

SCIENCE AND MANAGEMENT

EXAMPLES OF RESEARCH SUPPORTING EFFECTIVE MANAGEMENT

The success of research in assisting and guiding management is very much dependent on effective articulation of management issues and the collaboration of managers and researchers in field management programs that provide opportunities for research to be undertaken as an integral part of the management program, or in parallel with it such that adaptive management can be pursued as research results accrue.

Similarly research results must articulated in a 'management meaningful' way such that the implications for management can be readily identified and managers can readily respond to any new directions required of the management program.

Collaborative research and management must now generally be cooperative between three or more agencies to be able to attract appropriate levels of external funding to support the collaborative programs and associated adaptive management. Collaborative research is also seen as giving recognition of the management issues by the wider 'conservation community'. The need for research also assists priority setting for management programs.

A number of good examples of managers and researchers collaborating to the benefit of conservation outcomes are well known to 'alps' personnel but several examples are worth reviewing as to why they have been successful over the past four or five decades.

1. Summit area restoration and revegetation works program (SAWP)

This was undertaken by the NSW SCS between 1960 and 1974 following the removal of grazing from KNP. It was a success first and foremost as the research component was undertaken as part of the day-day field restoration works. Examples of research and field managers working closely together to guide the field works were exhibited in the issues of native plant establishment and soil mycelium levels; the application of organic mulching rates, timing and soil temperatures; zinc toxicity and the failure of some revegetation works, and the rate, timing and amount of fertiliser applications in native plant establishment.



2. Bog and fen restoration and research.

This field program has been a collaborative program between field managers and researchers for many years (40 +) being an identified specific restoration program of the summit area program. SCS, CSIRO, and Uni research personnel commenced field trials on peatbog restoration techniques in 1967 and the outcomes from the research were adapted and implemented over some 20 years. After the 2003 fires these techniques and approaches were immediately reviewed and again utilised in the \$2.6m NSW / ACT bog and fen restoration program. Additional research work was also undertaken by the interstate mire research group as part of the 2003 – 2008 restoration works, eg UV impacts on regenerating *Sphagnum* and the appropriate level of shading to promote active *Sphagnum* growth.



3. Alpine area restoration programs and alpine plant seed germination strategies.

- This ANBG / ANU / CSIRO / KNP program was established to address a recognised lack of knowledge in the restoration and rehabilitation work in the alpine / subalpine environments. A number of failures of the 1960 – 1974 summit restoration program were identified and attributed to inappropriate fertiliser applications, zinc toxicity impacts, poor mulching techniques etc but in a number of years, failure was not as a result of these factors. Other impacts / issues prevailed which research at the time identified as 'germination problems'. At the time (1970s) the problem was circumvented by not using seed with poor germination rates but this limited the native species available for restoration works. Germination and plant establishment research has more recently been undertaken at the ANBG / ANU / CSIRO as a collaborative program, funded by the ARGC. Some very interesting results from this research, in terms of germination strategies, provides an understanding of alpine plant establishment that will underpin future restoration programs.



4. Caring for our Australian Alps Catchments

