



METHOD FOR RANGELAND CONDITION MONITORING: SHRUBLAND

The Pastoral Lands Board (PLB) is adopting a system of Rangeland Condition Monitoring (RCM) based upon permanent photographic monitoring sites. RCM is replacing the current system of periodic Range Condition Assessments conducted by the Department of Agriculture and Food WA (DAFWA).

Rangeland Type

Across the majority of the **southern rangelands** pasture health is indicated by the shrub component while livestock productivity is driven primarily by seasonal ephemerals. This means that RCM in the southern rangelands will employ the '**shrubland**' monitoring method.

A number of pastoral leases are situated in the transition zone between shrub based and grass based rangeland. On these leases the composition of the rangeland at each site will determine what method of monitoring will be required. It is likely some leases in this transition zone will require both shrub and grass monitoring sites.

Frequency and Timing of Assessment

Following initial installation, assessment of monitoring sites will take place on a **rolling three year** interval. This means that every year a lessee should assess **one third** of the sites on a lease.

Assessment of monitoring sites should take place at the end of the normal growing season. In the majority of the southern rangelands this will be in spring (August to October).

Numbers of Monitoring Sites per Lease

The number of monitoring sites on each lease is calculated according to a formula that has compensated for:

- lease area, and
- rangeland productivity.

Therefore, larger pastoral leases and/or those comprised of higher productivity rangeland will require more monitoring sites. The minimum number for a lease is 9.

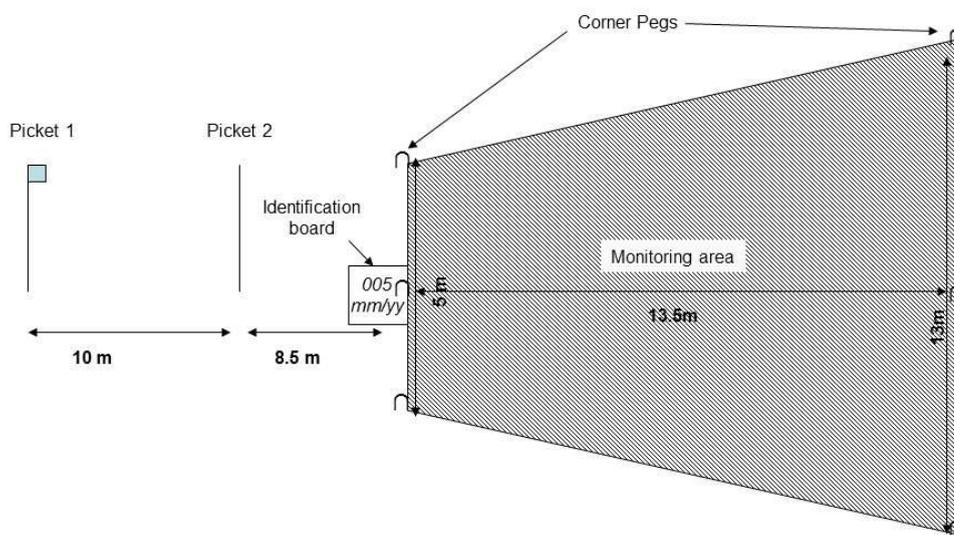
The final number of sites per lease must be divisible by 3 (i.e. 15, 24, 30, etc) so that the same number of sites are assessed every year.

The majority of pastoral leases will require between 15 – 30 monitoring sites.

The Shrubland Monitoring Method

Monitoring shrub based rangeland for RCM requires the installation of permanent monitoring sites according to the layout in figure 1.

Figure 1: Shrubland Monitoring Site Layout



Not to scale

As illustrated in figure 1, the shrubland monitoring site layout is based upon the existing Photographic Monitoring Sites (PMS) already installed on many leases. PMS sites may be used as RCM sites

The location chosen for a shrubland monitoring site should be:

- within the grazing radius from water (1.5 - 3.5km),
- preferred by livestock, and
- in 'fair' condition (has the capacity to improve or decline).

Ideally the site should contain 4 perennial shrub species important to the pasture type, of which 2 are 'desirable' species and 2 are 'undesirable' species, however it is recognised that 4 species may not always be present. You are responsible for choosing sites that best represent the range condition over your lease. If more plant species develop at a later stage you will be able to add them to your list for that site.



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To determine the condition of a shrubland monitoring site the density of plant cover is assessed. This involves the following steps:

1. Starting from the identification board (B on *Figure 1*), place a **measuring tape** clockwise around the perimeter and then up the centre of the site. This will split the site in half and aid the counting of shrubs.
2. Count and record the number of the selected indicator species in the site.
3. Note the occurrence of live perennial grasses in the monitoring site
4. Make an assessment of the soil condition as defined in the assessment sheet.
5. Take a photograph of the site making sure the site (from the identification board to the rear) fully fills the frame. It is recommended that these photos are taken with a digital camera as the photo-files can easily be saved onto the provided USB drive for submission to the PLB. Photos need to be taken from the 2nd star picket, 8.5 m from the front of the monitoring area. Adjust the camera zoom so that the site perimeter is just inside the photograph and, if possible, keep a small amount of sky in the top of the image. Please refer to *Figure 2*. It is important that when reassessing sites in future, photographs are always taken from this same position to ensure clear comparisons in rangeland conditions can be made.



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Figure 2: Photograph of a RCM site taken from second star picket and clearly showing the whole site.

At each re-assessment of a site (i.e. every three years) the occurrence of these same 4 species should be counted and reported. Again, the occurrence of perennial grass and soil stability should be noted, and a photograph of the site taken. Based on this data, an assessment of the **range condition trend** should be made by the lessee (i.e. assess whether the site has **improved, remained stable, or declined** since the last assessment). **All three** factors are required to make a judgment on the condition trend.

All this information should be forwarded to the PLB.

Queries about the installation of RCM sites can be directed to Land Management Remote, at the Department of Planning, Lands and Heritage via email at pastoralapprovals@dplh.wa.gov.au.

