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Future directions for bitou bush and boneseed management in Australia

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In August 2007, a national bitou bush (*Chrysanthemoides monilifera* subsp. *rotundata* (DC.) T.Norl.) and boneseed (subsp. *monilifera* (L.) T.Norl.) forum was held in Geelong, Victoria, as part of the bitou bush and boneseed Weeds of National Significance (WoNS) program. The forum summarized the latest research and management of these two weeds. Approximately 70 people from throughout southern Australia and New Zealand attended the forum. Participants included community members, government agency staff, students, scientists, private contractors and non-government organization representatives. In addition to the forum talks and posters (also presented in this journal edition), a facilitated session was held to establish the future directions of the bitou bush and boneseed WoNS program in Australia.

Two national bitou bush and boneseed forums were held previously, with the last one being a decade ago (see Love and Dyason 1985, Holtkamp *et al.* 1997). In the intervening period, a significant amount of information has been published or collated, particularly for bitou bush. This is reflected in the recent revision to the Biology of Australian Weeds paper (see Weiss *et al.* 2008 – this edition). The WoNS program, supported by Australian Government funds, has assisted with the production of a large amount of this information, in part through the appointment of a dedicated bitou bush and boneseed coordinator and a national education and awareness campaign (see Holland Clift *et al.* 2006). Also, the increased understanding of both weeds has shown that the subspecies differ in ecological niches, distribution, impact and management techniques, and this has reinforced the need to separate

management and research efforts for each subspecies.

Here we present a summary of the outcomes of the facilitated forum session aimed at establishing future directions of the national bitou bush and boneseed WoNS program. The forum participants were asked to list the: (i) key management issues for bitou bush and boneseed and (ii) main areas where they would like to see action in the future.

(i) *Key issues.* There were eight key points as determined by forum participants being (in no order of priority), participants:

1. were impressed by the large number of people and organizations involved in the management of bitou bush and boneseed in Australia;
2. realized that individuals are not working alone and there is a well-established network to tap into;



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Table 1. List of future priorities actions for the National Bitou Bush and Boneseed WoNS Program.

No.	Priority Action	Number of votes [#]
1	Continue the public education program and national coordination	52 (18%)
2	Develop holistic approaches to weed management for bitou bush and boneseed (i.e. involving all weed species)	44 (15%)
3	Secure and maintain long-term funding (across all levels)	41 (14%)
4	Increase community participation and capacity building (especially with private landholders and agencies) as well as supporting 'champions'	38 (13%)
5	Continued research into improving control techniques and integration of them into management strategies (including biological control and fire) along with research into ecology/biology	35 (12%)
6	Establish better site management protocols post-control (including revegetation)	26 (9%)
7	Identify assets at risk (e.g. habitats, sites, species; particularly for boneseed)	22 (8%)
8	Development of best practice guidelines	17 (6%)
9	Establish containment and exclusion zones (at a range of scales – i.e. local to national)	10 (4%)

[#]Percentages of all the votes cast, total number was 285 votes or 57 people who voted (each with 5 votes).

3. recognized that there is high value in a coordinated approach, as has occurred for bitou bush in New South Wales;
4. expressed the opinion that long-term commitment and persistence to bitou bush and boneseed management is critical;
5. recognized a need for improved knowledge transfer;
6. acknowledged that management of bitou bush and boneseed must be holistic and incorporate secondary weed control;
7. expressed the opinion that containment and eradication programs are essential and;
8. recognized the importance of post-control management (e.g., restoration) for bitou bush and boneseed infested sites.

(ii) *Main areas for action in the future.* The ideas listed by individuals were assessed, refined, and condensed by other members of the forum to produce suggestions for action. All participants then voted for their five most preferred actions. The suggestions and votes were then combined to provide a priority list of future actions (Table 1). These nine broad actions incorporated a number of more specific actions. Where those specific actions were deemed to be important we included reference to them in brackets (see Table 1).

These nine priority actions illustrate support for the continuation of the national program. With the exception of actions 2 and 6, they are similar to actions outlined in the National Bitou Bush and Boneseed WoNS Strategy (see ARMCANZ *et al.* 2000). This suggests that the national strategy, while several years old, is still relevant and that achieving many of these actions requires a long-term commitment. The role of the National Coordinator has contributed significantly towards actions 1, 4, 5, 8 and 9 over the past few years

and such progress could not have been achieved without this dedicated full-time position or significant Australian Government funding for the WoNS program, particularly the 'Defeating the Weeds Menace' initiative.

Priority actions 2 and 6, however, reflect a change in management direction from the National Strategy in that they address broader management of sites over the long-term with respect to other weed species and post-control recovery of sites. There are several factors that may have contributed to this change in focus over the past seven years, being: (i) the benefit of 20+ years of control and refinement of management techniques, particularly for bitou bush; (ii) the production of the NSW Bitou Bush Threat Abatement Plan (DEC 2006), which has moved the focus from control *per se* to control directed at conservation of threatened species and; (iii) education programs aimed at holistic weed management, partly administered through the WoNS program.

Given the significant achievements of the bitou bush and boneseed programs over the past decade (e.g. most of the recommendations outlined by Groves (1997) have been achieved, as well as significant progress towards actions in the National Bitou Bush and Boneseed Strategy), this forum was a good opportunity to reflect on these achievements and establish future directions. The key outcomes of the forum and priority actions identified by forum participants reflect the widespread community support for the program. In addition, it is anticipated that the outcomes of this forum (including these proceedings) will help to maintain future commitment to bitou bush and boneseed management in Australia.

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