

LAND CAPABILITY AND FARMING IN TASMANIA



THE IMPORTANCE OF LAND CAPABILITY

A key consideration for property planning, particularly when grazing livestock, is land capability. This is determined by factors including local rainfall, soil type, geology, aspect and slope, stoniness, waterlogging and potential flooding, erodibility, climate and soil salinity. The capability of your land will determine what sorts of activities you are able to do on your property and what risks you might need to manage.

CLASSIFYING LAND CAPABILITY IN TASMANIA

Land capability is a method of land classification which is used to assess the capability of land to support a range of uses over the long term based on a range of permanent biophysical (e.g. climate, soils, topography) features and physical limitations.

The Tasmanian land capability rating system is based on a 1 to 7 scale, with class 1 being land capable of supporting diverse and high frequency agricultural use to class 7 being land unsuitable for agricultural use. The differences between land capability classes are based on a range of factors mentioned above. The most common land capability classes in Tasmania are 4, 5 and 6, collectively they make up almost 95% of the land in Tasmania.

Table 1: Land Classification Descriptions

LAND CAPABILITY CLASSIFICATION SYSTEM	
LAND CLASS	DESCRIPTION
1	High quality arable farming land with no/minor limitations to cultivated uses – flat, well structured, free draining, non-stony and fertile soil. The land also has no or very minor climatic limitations (frosts, drought, high winds etc).
2	Very good quality arable land with minor limitations to cultivated uses – gently undulating lands with well structured soils, good drainage and moderately fertile soils and few climatic limitations.
3	Good arable land but on rolling slopes or with other limitations which lead to soil erosion or other limitations to use e.g., frost, low rainfall, erosion due to slope or weaker soil structure etc.
4	Marginal arable land with slopes which are moderate, weaker soil structure, more drainage issues or climate issues. This is the lowest class of arable land but is excellent pasture land or forestry land.
5	Non arable land, but good pasture land. Cover is critical to keeping the soils from eroding. The limitations for use of the land might include climate, topography, erosion, stones, or weakly structured soils.
6	Lower class pastoral land, non-arable and prone to erosion if ever cultivated. The land might be stony, steep, with shallow soils and any number of climatic limitations.
7	Non arable lands - areas of very steep land, rock outcrop or swamps and salt flats. Not suitable for agriculture.

Table 2: Land Classification Guidelines

LAND CAPABILITY CLASS	LAND USE PATTERN	LIMITATIONS	CROP CHOICE	FREQUENCY OF CROPPING (PER 10 YEARS)	CONSERVATION PRACTICES
1	Cropping and grazing	Very minor	Any	8-9	Minor
2		Slight	Slight reduced	5-8	
3		Medium	Reduced	3-5	Moderate
4		Severe	Restricted	1-2	Major
5	Grazing	Slight to moderate	Grazing	-	Major and careful management
6		Severe	Grazing	-	
7	Unsuitable for agriculture	Very severe to extreme	Nil or very minor agricultural value		

(Adapted from "Guidelines for the Classification of Agricultural Land in Tasmania", CJ Grosse, DPIWE 1999)

HOW DO I FIND OUT WHAT MY LAND CAPABILITY CLASSIFICATION IS?

The LIST is a free, easy to use, online map application that allows people to view, create and share their own customised maps of Tasmania. The LIST allows you to identify a wide range of features relating to your property, including land capability. Please refer to the Further Reading section at the end of this factsheet for more information on how to access and use the List.

WHAT IS A SUSTAINABLE LIVESTOCK ENTERPRISE CARRYING CAPACITY?

Carrying capacity refers to the potential number of livestock which can be run on the land.

Table 3: Maximum and sustainable pasture carrying capacity for pasture on ground for land capability classes 4-6.

ANNUAL RAINFALL (mm/yr)	MAXIMUM CARRYING RATE (DSE/ha)	LAND CAPABILITY CLASS		
		4	5	6
		Sustainable carrying capacity rate (DSE/ha)		
500	15	9	7	4
600	21	12	9	5
700	27	16	12	6
800	30	18	14	7
900	33	20	16	8
1000	36	23	19	9

(Adapted from the French and Shultz method)

A DSE is a standard unit used to compare the feed requirements of different classes of livestock. One DSE is defined as the amount of feed required by a two-year-old 50 kg 'dry' Merino sheep (wether or non-lactating, non-pregnant ewe) to maintain its weight.

WHAT ELSE INFLUENCES LIVESTOCK CARRYING CAPACITY?

It is important to note that a pasture's potential carrying capacity will also be influenced by the ability of the land manager to address:

- Pasture quality with the right grasses present as well as a sufficiently legume (clover species content)
- Soil fertility deficiencies and soil pH issues
- Competition from browsing wildlife
- Appropriate grazing management practices to ensure an optimal resting period between grazing events
- Control of broad leaf, grass and woody weeds
- Minimising damage from pasture insect pests, including corbie grubs and cockchafers
- Offering livestock unrestricted access to good quality stockwater



Image: The impact of wallaby-proof fencing on pasture production

MANAGEMENT CONSIDERATIONS FOR DIFFERENT AREAS OF YOUR FARM

Specific areas of your farm may have different management risks based on particular characteristics and need to be managed differently. For example, steep north-facing slopes are more prone to erosion and dry out more quickly (particularly in summer) than moderate south facing slopes. Low lying paddocks near creeks may be much more prone to waterlogging (particularly in winter) than sloping ground away from creeks.

You may decide to change the current stock fencing layout to fence between two different grazing areas allowing stock in one area, but not in a vulnerable area at certain times of the year or to exclude them entirely. Internal fencing alterations don't need to be permanent, temporary electric fencing can be used for this purpose and is much cheaper to buy, install and maintain.

The ability to control the movement of livestock across your property can be of vital importance to ensure the land is protected from over-grazing which can lead to a loss of ground cover and soil erosion as well as better utilisation of the available pasture land and access to stockwater.

KEY RESOURCES



The List Map



The List Map
user guide



Healthy Farms property
planning guide