# Monitoring Point Guidance

Long term monitoring is important to detect changes on the land and gain objective information on the progress towards sustainable management of the farm. The minimum requirements of the RWS are to have a formal monitoring plan and an adequate monitoring.

## What is a monitoring point system?

A monitoring system means setting a number of specific locations on your farm to be regularly checked. Regularly recording observations allows you to observe changes over time.

*For Land Classes 1-3*
Pasture, vegetation and soil monitoring are required.

*For Land Classes 4, 5*
Pasture and vegetation monitoring are required.

A Monitoring Point System involves three key steps:

1. Select monitoring points.
2. Select monitoring method at each point.
3. Record information annually from each point.

## Select Monitoring Points

Choose set points to monitor from. These points will be used every year.

GPS coordinates may help identify the points. They may also be marked with a post. Locations for monitoring should be chosen to include:

*Representative points:* Should reflect the general situation of a paddock. These points should be chosen to truly represent the overall area of interest. You may choose to select a point to represent each soil type or pasture type on your farm (e.g. high elevation, mid elevation, low elevation, or riparian zones).

*Critical points:* These points should be chosen based on the important changes that may be happening on the farm. For example, a patch where invasive species are taking over, or a fragile spot where there are active erosion processes.

*Benchmark points:* These points are selected as representative of the best state and trend of the site. It may or may not be inside the farm.

The number of points chosen for monitoring should be based on the size of the farm.

| Total Farm Area (hectares) | Minimum # of monitoring stations |
|---|---|
| 2500 or less | 3 |
| 10000 | 4 |
| 20000 | 6 |
| 60000 | 14 |

### Select Monitoring Methods

Monitoring methods vary in complexity, time required, cost, and quality of information. We have included descriptions of photographic plots, transects, and cages.

### Photographic plots

Photographs are regularly taken from a given point (e.g. a transect stake) in the same direction. The images can be used as a condition reference to estimate condition without completely repeating all measurements.

Photographic plots are cheap, easy to install and generate valuable information to track structural changes in soil and vegetation.

### Transects

Transects is a specific line or length of land that transects the pasture and allows the farmer to collect more detailed information, such as the percentage of each species on a site, the percentage of bare ground, or the number of plants utilized by the sheep.

This information provides information on the state of the vegetation and its long-term trend. The process is easily repeated to allow validation of recorded results.

*Line Transects* – A linear measurement of plant community and characteristics that can be used for site evaluation. Line transects usually involve randomly selecting a representative site and placing a marker. The evaluator randomly chooses a compass direction (the site and direction

will be marked and recorded for repeatability) and a line, tape, or rope of 50 or 100 meters is used to mark the line. Measurements of species occurrences, canopy, groundcover, and other factors can be recorded at predetermined increments along the line. This measurement process can be repeated each time by restringing the line and re-measuring the desired factors and elements.

*Pace Transects* – Similar to line transects but no line is necessary. A transect stake is established and a magnetic direction chosen by compass, just as with a line transect. The evaluator simply takes paces along the imaginary line direction and records the findings that occur at the point of his shoe or boot. This method should be conducted by the same evaluator each time – or by someone with a similar stride length and recording criteria – to maintain replication accuracy.

At least 30% of your monitoring points should be transects.

### Cages

Cages are set up at one location for the duration of a season. The cage prevents the area from being foraged by animals. This allows you to observe the growth rate of the site when undisturbed. New growth for the season can be accurately measured by comparing the inside of the cage with the outside. You can also observe how much the animals have eaten of the year's active growth. Cages may be used for multiple years to measure the cumulative effects of long term grazing in the area.

Other forms of monitoring may also be used.

### Record information

If you have never used a monitoring point system, the information collected during the first year of the monitoring point system is very important to define the current status of your pasture. This information should be as extensive as possible.

In following years, information should be collected and recorded at the same time of the year at each monitoring point.

| Monitor type | Complexity | Frequency | Information obtained |
|---|---|---|---|
| Photographic plot | Minimal | Once per year | Visual comparisons (vegetation and pasture structure) |
| Transects | Medium | Once per year | **Vegetation**<br>• coverage (type and number)<br>• invasive species<br>**Pasture**<br>• soil tests<br>• compaction<br>• presence of soil organic matter |
| Cages | Medium | One year, change position each year. | Vegetation<br>amount of new growth per season<br>forage rates |