

## Measuring and evaluating performance in weed management projects

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**Summary** The development of performance measures for natural resource management projects can be a difficult task. Success in developing useful and accepted measures may quickly be eroded by: poor adaptability of indicators to other types of projects; relative cost and difficulty of the techniques involved; fear or lack of interest entrenched in perceptions of 'performance measurement'; and the sheer complexity of the systems under investigation. Weed management projects face particular challenges – weed invasion is an insidious and highly complicated phenomenon, and effective on-ground management is often made more difficult by lack of education and awareness in the community. This may be compounded by conflict between accountability requirements inherent in 'purchase/provider' models for program delivery, and reluctance to properly demonstrate that program delivery has been effective.

The NSW Noxious Weeds Advisory Committee makes recommendations to the Minister of Agriculture on more than \$7 million of weed management projects. NSW Agriculture administers the grants. Increasing accountability requirements for government grants have led to the progressive implementation of a policy requiring the inclusion of performance measures in grant applications. Such measures must be sufficient to enable practitioners to report on project performance against stated objectives. However, the selection of performance measures is left to the discretion of grant applicants. This has led to a high degree of variability, making it difficult to determine how effectively grant funds are being used across the state in combating what is possibly the worst form of environmental degradation in Australia.

Weed management projects require enormous levels of resources for control, regulatory, educational and awareness-raising activities, yet minimal research has been conducted into the development of measures to assess the effectiveness of such projects. Little or no guidance is available for practitioners, with key documents at the national, state and local levels failing to list meaningful performance measures for weed management. Many measures currently in use are based on inputs (for example, dollars expended) or activities (for example, number of brochures produced or mapping of

infestations) – 'busyness' measures – rather than being useful measures of effective program delivery. Mapping of infestations in particular is a difficult activity; given the variability in mapping capabilities across the state, it is almost impossible to determine what 100% of an infestation constitutes at any time, and equally almost impossible to determine whether reduction by X% has been achieved. The use of these types of performance measures may not be the most appropriate for demonstrating effective on-ground control of weeds.

This collaborative project, involving NSW Agriculture, the NSW Noxious Weeds Advisory Committee and local weeds authorities, aims to develop performance measures for weed management projects that are meaningful, relatively easy to measure and sufficiently flexible so that their usefulness can be maximized across different project types. The project is aimed at practitioners who physically implement weed management projects on the ground.

In developing performance measures for such projects, there is a need to determine what is in fact useful for both practitioners and funding bodies. This may involve refining current measures and/or developing new ones, using both quantitative and qualitative techniques. Current data collections will be assessed for their relevance, and any gaps where additional data collection is required will be identified. Ease of collection and use, required skill levels, costs, data handling issues, potential to bias results and soundness of the techniques all need to be taken into account. Performance measures and techniques will be tested using selected projects as case studies, in order to determine whether project objectives have been achieved. This will be conducted in conjunction with the work being undertaken by local practitioners.

The ultimate aim is to develop a manual and training program detailing the measures and techniques, advantages and limitations, resource requirements, and with case studies as demonstrations. This will be used to assist practitioners in effectively evaluating and reporting on the implementation of funded projects.

**Keywords** Performance measures, weed management, NSW Agriculture, Noxious Weeds Advisory Committee, local practitioners.