

MONITORING; IS IT OF USE IN INTEGRATION OF RESEARCH AND MANAGEMENT?

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The Macquarie Dictionary definition of monitoring is "to check, observe or record the operation of something without interfering with the operation". It was accepted that in natural systems, monitoring must provide long term records of ecosystem components, and facilitate measurement of the direction and rate of change in the system. This was the definition coming from the report by Friend (1987) from a workshop on remnants of native vegetation.

There was a consensus that monitoring must be structured so that results are independent of the observer, and that any monitoring system must be carefully designed; casual observations provide but anecdotal information.

It was agreed that monitoring is of use to both manager and researcher, and that it may help integrate research and management but examples of how were not discussed. There was an assumption that managers should do much of the monitoring whilst the researcher ensures the scientific integrity of design and methodology. Both manager and researcher are concerned with recording changes in the ecosystem they are managing and studying; and monitoring allows the changes to be recorded. Monitoring has an educational value for the manager in that it demonstrates the dynamics of ecosystems. The manager's monitoring may well (a) provide research problems for the researcher, and (b) when monitoring the effects of a researcher's proposed management procedure, will help prove or disprove the value of the procedure.

METHODOLOGY OF MONITORING

Much of the discussion revolved around the methodology of monitoring in the real world of limited resources. This was because the Department of Conservation and Land Management (CALM) is considering setting up long-term monitoring sites to provide baseline information on changes in the major ecosystems of Western Australia.

It was agreed that the objectives of any monitoring program have to be clearly set out. Some will be short-term to monitor the effects of a management operation, whilst others will be long-term (e.g. follow changes in an ecosystem).

The latter category may need to be of hundreds of years duration if changes occur as a consequence of rare events.

Measurements need to be kept to a minimum because of the shortage of resources and the problems of data storage. They should include information on the lithosphere and atmosphere as well as the biosphere otherwise the reasons for changes will be hard to determine.

A centralised data base system is desirable within CALM. This should be within a group that will provide advice on the design and analysis of monitoring systems.

REFERENCE

FRIEND, G.R. (1987). Monitoring of management practices. In: "Nature Conservation : the Role of Remnants of Native Vegetation" (ed. Saunders, D.A., Arnold, G.W., Burbidge, A.A. and Hopkins, A.J.M.). Surrey Beatty and Sons, Sydney.