



## Shire of Bridgetown-Greenbushes

### Guidelines for the Keeping of Livestock

Adopted 30 July 2015



*Special acknowledgement is given to Adrian Williams from Pendragon Dryland Management Services for his significant contribution to preparation of these Guidelines. Acknowledgement is also given to the Shire of Bridgetown-Greenbushes Sustainability Advisory Committee, experienced local livestock farmers and to local artist Gabriel Evans for the images funded by the Bridgetown-Greenbushes Community Landcare.*

## **1.0 Introduction**

The keeping of livestock can be a rewarding hobby or occupation for rural landholders. Raising livestock however has the potential to cause local environmental damage and can present a nuisance to adjoining neighbours through loss of vegetation, soil erosion, spreading of weeds, etc., through inappropriate stocking rates and livestock management practices.

The purpose of these Guidelines is to ensure that the keeping of livestock within the Shire of Bridgetown-Greenbushes is appropriately planned and managed to protect the rural character and natural environment, and in particular soil health.

The Guidelines will help answer the following commonly asked questions:

- Do I need approval to keep livestock?
- Where can livestock be kept?
- How many animals can be kept?
- How do I prepare a management plan?

For the purpose of these Guidelines 'livestock' means and includes horses, cattle, sheep, goats, mules, alpacas, camels, donkeys and any other beasts of burden. Importantly these Guidelines are not applicable to feedlots, poultry, pigs and piggeries or other intensive forms of livestock management. These Guidelines may be used to calculate the number of livestock that can be kept on properties within the Shire of Bridgetown-Greenbushes, and Shire staff may use the calculated stocking rates and management plans to assess applications for keeping of livestock where necessary.

It is most important to recognise that these estimations of appropriate stocking rates will not produce an absolute guarantee for good condition of the pasture and good condition of the livestock. Drought years would be a case in point. **The absolute measure of appropriate stock numbers is the condition of the pastures and livestock.** If either the pasture or the livestock look un-seasonally stressed you may need to reduce livestock numbers or change your pasture and livestock management, or both.

Applying these Guidelines (particularly for those landholders new to keeping livestock) will have benefits for the property, the livestock, and the owners through promoting sustainable land and soil conditions under grazing. These benefits include:

- Promoting pasture production and minimising the effect of summer drought through maintaining rainfall infiltration rates and promoting soil water holding capacity;
- Promoting soil fertility and pasture production by minimising runoff and erosion of soil and soil fertility;
- Promoting pasture production through providing rest periods for soil and vegetation to recover from grazing;
- Promoting productive, healthy livestock, based on the above;
- Avoiding cruelty to livestock through hunger or thirst;
- Promoting sustainable production, financial return and enjoyment from keeping livestock;
- Assisting you as the registered livestock owners from contravening RSPCA requirements, the State's Soil and Land Conservation legislation or any other relevant legislation.

## **2.0 Do I need approval to keep livestock?**

Under the Shire of Bridgetown-Greenbushes Town Planning Scheme No. 3 (TPS3) and Town Planning Scheme No. 4 (TPS4), the keeping of livestock is best classified as a 'Rural Use' or 'Rural Pursuit'.

Under TPS3 a "**Rural Use** - means the use of land for the purposes of agriculture, farming or grazing including the growing of fruit or vines."

Under TPS4 "**Rural Pursuit** - means the use of land for any of the purposes set out hereunder and shall include such buildings normally associated therewith:

- (a) the growing of vegetables, fruit, cereals or food crops;
  - (b) the rearing or agistment of goats, sheep, cattle or beasts of burden;
  - (c) the stabling, agistment or training of horses;
  - (d) the growing, and/or selling for wholesale purposes only of trees, shrubs, or flowers for replanting in domestic, commercial or industrial gardens, but does not include a retail nursery;
  - (e) the sale of produce grown solely on the lot;
- but does not include the following except as approved by the Council:
- (i) the processing, treatment or packing of produce;
  - (ii) the breeding, rearing or boarding of domestic pets."

The permissibility of a 'Rural Use' or 'Rural Pursuit' varies according to the different zones in TPS3 and TPS4, particularly within the different Special Residential, Special Rural and Special Use zones. If you are buying land with the intention of keeping livestock, or if you intend to keep livestock on land you already own or occupy, you should first check the zoning of the property to ensure that the keeping of livestock is permitted, and whether planning approval is required. A property's zoning is shown on rate notices, or can be gained by contacting the Shire or the Valuer General and supplying the Lot number.

TPS3 and TPS4 are statutory legal documents, responsible for controlling the use and development of land within the Shire. As such, it is an offence to keep livestock without the necessary approvals. Applying for approval to keep livestock is both a legal obligation and an effective way for the Shire to control and monitor the use of land. In assessing applications to keep livestock on property the Shire can recommend various management practices and impose conditions for the benefit of the applicant, the environment and local amenity.

## **3.0 Where can livestock be kept?**

The Shire recognises the importance of livestock having access to shelter belts for protection from the sun, wind, rain and extremes of temperature. Where practical however livestock should not be permitted along any watercourses, or have access to any wetland or unfenced areas of native vegetation with significant understorey, due to the potential adverse impacts of livestock on these environmental features.

It is important to note that building envelopes apply to most properties zoned 'Special Rural', 'Special Use' and some 'Special Residential'. The building envelope is a defined area within which all buildings and structures must be contained, and the removal of vegetation outside of these envelopes is not permitted without Shire approval. The removal of vegetation to permit the keeping of livestock is unlikely to be supported unless the need is clearly demonstrated.

Furthermore, some properties have defined stream protection areas that require revegetation and ongoing protection from grazing animals.

The location of paddocks, stables, shelters, etc., and ongoing management measures must have regard for the protection of public health. Part 5 of the Shire's Health Local Law (Nuisances and General) includes requirements under Division 3 for the keeping of livestock. These requirements include areas of enclosures, setback distances and other provisions.

#### **4.0 How many livestock animals can I keep?**

The number of livestock animals that you can keep on your property depends on the area and quality of usable pasture (not just the property size) and the type(s) of livestock you wish to keep. Stocking rate recommendations vary depending upon topography, soil type and soil condition since these 'drive' pasture productivity. Sustainable stocking rates may be further influenced by the land and livestock management practices to be used.

#### **4.1 Usable Pasture**

You should obtain a current aerial photograph of your property, either from the Shire's Planning Department or using online information. Using this image, delineate grazing and non-grazing areas, breaking the grazing areas up into geometric shapes and calculate their areas before adding them together. If the property is already divided into paddocks, you should calculate the grazing area of each paddock.

Not all of the property can be grazed. The areas of buildings, tracks, firebreaks, dams, orchards, or any crops and gardens should be subtracted from the total property area as non-grazing areas. In addition, areas under natural vegetation and woodland, very steep slopes (greater than a slope of 1:1), drainage lines, stream banks, and waterlogged areas should be subtracted to arrive at the actual area of available, usable pasture.

It may be possible to use areas that are waterlogged in winter and spring for some opportunistic summer and autumn grazing once the soil surface is dry. This should not be included in the calculation of grazing area since grazing of areas while waterlogged will cause soil compaction. Furthermore, it may result in the livestock having to exert as much energy to extract themselves from the boggy soil as the amount of energy they gain from grazing the waterlogged area. It is better to think of such areas as drought reserves for occasional use.

#### **4.2 A basis for setting stocking rates**

The base stocking rate should provide enough feed to maintain livestock in good condition; avoid soil erosion by providing enough pasture cover to protect soil throughout the year; and be sustainable through average years. **No recommended stocking rate is absolute.** The food on offer from pastures changes from month to month, even week to week, however it is possible to make a recommendation based on the average amount of pasture available through the year.



'Some land has little potential for rearing livestock'

### 4.3 Dry Sheep Equivalents (DSE)

Stocking rate recommendations are based on a measurement of the pasture consumed by a wether sheep or non-breeding ewe with a stable live weight of 40-50kg grazing rain-fed annual pastures with minimal supplementary livestock feeding. Multiples of this standard 'Dry Sheep' can be calculated for other types and weights of livestock, and are referred to as 'Dry Sheep Equivalents', or 'DSE'. Examples of DSEs for other livestock are listed in Table 1.

**Table 1 - Animal DSE for the calculation of stocking rates**

Type of Livestock	Weight (kg)	Dry Sheep Equivalent (DSE)
<b>Sheep:</b>		
Wether or non-breeding ewe	45 kg	1.0
Breeding ewe (ewe and lamb)	40-45 kg ewe	1.5
Ram	75 kg	1.5
<b>Cattle:</b>		
Milking cow	425 kg	10.0
Milking cow	500 kg	11.5
Milking cow	630 kg	14.0
Cow with young calf (up to 1 month old)	500 kg cow	11.5
Cow with calf (2 months old)	500 kg cow	13.5
Cow with calf (4 months old)	500 kg cow	16.0
Calf (6-8 months old)	300 kg	6.0
Dry cows, yearling, steer or heifer	425 kg	8.0
Dry cows, yearling, steer or heifer	500 kg	9.0
Dry cows, yearling, steer or heifer	630 kg	13.0
Bull, heavy steer	750 kg	15.0
Bull, heavy steer	1,000 kg	20.0
Smaller breeds (e.g. Dexter, Galloway) cow	200 kg	4.5
Smaller breeds (e.g. Dexter, Galloway) cow	350 kg	7.5
Smaller breeds bull	500 kg	11.0
<b>Horses:</b>		
Pony	250 kg	5.0
Light horse	450 kg	10.0
Larger horse	630 kg	14.0
Draught horse	1000 kg	20.0
Draught horse	1250 kg	25.0
<b>Goats:</b>		
Angora – non breeding	30-35 kg	0.7
Cashmere goat	35-40 kg	1.0
Dry milk goat	50-60 kg	1.5
Milking goat	50-60 kg	2.0
<b>Other:</b>		
Emu (assumes half feed is brought in)	55 kg	0.7
Ostrich (assumes half feed is brought in)	55-120 kg	1.4
Alpaca (assumes part of feed is brought in)	60-70 kg	0.8
Llama (assumes part of feed is brought in)	150-210 kg	3.0

*Adapted from 'Agriculture WA (now DAFWA), Stocking Rate Guidelines for Rural Small Holdings (May 2000)'. Based on livestock weight and estimate of pasture intake in order to be productive.*

Emus and Ostriches are not purely grazing animals and require supplementary feeding, hence estimates are conservative. (Keeping Emus also requires a licence from the Department of Parks and Wildlife.)



‘So the four of us are the same as one of you?’

#### 4.4 Recommended DSEs according to local land types

The following table lays out the number of DSEs that can normally be run sustainably on land types with different characteristics. Note that some land types have much higher than normal carrying capacities, and an understanding and recognition of the land types and soils on your property is required to help you assess the property’s livestock carrying capacity.

**Table 2 – Recommended DSEs according to local land type**

Land and Soil Type	Recommended DSE per hectare
Well drained yellow to brown sands on gentle to moderate slopes	6 DSE / ha
Rapidly draining sands	2 DSE / ha
Pale sand flats	2 DSE / ha
Semi-wet soils (swamps and drains) (salty areas)	6 DSE / ha (0-2 DSE / ha) (0-2 DSE / ha)
Clay flats	6 DSE / ha
Loamy flats and terraces	10 DSE / ha
Deep gravelly soils on gentle to moderate slopes	10 DSE / ha
Shallow gravels and ironstone outcrop	2 DSE / ha
Steep slopes of any soil type, Shallow rocky soils and crests	0-1 DSE / ha
Loamy soils on gentle to moderate slopes	10 DSE / ha
Duplex soils (lighter textured topsoil over heavy clay subsoil) on moderate slopes where there may be areas of tunnel erosion.	4 DSE / ha

#### 4.5 Calculating Stocking Rates

Knowing the area of pasture, the soil type, the land type, the applicable DSE and the type and size of livestock to be kept, the number of animals that can be kept can be calculated.

Worked example:

*I have 20 hectares of gravelly soils on gentle slopes. How many 400 kg Dexter cows could I run?*

Step 1 - Area of property:	23.4 hectares
Step 2 - Area of pasture:	20.0 hectares
Step 3 – DSE for Animal Type (Table 1)	Dexter cow (350kg) = 7.5 DSE
Step 4 – DSE for Land/Soil Type (Table 2)	Gravelly soils/moderate slope = 10 DSE per ha
Step 5 – Calculate Stocking Rate:	

$$\frac{\text{Area of pasture} \quad \text{Dry stocking rate for soil type}}{7.5 \text{ DSE per Dexter cow}} = \text{No. Dexter cows}$$

20 hectares x 10 DSE per hectare = **26 head**

#### 4.6 Increased Stocking Rates

Stocking rates can be increased under conditions of advanced livestock and pasture management, as follows:

- Use of Rotational Grazing – Short duration (measured in days), high intensity (all the livestock in small paddocks for a limited time in each paddock) can improve livestock condition and pasture condition. The reasons for this are that the livestock are moved onto fresh pasture every few days allowing the grazed pasture to rest and regrow; high intensity grazing tends to increase the range of plants the livestock eat thereby evening out the consumption of highly palatable and less palatable plants leading to an increase in the quality of the pasture. Any worm eggs that are dropped on the pasture are mainly dead before the livestock return to the same paddock. A rotational grazing system requires a number of paddocks around which the livestock are rotated. Ideally each paddock should have a rest and regrowth period of at least 21 days before it is grazed again.



'A location for rotation.'

- Seasonal selling of livestock - If livestock numbers are reduced in late spring or early summer (by selling them or agisting them somewhere else) there is less pressure on the pasture over the dry summer and autumn months. Under these conditions it may be possible to graze more livestock than the standard DSE rate through the winter. An example would be running a sheep breeder flock through summer, raising lambs in winter and selling the lambs in early summer.
- Hay/silage production or hay purchase - Providing hay or silage for livestock feed in summer and autumn reduces the pressure on the pasture. This will be particularly the case where the livestock are confined over summer and autumn to a holding paddock of appropriate size on a gently sloping site with shade. Such holding paddocks should be rested from grazing for first months of the subsequent pasture growing season. When using such a system it is highly beneficial to keep the livestock in the holding paddock until up to a month after reliable opening rains have promoted good early pasture growth. This practice, sometimes called 'Deferred grazing', can greatly increase pasture growth through the year compared to allowing the livestock to start grazing immediately new growth starts.



Ah! Breakfast!

- Development of improved pasture - If perennial pastures are established that will be productive for longer than native pastures into the summer period, or if appropriate pasture liming and fertiliser practices (including soil testing to identify lime and fertiliser requirements) are implemented these should result in an increase in sustainable livestock carrying capacity. Irrigating pastures where this is practical (with attention to adequate irrigation scheduling and management), should increase pasture production, and, therefore, sustainable livestock carrying capacity. The practicality, benefit and cost-effectiveness of such options should be carefully considered before undertaking such developments.

#### **4.7 Decreasing Stocking Rates**

Stocking rates and livestock numbers must be decreased under certain conditions. Livestock numbers must be reduced to avoid livestock cruelty such as livestock dying of thirst if the property runs out of water and you are not able to replenish supplies by carting in water.

It is your responsibility as property and livestock owner, whether locally resident or not, to ensure that livestock always have adequate water. Removing livestock to a place where there is adequate water and feed (agistment) is a tactical solution, while improving property water resources would be a strategic solution.

Estimations of appropriate stocking rates will not produce an absolute guarantee for good condition of the pasture and good condition of the livestock. Drought years would be a case in point. **The absolute measure of appropriate stock numbers is the condition of the pastures and livestock.** If either the pasture or the livestock look un-seasonally stressed you may need to reduce livestock numbers or change your pasture and livestock management, or both.

#### **4.8 Livestock Management in Bushfires**

If a bushfire threatens, move livestock to an open fuel free/fuel reduced area where there is access to adequate water. Normally they are better left under the recommended conditions to fend for themselves.

#### **5.0 Pasture and Livestock Management Plan**

Where planning approval is required a Pasture and Livestock Management Plan will be required, to ensure that stock is kept in an environmentally sustainable and socially acceptable manner. Should planning approval not be required, landholders are strongly encouraged to prepare their own Management Plan anyway.

#### **5.1 Essential Elements of a Management Plan**

The objective of a Management Plan is to prevent:

- Undue workloads for the keepers of livestock
- Crises occurring, such as running out of water or feed
- Land degradation (ie. soil erosion by wind or water)
- Overgrazing
- Salinity
- Water logging
- The spread of weeds
- Nuisance (ie. flies, dust and odours)
- Nutrient export and loss of soil fertility
- Pollution of watercourses and wetlands

A well prepared and implemented Management Plan should enhance:

- Pasture cover
- Protection of vegetation and possible revegetation
- Lifestyle choice
- Productivity of the land
- Market Value
- Peace of mind

Things to include in a Management Plan (not all may be relevant) are:

- Plan of the property (aerial photograph showing cadastral boundaries)
- Watercourses and areas prone to water-logging or slumping
- Fencing (boundary and internal) including existing and future yard areas, fencing of environmentally sensitive areas (trees and watercourses)
- Measures proposed for water management (including dams and water harvesting)
- Existing vegetation
- Type and condition of pasture
- Statement of number and type of stock and how this has been calculated
- Livestock and pasture management (general)
- Livestock and pasture management in dry times
- Erosion control
- Weed control
- Pasture improvement plans
- Program for regular soil testing on which to base pasture fertiliser and lime application rates
- Location of shelters and shading vegetation
- Stabling practices
- Collection and/or disposal of manure
- Measures for fly & odour control
- Dust control



'We really could do with more shade in this paddock.'

## 5.2 How to Prepare a Management Plan

Anyone can prepare a Management Plan. It simply involves sketching a plan of your property (at an appropriate scale) showing cleared areas, areas of vegetation where stock will be kept and any existing and proposed structures. This can be drawn on a clear plastic sheet laid on top of an aerial photograph or satellite image of the property. This keeps the image of the property in pristine condition while different features can be drawn on different plastic overlays. The plan should be accompanied by supporting written information so that the Shire understands:

- the nature of the property;
- how many animals you wish to keep;
- the way in which you intend to keep the animals; and
- any management practices proposed to protect the natural environment and the amenity of the area.

## 5.3 Different Levels of Management

Higher levels of management input can allow for higher rates of sustainable stocking rates (see Section 4.6 above). Higher proposed levels of management require more detailed planning.

A three tiered approach to land management is shown below and the points listed under each type of plan are intended as a guide only to the issues that should be addressed in that level of management. The level of information submitted in each management plan may vary depending on site conditions and stocking rates, and as such, each application will be assessed on its merits.



‘Forbidden fruits – and leaves and stems and roots’

BASIC LAND MANAGEMENT	<ul style="list-style-type: none"> <li>• Grazing of natural unimproved pastures</li> <li>• Refers to DSE in tables 1 and 2</li> <li>• Stock grazing freely on available pasture / grasses</li> <li>• No additional feed, no stabling, no manure collection</li> <li>• No irrigation of paddocks</li> <li>• Basic Management Plan required</li> </ul>
INTERMEDIATE LAND MANAGEMENT	<ul style="list-style-type: none"> <li>• Stock grazing freely on available pasture/grasses</li> <li>• Additional feed being brought onto the property</li> <li>• Manager practising parasite management</li> <li>• Temporary/overnight shelter or stabling of animals</li> <li>• Manure collection from yards</li> <li>• Proposed stocking rates 10% higher than standard</li> <li>• Intermediate Management Plan required</li> </ul>
ADVANCED LAND MANAGEMENT	<ul style="list-style-type: none"> <li>• Maximum stabling of stock</li> <li>• Paddock/pasture rotation</li> <li>• Comprehensive program for additional feed</li> <li>• Proposed livestock marketing schedule</li> <li>• Restricted grazing and exercise areas in summer/autumn</li> <li>• Manager practising advanced parasite management</li> <li>• Reticulated pasture and dust suppression</li> <li>• Regular manure collection from yards and introduction and monitoring of dung beetle activity</li> <li>• Formalised manure storage, composting or removal off-site</li> <li>• Fertiliser management details</li> <li>• Procedures to ensure ongoing implementation</li> <li>• Proposed stocking rates 20% higher than standard</li> <li>• Advanced Management Plan required</li> </ul>

Although unlikely, it should be noted that in some circumstances the Shire may require annual reporting on the operation of Management Plans, depending on the environmental sensitivity of the land.

#### **5.4 Things to Consider**

When preparing a Management Plan the following matters should be considered:

- Is there any vegetation on the property that should be protected from stock? If yes, how would you protect it?
- Are there any creeks or wetlands on the property? If yes, how will you keep the livestock out of them.
- Is the slope of the land and the keeping of stock likely to cause erosion? If so, how will land use / land management allow for this?
- Where and what type of fencing is in place and what will be constructed?
- What type of pasture will be provided?
- Will lime and fertilisers be used?
- Where are the firebreaks?

- Are there any cleared or denuded areas that need to be revegetated or protected from stock? How will this be done?
- How will animals be fed and watered?
- Are there any dams on the property? If so, these should be shown on the property sketch submitted with the Management Plan. Are these water resources adequate for the proposed number of livestock? If not, how will livestock receive adequate water through summer and autumn?
- How will the livestock be protected should a bushfire occur?

### **5.5 Best Practice**

There are many “best practices” that can be adopted by landowners when keeping livestock that balance managing the livestock and caring for the land. Many livestock owners already undertake these practices voluntarily, or are required to do so in accordance with management plans approved by the Shire. Some of these practices include:

- Providing stock with necessary food and water, and protection from predators, diseases and inclement weather should be a given;
- Talking to your neighbours to minimise any potential nuisance or conflict associated with your stock, or to discuss their experiences if they already keep the same stock as you wish to keep;
- Ensure that a suitable quantity and quality of pasture is available and can sustain the type and number of stock that you propose to keep. This may involve planting new vigorous, dense pastures; fertilising existing pastures (having regard to environmental constraints); controlling weeds, removing manure, or regular harrowing of paddocks to break up and scatter manure;
- Rotational or ‘strip’ grazing to rest paddocks and control the spread of parasites and diseases and promote pasture regeneration. These can be supplemented by the creation of feeding yards, exercise areas or stables for better grazing control;
- Prevent overgrazing, erosion and dust, which in most cases are all symptoms of inadequate or unhealthy pastures and poor land and stock management;
- Construction of appropriate fencing to protect environmental features such as watercourses, wetlands and native vegetation, and also to assist in grazing control, pasture supply and ensure stock safety and security.

### **5.6 Livestock Identification**

Livestock owners are reminded to register a brand for the livestock; register a Property Identification Code (PIC) where your animals are kept; register stock with the National Livestock Identification Scheme (NLIS) and use the National Vendor Declaration (NVD) waybill records to move your animals (horses exempted).

For more information contact the Department of Agriculture & Food WA Small Landholder Department on 9733 7777 or the Brands Department on 9780 6207. NLIS wands can be hired from the Bridgetown Community Resource Centre by phoning 9761 2742.



## 5.7 Example of a Livestock and Pasture Management Plan:

The following pro-forma could assist preparation of your Livestock and Pasture Management Plan.

1.	Address of Property	
2.	Area of Property (ha)	
3.	What is the area of land (ha) where livestock is to be kept?	
4.	What is the zoning of the property under Town Planning Scheme No.3 / No.4?	
5.	What type(s) of animal(s) to be kept?	
6.	What is the DSE for the animal(s) to be kept (from Table 1)?	
7.	What is/are the soil types where livestock will be kept?	
8.	What is the stocking rate for the relevant soil type(s) (from Table 2)	
9.	How will you provide the stock with water? How adequate are those water resources – particularly in late summer and autumn?	
10.	How will manure be managed?	
11.	How will the animals be fed/grazed? (eg. rotational grazing)	
12.	List any watercourses, water logged areas, wetlands, dams, or areas of native vegetation on the property?	

13.	If you listed any features in Question 12, how will those features be protected from livestock.	
14.	Describe location and design of any animal shelters?	
15.	Describe your program for the use of fertiliser, liming and herbicides on the property	
16.	Describe how you will control soil erosion and dust	

Name(s): \_\_\_\_\_

Contact No(s): \_\_\_\_\_

Signature(s): \_\_\_\_\_

Date: \_\_\_\_\_