

Altering weed management priorities to ensure conservation outcomes are achieved: lessons from the Bitou Bush Threat Abatement Plan

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Summary Weed management and plant conservation have traditionally been separate fields, despite acknowledgement that weeds are a major threat to biodiversity. The separation has allowed the assumption that weed control will automatically lead to positive conservation outcomes to persist. To join the two fields, conservation outcomes must be a part of weed management strategies in which weed control is tailored to meet identified objectives such as saving a specific native species. The Bitou Bush Threat Abatement Plan (Bitou TAP) merges weed management and plant conservation at a policy level. Has this led to changes in management objectives and on-ground control programmes?

An assessment of some of the management programs at Bitou TAP priority sites highlighted a potential divergence between the policy and its implementation. Many sites had existing weed control programmes with aims different to that of the TAP, so implementation of the TAP at these sites also requires changing previously established priorities and/or pre-existing management mindsets based around the assumption outlined above. All weed control programmes have a degree of inertia, for both institutional and personnel reasons. This natural resistance to change must be considered when developing innovative programmes, because the policy can move too fast for the actual management to keep pace.

Numerous tools have been provided to help align the priorities of all stakeholders involved in implementation of the Bitou TAP, including a TAP website, a range of public awareness and educational activities, site management plans, monitoring guidelines, an identification guide to native plants at risk, and the TAP itself. However, several barriers still pose a hurdle for implementing the plan across 169 priority sites and 38 groups of stakeholders. Regardless, these processes have reduced the gap between policy and practice – a gap that should further reduce with time.

Keywords Bitou bush, threat abatement plan, conservation, biodiversity, management tools, stakeholders, management priorities.

INTRODUCTION

Bitou bush (*Chrysanthemoides monilifera* ssp. *rotundata* (DC.) Norl.) is an introduced environmental weed which poses a major threat to coastal biodiversity. According to the latest estimate, bitou bush has invaded over 80% of the NSW coastline (Thomas and Leys 2002) and complete eradication is unlikely. Bitou bush has been recognised as an invasive weed since the 1970s and control regimes have been occurring since that time (Weiss *et al.* 1998). However, understanding of the biodiversity at risk lagged behind management progress, in part because it has long been assumed that control of weeds will automatically lead to conservation outcomes (Downey 2008). The lack of integration between weed management and plant conservation has allowed this assumption to persist.

In 1999, bitou bush was recognised as a Key Threatening Process under the NSW *Threatened Species Conservation Act 1995* (TSC Act). In response to this listing, a Threat Abatement Plan (TAP) was approved under the TSC Act in 2006 that identified 158 plant species, three endangered plant populations and 26 ecological communities as being threatened by bitou bush (DEC 2006). The Bitou TAP prioritised 169 sites for control where significant conservation could be achieved for the biodiversity at risk. Thus the Bitou TAP has attempted to fuse the separate disciplines of weed management and plant conservation, but is this being supported through the on-ground control programmes?

CONSERVATION CHALLENGES

Below we present an assessment of the challenges in implementing the Bitou TAP.

Bitou TAP A core process in the development of the TAP was the prioritisation of sites where the greatest biodiversity outcomes would be achieved. The TAP identified 169 priority sites for control, spanning 38 different land tenures and more than twice this number of individual land managers. The NSW Department of Environment and Climate Change (DECC) is responsible for approximately half of the priority sites, with the remainder managed by the Department of Lands, local governments, private landholders and public trustees. Additional stakeholders include contractors, volunteers and community groups. Furthermore, the five coastal Catchment Management Authorities (CMAs) are engaging and supporting land managers in TAP implementation through delivery of funding from the Australian Government's Natural Heritage Trust (NHT). Thus the implementation of the TAP requires a collaborative approach among many diverse stakeholders.

As the TAP outlines a different approach to those generally typified by weed management (i.e. noxious weed control), many stakeholders were initially cautious about committing to the plan. This presented the first challenge to achieving conservation outcomes during the control of bitou bush through the TAP.

Stakeholder commitment To gain support for the TAP approach from land managers, a series of workshops was held in coastal NSW. This provided a platform for stakeholders to voice their concerns about implementing the TAP on the ground. It also allowed the TAP coordinators to provide advice and instruction about the TAP and additional resource tools that would be available to help put it into action.

Altering management priorities Few of the pre-existing programmes at priority sites in the TAP had the same or similar objectives as the TAP. Eradication of bitou bush was the main aim of these programs, and while some programmes aimed to conserve biodiversity, the specific biodiversity at risk was often not identified and targeted within management or monitoring strategies (also see King and Downey 2008). To overcome this problem a standard site management plan pro forma was developed along with standard monitoring protocols.

The site management plan pro forma was established to aid a site manager's transition to this new approach. The site management plans also give site managers greater ownership of their site and aid in further funding bids. All site management plans that are approved by the TAP coordinator are covered by a generic TAP scientific licence (under section 132C of the *National Parks and Wildlife Act 1974*). This

enables land managers to control bitou bush near threatened species and ecological communities if undertaken in accordance with the TAP and the conditions of the licence.

Additionally, incentive funds (NHT grant) were secured by the five coastal CMAs and DECC to implement the plan at a range of priority sites in the TAP that were currently unfunded or required additional resources. This funding provided the necessary encouragement for many site managers to control bitou bush in accordance with the TAP.

Implementing the TAP Initial review of the site management plans revealed that many site managers were trying to retain their existing control programmes. Whilst many of these control programmes led to the control of bitou bush, biodiversity conservation was not an objective. Interestingly, we noticed that some of these managers had contributed to or been involved in the development of the TAP and its objectives. In contrast, most of the site managers who had little or no involvement in the TAP development prepared site management plans consistent with the pro forma and objectives of the TAP. We acknowledge that it is difficult to change existing programmes, particularly if they are considered successful, as this may acknowledge some kind of failure. However, this resistance to altering management priorities reflects the assumption that control of bitou bush alone will automatically result in conservation outcomes. This assumption is unproven, and continued belief in it could lead to a waste of resources while the biodiversity at risk remains unprotected. Strategies to tackle this resistance to change require further work, however, the measures and experiences documented here will help resolve such issues for future weed management initiatives aimed at biodiversity conservation.

Achieving conservation outcomes Conservation outcomes can not be determined without monitoring. To ensure that monitoring is undertaken effectively, monitoring guidelines were developed and distributed to all site managers. From workshops and surveys, we found that site managers were apprehensive about undertaking monitoring as they felt they were lacking in the required resources and skills (King and Downey 2008). The monitoring guidelines provide a standardised methodology across a range of differing resource and skill levels. To assist with monitoring, an identification guide to the 158 species, three endangered plant populations and 26 ecological communities was developed. Many site managers were unsure of the identification in the field of the species threatened by bitou bush which influences

their ability to undertake monitoring and protect the species.

The TAP sets out a strategic approach to the control of bitou bush for biodiversity outcomes based on the best available knowledge. Compliance with the TAP should increase the success of land managers applying for funding, with formal records documenting the plan of action, desired outcomes and costs. The TAP therefore provides a valuable tool to guide investment in weed control, in an environment where needs far exceed the limited resources available.

CONCLUSIONS

The Bitou TAP is a working document that aims to achieve biodiversity conservation objectives through weed management. Producing the document may have been the easy part. Implementing the TAP to ensure the conservation outcomes are realised has proven to be more difficult than anticipated. Altering some people's perspectives and management approaches is integral to the success of the TAP, and must be carefully considered during the development of any new programmes. With the additional resources and training provided to help implement the TAP on the ground, we are positive that this type of strategic approach will be universally adopted by stakeholders and site managers, and eventually be replicated for a range of other environmental weeds threatening biodiversity within NSW and potentially other parts of Australia.

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