



# FARM MANAGEMENT PLAN

**Address:** 386 Youngs Road, Malmsbury

**Lot and Plan Number:** Allot. 289A Parish of Lauriston

**Local Government (Council):** Macedon Ranges

**Council Property Number:** 1166331

**Directory Reference:** VicRoads 59 H5



386 YOUNGS ROAD, MALMSBURY

**20 November 2020**

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## EXECUTIVE SUMMARY

The planning proposal and farm plan is well considered. The proposed agricultural enterprise of a well-managed cattle seedstock enterprise fits well with the principles of effective land management and the outcomes sought within the Farming Zone.

The property owners have had 30 years' experience in the cattle industry and are seeking to ensure a smooth succession from one generation to the next for the overall farm business.

The property is part of the larger Bruni family farming business. This property is a key part of the business that requires onsite management to run the seedstock component of the overall farming business.

It will also produce 460 round bales of the 1400 bales it takes to ensure fodder for the operation.

The seedstock herd is being developed up on this property as the key source of heifers and bulls for the businesses cattle herd of 250 head. The business is Meat Standards Australia<sup>1</sup> (MSA) accredited and is vertically integrated with Hardwicks at Kyneton, as a key client.

The development of this property will produce significant onsite income and fodder for the business overall and will compliment and assist with the further development of the Bruni family farming business. Which is a fully commercial scale business. It will run a 60 cow breeding herd producing seedstock for the overall business with 30 cows calving in autumn and 30 cows in spring.

Onsite management is critical from an animal welfare and risk management perspective. It is inhumane to leave calving animals unchecked and with cow calf units now at \$4,500, losing a cow or calf is a large economic risk. The 60 cow herd is a seedstock herd and a key foundation of the overall farm business.

The property is bounded on the east side by the key Melbourne to Northern Victoria (Bendigo and beyond) rail line. Security in terms of keeping incursions of stock and people and also weed management are key issues in respect to that boundary and this property, onsite management critical in that regard.

The topography and proposed property layout does not impinge on natural features and is well suited to the enterprises and the development will see a significant improvement in land protection through the maintenance of ground cover and the control of woody weeds.

Given the nature of the land resource, the characteristics of the district, the scale of the business, the agricultural potential of the property, it's potential for sustainable land management practices and considering the Farming Zone planning overlay; there will be no negative impact to the natural resource and agricultural viability of the land. To the contrary it will see a suitable agricultural enterprise fully set up on the property that will make a significant contribution to the overall viability and sustainability of a fully commercial scale farm business.

Also, the proposed development will not impact the agriculture integrity of this area, other than to improve it and it will add further productivity to this area of the Shire and the Bruni family farming business.

## INTRODUCTION

This Farm Management Plan has been requested to address the requirements of Macedon Ranges Council in respect to a Planning Permit for a dwelling to support a seedstock cattle and fodder production farming operation on a ~24ha property on Youngs Road, 2km from the centre of Malmsbury.

The property is part of the larger Bruni family farming business. This property is a key part of the business that requires onsite management to run the seedstock component of the farming business. Onsite management is required from an animal welfare and risk management perspective. Calving heifers and cows cannot be left unchecked and unattended if there are any problems; it is inhumane to do so and also a large financial risk with cow and calf units currently being worth \$4,500.

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<sup>1</sup> <https://www.mla.com.au/marketing-beef-and-lamb/meat-standards-australia/>



The 60 head seedstock herd is being developed up as the key source of heifers and bulls for the businesses cattle herd of 250 head. The business is Meat Standards Australia<sup>2</sup> (MSA) accredited and is vertically integrated with Hardwicks at Kyneton, as a key client.

Part of the Farm Plan is to continue to improve the biodiversity and environmental health of the property.

The property is bounded on the east side by the key Melbourne to Northern Victoria (Bendigo and beyond) rail line. Security in terms of keeping incursions of stock and people and also weed management are key issues in respect to that boundary and this property. The reserve requires daily inspections.

The Farming Zone is the zone that is strongly focused on protecting and promoting farming and agriculture.

The Macedon Ranges Shire Council Localised Planning Statement (2014) for Agriculture states the following objective and strategies: To support current and future agricultural land use as a key part of a productive rural landscape.

#### Strategies:

- Protect agricultural land from inappropriate subdivision and the impacts of other uses so that a viable agriculturally based economic function is maintained.
- Support the development of appropriately sited specialist agricultural uses, such as equine industry and viticulture uses.
- Support agricultural practices that respond to and encourage adaption to climate change impacts.
- Support compatible value adding activities to existing agricultural uses such as farm door sales and agritourism.

This development proposal and associated onsite management represents an appropriately sited specialist cattle business, that will be adaptable to climate change and support compatible value adding activities to existing agricultural uses and Hardwicks as a key business within the Macedon Ranges Council Shire, with outcomes that also lead to an improvement in biodiversity and soil and land health.

This Farm Management Plan includes:

1. A site plan showing:
  - Buildings;
  - Recreation zone;
  - All paddocks and internal fencing;
  - Water storage;
  - Areas set aside for regeneration/revegetation;
  - Water supply for domestic purposes and firefighting;
  - Native vegetation;
  - The allotment numbered in zones, e.g. conservation zone, recreation zone, agricultural zone;
  - Location of revegetation;
  - An indigenous species list including scientific and common names;
  - Ongoing weed management.
2. A written summary for each zone in accordance with the site plan which includes the zone type/number and ecological vegetation community types. The summary also includes a list of specific management requirements to be undertaken in each zone, which corresponds with action tables.
3. Weed management strategies include the following:
  - A weed list including species by common name and scientific names;
  - Methods of control for each species;
  - Timing of control;
  - Frequency of control;
  - Monitoring;
  - Weed management table for a 5-year period and recommendations for post five years;

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<sup>2</sup> <https://www.mla.com.au/marketing-beef-and-lamb/meat-standards-australia/>

- Any current weed control on site.
4. Pest animal control and treatment measures particularly for foxes and rabbits includes:
    - Evidence found on site of pest animals such as burrow/dens, scats, diggings, etc;
    - Approaches to integrated pest animal management;
    - Monitoring techniques;
    - Timing of treatment/control.
  5. A table of actions is incorporated in the farm management plan that includes works in the identified zones. A prioritised list of actions is incorporated for a five-year period. After this a list of recommendations for post a five-year period is included. This includes native vegetation revegetation and management, pest and animal maintenance and fence maintenance.

A site inspection was carried out on October 29<sup>th</sup>, 2020 and the site conditions and vegetation condition were recorded.

## BACKGROUND ON THE PROPERTY OWNERS AND THEIR PLANS FOR THE PROPERTY

The property owners, the Bruni Family, have significant experience in land management, farming and vertical integration in the meat industry. The family have 30 years of farming experience, have owned and run butchers shops in Kyneton that they have sold their own stock through and have had key roles at Hardwicks, where Travis continues to work.

They have a proven record of land management and improving farm productivity and environmental values.

The development of this property will enable the family farming business to continually improve the genetics of their herd, with appropriate on farm supervision, with the progeny being grown out on their other properties.

## PROPERTY LAND USE HISTORY AND ZONING

The Macedon Ranges has a strong indigenous association, with evidence to suggest that Aboriginal people have lived in the area for at least 26,000 years. The region is home to sites of national significance and local indigenous communities that are still active today.

The first squatter in the district was Charles Hotson Ebdon, who sent 9000 sheep from his Goulburn station to arrive in May 1837 at Carlsruhe, to form the first sheep station north of the Dividing Range. This property would have been part of that sheep station, Carlsruhe is 17km south east away.

The original Sheep Run was split in two in 1839 and the one near Kyneton was taken over by Charles Wedge and named St Agnes. It was taken over shortly after by Henry Jeffreys. In 1848 Jeffreys went into partnership with Lieutenant Governor Charles La Trobe, who named Kyneton, which is 10km south east of Malmsbury.

Carlsruhe was the second inland settlement in the Port Phillip District, Ebdon having set up the first inland settlement on about 14 March 1837 at Sugarloaf Creek, Victoria. Carlsruhe was named after Karlsruhe, Germany; where Ebdon received part of his education.

Malmsbury started life as a service centre for the gold diggings and for people travelling to the northern Victorian gold fields in the early 1850's. It is on the Coliban river and people camped on the banks at Malmsbury and prepared to ford the river there.

It was also the headstation of Alexander Fullerton's Colliban Pastoral Run which ran on the west side of the river and was established in 1837.

The decade of the 1850s saw a remarkable growth in the region. The discovery of gold in Castlemaine and Bendigo in 1851 and the subsequent gold rush to those districts saw the district's population grow rapidly.

Travel from Melbourne in the mid 1850s was almost monopolised by Cobb and Co. Cobb and Co. used one of their largest coaches on the run from Kyneton to Castlemaine; this 'Leviathan' was pulled by twenty-two horses and carried seventy-five passengers.



The first Cobb & Co. coach completed its first trip from Collins Street, Melbourne to the Forest Creek diggings (now Castlemaine), on the 30th of January 1854 in half the time of its competitors. It grew into an enormous company which had services throughout Australia. Malmsbury was a stop on the Cobb & Co run.

“The experience of early pastoralists had shown that sheep thrive best on the drier basaltic country, that cattle were suited to moist areas, even where the country was quite heavily timbered, and that horses bred well on the high plains country as long as there was good access to water.”

The success of cultivation on open river flats, especially along the Campaspe, was also striking. Since the climate more closely resembled that of Europe, fewer adjustments needed to be made to established agricultural practice, or so it appeared. Between 1850 and 1857, the land parishes of Carlsruhe, Tylden and Lauriston were subdivided and sold in blocks ranging from 20 to 500 acres.

Farms were quickly established, as noted by William Kelly on his travels through Victoria between 1853 and 1857. He described the:

"immense expanse of magnificent country . . . broad meads . . . glades, and parks" which opened out beyond Woodend and "through the sweet hamlet of Carlsruhe".

Then approaching Kyneton, it assumed the air of an old agricultural settlement, subdivided into fields and enclosures far and wide, evincing evidences of agricultural and industry ...

“which, I must say, perfectly surprised me on the high road to the most prolific gold-field. I rather expected to find farming operations suspended or paralysed ...”

Crop yields were so prolific that farmers embarked on a four-year rotation, planting wheat, barley, wheat and oats for hay. No root crops were included in the rotation and the ground never lay fallow until its fertility was exhausted. Then the farmer simply cultivated new paddocks on virgin ground.

The original spectacular yields passed indelibly into folk lore. In Kyneton's 1936 Centenary Souvenir, G.J. McKenna quoted 60 to 70 bushels per acre for oats and 3 to 4 tons per acre for hay, "without super or fallow". William Thomson of Prospect remembered his 1856 potato crop yielding 14 tons per acre.”

Malmsbury is also famous for its bluestone, which has been used to construct many historic buildings and was used to construct the largest masonry bridge in Victoria, which is the Malmsbury Railway Viaduct which was completed in 1862. This property was home to a signalman on the rail line and a set of signals was adjacent to the property. The Malmsbury Reservoir (Est. 1865), is 500m west of the property.

## DEVELOPMENT OBJECTIVE

To provide the seedstock component of a cattle breeding and finishing business, as well as a fodder enterprise. The property is ~99% cleared. The proposed development includes native revegetation, weed control and pasture renovation works; to improve biodiversity, fauna habitat, contribute to improved productivity and land degradation prevention.

## METHOD

### DATA AND LITERATURE REVIEW

The following resources and databases were reviewed as part of a desktop assessment:

- NatureKit previously the Biodiversity Interactive Maps (DEPI 2013/DELWP 2018) for the extent of historic and current EVCs, and the location of sites of biological significance within the region;
- Native Vegetation Information Management System (DEPI 2013/DELWP 2018);
- Planning Schemes Online maps (DELWP 2018) for current zoning and planning overlays applicable to the study area;
- Aerial photography of the study area;
- Victoria resources online (landform, geology and soils), (Department of Economic Development, Jobs, Transport & Resources 2017);
- Agriculture Victoria, Livestock Farm Monitor Project Report, Victoria, 2015-16;

- Bureau of Meteorology Data and Climate Services;
- Land Capability Study of the Former Shire of Kyneton (1996).

## FIELD SURVEY

A site assessment was undertaken on the 29<sup>th</sup> of October 2020; to identify current land use, adjacent land use, agricultural potential, flora and fauna values, landform, geology, soil types, land capability, infrastructure, equipment, environmental features and risks within the study area and immediate surrounds. The study area was traversed by vehicle and on foot and land condition and vascular plants were recorded. An aerial photo was used. The land use (on site and adjacent), geology, landform, agricultural potential and overall condition of the soils and vegetation were noted.

## BACKGROUND IN LAND MANAGEMENT

Please see Appendix 2: Curriculum Vitae, which provides background on the expertise of the author – Mr Gavin Beever.

## PROPERTY CHARACTERISTICS

This ~24ha property is 99% cleared of the original native vegetation. It is located 2km south from the centre of Malmsbury.

There is little native vegetation present, otherwise, the pastures are significantly modified with introduced species, see Figure 1.





*Figure 1 – Aerial view of the property*

The property is in the Central Victorian Uplands Bioregion and is mapped as Ecological Vegetation Class (EVC) 55, Plains Grassy Woodland, see Figure 2 and Appendix 1. This EVC is listed as an endangered EVC within the Central Victorian Uplands Bioregion (DSE 2012).

This property is dominated by pasture and weed species and is not representative of the EVC.

The elevations vary from 465m to 475m and it is gently sloping, east to west, see Figure 3.



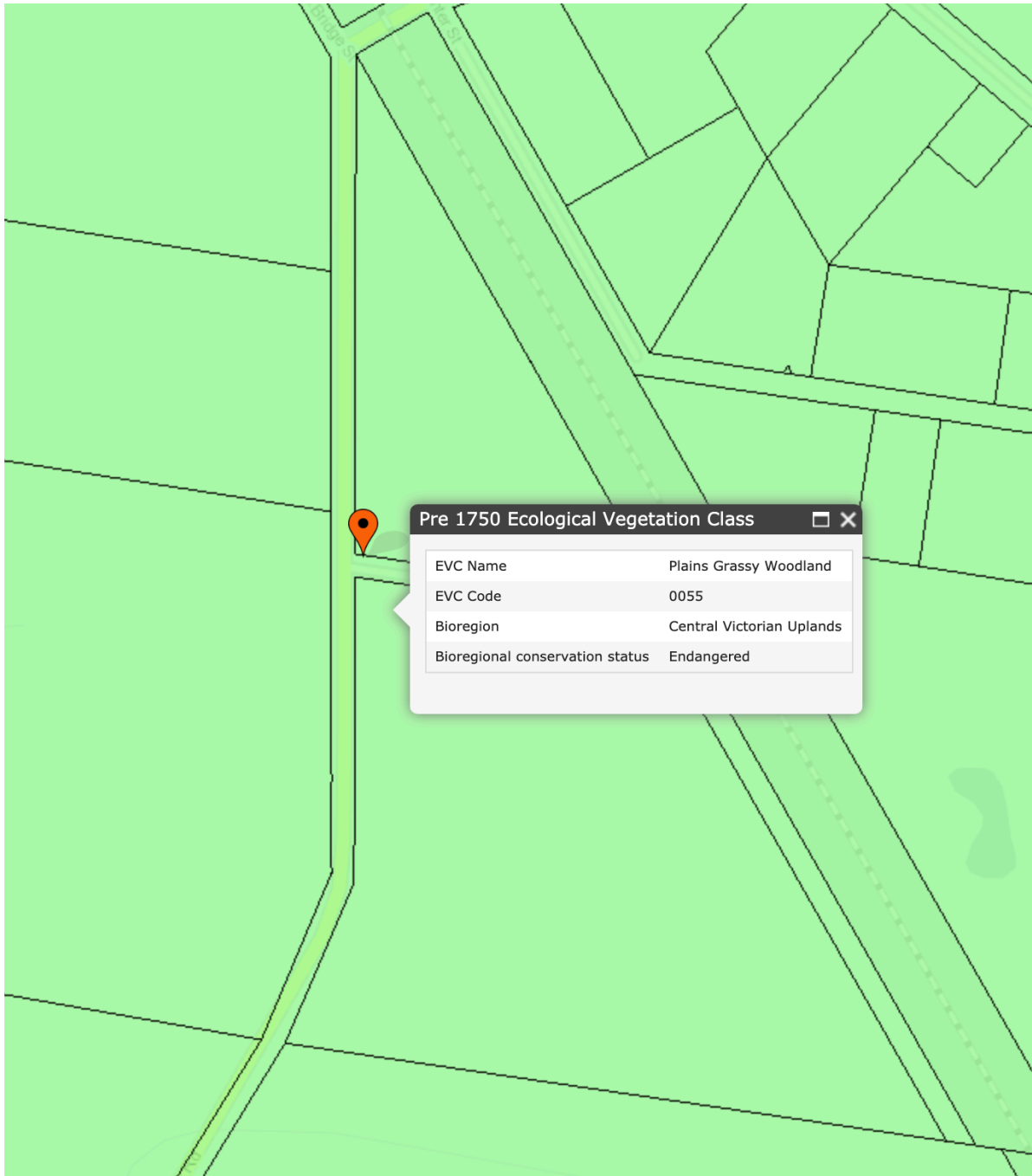


Figure 2 – Ecological Vegetation Class Map





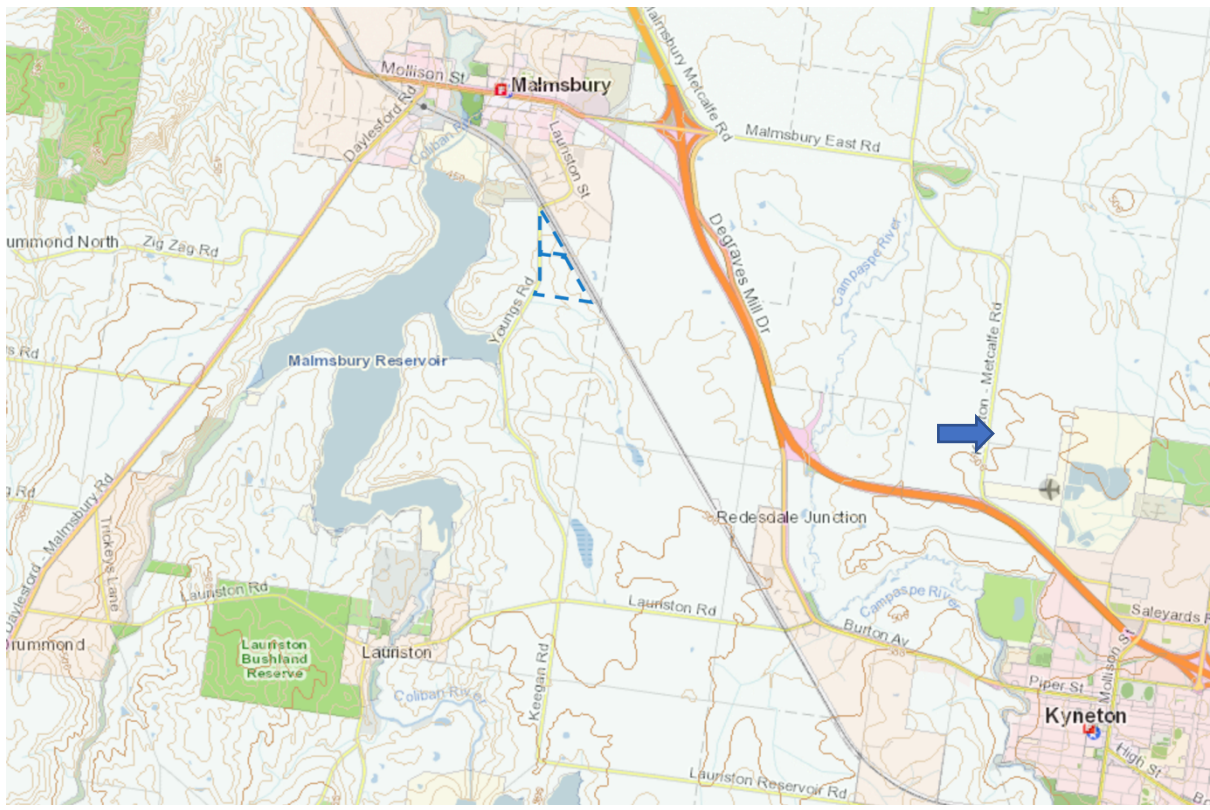


Figure 3 – Property location and contour map

The land is stable from a land degradation perspective, see Figure 4. Other than having some weed infestation that has been very much improved under the management of the owners.



Figure 4 – Stable slopes



## CLIMATE

This property is located on the northern slopes of the Great Dividing Range. The range has a great influence on rainfall pattern for this property. This property is located in the Campaspe River Catchment. The average rainfall for the district is 710mm, see Figure 5 and Table 1.

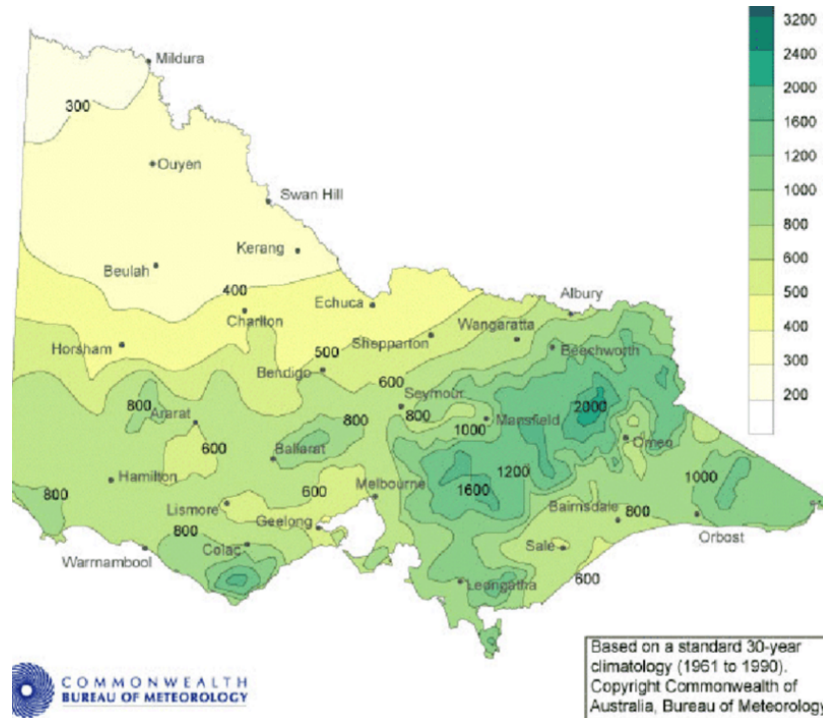


Figure 5 - Victorian average rainfall zones

The growing season is on average from April to October (9 months). These are the months when rainfall reliably exceeds the rate of evapotranspiration (>50% of the time), this is also referred to as months of effective rainfall.

Effective rainfall is when there is enough to enable plant germination and to sustain plant growth. Evapotranspiration is an estimate of moisture lost from a fully vegetated area, where soil moisture is not limiting, (Source VRO Agriculture Victoria).

Victoria is divided up into eight climatic zones: Climate zone 1 - High humidity summer, warm winter. Climate zone 2 - Warm humid summer, mild winter. Climate zone 3 - Hot dry summer, warm winter. Climate zone 4 - Hot dry summer, cool winter. Climate zone 5 - Warm temperate. Climate zone 6 - Mild temperate. Climate zone 7 - Cool temperate. Climate zone 8 - Alpine. This property is in climatic zone 7 - Cool temperate, see Figure 6.

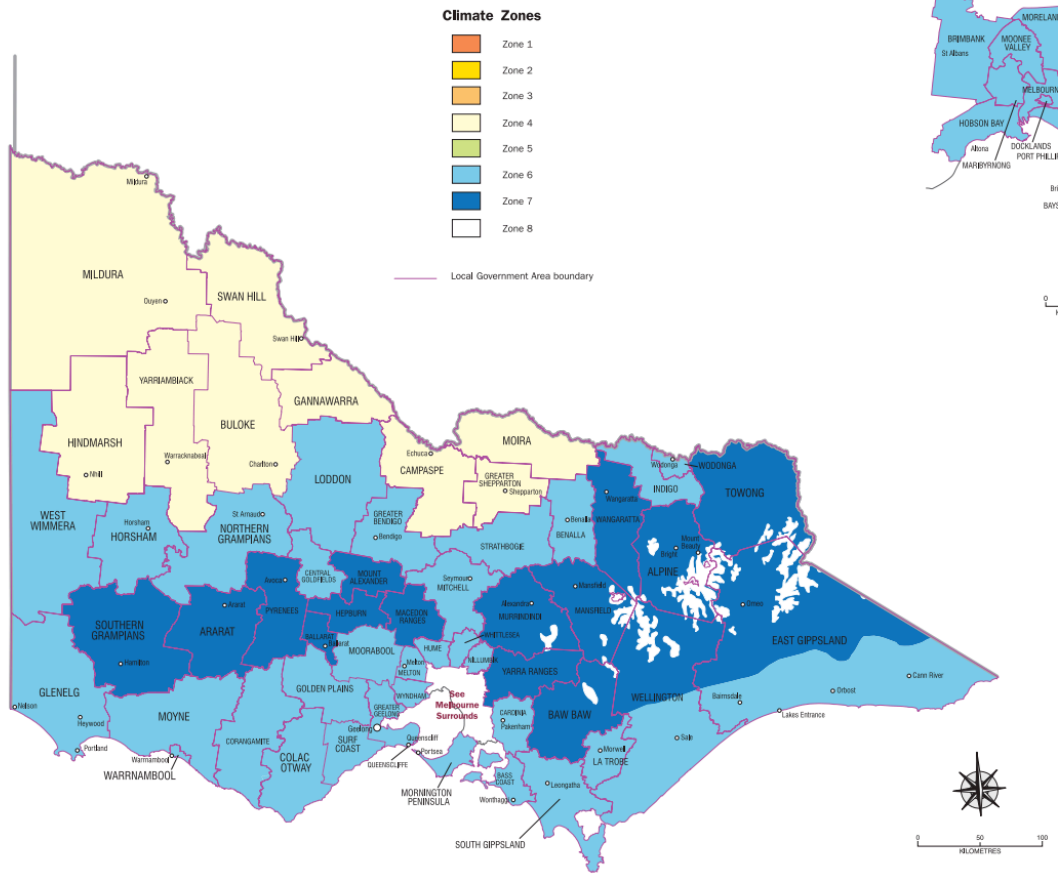


Figure 6 - Victorian Climatic Zones (Source Australian Bureau of Meteorology)

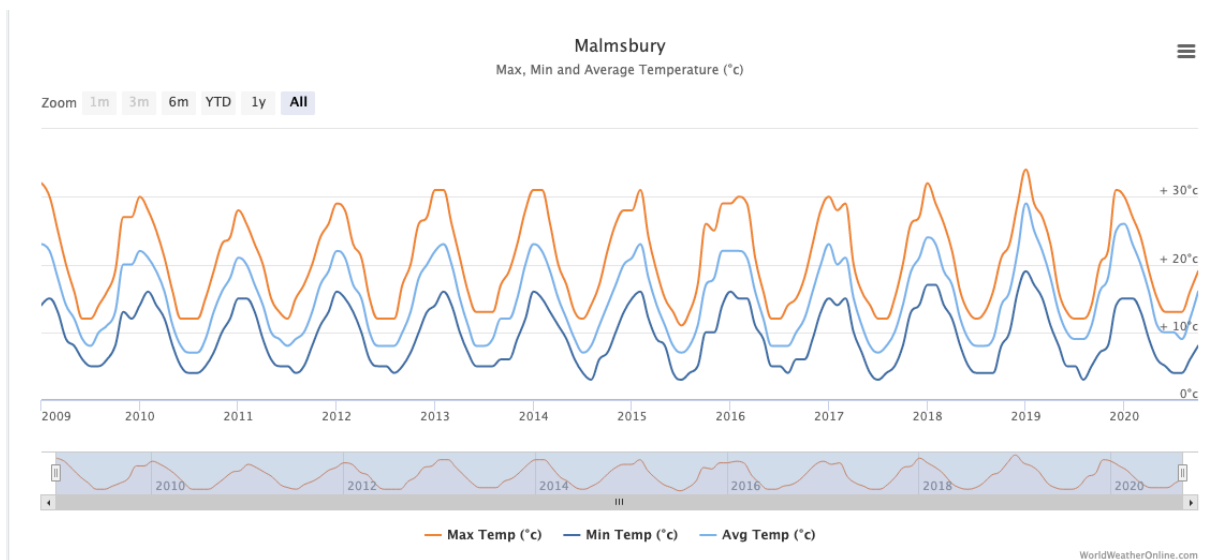


Figure 7 - Maximum, Minimum and Average Temperatures Malmesbury

**Table 1: Rainfall Data for Malmsbury (Records kept since 1872)**

Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean	39.9	38.4	41.0	51.5	71.5	80.9	78.0	81.6	72.3	67.7	53.5	45.9	719.5
Lowest	0.0	0.0	0.6	0.3	0.0	5.9	11.7	11.2	14.5	1.9	0.0	0.0	347.4
5th %ile	2.0	0.3	4.0	9.7	17.4	22.1	28.7	26.5	23.1	12.5	11.0	7.1	448.3
10th %ile	4.3	1.5	8.6	12.4	25.1	31.6	36.2	32.5	30.9	20.3	16.2	10.9	514.6
Median	28.6	26.4	29.5	43.9	64.2	79.9	76.4	77.3	63.2	61.2	46.5	36.6	709.8
90th %ile	85.8	83.6	88.9	99.6	130.1	126.9	122.8	127.1	125.7	115.0	104.7	94.4	945.6
95th %ile	112.5	107.2	104.9	130.1	143.8	155.9	144.4	150.8	145.1	132.9	116.0	110.3	999.5
Highest	240.6	271.4	137.4	188.0	179.7	211.3	202.2	210.4	178.0	256.2	172.4	183.5	1269.7

The area is prone to frosts, with January and February being the only months that are reliably frost free. Frost is very prevalent in May to September. Black ice can occur, usually above 500m, see Table 2.

**Table 2: Frost Data, Kyneton (17km south)**

Range of Records	Years of Records	Number of days frost (<2.2°C) per month												YEAR
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Maximum	10 (1957-66)	-	-	5	14	24	40	332	27	29	12	8	4	185
Minimum	10 (1957-66)	-	-	-	1	3	8	15	11	6	-	1	-	45
Average	20 (1935-45) (1957-66)	-	-	1	5	14	20	22	18	15	6	4	2	106

Frost causes the plant's cells to shrink, forcing water into spaces between the cells, where it can freeze and form ice crystals. As temperatures rise and thawing begins, the water is absorbed back into the cells by osmosis. If this occurs quickly there is no damage to the tissue, but if thawing is slow, the cells are deprived of water and become dehydrated resulting in 'frost burn' and even plant death. Frost tolerant plants are those that can survive temperatures down to -5C and several frosts in a row.

Frost tolerant pasture species would be a key to have in the months of June to August in particular.

The length of growing season is determined by combining temperature, rainfall and evapotranspiration information. As temperature drops below 10 C plant growth is restricted (Trumble 1939) and ceases when below 6 C (Martin and Leonard, 1967).

During summer months from November to March on average evapotranspiration exceeds rainfall, while in winter months from April to October rainfall exceeds evapotranspiration and is considered as the typical growing season for this district, (Source Agriculture Victoria).

The proposed expanded cattle breeding enterprise is well suited to the climate of this district.

## LANDFORM, GEOLOGY, SOILS AND TOPOGRAPHIC FEATURES

Understanding the land resource, its condition and inherent capability, provides the basis for sustainable land use. A collection of information to support land management and land use planning programs has been based on a Land Systems Approach. Land Systems are derived by integrating environmental features; including geology, landform, climate, soils and native vegetation, using an ecological approach (Christian & Stewart 1946, Rowe 1984).

The property was mapped as part of A Study of the Old Shire of Kyneton (1996), see Figure 8.





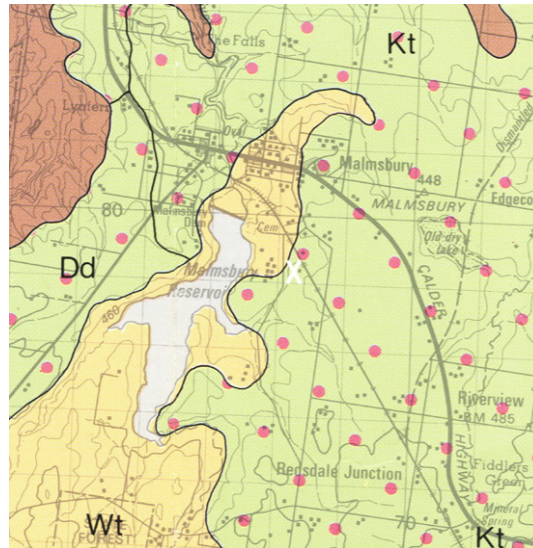


Figure 9 – Land Systems Map (The property location is shown by the white X)

**KYNETON LAND SYSTEM (Kt) Area 180 km<sup>2</sup> 4.4% of catchment**

<b>CLIMATE</b> Rainfall, mean (mm) Temperature, mean (°C) Seasonal growth limitations	Annual, 700-850; lowest January (35-40), highest (80-90) Annual, 12; lowest July (6), highest January (18.5) Temperature less than 10°C (av.): mid April-mid September Rainfall less than potential evapotranspiration: October-March					
<b>GEOLOGY</b> Age, rock type	Pliocene, olivine basalt					
<b>PHYSIOGRAPHY</b> Landform pattern Elevation range (m) Relative relief (m) Drainage pattern Channel spacing	Gently undulating plain, isolated volcanic cones 400-622 5-10 Dendritic Sparse					
<b>LAND COMPONENT</b> Number Percentage of land system	1 5	2 40	3 20	4 15	5 15	6 5
<b>PHYSIOGRAPHY</b> Landform element	Volcanic cone and colluvial apron	Gently undulating plain	Rocky crest and scarp	Slope below scarp,	Broad drainage depression sometimes rocky	Narrow flood-plain and terrace
Slope; modal, range Site drainage	18, 10-30 Somewhat excessively drained	1, 04 Well drained	5, 1-20 Somewhat excessively drained	2, 1-8 Moderately well drained	1,0-3 Poorly drained	1,0-1 Somewhat poorly drained
<b>SOIL</b> Parent material Description Classification Surface texture Depth to hardpan or bedrock (m) Nutrient status Available water capacity Permeability Exposed rock/stone Sampled site number	Basalt and colluvium Red gradational soils with silty textures; red duplex soils on gentler slopes Gn3.11, Gn4.11; minor Dr2.12 Silty loam 0.1-1.0 Low Low to moderate Moderate to high 0-60 -	Basalt Mottled brown or yellowish brown duplex soils, often with buckshot in the upper horizons Db2.1, Db2.2, Dy3.1, Dy3.2; minor Gn3.94, Dr1.21 Silty loam 1.0-2.0 Low surface, moderate subsoil Moderate Moderate surface, slow subsoil 0 -	Basalt Red, or less commonly brown, gradational soils Gn3.11, Gn3.12, Gn3.14, Gn4.12, Gn4.14, Gn3.22, Gn3.24; minor Um Silty loam, silty clay loam 0.2-1.0 Low Low to moderate Moderate to high 0-80 1078, 1079	Basalt and colluvium Dark clay soils of uniform texture, often with friable surface consistence Uf6.32; minor Ug5.1 Silty clay loam, light clay 1.0-2.0 Moderate Moderate 0-1 -	Alluvium Black cracking clay soils of uniform texture, often with buckshot in the B horizons Ug5.1, Ug6 Light to medium clay >.0 High Low Slow 0 1057	Alluvium Dark grey gradational or duplex soils, often with buckshot in the B horizons Gn3.95, Gn3.96, D3.13; minor Uc5.11 Silty clay loam >2.0 Moderate to high Moderate Moderate surface, slow subsoil 0 1058
<b>NATIVE VEGETATION</b> Structure Characteristic species (+ indicates predominant species)	Open forest II <i>E. viminalis</i> , <i>E. melliodora</i> <i>E. ovata</i>	Open forest II <i>E. viminalis</i> +, <i>E. ovata</i>	Open forest II <i>E. viminalis</i> +, <i>E. pauciflora</i> , <i>E. ovata</i>	Open forest II <i>E. ovata</i> , <i>E. viminalis</i>	Open forest II <i>E. ovata</i>	Open forest II <i>E. ovata</i>
<b>PRESENT LAND USE</b>	Grazing introduced pastures; minor cropping	Grazing introduced pastures; cropping-cereals and legumes	Grazing introduced pastures	Grazing introduced pastures; cropping-cereals and legumes	Grazing introduced pastures	Grazing introduced pastures
<b>OBSERVED SOIL DETERIORATION</b>	Minor sheet erosion	Compaction	Minor sheet erosion	Nil	Minor gully erosion	Minor stream-bank

Figure 10 – Kyneton (Kt) Land System Described



## GEOLOGY

The geology of the property is mapped as being Qn and a small amount of Qa, see Figures 11 and 12.

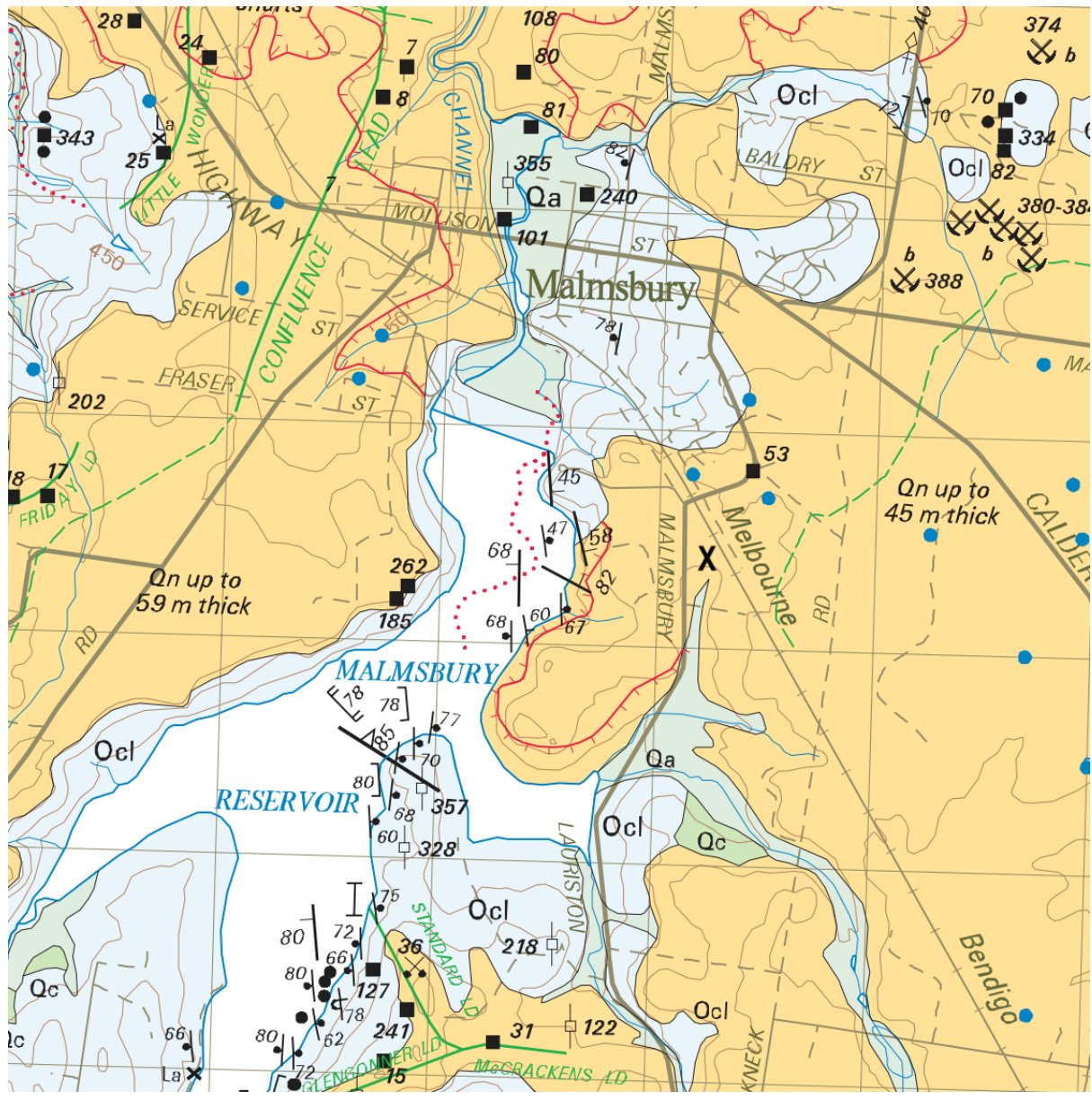


Figure 11 – Geology map of the area (The property location is shown by the black X)

Qn – Basalt; dominantly theoleiite to mildly alkalic olivine basalt; localised lava flows partly confined to palaeovalleys; youngest flows have stony surfaces (as is the case on this property).

Qa – Drainage area; gravel, sand, silt and clay.





*Figure 12 – Basalt rock outcropping on the upper slope of the property*

## **SOILS**

The soils on the upper part of the property are reddish brown gradational soils (Red Dermosol), see Figures 13 and 14. They are loamy and transition to a higher clay contact with depth. They are upon fractured rock and have rock floaters.

They have moderate permeability and drain well. They are usually friable when moist. When well managed they can be very productive soils. Figure 13 shows the lower slope soil.

The soils on the low slope are black, cracking clay, alluvial soils of uniform texture. They are productive when well-managed, as well as compaction there is some risk of minor gully erosion if left bare or disturbed.



*Figure 13 – Lower, very gentle slope soil*







*Figure 14 – Upper slope soil*

The soils are suited to a range of agricultural uses and can be very productive, when not limited by poor drainage, caused by areas of rock or compaction and high rainfall.

**Table 3: Majority Limiting Features of Soils on the Block**

Erosion	Minor gully erosion if left bare by cultivation or over grazing. (There is good cover on this property).
Compaction	Prone to compaction, when they are above plastic limit and have high vehicle and stock trafficking.



## AGRICULTURAL POTENTIAL AND LAND CAPABILITY CLASSIFICATION

In the Class 3 areas of the property, the property can sustain agricultural uses with low to moderate levels of land disturbance, such as cultivation for crops and hay in rotation with improved pastures.

Moderate to high levels of production are possible, with specialist management practices such as minimum tillage.

The major limiting features and land management risks are the area of slope with rocky outcrops, which are rated as Class 4 – Poor, best suited to low disturbance agriculture such as grazing. Table 4 explains the Land Capability Classes.

At the property's scale, the sustainable land-use of the block is suited to the proposed cattle breeding and fodder production enterprises.

These enterprises will see sustainable land management; where ground cover is maintained, weeds are controlled and vermin are kept to a minimum. The site is best suited to minimum tillage and lower disturbance agriculture, involving improved pasture establishment and hay crops, which are being undertaken by the owners.

Table 5 shows a calculation of the carrying capacity for the property, that shows it being well suited to the proposed cattle venture.

**Table 4: Land Capability Classes Explained**

CLASS	CAPABILITY	DEGREE OF LIMITATION
Class 1	Very good	Can sustain a wide range of uses including an intensive cropping regime. Very high levels of production possible with standard management levels.
Class 2	Good	Moderate limitations to agricultural productivity, overcome by readily available management practices.
Class 3	Fair	Can sustain agricultural uses with low to moderate levels of land disturbance such as broad acre cultivation in rotation with improved pastures. Moderate to high levels of production possible with specialist management practices such as minimum tillage.
Class 4	Poor	Low capacity to resist land disturbance such as cultivation. Moderate production levels possible with specialist management such as improved pasture establishment with minimum tillage techniques. Recommended for low disturbance agriculture such as grazing or perennial horticulture.
Class 5	Very poor	Very low capability to resist disturbance. Areas of low productive capacity. Minimal grazing levels or non-agricultural uses recommended.

**Note:** Land is assessed for agricultural production on the basis of climate, topography, and the inherent characteristics of the soil. Climate differs from topography and soil features in that it is a regional parameter rather than site specific. The capability table identifies the versatility and potential productivity of an area for a range of agricultural uses, and highlights the necessary level of management required to sustain the land use. E. Jones, G. Boyle, N. Baxter and M. Bluml (1996)



**Table 4: Potential water limited yield of annual pasture dry matter production**

Rainfall Decile	Growing Season Rainfall mm	Less 30mm for evaporation	Potential Kg dry matter/ha	Pasture Utilisation 35%	Potential DSE/ha
Decile 9 – Above Average (Best 10% of years)	847mm	817mm	24,510kg	8,579kg	25
Decile 5 – Average Season	466mm	436mm	13,080kg	4,578kg	13
Decile 1 – Below Average (Worst 10% of years)	189mm	159mm	4,770kg	1,670kg	5

*Bolger TP, Turner NC (1999) 'Water use efficiency and water use of Mediterranean annual pastures in southern Australia'. Rainfall data calculated from the Bureau of Meteorology Data for Malmsbury Reservoir (500m west of the site)*

Animal and plant growth needs change throughout the year and season to season.

Planning for flexibility in grazing management is a must, it requires a constant balancing act between meeting stocks nutritional need and maintaining a healthy pasture. Different pasture species will have different growth rates and requirements. Paddock sizes must be set to best balance these requirements.

The major cause of pasture deterioration is overgrazing, a four or more paddock rotation works well or a system whereby the pastures are spelled and cattle being removed to other paddocks, a number of small paddocks are planned for that will enable this type of pasture management.

Paddock locations need to allow for shelter, drainage and easy access, the grazing zones have been selected accordingly. The selected areas can be all weather paddocks, that is, they can handle stock in wet and dry conditions. The paddocks are relatively even; i.e. do not have soil types or landforms that vary significantly.

The paddock area needs to be large enough to allow for a consistent grazing and maintenance schedule for the number of livestock.

The cattle enterprise is a good option for a property of ~24ha in this locality, run in conjunction with the other family farming operations.

Under this proposal, the agricultural enterprise will run 60 breeders (depending on the season) as seedstock producers, with the progeny being finished on other family properties. With 30 calving in spring and 30 in autumn.

At the 24ha scale of this property, on average it is likely to support 312 DSE, depending on seasonal conditions it could support up to 600 DSE (40 breeders); whilst being managed to preserve ground cover.

## **DRAINAGE, SWAMPS, WETLANDS AND RIPARIAN ZONE**

The property drains in a south westerly direction, to Youngs Road. Surface water flows eventually drain into the Malmsbury Reservoir and the Coliban River, the reservoir is 550m from the property boundary. The reservoir drains in a northerly direction back into the Coliban river, which flows north to join the Campaspe river at Lake Eppalock.

The Campaspe river flows north out of Lake Eppalock and joins the Murray river near Echuca. The Coliban river is a perennial river (it flows all year).

There are no swamps or wetlands on the property.





## STOCK AND DOMESTIC WATER

Tank water will service the property.

## ADJOINING AND DISTRICT LAND USE

There are grazing enterprises, wineries, equine properties, intensive animal and rural living blocks.



*Figure 15 - District View (Source VicPlan)*

## VEGETATION ASSESSMENT

The NVIM NatureKit<sup>3</sup> have mapped the property as having low quality vegetation, upon inspection it is all close to 0.00 to 0.02 native vegetation quality and low biodiversity value, 0.21 to 0.40, see Figures 18 and 19.

Sustainable land management involves managing land without damaging natural processes or reducing the diversity of indigenous species. Sustainable land management is the aim of the property owners, improving the property from the baseline provided by this vegetation assessment.

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<sup>3</sup> <http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit>

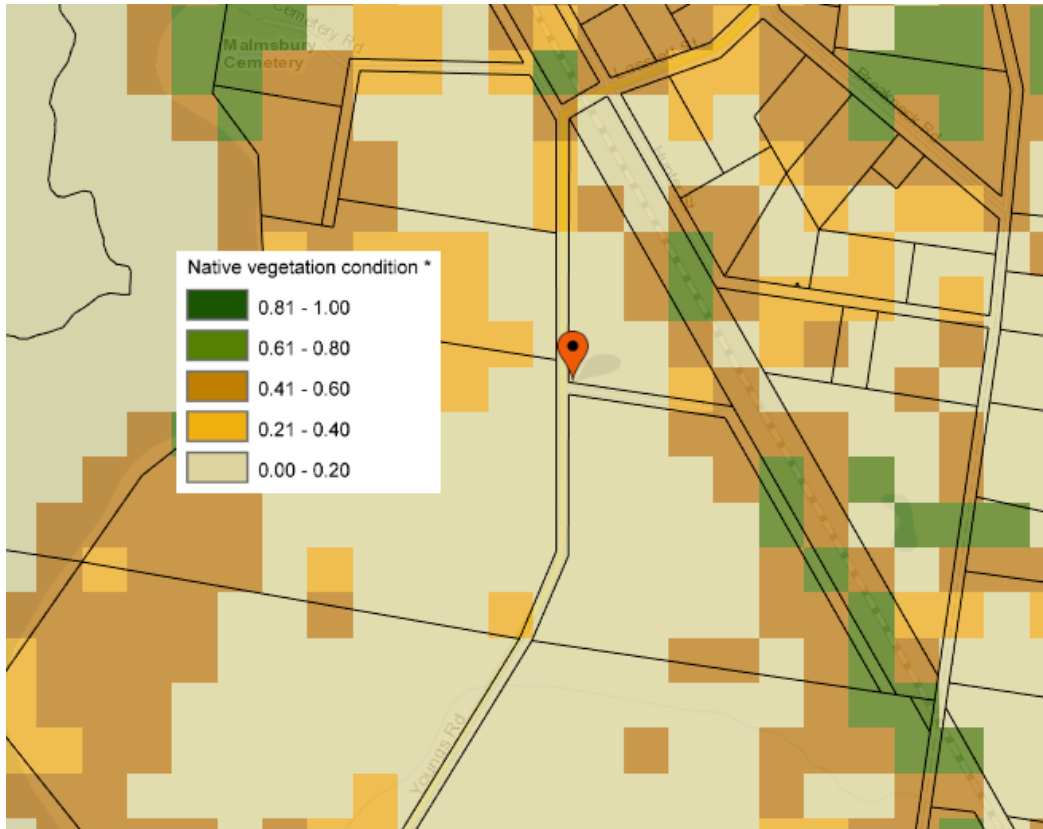


Figure 16 – Native vegetation quality map from NatureKit

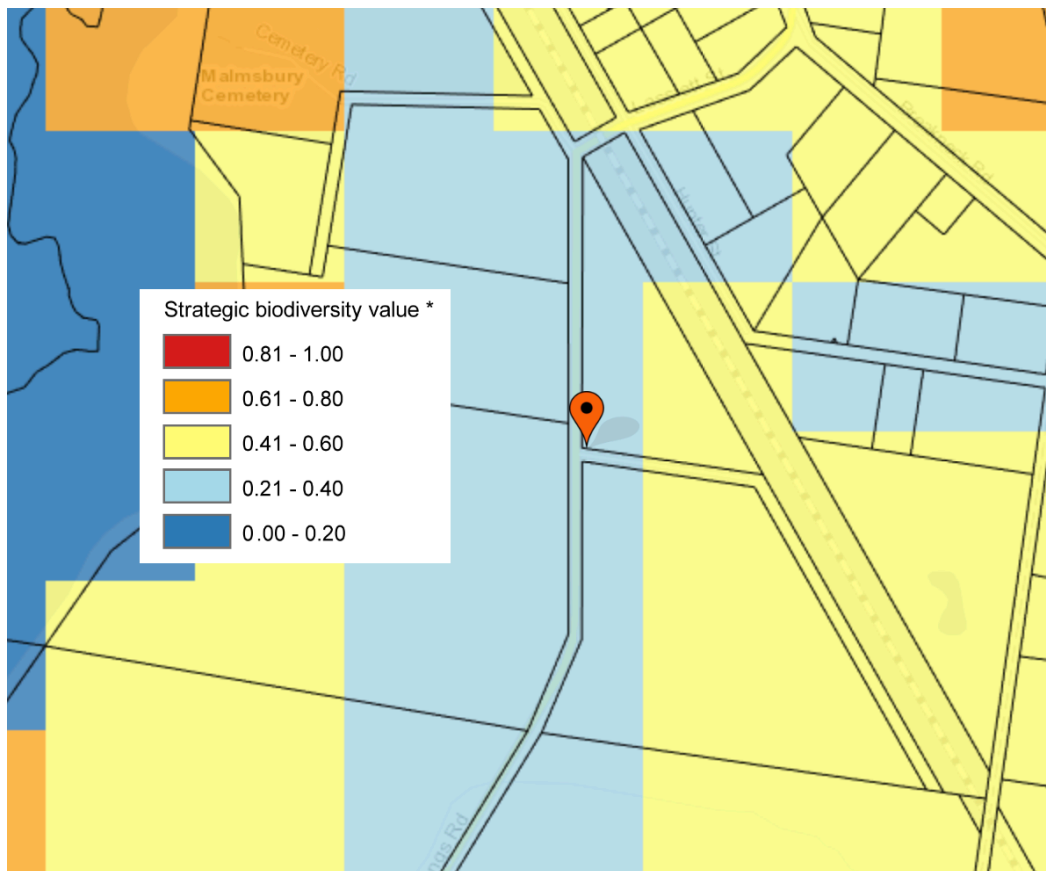


Figure 17 – Strategic biodiversity value as mapped by NatureKit



The property has no areas that are representative of its original Ecological Vegetation Class. It will benefit from the native vegetation establishment and protection that is proposed as part of the development and ongoing weed control. The most significant environmental features are some native grasses.



*Figure 18 – The property is virtually 100% cleared, apart from a small amount of native grass*

**Table 5. Indigenous species observed on site**

Species	Common Name
<i>Danthonia sp.</i>	Wallaby
<i>Stipa sp.</i>	Spear grass
<i>Juncus bufonius</i>	Toad Rush

## WEEDS

The owners have had an ongoing weed management program in recent years, which has had a big impact and they plan to eradicate all woody weeds over a 5-year period with their onsite management.

Gorse has been a common weed on the property, but the owners have reduced the number of clumps and scattered plants. There are also a number of other introduced species.

With onsite management, the plan is to reduce the weed infestation by 20% per year, until the property is weed free. A number of non-indigenous species were identified on the site inspection, see Table 6.

**Table 6. Pasture/Weed Species Observed on the Property**

<i>Hypochoeris radicata</i>	Cat's ear
<i>Arctotheca calendula</i>	Cape weed
<i>Echium plantagineum</i>	Patersons Curse
<i>Romulea rosea</i>	Onion grass
<i>Oxalis pes-caprae</i>	Sour sob
<i>Hordeum spp.</i>	Barley grass
<i>Crataegus monogyna</i>	Hawthorn
<i>Plantago ccoronopus L.</i>	Buck's-horn plantain
<i>Cynodon spp.</i>	Couch grass
<i>Holcus lanatus</i>	Yorkshire fog grass
<i>Trifolium spp.</i>	Clover
<i>Lolium spp.</i>	Ryegrass
<i>Bromus hordeaceus</i>	Soft brome grass
<i>Cirsium vulgare</i>	Scotch/spear thistle
<i>Bromus spp</i>	Brome grass
<i>Ulex europaeus</i>	Gorse
<i>Rumex spp</i>	Dock
<i>Marrubium vulgare</i>	Horehound
<i>Rosa rubiginosa</i>	Sweet briar rose
<i>Erodium spp</i>	Corkscrew
<i>Cirsium vulgare</i>	Spear thistle
<i>Hordeum spp</i>	Tall barley grass
<i>Polygonum aviculare</i>	Wireweed
<i>Sonchus oleraceus</i>	Milk thistle
<i>Avena spp</i>	Wild oats
<i>Rubus fruticosus</i>	Blackberry

### 1.1.1 Hawthorn

In this Shire it is regionally controlled. Such weeds are widespread in a region and landowners have the responsibility to take all reasonable steps to prevent the growth and spread of these weeds.

The owners have an ongoing Hawthorn control program.

Hawthorn is a tall, densely growing deciduous shrub or small tree. It grows to 7 metres high and wide and forms dense thickets that seriously impede movement. Hawthorn produces white, cream or pink flowers in spring, which form into small, red, apple shaped berries.

Hawthorn was historically grown as a hedge and so it is often associated with fence lines.

The recommended control option is manual removal where possible (including roots). Cut and paint is preferred where access is difficult or where physically removal may cause streambank or hillside disturbance and instability.

Large old plants are best controlled using drill (or frill) and fill method, undertaken during the spring-summer growing season. Drill holes 25–35 mm deep, 5 cm apart in the trunk close to the ground and fill



holes with an appropriate registered herbicide. There are a number of herbicides registered for the control of Hawthorn.

The best time for manual control is during the optimum growing season (summer to autumn), before fruits ripen. For chemical control, this is best after the formation of new growth.

### **1.1.2 Gorse**

There are scattered Gorse plants and some clumps. A significant area of Gorse has already been controlled and the owners have an ongoing Gorse control program.

In this region of Victoria, it is rated as “Regionally controlled”: These invasive plants are usually widespread in a region, as they are in Macedon Ranges. To prevent their spread, ongoing control measures are required. Landowners have the responsibility to take all reasonable steps to prevent the growth and spread of regionally controlled weeds on their land.

Gorse is a spiny, perennial shrub up to 4 m high and 3 m diameter. Gorse flowers are bright yellow pea-like flowers of 15-25 mm length with a distinct coconut-like fragrance, see Figure 28.

Gorse is spread by seed ejection, transportation of soil, sand or gravel, livestock, birds, ants and water.

Seeds mainly fall around the plant, but pods can explosively eject seed up to 5 m during hot dry weather. Most seed is in the top 2.5 cm of soil, but can be to 15 cm deep. Seed will not establish below 8 cm of burial.

Germination occurs in autumn and spring and young plants flower at approximately 18 months of age.

Seed production is prolific and seeds remain viable for 30 to 50 years or more in the soil. Seed banks can be as high as 100 million seeds per hectare.

As the number of plants are now small on the property, physical removal and then burning the removed plants is one method of control. Do not do this when seed is present on the gorse. Ongoing annual maintenance to remove seedlings is then required.

Alternatively, cut the stems of the bushes as low as possible and paint stumps with a registered herbicide solution to prevent regrowth. This method is particularly useful where spraying herbicide may cause damage to desirable plants or to waterways. The herbicide solution must be applied immediately after the top growth is removed before the stump seals up. If it is not applied quickly enough, the chemical will not be fully absorbed and regrowth will probably occur.

Herbicides can also be used directly to leaves when plants are at least 500 mm tall. There are a number of registered chemicals and they work best if applied when plants are actively growing (during spring to early summer and after autumn rain).

Do not apply sprays when plants are in full flower or when bees are active. Check treated bushes 12 months after herbicide application and treat any regrowth.

### **1.1.3 Blackberry**

In this Shire it is regionally controlled. Such weeds are widespread in a region and landowners have the responsibility to take all reasonable steps to prevent the growth and spread of these weeds.

Blackberry is a noxious weed and the only weed of significance on the property, outside of the Hawthorn. The owners have had an active blackberry control program, that has kept it controlled on the property.

Table 7 shows the Blackberry management options for the property.



**Table 7. Blackberry control options**

Control Method	Density	
	L	M-H
<b>Density</b>		
<b>Physical Removal</b>		
Chipping/pulling	X <sup>4</sup>	
Cultivation		
Mulching	X	X
Fire	X	X
<b>Chemical Control</b>		
Spot spray	X <sup>5</sup>	X
Boom spray		
Spray top		
Wick wipe		
<b>Competition</b>		
Cropping (Crop rotation)		
Green manure phase		
<b>Incursion prevention</b>		
Boundary zone control	X	
Slashing	X <sup>6</sup>	
Vehicle/machinery hygiene		

#### 1.1.4 Patersons Curse

Paterson's curse is an annual, occasionally biennial, herb that grows as a rosette in autumn and winter and produces flowering stalks in spring and early summer. The rosette usually grows parallel to the ground, however the leaves may be erect in dense vegetation. It is regionally controlled in this Shire.

<sup>4</sup> When emerging in crops or pastures.

<sup>5</sup> 600g/l triclopyr such as Garlon 600 is used, following the label directions. It is a foliar spray that is an option for hard to kill woody weeds and noxious herbaceous plants. It is used when the plants are actively growing (not stressed) and not when there is a risk of rain, in the late spring and summer months is optimal. The rate used depends upon the age of the cane, the density of the patch and the absorption area available. The plant is then left for 6 months to ensure a complete kill down to the roots. Dead canes are then removed by burning or slashing. Follow up control of any seedlings is carried out in the following summer.

<sup>6</sup> Slashing, mulching and fire is used with dead canes.



Patersons curse can be controlled by hand pulling or chipping out, for isolated plants or small patches and by spot spraying with a registered herbicide. There are a large number of herbicides registered to control Patersons curse.

#### **1.1.5 Weed Management Plan**

- 1 Remove the isolated Hawthorn plants, Blackberry, Gorse and Patersons Curse plants..
- 2 Maintain a 50m weed free buffer zone around the property boundary, to prevent any further weed incursions.
- 3 As a priority monitor and remove any scattered woody weed plants from within pasture areas.
- 4 Moving inwards from the buffer zone, remove the current weed cover each year for four years.
- 5 As a priority remove scattered woody weed plants from within healthy pasture areas.
- 6 Monitor and remove seedlings from any controlled areas.
- 7 Weeds will be monitored and controlled on an ongoing basis with spot spraying, mechanical removal and slashing occurring, if new weeds are detected.

## **DEVELOPMENT PLAN**

The property owners wish to develop and consolidate a farm business that compliments a larger overall, family farming business. Living onsite will enable the effective onsite management of the breeding herd.

They will require onsite management for:

- 1 Cattle Breeding - A 60 cow breeding herd and their progeny.
- 2 The herd will calve down on this property in spring and autumn under the careful supervision of the owners, with the weaners being finished on the family farm businesses other properties.
- 3 This property is also a key fodder producing property.

## **BUSINESS VISION**

- 1 The Angus herd is set up to be a pure bred, self-replacing herd, which attracts premium prices with feedlots and finishing enterprises.

Calves are grown to 10 months when their weight is between 320 - 330kg, heifers are classed and suitable ones are added to the breeding herd.

Bulls are rotated every 3 years and are bought using the list of genetic information from the Genetics Australia beef sire catalogue; looking for birth weight, 200-day weights and calving ease.

- 2 Shedding and housing will be placed centrally with a suitable located all-weather driveway, see Figures 24 and 25.
- 3 The property will be managed in a sustainable and environmentally responsible manner.







*Figure 19 – Existing all weather drive*



*Figure 20 – Existing shedding*



## ANGUS CATTLE BREEDING ENTERPRISE

The Angus breed is a good option for this land type and climate zone. They originated in Scotland from groups of closely related cattle breeds native to the shires of Aberdeen, Kincardine and Angus. The existence of these breeds goes back over 1000 years.

First Australian imports were into Tasmania in the early 1820s and to the Darling Downs in Queensland in 1840.

Angus are popular throughout Australia and do particularly well in the higher rainfall areas of New South Wales, Victoria (such as this property), Tasmania and Western Australia. Their numbers are also increasing in northern Australia, and in other lower rainfall areas.

Angus and Angus cross cattle receive price premiums due to consistent performance in a range of markets. Angus beef is widely used for the domestic retail and quality food service markets and is preferred by many export markets.

Angus females are strongly sought after by re-stockers, producers entering the industry and live export orders for breeding cattle.

Angus weaners (steers and heifers) are also in high demand by producers for pasture and feedlot finishing programs, targeting a wide range of markets from domestic steers to heavy grass-fed export bullocks.

Angus are well known for their tremendous market versatility. They have the ability to grow to heavy market weights quickly without becoming over fat. They also have the ability to finish at lighter weights, if desired.

Angus have excellent carcass quality, high muscling and moderate maturity patterns providing maximum market versatility.

### 1.1.6 Potential Returns Angus Enterprise

Beef cattle enterprise returns fluctuate due to their reliance on rainfall, to drive a grass-fed operation and fluctuations in input costs and sale prices. Producing and selling from a high quality, self-replacing breeding herd, does give some buffer to fluctuations, as animals of different classes are on the property and different classes can be held over. Angus also tend to sell at a premium and properties who have a reputation for quality stay supported.

For example, the Victorian Farm Monitor project indicates the following for season 2017/18:

- Farm profits were down 37% compared to season 2016/17 due to the impact of a dry season and beef prices being down 17%.
- Average overhead costs for a beef operation of between \$100 to \$250 per hectare, for properties in similar rainfall zones.
- Variable costs of \$100 to \$250 per hectare.
- Net farm income of between \$100 to \$400 per hectare.
- Labour efficiency is around 120 head per labour unit.
- Average long-term return on equity is 5.5%.



**Table 9: Summary Indicative Gross Margin Table Beef Breeding**

Self-replacing herd: Calves sold at 16 months

24 hectares

60 cows

**Beef breeding gross margin**

	Total \$
Livestock trading	85,846
Sale	85,846
<b>Total income</b>	<b>85,846</b>
Animal health	1,124
Bull cost	844
Maintenance	
Labour	7,226
Livestock selling	3,434
<b>Costs before feed costs</b>	<b>12,628</b>
<b>Margin before feed costs</b>	<b>73,218</b>
Misc costs	900
Pasture and feed costs	1,800
<b>Gross Margin after feed costs</b>	<b>70,518</b>

The gross margin is deliberately conservative. The experience of the owners in having run cattle farming businesses for 30 years, gives confidence in the enterprise being well thought through and managed.

The concept of using seed stock purposely produced on this property for the larger family farming business is sound, it will maintain a reputation with buyers for quality stock. The complimentary nature of the cattle enterprise and the fodder production; allows for optimum pasture utilisation, land management and creates efficiencies for and adds productive value to the farm operation as a whole.

This enterprise is planned to, on average, utilise half of the available pasture on an annual basis.

The farm business produces 1,400 rolls of fodder per year, 460 rolls of which is produced on this property, at an average price of \$70 per roll, this give an overall value of fodder produced per year of \$100,000 and on this property \$32,200.

On a five year average basis a 250 head farm business such as this one, in their beef enterprise could be expected to turnover \$150,000 with a gross margin of \$80,000 to 90,000.





## MACHINERY SCHEDULE

**Table 12: Capital Costs**

Item
2 x 120hp Tractors
2 x Hay trailers
Medium rigid truck (Stock crate and water tank capable)
Hay mower
Hay mower conditioner
Round baler
Small square baler
Hardi 24m Boom spray
Rotary rake
Scarifier (5m)
20 plate disc plough
8m trailing boom
Bobcat with hay forks
Slasher
2 x Utes
Stock trailer

The owners have built up a business and have made significant investment to ensure its success. They have all the machinery required to run a substantial farm business, such as this one.

## MANAGEMENT ZONES

The property will be managed in zones, see Figure 21:

- 1 Agricultural
- 2 Recreation/Conservation

### AGRICULTURAL ZONES

The land has been used for grazing and hay making. The paddocks will be re-pastured with perennial pastures.

#### 1.1.7 Perennial Pasture Establishment

The soils on farm benefit from deep rooted perennial pasture establishment to improve productivity, maintain groundcover to prevent erosion and to ensure the quality of any overland flows and to utilise the stored moisture.

Perennial pastures will also increase the soil carbon, improve the soil structure and improve the soil biota.





The pasture to be selected will extend the active pasture growing season (thereby decreasing feed gaps periods), outcompete weed species and will respond to summer rainfall events.

The paddocks will be rotated and rested between grazing, with a minimum of a four week spell, to ensure pasture recovery and health, management of worm burdens and manure and maintenance of ground cover. The sward height will be kept between 12.5cm and 3.5cm to keep the pasture between the equivalent of 3,500 kg of dry matter per hectare and no less than 1,000 kg of green dry matter per hectare. This will maintain ground cover, provide good cattle feed and also provide organic matter for soil organisms.

#### **1.1.8 Grazing Management**

Cattle and plant growth needs change throughout the year and season to season.

Flexibility is a must, requiring a constant balancing act between meeting livestock's nutritional needs and maintaining a healthy pasture and land. Different pasture species will have different growth rates and requirements. Paddock sizes are set to best balance these requirements.

Allowing for a consistent grazing and maintenance schedule is key. For example, in a five-paddock rotation start with a pasture height of 12.5cm and remove stock at 3.5cm. In drought conditions, maintain rotational grazing so paddocks are not grubbed out, or use holding (sacrifice) paddocks/yards and hand feed, so that pastures are preserved.

#### **1.1.9 Agricultural Zone Management**

1. Fencing in the Agricultural Zone is to be a minimum standard of cattle proof fencing.
2. In the year of pasture establishment, paddocks are not grazed until after seed set (November/December).
3. Establish paddocks that can be rotationally grazed/spelled (for a minimum of four weeks) spelling. Stock grazing will not occur in the Recreation/Conservation Zone.
4. Gates will be wide enough and positioned to allow machinery through.
5. The aim with grazing management will be to start with a pasture height of 12.5cm and remove cattle at 3.5cm.
6. In drought conditions, maintenance of rotational grazing/pasture spelling ensures that paddocks are not grubbed out; stock will be supplementary fed if the paddocks grass gets too low and there is not enough to meet the needs of stock. That way pastures will be preserved, and paddocks will not be bared out or pugged up in wet conditions and left prone to erosion.
7. Monitoring for and control of rabbits and foxes will occur.
8. The owners are very experienced cattle producers. The cattle will be well monitored and managed. Supplementary feeding and particular care in extreme weather events or seasonal conditions is expected and will be provided. The facilities being constructed will be of an excellent, best practice standard and will provide an exceptional environment for appropriate cattle care.

### **RECREATION/CONSERVATION ZONE**

The primary objective of the Recreation/Conservation Zone is to provide a well aspected, central location for onsite management and to improve the native vegetation and bio-diversity of the property and prevent land degradation. The property is currently 99% cleared of vegetation.

The objective of the owners and documented in this plan, is to maintain soil stability, to continue to maintain and improve biodiversity, provide fauna habitat, ensure regeneration of native vegetation over time, provide shade and shelter, provide visual amenity, maintain surface water quality and keep surface flow rates at acceptable levels, have cattle enterprises in an Agricultural Zone and a Recreation/Conservation Zone (integrated with the enterprise), that are stable from a land degradation risk perspective and have all zones well managed.



Part of the proposal is to revegetate, protect and provide ongoing weed and pest management within the Recreation/Conservation Zone.

Revegetation works will take place using indigenous species from the EVC list, see Appendix 1.

#### **1.1.10 Recreation/Conservation Zone Management**

- 1 Photo points will be pegged at the north, west, mid, south and east parts of each zone and baseline photographs taken. Photographs will be taken each year at the same points and at the same date per year.
- 2 Stock will be permanently fenced out of this zone and contained to the identified Agricultural Zone.
- 3 Native vegetation will be established within this zone.
- 4 Weed cover will be kept low, checked against the base line photographs each year.
- 5 Any rabbit incursions will be controlled.
- 6 Weeds will be monitored on an ongoing basis (after the autumn break and in spring) with spot spraying, mechanical removal and slashing occurring, if new weeds are detected.

#### **1.1.11 Native Vegetation Establishment**

One-metre diameter circles will be cleared of grasses and weeds, away from the canopy of existing trees. Weed control is the most important factor in successful tree establishment from tube stock planting. It is also important to get them planted in the right soil conditions and then guarded so that they are not eaten.

Weather conditions and when to plant: Planting in this location, is best in March to April, so that the plants are ready to benefit from good growing conditions.

Planting: Ensure the 1m area from the tree centre is weed free. Ensure you plant when the soils are moist.

Don't pull the tree from the tube, but rather squeeze the tube, tap the bottom and slide it out. Place the tree in the hole and fill with friable soil. Press in firmly and ensure the tree is standing straight. Water deeply (if required) to ensure roots go deep rather than just become surface roots, i.e. if the soil profile is not wet. Plant overstorey Eucalypts at 10 metre spacings, mid-storey trees at 7.5 metre spacings and small shrubs at 5 metre spacings. Have four metres between rows.

Protection: Place tree guards around each tree. Keep 1m circles weed free for at least the first 6 months and ideally for the first 18 months. Mulching and laying of weed mat is beneficial and altogether, this should result in a 90% plus survival rate. If your trees are showing the results of lack of water (stress, drooping leaves) in the first few weeks after planting. Water them deeply, so the subsoil wets up, this can be helped by placing some pipe or plastic bottles into the ground and filling those. Insect damage on young trees can be sometimes be extensive, especially during late summer when the trees might suffer moisture stress or insect populations are high. If trees are repeatedly attacked or losing many leaves, treatment may be warranted.

Manage weeds on an ongoing basis with spot spraying, mechanical removal and slashing.





Figure 26 – Property zones

## PEST ANIMALS

None were observed and no burrows were found. The aim is to maintain the property as rabbit free.

Foxes (*Vulpes vulpes*) are opportunistic predators and scavengers and have few natural predators in Australia. Red foxes pose a threat to livestock, as they prey on poultry and lambs. They can also transmit distemper, parvo virus and mange to domestic dogs.

Evidence suggests red foxes are a primary cause in the decline and extinction of many small and medium-sized rodent and marsupial species in Australia. They also prey on many bird species.



## RABBIT MANAGEMENT

- 1 Nighttime spotlight counts will be conducted, focusing on likely rabbit harbour: Wood heaps, sheds, weed thickets and buildings.
- 2 Rabbit control will be focused on the most cost-effective period of late summer and early autumn, when breeding has generally ceased in the rabbit population.
- 3 Biological control and natural mortality will be allowed to continue.
- 4 Any rabbit harbour will be removed and warrens destroyed (i.e. ripped).
- 5 Fumigation and further warren destruction will be carried out if numbers ever build up.

## FOX MANAGEMENT

1. Foxes will be monitored for by monitoring for scats and by nighttime spotlight counts (as for the rabbits).
2. Control options, should they be required will be shooting and fumigation of dens.

## ACTION TABLE – FIVE YEARS

**Table 13: Five-year land management action plan**

Month Completed	Action	Year 1	Year 2	Year 3	Year 4	Year 5
December	Peg the boundary of the different zones	X				
December	Establish photo points at the north, west, mid, south and east points of each zone and take baseline photographs.	X				
December	Ensure woody weeds are controlled	X	X	X	X	X
December	Complete pasture establishment	X	X	X	X	X
January	Night-time spotlight check for rabbits and foxes.	X	X	X	X	X
February	Check for any woody weeds.	X	X	X	X	X
March	Night-time spotlight check for rabbits and foxes.	X	X	X	X	X
May	Night-time spotlight check for rabbits and foxes.	X	X	X	X	X
May	Have completed the permanent fencing of the grazing paddocks, staged over a five year period. With paddock sizes at all times to be large enough for the stock on hand to be excluded from the recreation/conservation zone.	X	X	X	X	X
June	Check for woody weed seedlings and remove any found.	X	X	X	X	X
September	Check for woody weed seedlings and remove any found.	X	X	X	X	X
September	Take photos at the established points for each zone and compare to the previous years (September 15 <sup>th</sup> ).	X	X	X	X	X





December	Check for woody weed seedlings and remove any found.	X	X	X	X	X
Monthly	Check and maintain boundary and internal fences and also check after storms.	X	X	X	X	X

## RECOMMENDED ACTIONS POST FIVE YEARS

1. September 15th each year take photos at the established points for each zone and compare to the previous years.
2. June, September and December each year, check for woody weed seedlings and remove any found.
3. May, January and March each year, nighttime spotlight check for rabbits and foxes.
4. Check and maintain boundary and internal fences, monthly and after storms.

## FARM OPERATIONAL TASKS, TIMING AND COSTS

Operational Tasks	Timing	Annual Cost
Cattle health inspections	Daily*	\$18/hd
Railway Reserve checking	Daily*	
Pasture establishment	April/May and August/September	\$400/ha
Weed control	Each month	\$80/ha
Fence inspection and management	Daily*	\$12/meter
Pasture maintenance with fertiliser	March to October	\$120/ha
Manage plant and equipment	Daily	
Inspect and maintain water troughs	Daily*	
Vaccinations	June, Sept, Oct/Nov/Dec	\$18/hd
Bull joining	Four months of the year	\$250/bull fertility test
Pregnancy testing	Yearly	\$10/hd
Drenching	March, May, Oct/Nov	\$10/hd
Calving down	Daily (Four months of the year, autumn and spring calving)*	
Calf marking	Each year	
Condition scoring	Daily	
Feeding out and any supplementation	Monitor daily*	
Rotational grazing	Monitor daily and shift monthly	
Cattle weighing	Every six to eight weeks	
Cattle sales	Throughout the year	\$80/hd
Cattle transport	As required	\$15/head
Hay making	Three months of the year	\$30/large bale

\*Onsite management is critical to these tasks. Of particular note is the need to ensure no stock enter the rail reserve. It is also critical that breeding stock are managed daily during the season from an animal welfare and costs perspective (cow and calf units are now worth \$4,500/unit). This property is a key component of being the breeding arm of the overall farm business.

## LANDSCAPE PLAN

All cleared areas will maintain a grass cover at a minimum height of 35mm. This will ensure the water quality of surface water flows will be maintained at a high quality, throughout the property.

## ACCESS, SERVICES AND VIEW LINES

Youngs road provides access to the property. A well-constructed all weather driveway give access to the shedding.

Services in terms of supporting the development are onsite and effluent disposal, power and drainage can all be catered for.

## ENVIRONMENTAL RISK FEATURES

Weeds are the key environmental risk.

The new pastures will make weed establishment more difficult and the planned management and monitoring will work towards the property being weed free.

## COMMENTS ON THE VIC PLANNING PROVISION'S DECISION GUIDELINES

### PURPOSE OF THE FARMING ZONE (FZ) PLANNING SCHEME

This planning scheme implements state and local planning policy. It provides for the use of land for agricultural purposes, encourages the retention of productive agricultural land and ensures that non-agricultural uses including dwellings, do not adversely affect the use of land for agricultural. This scheme also encourages the retention of employment and population to support rural communities and encourages the use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.

According to the FZ a permit is required for the use of land for a dwelling 35.07-2.

### SUBDIVISION

According to the FZ a permit is required to subdivide land 35.07.3. There is no proposal to subdivide this land.

### COUNCIL DECISION GUIDELINES FZ

Before deciding on an application to use or subdivide land, construct a building or construct or carry out works, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:



## GENERAL ISSUES

*The Municipal Planning Strategy and the Planning Policy Framework.*

The Farming Zone is the zone that is strongly focused on protecting and promoting farming and agriculture.

The Macedon Ranges Planning Scheme recognises the need to encourage economic activity and business synergy, the proposal provides for that by supporting the expansion of a family farming business, which integrates with Hardwick meat works as a key client.

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COMMENT:

The proposed cattle seed stock enterprise is appropriately sited, the perennial pastures, property layout and land use will be adaptable to climate change. The property will enable the Bruni family to scale up and increase the business resilience of a fully commercial scale family farming business and enable it to transition to the next generation. It will utilise the owner's skill in cattle farm management and land management.

*Any Regional Catchment Strategy and associated plan applying to the land.*

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COMMENT:

This property is within the North Central Catchment Management Authority (NCCMA) and is addressed by the NCCMA Strategy 2013, in particular in relation to the control of erosion and the maintenance of healthy eco-systems, the native flora and fauna within them and the control of pest plants and animals that affect them. The onsite management and implementation of the development plans, will enable management practices that will achieve these outcomes, as previously documented in this plan. Of particular relevance to the objectives of the NCCMA Strategy 2013 and this site, is improved weed control and water quality improvement and the protection and enhancement of the native vegetation.

*The capability of the land to accommodate the proposed use or development, including the disposal of effluent.*

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COMMENT:

The proposed property layout and scale can sustainably and viably accommodate the proposed infrastructure, agricultural activities and regenerative land management; all with the aim of meeting the values outlined in the planning schedules. See the Land Capability Assessment in respect to effluent disposal that accompanies the application.

The enterprise proposed for the property is the breeding of Angus cattle as a seedstock enterprise. The size of this property is 24 ha and will accommodate the proposal to have 20 to 30 breeders being managed to suit seasonal conditions, with their progeny being finished on the family's other properties. This is well within the potential carry capacity of the property and supplementary feeding is expected for the production of high value livestock.

This enables the running of a professional agricultural business of significant scale for this district within the Macedon Ranges Shire.

*How the use or development relates to sustainable land management.*

---

COMMENT:

This development will enhance and protect land and environmental values through an appropriate layout, plan and onsite management of vegetation, native plant revegetation and regeneration, grazing management, vegetative cover, erosion prevention, pest animal and weed control and maintenance of surface water flow quality..



*Whether the site is suitable for the use or development and whether the proposal is compatible with adjoining and nearby land uses.*

COMMENT:

The proposed development and land use will be entirely consistent and compatible with adjoining land uses and will see land management principles and values better implemented and enhanced, by having onsite management.

The property is bounded by rural living and farming properties of various scales, some with equine, grazing and viticulture agricultural enterprises.

The size of the property and enterprise is in keeping with the scale of adjoining properties and larger than many. The land use is compatible with the main use of the area, which is rural living, grazing and vineyards.

*How the use and development make use of existing infrastructure and services.*

COMMENT:

The further development of the agricultural enterprise (high value seedstock production) is in keeping with the district. The infrastructure will accommodate the people required to manage the enterprise.

The property is 2km from the centre of Malmsbury and is accessed by the all-weather Youngs road.

## **AGRICULTURAL ISSUES AND THE IMPACTS FROM NON-AGRICULTURAL USES.**

*Whether the use or development will support and enhance agricultural production.*

COMMENT:

The property will support and critically enhance the ongoing development of the Bruni family cattle business.

This proposal will support the agricultural use of the land with the potential for creating significantly more onsite income from the natural resource than is currently the case. The further development of a high value cattle breeding operation requires onsite management.

The agricultural use of a specialised cattle breeding enterprise, is well within the capacity of the property and the agricultural qualities of the land, such as soil quality, access to water and access to services, all support the ability to establish and run such an enterprise.

The implementation of the proposed rotational grazing plan will ensure ground cover is maintained, pasture utilisation is optimised and parasite burdens are minimised.

*Whether the use or development will adversely affect soil quality or permanently remove land from agricultural production.*

COMMENT:

Grazing management will continue, with ground cover maintained to at least 35mm of pasture height, to protect the soil from raindrop impact and to slow and maintain the water quality of surface flows.

Land will not be permanently removed from agricultural production, but rather productivity will be increased from this property and it will enhance the viability and resilience of the greater Bruni family farming business.





*The potential for the use or development to limit the operation and expansion of adjoining and nearby agricultural uses.*

COMMENT:

The proposed enterprises will not limit the operation or expansion of adjoining and nearby agricultural uses. The proposed enterprise is compatible with other district land uses and will facilitate the expansion of a viable, fully commercial, family farming business.

*The capacity of the site to sustain the agricultural use.*

COMMENT:

The property has moderate capability to sustain agriculture use, it is limited by slope in one area of the property, some areas of surface rock and some small wet areas. It is well suited to supporting a cattle breeding business.

*The agricultural qualities of the land, such as soil quality, access to water and access to rural infrastructure.*

COMMENT:

From an agricultural productivity perspective, the land use capability for the property is Class 3 Fair, in the parts of the property that will have peak agricultural use, it can sustain agricultural uses with low to moderate levels of land disturbance, such as cultivation in rotation with improved pastures. Moderate to high levels of production are possible with specialist management practices, such as minimum tillage.

The major limiting features are the surface rock in some locations, the loam topsoils that are prone to water and wind erosion (if left bare) and the risk of weed infestations

At the property's scale the sustainable land-use of the block is suited to the proposed cattle operation. This operation will see sustainable land management; where ground cover is maintained, weeds are controlled and vermin are kept to a minimum. The site is best suited to minimal cultivation and low disturbance agriculture, involving improved pasture establishment; such as that proposed under this development.

The property is 2km from the centre of Malmsbury and is accessed by the all-weather Youngs road.

*Any integrated land management plan prepared for the site.*

COMMENT:

This document meets this requirement.

## **DWELLING ISSUES**

*Whether the dwelling will result in the loss or fragmentation of productive agricultural land.*

COMMENT:

The accommodation is needed for the intensive management required for the cattle seedstock breeding operation of this businesses scale and will not result in the fragmentation of productive agricultural land; but rather lead to an increase in productivity from land with moderate agricultural productivity potential that will form part of the larger family farming operation.



*Whether the dwelling will be adversely affected by agricultural activities on adjacent and nearby land due to dust, noise, odour, use of chemicals and farm machinery, traffic and hours of operation.*

COMMENT:

The land uses are compatible and there will be no adverse impacts.

*Whether the dwelling will adversely affect the operation and expansion of adjoining and nearby agricultural uses.*

COMMENT:

The proposed development and land use will be entirely consistent and compatible with adjoining land uses and will see land management principles and values better implemented and enhanced by having onsite management.

The property is bounded by properties of various scales, some with equine, grazing and viticulture agricultural enterprises, with a number being smaller than this property. Others are being used for rural living.

*The potential for the proposal to lead to a concentration or proliferation of dwellings in the area and the impact of this on the use of the land for agriculture.*

COMMENT:

The complex the accommodation will be in, will meet the agricultural management requirements of the property, the scale is consistent with that of other properties in the district (and larger than many) and this development will not lead to a concentration or proliferation of dwellings in the district, but will be consistent with the existing character.

## ENVIRONMENTAL ISSUES

*An assessment of the likely environmental impact on the biodiversity and in particular the flora and fauna of the area and water quality.*

COMMENT:

The biodiversity and quantity of flora will be maintained and improved, through significant weed management works and native vegetation revegetation.

The proposed grazing regimes, will not create adverse pressure on the natural physical features of the property. Water can be provided for stock troughs. The number of cattle proposed on this property should not result in soil loss or compaction.

The property has <1% of its area covered with native vegetation.

Grazing management will ensure ground cover is maintained to at least 35mm of pasture height, to protect the soil from raindrop impact and to slow and maintain the water quality of surface flows.

There is no proposal to remove native vegetation. There is no saline discharge on this property. This property is unlikely to be a significant contributor to recharge due to its scale and position in the landscape.

*The impact of the use or development on the flora and fauna on the site and its surrounds.*

COMMENT:

This development will enhance and protect land and environmental values, through an appropriate layout and onsite management of native vegetation, removal of weeds, erosion prevention, water quality maintenance and pest animal control.



*The need to protect and enhance the biodiversity of the area, including the retention of vegetation and faunal habitat and the need to revegetate land including riparian buffers along waterways, gullies, ridgelines, property boundaries and saline discharge and recharge area.*

---

COMMENT:

There is very limited native vegetation present and no proposal to remove any. The recreation/conservation one will be planted with indigenous species from the EVC list.

*The location of on-site effluent disposal areas to minimise the impact of nutrient loads on waterways and native vegetation.*

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COMMENT:

See the Land Capability report that accompanies the application.

### **DESIGN AND SITING ISSUES**

*The need to locate buildings in one area to avoid any adverse impacts on surrounding agricultural uses and to minimise the loss of productive agricultural land.*

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COMMENT:

The buildings have been placed so as to avoid the best of the agricultural zone and better soils and is centrally located to facilitate effective property management

*The impact of the siting, design, height, bulk, colours and materials to be used, on the natural environment, major roads, vistas and water features and the measures to be undertaken to minimise any adverse impacts.*

---

COMMENT:

The siting of the building envelope has taken into account landscape features, vistas, access and road location. Materials used are of a natural palate, non-reflective and designed to integrate with the natural environment.

*The impact on the character and appearance of the area or features of architectural, historic or scientific significance or of natural scenic beauty or importance.*

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COMMENT:

No native vegetation will be impacted by this development. Weeds will be managed and the paddocks are relatively weed free.

Rabbits, hares and foxes will continue to be managed and are at very low numbers.

Grazing management will ensure ground cover is maintained to at least 35mm of pasture height, to protect the soil from raindrop impact and to slow and maintain the water quality of surface flows.

The stones fences will not be altered.

*The location and design of existing and proposed infrastructure including roads, gas, water, drainage, telecommunications and sewerage facilities.*

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COMMENT:

Power is onsite and it and the driveway have very minimal impact on any landscape values.



*Whether the use and development will require traffic management measures.*

COMMENT:

The use and development will not require traffic management measures.

## DECISION GUIDELINES ENVIRONMENTAL SIGNIFICANCE OVERLAY

*Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:*

*The Municipal Planning Strategy and Planning Policy Framework.*

COMMENT

The Macedon Ranges Planning Scheme aims to:

- Provide a clear and consistent framework within which decisions about the use and development of land can be made.
- Express state, regional, local and community expectations for areas and land uses.
- Provide for the implementation of State, regional and local policies affecting land use and development.

This plan has documented actions that aim to meet these requirements and objectives of the Planning Scheme. The proposed land use is entirely consistent with the land use of the locality, and with the control of weeds and planned native vegetation enhancement and erosion control will ensure much better land management outcomes.

*The statement of environmental significance and the environmental objective contained in a schedule to this overlay.*

COMMENT

*ES04 statement of environmental significance is: Lake Eppalock is a major water storage and recreational facility located within the Campaspe River catchment. It is a major source of water for irrigation, stock and domestic and urban water supplies for towns within the municipality.*

This property is stable from a water quality perspective. Good ground cover is being maintained, which is protecting the filtering surface water overland flows, so that they are of good quality.

*The need to remove, destroy or lop vegetation to create a defensible space to reduce the risk of bushfire to life and property.*

COMMENT

There is no requirement to remove or lop any vegetation.

*Any other matters specified in a schedule to this overlay.*

COMMENT

Not applicable.

## DECISION GUIDELINES ENVIRONMENTAL SIGNIFICANCE OVERLAY SCHEDULE 4

Before deciding on an application, the responsible authority must consider, as appropriate:





*Whether the proposed development provides a net benefit to the stability and health of the waterway.*

COMMENT

There is no designated or defined waterways on the property, the soils and low lying areas are stable and overland flow quality will be good.

*The impact of the development on the water catchment.*

COMMENT

The planned pasture establishment and the use of the property for grazing and fodder production will have a significant positive effect on the water catchment as a result of the development and appropriate onsite management. Water quality should have greater chance of quality preservation, as a result of no disturbed soil and the maintenance of ground cover.

*The need to protect vegetation and habitat and the role these attributes play in improving and assisting in the maintenance of water quality. In particular, the need to maintain and revegetate land within 30 metres of a watercourse.*

COMMENT

Vegetation is being protected and enhanced as a result of this proposal and revegetation is taking place under this development, there is no defined water course on the property.

*The need to retain vegetation which prevents or limits adverse effects on ground water recharge.*

COMMENT

The property contains gentle slopes and a flat plateau and low slopes. The conservation and enhancement of perennial pastures will contribute to ongoing mitigation of ground water recharge.

*The need to address any existing land degradation and prevent further land degradation as a result of the proposal.*

COMMENT

The current owners have been actively addressing the woody weed problems, which is the major land degradation of the site. On-site management will enable a five-year plan to be implemented to fully eradicate woody weeds from the site.

*Whether any proposed effluent and irrigation fields are within 100 metres of any watercourse.*

COMMENT

They are not.

*How any proposed septic tank or other form of wastewater treatment may impact the quality of water in the catchment. This should include demonstration that the proposed density of septic tanks in the area:*

- Will not overload the natural environment with effluent and lead to pollution of watercourses or other properties;
- That the design and location of septic tanks is appropriate to the site and environmental characteristics of the allotment.



- That the disposal of effluent will not result in the discharge of wastewater from the site.
- The need to include litter traps and artificial wetlands in development proposals to improve the quality of discharge from new developments prior to discharge to water courses and to minimise the amount of sediment and litter entering waterways from new development.
- Any relevant land capability study or relevant Catchment and River Health Strategy for the area.
- Any approved local land care policies and plans.

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COMMENT

The above issues are addressed in the Land Capability Assessment report that accompanies the planning application. There are no particular approved studies that directly have implications for this property and location, that have not already been discussed and addressed by this plan.

## CONCLUSION

The planning proposal and farm plan is well considered. The proposed agricultural enterprise of a well-managed cattle seedstock enterprise fits well with the principles of effective land management and the outcomes sought within the Farming Zone.

The property owners have had a lifetime of experience in the cattle industry and are seeking to ensure a smooth succession from one generation to the next for the overall farm business.

The development of this property will produce significant onsite income and fodder for the business overall and will compliment and assist with the further development of the Bruni family farming business. Which is a fully commercial scale business that has been running for 30 years.

The topography and proposed property layout does not impinge on natural features and is well suited to the enterprises and the development will see a significant improvement in land protection through the maintenance of ground cover and the control of woody weeds.

Given the nature of the land resource, the characteristics of the district, the scale of the business, the agricultural potential of the property, it's potential for sustainable land management practices and considering the Farming Zone planning overlay; there will be no negative impact to the natural resource and agricultural viability of the land. To the contrary it will see a suitable agricultural enterprise fully set up on the property that will make a significant contribution to the overall viability and sustainability of a fully commercial scale farm business.

Also, the proposed development will not impact the agriculture integrity of this area, other than to improve it and it will add further productivity to this area of the Shire and the Bruni family farming business.

Your sincerely,



**Director Cumbre Consultants**



## APPENDIX 1 – ECOLOGICAL VEGETATION CLASS

### EVC/Bioregion Benchmark for Vegetation Quality Assessment Central Victorian Uplands bioregion EVC 55: Plains Grassy Woodland

#### Description:

An open, eucalypt woodland to 15m tall occurring on a number of geologies and soil types. Occupies poorly drained, fertile soils on flat or gently undulating plains at low elevations. The understorey consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	80 cm	15 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus viminalis</i>	Manna Gum
	<i>Eucalyptus ovata</i>	Swamp Gum

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	3	10%	T
Medium Shrub	3	5%	MS
Small Shrub	4	10%	SS
Prostrate Shrub	2	5%	PS
Medium Herb	9	20%	MH
Small or Prostrate Herb	4	5%	SH
Large Tufted Graminoid	2	10%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	6	25%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Ground Fern	1	1%	GF
Bryophytes/Lichens	na	10%	BL



## EVC 55: Plains Grassy Woodland - Central Victorian Uplands bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia melanoxylon</i>	Blackwood
T	<i>Exocarpos cupressiformis</i>	Cherry Ballart
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Acacia paradoxa</i>	Hedge Wattle
SS	<i>Pimelea humilis</i>	Common Rice-flower
SS	<i>Lissanthe strigosa ssp. subulata</i>	Peach Heath
SS	<i>Hibbertia stricta s.l.</i>	Upright Guinea-flower
SS	<i>Tetradlea ciliata</i>	Pink-bells
PS	<i>Acrotriche serrulata</i>	Honey-pots
PS	<i>Astroloma humifusum</i>	Cranberry Heath
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Poranthera microphylla</i>	Small Poranthera
MH	<i>Hypericum gramineum</i>	Small St John's Wort
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Drosera whittakeri ssp. aberrans</i>	Scented Sundew
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
SH	<i>Opercularia ovata</i>	Broad-leaf Stinkweed
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
LTG	<i>Austrostipa rudis ssp. nervosa</i>	Veined Spear-grass
LNG	<i>Lepidosperma longitudinale</i>	Pithy Sword-sedge
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MTG	<i>Themeda triandra</i>	Kangaroo Grass
MTG	<i>Dianella revoluta s.l.</i>	Black-anther Flax-lily
MNG	<i>Microlaena stipoides var. stipoides</i>	Weeping Grass
GF	<i>Pteridium esculentum</i>	Austral Bracken

### Recruitment:

Continuous

### Organic Litter:

10 % cover

### Logs:

10 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>Leontodon taraxacoides ssp. taraxacoides</i>	Hairy Hawkbit	high	low
MH	<i>Centaureum erythraea</i>	Common Centaury	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	high	high
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low



## APPENDIX 2 – BIOGRAPHY OF THE AUTHOR



### **GAVIN BEEVER**

*Consultant/Director – Cumbre Consulting*

#### **Gavin has extensive experience in Land Use Planning, Rural Land Management, Farming, Animal Husbandry, Strategic Planning, Business Planning, Group Facilitation, Adult Education and Horse Management.**

He has 31 years' experience in Land and Business Management. During that period, he has consulted and provided technical advice on a broad range of land and business management issues to hundreds of individual property owners, consultants, cooperatives, companies, corporations and government departments, both locally and nationally. Initially as a Departmental Advisory Officer (1989 to 1997) and then as a Private Consultant (1997- ). For 10 years, he was Vice Chairman of the 1,000-member farmer Coop CEPA, which is the largest independent supplier of stockfeed in Victoria.

He has extensive practical experience in farming and land management. With his wife, he has developed and run a 25,000DSE sheep and cattle family farming business. He has established and continues to manage Cumbre Stud, a Horse Breeding and Training Stud on their family farm in Central Victoria.

He has been a caretaker of farms in New South Wales (Cropping and Livestock) and leased other farms in Victoria.

For five years, he was a referral officer for State Planning Schemes for what is now the Department of Sustainability and Environment in Victoria.

He has also prepared Farm, Environmental and Land Management Plans for Planning Permit Applications in the State of Victoria for 22 years. He has been called as an expert witness at VCAT for matters relating to environmental, farm and land management issues.

He has presented at numerous local, state, national and international conferences.

He has developed and delivered numerous workshops for land and business managers and owners.

### **FIELDS OF COMPETENCE**

- Land Capability Assessment
- Land Management Planning
- Strategic Planning
- Business Planning
- Animal Husbandry
- Pasture and Crop (Broad acre) establishment and management
- Native Vegetation establishment and management
- Pest Plan and Animal Control
- Soil Conservation
- Soil Salinity
- Catchment and Waterway Management
- Fire Protection
- Wool Classing
- Adult Learning and Workshop Development and Delivery



- Benchmarking
- Horse and working dog, training and management

## **PUBLICATIONS**

- Hill and Rising Country Management in the Avon-Richardson Catchment (1991)
- Saline Agriculture Program, Wimmera Catchment Salinity Management Plan (1992)
- The Wimmera River Catchment Salinity Plan – Tree Program (1992)
- Saline Agriculture Program. Wimmera River Catchment Salinity Management Plan (1992)
- Pasture Program for the Wimmera River Catchment Salinity Management Plan (1992)
- Whole Farm Planning Workshop Series. Department of Natural Resources and Environment (1993)
- Property Management Planning Workshop Series. Department of Primary Industries Queensland (1996)
- Technical Coordinator and Editor. Meat and Livestock Australia. Business Skills and Best Practice Workshop Series. (1998-2002)
- Business Health Indicators for Professional Farmers. FM500. (2004)

## **EDUCATION**

BSc (Botany/Zoology) 1987

Grad Cert Appl Sc 1997

Diploma Racing 2006

Innoven – Effective Company Directors Graduate 2004

