LU Protocol

LAND USE AND SITE MANAGEMENT

Aim

To record location, timing and intensity of site management activities

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Rationale

In long-term monitoring studies, changes in land management can confound trends in measurements resulting from changes in extraneous factors such as climate and pollutants. Management should therefore be consistent from year to year, at least at the ECN Sampling Site (see LM Protocol). Ideally, management will be 'typical' of the management of similar ecosystems for the geographical area in which the ECN site lies. The ECN Site Manager should make every effort to ensure that the Sampling Site is managed in a consistent way.

Method

Detailed records of management activities at the ECN site, and particularly on the Sampling Site, should be maintained for incorporation within the ECN database. Where sites already have a detailed recording system for management, information about the system should be sent to the ECN Central Co-ordination Unit.

ECN sites have been selected to cover a wide range of ecosystems and therefore a wide variety of management activities are practised within them. It is therefore difficult to provide formal categories appropriate to all sites. However, Site Managers will be aware of the principal management activities occurring at their particular site. It is essential to record location, timing, intensity and method of the applied treatment or management. The most appropriate basic management units, eg fields or compartments, should be identified and coded on to a baseline map for consistent recording over the duration of the ECN programme. Records of management activities should include their map unit code, and the date or date range to which they relate. The map will form the basis for handling these management records within the ECN geographical information system (GIS).

Sampling Site

As much detail on management activities as possible should be recorded for the Sampling Site. Examples are woodland thinning, spreading fertilizer, introducing farm stock, harvesting and heather burning. When appropriate, the rates of these activities should be included, eg the dose rate for fertilizer, the basal area of trees removed, the number of cattle brought in to graze. Traumatic natural phenomena, eg flooding or woodland wind-throw, should also be recorded. The extent of a management activity or natural phenomenon should be recorded on a map of the Sampling Site. To simplify digitising these maps, a standard base map of the Sampling Site should be used on each recording occasion. This map should be large scale (1:2500 or greater) and should include the locations of the subplots used for the various ECN measurements.

ECN site

Some ECN recording, eg of vegetation, takes place over the whole ECN site. Annual records of land use and summary information about stocking rates and chemical applications should be maintained at all ECN sites, but where intensive agriculture is practised recording should be more frequent so that the full annual cycle of land use is recorded. Air photographs should be used as historic records of land use and also to plot precisely important features not shown on published maps, eg new field boundaries. Additional maps should be made to show traumatic natural phenomena and air photography may also be of helpful. Again, to simplify digitising these maps, a standard base map of the site should be used on each recording occasion. On sites smaller than 25 km^2, the resolution should be at a scale of 1:10 000 and on sites greater than this it should be at 1:25 000.

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