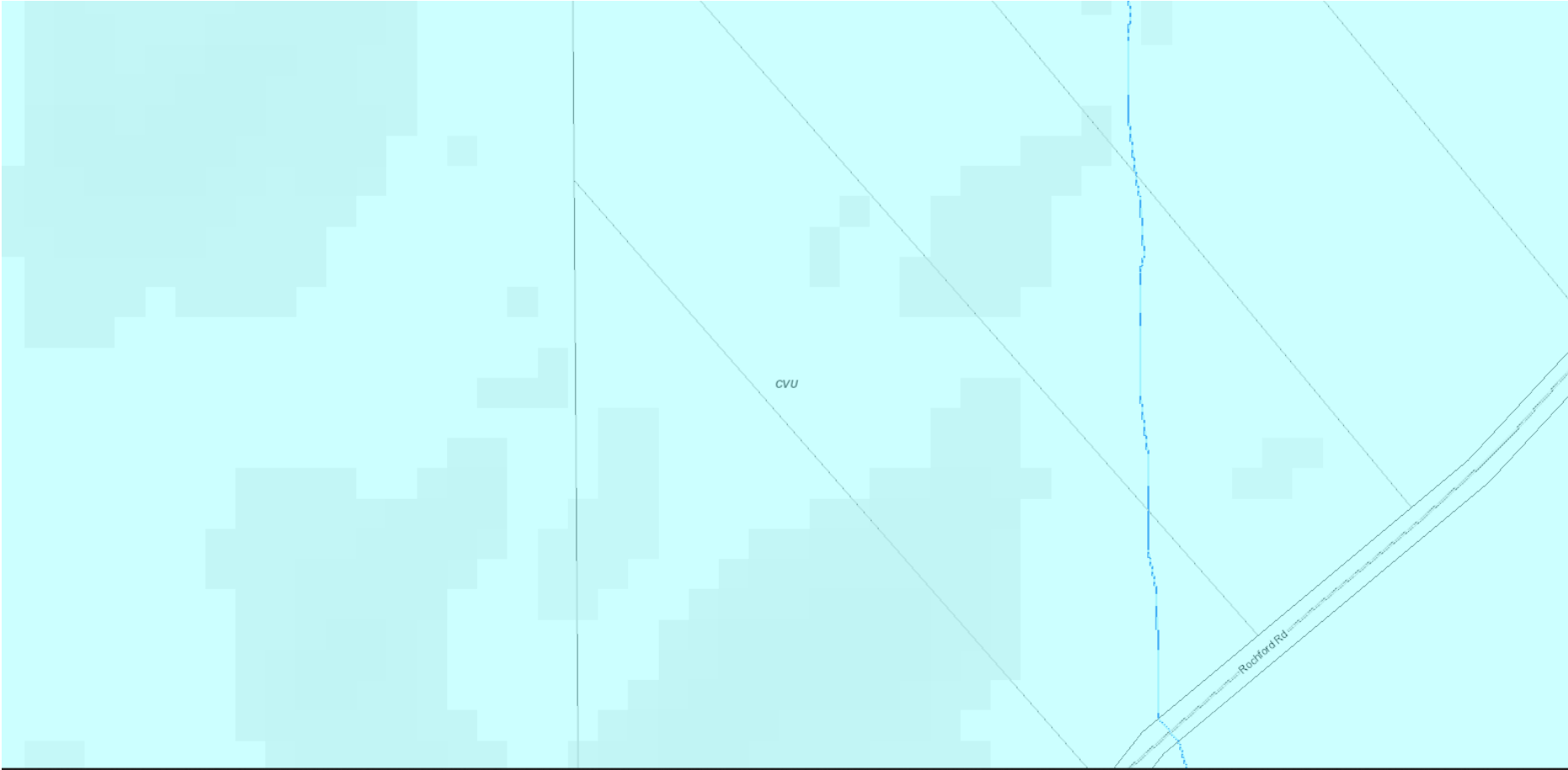


1750 EVC

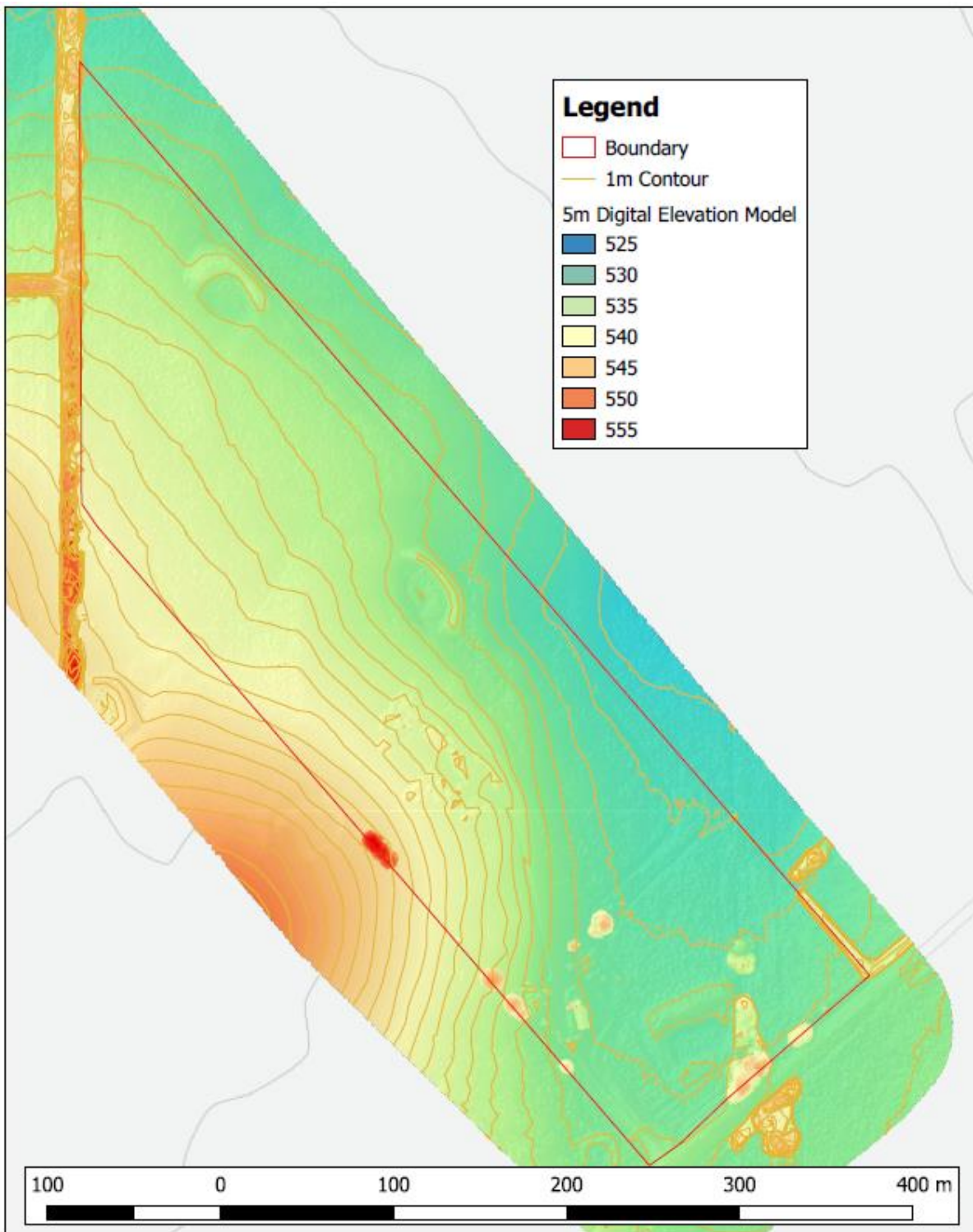


2005 EVC

Appendix Five – Bioregion – Central Victorian Uplands



Appendix Six – Topographical



**Lot 5 LP96904 Rochford Road
Lancefield**

Elevation data for land management purposes only. Not to be used for construction. Boundaries are indicative only.

Appendix Seven – Full property aerial



**Lot 5 LP96904 Rochford Road
Lancefield**

Elevation data for land management purposes only. Not to be used for construction. Boundaries are indicative only.

Appendix Eight – Revegetation Species Planting Lists according to EVC

EVC 47: Valley Grassy Forest

Description:

Valley Grassy Forest occurs under moderate rainfall regimes of 700-800 mm per annum on fertile well-drained colluvial or alluvial soils on gently undulating lower slopes and valley floors. The tall, open overstorey to 25 m tall may carry a variety of eucalypts, usually species which prefer more moist or more fertile conditions over a sparse shrub cover. In season, a rich array of herbs, lilies, grasses and sedges dominate the ground layer but at the drier end of the spectrum the ground layer may be sparse and slightly less diverse, but with the moisture-loving species still remaining.

Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	20 / ha

Tree Canopy Cover:

%cover	Character Species	Common Name
20%	<i>Eucalyptus radiata</i> s.l.	Narrow-leaf Peppermint
	<i>Eucalyptus rubida</i>	Candlebark
	<i>Eucalyptus melliodora</i>	Yellow Box

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	10%	T
Medium Shrub	2	10%	MS
Prostrate Shrub	1	1%	PS
Large Herb	2	5%	LH
Medium Herb	11	20%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	2	5%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	16	40%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Scrambler or Climber	1	1%	SC
Bryophytes/Lichens	na	20%	BL

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia mearnsii</i>	Black Wattle
MS	<i>Myoporum</i> sp. 1	Sticky Boobialla
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Bursaria spinosa</i> ssp. <i>spinosa</i>	Sweet Bursaria
SS	<i>Pimelea humilis</i>	Common Rice-flower
PS	<i>Bossiaea prostrata</i>	Creeping Bossiaea
LH	<i>Veronica gracilis</i>	Slender Speedwell
MH	<i>Poranthera microphylla</i>	Small Poranthera
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Drosera peltata</i> ssp. <i>auriculata</i>	Tall Sundew
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
SH	<i>Oxalis corniculata</i> s.l.	Yellow Wood-sorrel
SH	<i>Oxalis exilis</i>	Shady Wood-sorrel
SH	<i>Opercularia varia</i>	Variable Stinkweed
LTG	<i>Austrostipa rudis</i>	Veined Spear-grass
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
LNG	<i>Gahnia radula</i>	Thatch Saw-sedge
MTG	<i>Themeda triandra</i>	Kangaroo Grass
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Poa sieberiana</i>	Grey Tussock-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
SC	<i>Billardiera scandens</i>	Common Apple-berry

Ecological Vegetation Class bioregion benchmark



EVC/Bioregion Benchmark for Vegetation Quality Assessment Central Victorian Uplands bioregion

EVC 23: Herb-rich Foothill Forest

Description:

Occurs on relatively fertile, moderately well-drained soils on an extremely wide range of geological types and in areas of moderate to high rainfall. Occupies easterly and southerly aspects mainly on lower slopes and in gullies. A medium to tall open forest or woodland to 25m tall with a small tree layer over a sparse to dense shrub layer. A high cover and diversity of herbs and grasses in the ground layer characterise this EVC.

Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	20 / ha

Tree Canopy Cover:

%cover	Character Species	Common Name
40%	<i>Eucalyptus globulus</i> ssp. <i>bicostata</i>	Eurabbie
	<i>Eucalyptus obliqua</i>	Messmate Stringybark
	<i>Eucalyptus dives</i>	Broad-leaved Peppermint

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	10%	T
Medium Shrub	3	5%	MS
Small Shrub	2	1%	SS
Prostrate Shrub	1	1%	PS
Large Herb	4	5%	LH
Medium Herb	11	25%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	2	5%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	6	20%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Ground Fern	2	10%	GF
Scrambler or Climber	3	5%	SC
Bryophytes/Lichens	na	20%	BL

EVC 23: Herb-rich Foothill Forest – Central Victorian Uplands bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia dealbata</i>	Silver Wattle
SS	<i>Hovea heterophylla</i>	Common Hovea
PS	<i>Acrotriche prostrata</i>	Trailing Ground-berry
LH	<i>Wahlenbergia stricta</i>	Tall Bluebell
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Senecio minimus</i>	Shrubby Fireweed
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
MH	<i>Stellaria pungens</i>	Prickly Starwort
MH	<i>Viola hederacea sensu Willis (1972)</i>	Ivy-leaf Violet
MH	<i>Acaena novae-zelandiae</i>	Bidgee-widgee
SH	<i>Dichondra repens</i>	Kidney-weed
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
LTG	<i>Lomandra longifolia ssp. longifolia</i>	Spiny-headed Mat-rush
MTG	<i>Lomandra filiformis ssp. coriacea</i>	Wattle Mat-rush
MTG	<i>Luzula meridionalis var. flaccida</i>	Common Woodrush
MTG	<i>Austrodanthonia pilosa</i>	Velvet Wallaby-grass
MTG	<i>Poa ensiformis</i>	Sword Tussock-grass
MNG	<i>Microlaena stipoides var. stipoides</i>	Weeping Grass
MNG	<i>Poa tenera</i>	Slender Tussock-grass
MNG	<i>Echinopogon ovatus</i>	Common Hedgehog-grass
GF	<i>Pteridium esculentum</i>	Austral Bracken
GF	<i>Asplenium flabellifolium</i>	Necklace Fern
SC	<i>Clematis aristata</i>	Mountain Clematis
SC	<i>Glycine clandestina</i>	Twining Glycine
SC	<i>Billardiera scandens var. scandens</i>	Common Apple-berry
SC	<i>Hardenbergia violacea</i>	Purple Coral-pea

Recruitment:
Continuous

Organic Litter:
40 % cover

Logs:
20 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Centaureum erythraea</i>	Common Centaury	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high

Appendix Nine – Gallery



Proposed House Site



Eastern view from house site to neighbouring property. Note storm damaged shed in the foreground.



Northern view from house site across the property.



Storm damaged shed.



Healthy improved pastures and excellent ground cover.



Salsify found at the front of the property, adjacent to the dam.



Dam at the front of the property



Second dam viewed from house site.



Existing shed.



Figure 1. An example of Valley Grassy Forest east of Seymour, in good condition, with a ground layer dominated by Kangaroo Grass.



Figure 2. An example of Valley Grassy Forest in good condition

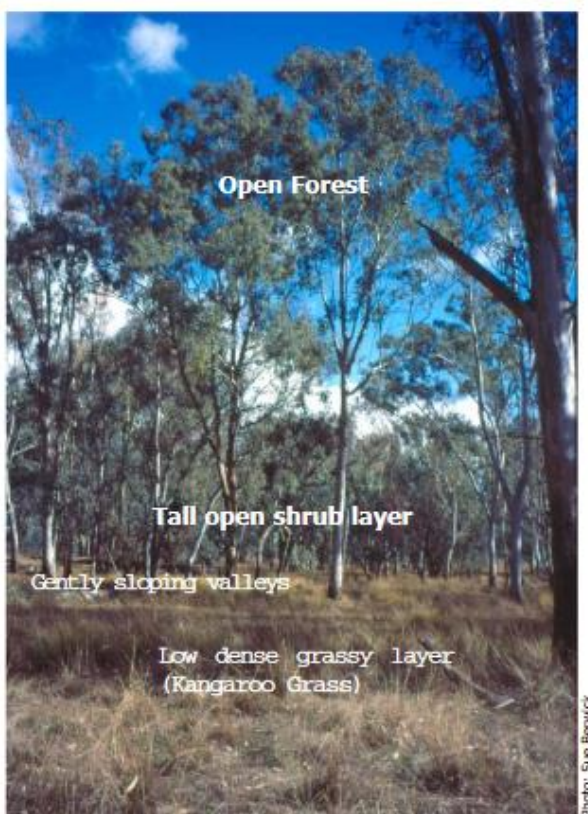


Figure 3. An example of Valley Grassy Forest in good condition south east of Benalla.

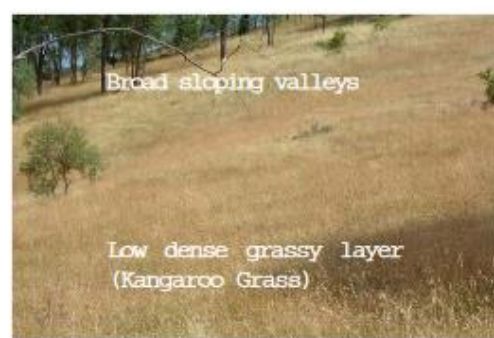


Figure 4. An example of Valley Grassy Forest east of Seymour, in good condition, with a ground layer dominated by Kangaroo Grass.



Valley Grassy Forest

Threatened in the Goulburn Broken Catchment

Description

Valley Grassy Forest occurs on broad, gently sloping valleys of the surrounding dry foothills at elevations of 150-400m, with an annual rainfall 650-800mm.

It supports an open forest of White Box (northern regions of the Catchment) and Yellow Box, sometimes with Candlebark (southern half of the Catchment), Apple Box (eastern region of the Catchment) and Silver-leaf Stringybark (Swanpool and Lima regions of the Catchment).

The tall open shrub layer is typically Silver Wattle and Tree-violet.

Characteristically the valley floor has a low, dense grassy layer of Weeping Grass and in season, a rich array of herbs, lilies, grasses and sedges dominate the ground layer such as Chocolate Lily, Kidney-weed, Ivy-leaf Violet, Slender Tick-trefoil, Stinking Pennywort and Austral Cranesbill. At the drier end of the spectrum the ground layer may be sparse and slightly less diverse, but with the moisture-loving species still remaining.

Species to Look Out For

Flora: Lima Stringybark (Ve), Slender Tick-trefoil(k) and Apple Box (on the edge of its range).

Fauna: Long-nosed Bandicoot, Brush-tailed Phascogale (v) and Barking Owl (e).



Figure 5. Long-nosed Bandicoot
Photo: DSE/McCann



Figure 6. Barking Owl
Photo: Natasha Schedvin



Figure 7. Brush-tailed Phascogale
Photo: Jerry Alexander



Figures 5-8. White Box, Silver Wattle, Weeping Grass, Stinking Pennywort.

Photos: Mary Titcomb

Why Valley Grassy Forests are Threatened

More than 94% of Valley Grassy Forests in the Goulburn Broken Catchment have disappeared since European settlement. Over 88% of what remains is on private land. Many of the plants and animals that rely on this habitat are now also threatened, and some are extinct. Therefore, the support of private landholders is essential for the ongoing conservation of Valley Grassy Forests.

Current threats include, **poor timing of stock grazing and overgrazing** (causes loss of native species, hinders native plant regeneration, disturbs the soil and increases nutrient levels), **isolation** (restricted movement of fauna, difficult to maintain healthy gene pool), lack of native **understorey** and **ground layer** (which attract insect eating birds helping keep the overstorey healthy, and improve soil health through fixing nitrogen), lack of natural **regeneration**, **soil disturbance** (eg. ploughing and pugging, favouring weed species), **weed invasion**, **pest animals** and loss of **tree** and **ground habitat** (through timber harvesting, tidying-up of fallen timber and firewood collection).

Valley Grassy Forest

Threatened in the Goulburn Broken Catchment

Management Tips

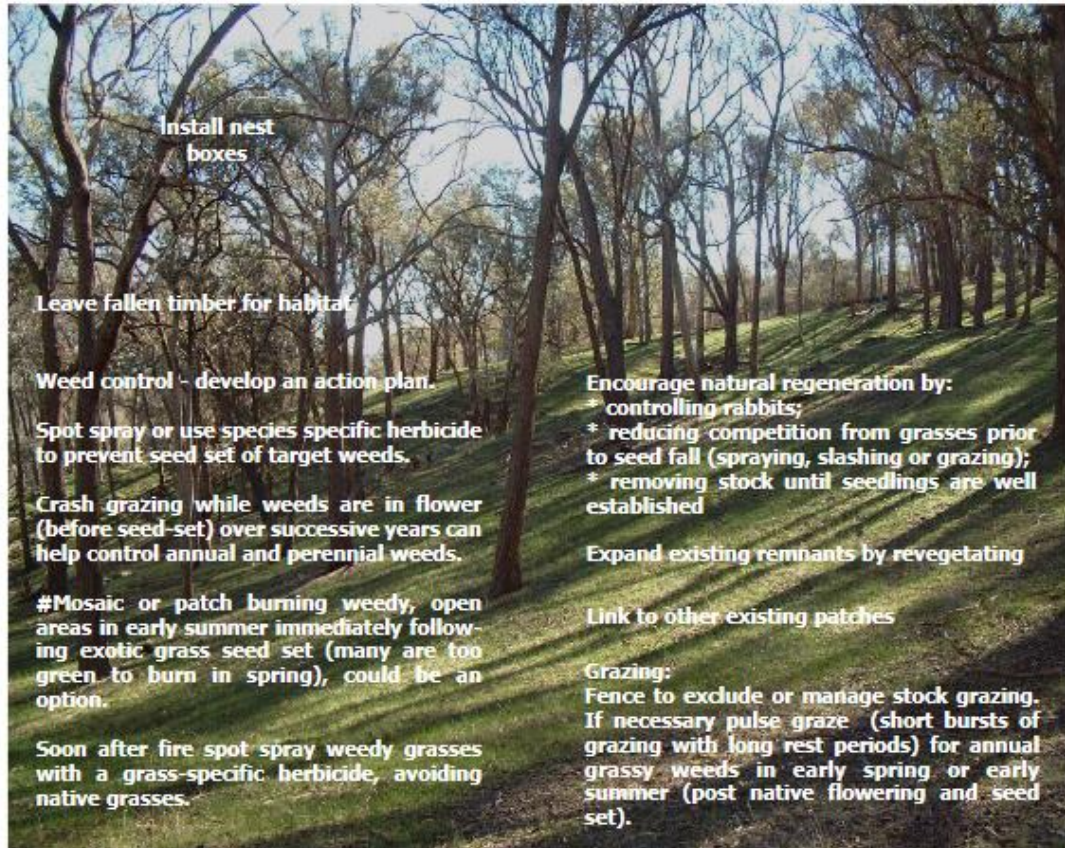


Figure 12. An example of a degraded Valley Grassy Forest in July, completely lacking a native shrub-layer, and with a mixed ground layer of native grasses and annual and perennial weeds.

May require expert input in decision making and planning. See your local DSE or CMA representative for further advice.



Figure 13. An example of scattered trees of what used to be Valley Grassy Forest .
May require expert input in decision making and planning. See your local DSE or CMA representative for further advice.



Figure 14. An example of Valley Grassy Forest in December at Samaria without the overstorey, but with Small Grass Trees still remaining and a sward of Kanagaroo Grass.

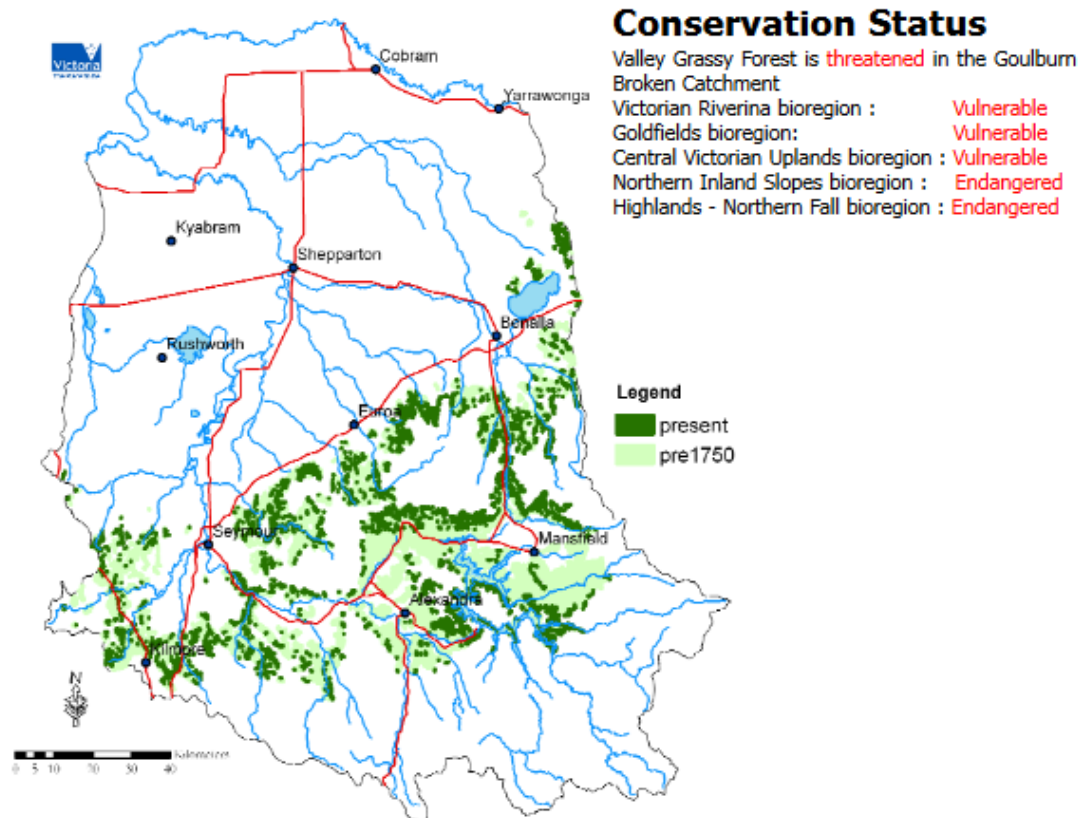


Figure 12. A representation of the pre-1750 and present day distribution of Valley Grassy Forest and its mosaics and complexes in the Goulburn Broken Catchment. The boundaries of the vegetation have been exaggerated to allow for the small scale of the map. The map was produced from Base Data from DSE Corporate Library. The State of Victoria does not warrant the accuracy or completeness of information on this map. Any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

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ISBN 1-920742-11-5

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Herb-rich Foothill Forest

Threatened in the Goulburn Broken Catchment

36% of Herb-rich Foothill Forests have been cleared. 21% of what remains is on private land.



Figure 1. An example of Herb-rich Foothill Forest, in moderately healthy condition.

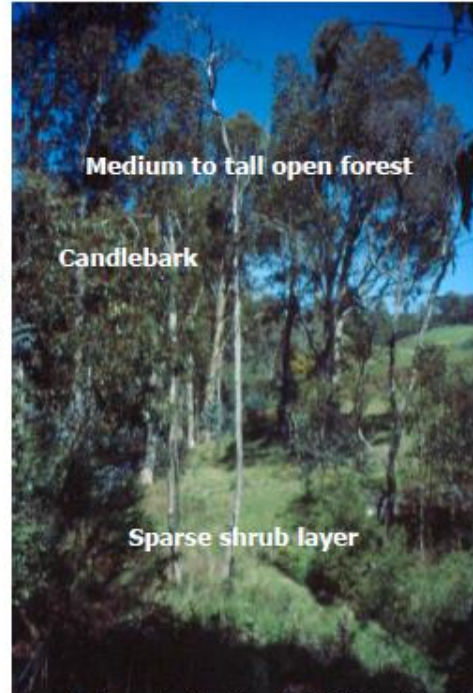


Figure 3. An example of the Herb-rich Foothill Forest in moderate condition.

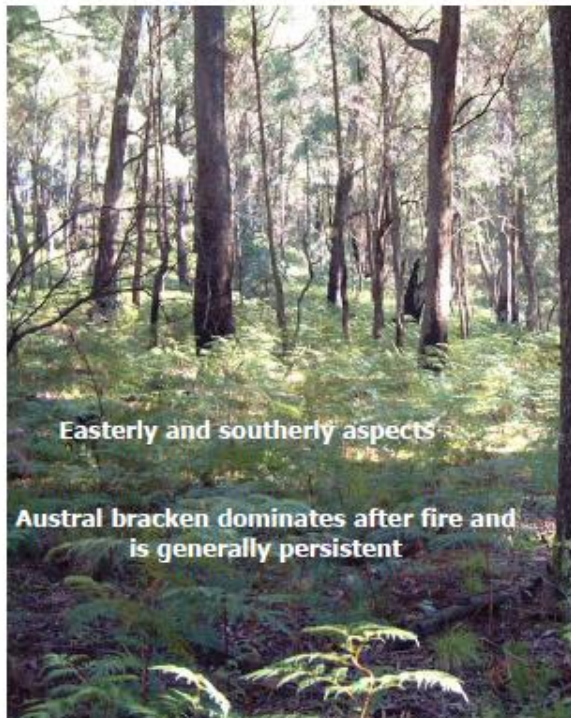


Figure 2. An example of the Herb-rich Foothill Forest after fire.

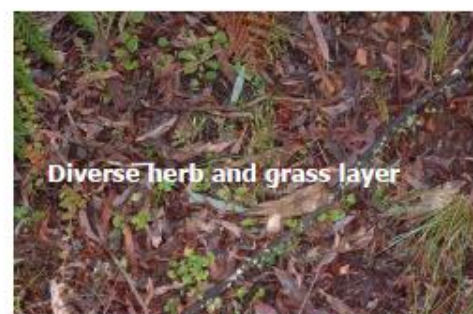


Figure 4. An example of the ground layer in a Herb-rich Foothill Forest. Pennywort, Kidney-weed, Native Geranium, Wattle Mat-rush, Handsome flat-pea, Common Woodrush and Tussock grass can be seen.



Herb-rich Foothill Forest

Threatened in the Goulburn Broken Catchment

Description

This medium to tall open forest (25m to 30m tall) occupies easterly and southerly aspects mainly on lower slopes and in gullies. It occurs on relatively fertile, moderately well-drained soils on an extremely wide range of geological types and in areas of moderate to high rainfall at elevations from 200-1200m.

The overstorey commonly consists of Narrow-leaf Peppermint and Candlebark.

The small tree layer of Silver Wattle occurs over a sparse to dense shrub layer including Prickly Currant-bush, Handsome Flat-pea, Hop Bitter-pea and Pink Bells.

The understorey contains a high cover and diversity of herbs and grasses in the ground layer, such as Kidney-weed, Pennywort, Mat-rush, Austral Bear's-ears, Mountain Clematis, Weeping Grass, Common Tussock-grass, Common Hedgehog-grass and Common Wheat-grass. Austral Bracken may tend to dominate following frequent disturbance, particularly by fire and grazing.

Species to Look Out For

Flora: Blackwood, Common Heath, Dusty Daisy-bush.

Fauna: Greater Glider, Southern Boobook, Tawny Frogmouth, Superb Lyrebird, Mountain Dragon.



Figure 9. Southern Boobook
Photo: DSE/McCann

Figure 10. Tawny Frogmouth
Photo: DSE/McCann

Figure 11. Superb Lyrebird
Photo: DSE/McCann



Figures 5-8.
Candlebark, Silver
Wattle, Handsome
Flat-pea and Kidney-
weed.

Photos: Mary Titcomb

Why Herb-rich Foothill Forests are Threatened

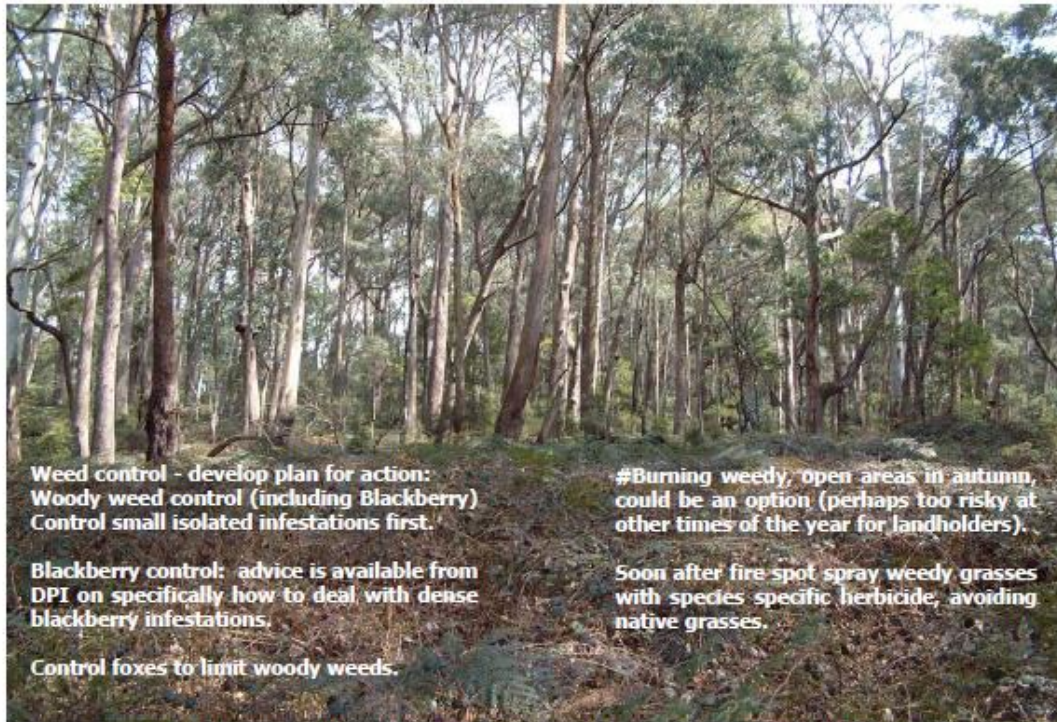
Many species rely on these forests and the ecological services this forest type provide more broadly to the environment. More than 36% of Herb-rich Foothill Forests in the Goulburn Broken Catchment have disappeared since European settlement. Of the balance 21% remains on private land. The support of private landholders is important for the ongoing conservation of Herb-rich Foothill Forests.

Current threats include, **inappropriate fire regimes** (frequency, season of burn and intensity - cause loss of species and change the structure of remnants), **soil disturbance** (eg. ploughing and pugging, favouring weed species), **weed invasion** (particularly Blackberry and other woody and broad-leaf weeds), **pest animals**, loss of **tree** and **ground habitat** (through timber harvesting, tidying-up of fallen timber and firewood collection), **poor timing of stock grazing and overgrazing** (causes loss of native species, invasion of weeds, hinders native plant regeneration, disturbs the soil and increases nutrient levels) and lack of native **understorey** and **ground layer** (which attract insect eating birds helping keep the overstorey healthy, and improve soil health through fixing nitrogen).

Herb-rich Foothill Forest

Threatened in the Goulburn Broken Catchment

Management Tips



Weed control - develop plan for action:
Woody weed control (including Blackberry)
Control small isolated infestations first.

Blackberry control: advice is available from
DPI on specifically how to deal with dense
blackberry infestations.

Control foxes to limit woody weeds.

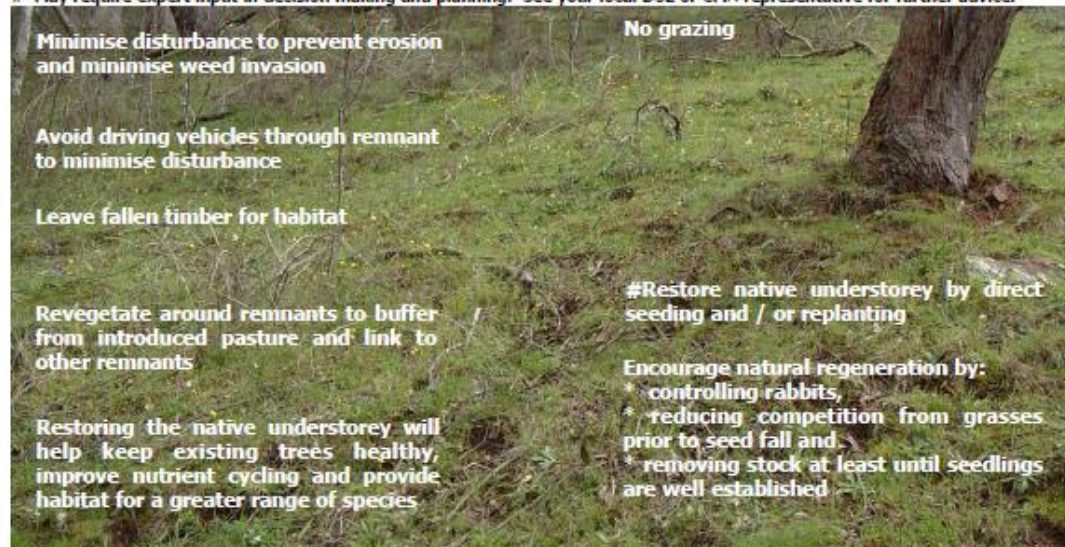
#Burning weedy, open areas in autumn,
could be an option (perhaps too risky at
other times of the year for landholders).

Soon after fire spot spray weedy grasses
with species specific herbicide, avoiding
native grasses.

Photo: Mary Tilzard

Figure 12. A degraded example of Herb-rich Foothill Forest. Surrounding areas of the forest are in good condition. This section is heavily infested with Blackberries. The priority should be to prevent the spread of blackberries into good areas.

May require expert input in decision making and planning. See your local DSE or CMA representative for further advice.



Minimise disturbance to prevent erosion
and minimise weed invasion

Avoid driving vehicles through remnant
to minimise disturbance

Leave fallen timber for habitat

Revegetate around remnants to buffer
from introduced pasture and link to
other remnants

Restoring the native understorey will
help keep existing trees healthy,
improve nutrient cycling and provide
habitat for a greater range of species

No grazing

#Restore native understorey by direct
seeding and / or replanting

Encourage natural regeneration by:

- * controlling rabbits,
- * reducing competition from grasses
prior to seed fall and
- * removing stock at least until seedlings
are well established

Photo: Mary Tilzard

Figure 13. A degraded example of Herb-rich Foothill Forest. Invasion by Flat-weed and some annual weeds are hindering the native ground layer. Additionally the shrub layer and small tree layer are absent.

May require expert input in decision making and planning. See your local DSE or CMA representative for further advice.

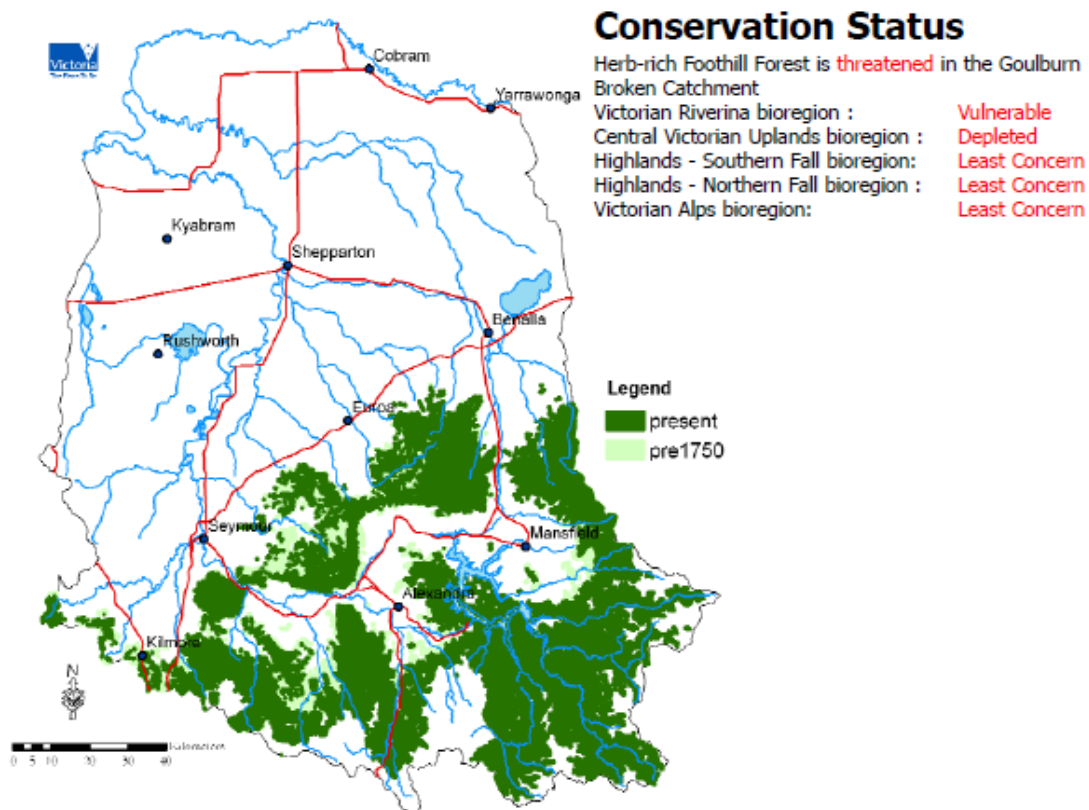


Figure 14. A representation of the pre-1750 and present day distribution of Herb-rich Foothill Forest and its mosaics and complexes in the Goulburn Broken Catchment. The boundaries of the vegetation have been exaggerated to allow for the small scale of the map. The map was produced from Base Data from DSE Corporate Library. The State of Victoria does not warrant the accuracy or completeness of information on this map. Any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

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 ISBN 1-920742-11-5

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