

REVIEW OF PROGRESS TOWARDS THE BITOU BUSH & BONESEED STRATEGIC PLAN 2008-2009



Prepared by: Hillary Cherry
Bitou Bush and Boneseed Coordinator on behalf of the
National Bitou Bush & Boneseed Management Group

NSW Department of Environment, Climate Change & Water
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Australian Government



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Executive Summary

In 2008-09, over \$5.2 million was invested by governments, regional bodies and community volunteers to prevent the spread and reduce the impact of bitou bush and boneseed, clearly demonstrating the leverage derived from the Australian Government's investment of \$1.3 million. This has resulted in more strategic management and control of bitou bush and boneseed, greater participation, particularly voluntary contributions from the community, and changes in attitudes to the management of these weeds.

Preventing the spread of bitou bush and boneseed

The national program continued to reduce the invasion of these weeds by stopping new introductions and implementing extensive programs for eradication and containment. Eradication programs continue in Western Australia for boneseed and in Queensland for bitou bush. Efforts are also underway to eradicate bitou bush in Victoria and eradicate bitou bush outside the core areas in New South Wales (NSW). Studies are also in progress on potential bitou bush and boneseed hybrids that, if allowed to spread, could have negative impacts on biodiversity.

Containment lines continue to prevent further spread in NSW for bitou bush and in South Australia and Tasmania for boneseed. Significant progress was made towards eradication of boneseed in southern and western NSW. Seed longevity studies undertaken in 2008 indicate that seeds maybe shorter-lived than previously thought, which has implications for future eradication and containment efforts.

New mapping has revealed that heavy (>40% cover) bitou bush infestations decreased by 39% nationally between 2002 and 2008.

Minimising adverse impacts of bitou bush and boneseed on biodiversity

Over 1,000 community groups are using the national program's best practice management to reduce the area and impact in core infestations.

In January 2009, the Hon Peter Garrett MP, Minister for the Environment, Heritage and the Arts, launched the *Bitou Bush Management Manual*, which provides the most updated best practice management information.

The impact of bitou bush continues to be reduced by the release of 3 biological control agents. For boneseed, a promising new agent, the boneseed leaf buckle mite, was released in 2008 with the community assisting with the distribution of these agents to maximise their range.

Priority biodiversity assets continued to be protected through implementation of strategic control programs such as the bitou bush Threat Abatement Plan.

Research is also underway to identify biodiversity most at risk from boneseed invasion to prioritise control efforts.

Maintaining national commitment to management of bitou bush and boneseed

A major success of national coordination has been the increase in awareness, capability and willingness to take action. Stakeholders, from governments to regional bodies to the community, have increased commitment to managing bitou bush and boneseed and investment has increased significantly, attracting up to five-fold matching of Australian Government program funds since 2007.

The National Coordinator continues to work to raise awareness and encourage partnerships and nationally consistent best practice management. Awareness and education activities, partnership development, resource support and opportunities provided by the national program have resulted in a truly national commitment to management of bitou bush and boneseed among stakeholders. with a significant increase in community involvement, stakeholder effort and investment and, most importantly, on-ground results.

National coordination, and associated national funding, has facilitated actions that would not have otherwise occurred and initiated many others, which has resulted in significant progress in reducing the impact of bitou bush and boneseed. However, it is recognised further coordinated efforts are still needed to improve boneseed management.

Future activities identified by the National Bitou Bush and Boneseed Management Group include development of restoration guidelines to support holistic management, more social and behaviour-change research to maintain community momentum and sustained long-term support and resourcing for community volunteers.

Introduction

This report provides an overview of the actions taken to achieve the goals of the Bitou Bush and Boneseed Strategic Plan and its vision, *Working together to arrest the spread and minimise the impact of bitou bush and boneseed in natural ecosystems*.

History and impact of bitou bush and boneseed in Australia

Bitou bush and boneseed (*Chrysanthemoides monilifera* subsp. *rotundata* and *C. monilifera* subsp. *monilifera*, respectively) are highly invasive environmental weeds that endanger Australia's natural ecosystems. Bitou bush threatens coastal plant communities in New South Wales, Victoria and south east Queensland, while boneseed poses a serious threat to native bushland across NSW, South Australia, Tasmania, Victoria, and Western Australia.

Bitou bush and boneseed are both natives of South Africa. Boneseed was first recorded as a garden plant in Sydney in 1852 and by 1948 it was present in all southern states. Infestations appear to have resulted from garden escapes. The earliest records of bitou bush are from the Newcastle area in 1908, where it was accidentally introduced in ballast. From 1946 to 1968, bitou bush was planted along the NSW and Queensland coasts to reduce dune erosion and assist in post-mining rehabilitation. These plantings contributed significantly to spread, and bitou bush now impacts over 80% of the NSW coastline.

Bitou bush and boneseed pose a major threat to Australia's biodiversity because they reduce the abundance and diversity of native species and adversely affect the structure and function of natural ecosystems. Over 200 plant species and ecological communities in Australia are negatively impacted by these weeds and large areas of Australia are still susceptible to invasion. Predictions indicate that these weeds have the potential to invade over 120 million hectares of Australia if effective control and containment programs are not implemented and maintained.

A national solution

In 2000, relevant Ministerial Councils approved the Bitou Bush and Boneseed Strategic Plan. The Plan targets resources to the most critical issues through a range of agreed actions involving all levels of government and the community. The focus is on improving control techniques, refining and adopting integrated management strategies and coordinating actions at national, state, regional and local levels. Priority is given to enhancing community involvement by developing partnerships between stakeholders, with specific recognition of the important role of volunteers.

The Australian Government and the NSW Department of Environment, Climate Change and Water support the National Coordinator and the National Bitou Bush and Boneseed Management Group (NBBBMG), who oversee implementation of the Strategic Plan. In addition, state agencies and Natural Resource Management (NRM) bodies in NSW, Queensland, South Australia, Tasmania, Victoria, and Western Australia provide considerable support to the program.

The National Coordinator and NBBBMG work to develop lasting partnerships between these agencies and community stakeholders to ensure continued support for the Strategic Plan. Successful implementation of the Plan requires long-term commitment of resources and enduring community support. These resources must largely be provided from government agencies and community volunteers, as bitou bush and boneseed primarily impact environmental assets on public land.

Bitou bush and Boneseed Program Outcomes 2001-2008

The three major goals of the Strategic Plan are to prevent spread, to minimise the adverse impacts and to maintain national commitment. While action to prevent spread and minimise impact of bitou bush and boneseed was being undertaken at local and regional levels for many years, the appointment of a National Coordinator, in 2005, provided a focus for consistent national action with further investment from the Australian Government, state agencies, regional bodies and the community.

Goal 1: Preventing the spread of bitou bush and boneseed

The national program has reduced the invasion potential of bitou bush and boneseed by stopping any new introductions and implementing extensive eradication and containment. The national programs achievements include:

- Bitou bush and boneseed are prohibited entry into Australia and banned from sale by all jurisdictions ensuring that there are no further deliberate introductions.
- Northern and southern containment lines are in place for bitou bush to reduce further spread. There is active support from regional bodies and the community to constantly monitor areas outside containment lines to find and destroy all bitou bush plants. The Northern Containment line at the NSW/Qld border, together with the Queensland bitou bush eradication program are protecting Queensland from the threat. The Southern Containment line at Jervis Bay, has advanced over 100 km north since 2002 and continues to protect Victoria and southern NSW.
- Boneseed is under eradication in Western Australia and outlier populations in Tasmania and NSW are subject to control. The Western Boneseed Containment line, west of Adelaide, together with the Western Australia boneseed eradication program protect over 40 million ha potentially at risk from boneseed invasion.
- With the involvement of thousands of community groups (over 600 alone for bitou bush) all plants outside containment lines are identified and controlled.
- Improved mapping at national, regional and local levels provides improved capacity to develop effective national management, which provides knowledge on where to direct efforts to control outliers and set containment boundaries.
- Baseline data and mapping generated through the national program now provide a gauge for future success.

Goal 2: Minimising adverse impacts of bitou bush and boneseed on biodiversity

The use of best practice management by stakeholders, including over 1000 community groups, continues to reduce the area and impact of bitou bush and boneseed. Biological control agents have been successfully released to assist in reducing the impact of bitou bush. Establishment of containment zones has allowed a focus on protecting key assets within the containment zone. Key achievements of the program include:

- Protection of priority biodiversity assets in accordance with priorities identified through the bitou bush Threat Abatement Plan (TAP). 106 priority biodiversity sites, including World Heritage sites, are being protected through TAP implementation, which is currently about 60% complete. The TAP aims to integrate regional, local and community plans to protect biodiversity into the future.
- Three biological control agents significantly impact bitou bush throughout core infestations. Seed success is being reduced as much as 80 per cent and this success is expected to continue into the future.

- The provision of best practice advice for both weeds, including consistent information on identification and impact. Best practice publications provide knowledge and increase the capacity and capability of the community and others to manage bitou bush and boneseed through the likes of improved aerial spraying methodology, TAP resources and management guidelines.
- Identification and control of outlier populations of bitou bush and boneseed has reduced the impact of weeds outside of core infestations.
- Improved aerial spot spraying techniques developed for bitou bush are now available for use on other weeds.

Goal 3: Maintaining national commitment to coordination and management of bitou bush and boneseed

Since 2007 there has been a five fold matching of the Australian Government's investment in the management of both weeds, which reflects the programs success in increasing the awareness of governments, regional bodies and the community in tackling these weeds. Key achievements from the national program include:

- The provision of resources to support community action, awareness material and assistance to develop partnerships has improved stakeholder action
- Targeted and strategic management planning to assist the actions and plans of states, regions and the community
- Providing a catalyst to action. Five NSW coastal NRM regions work together and incorporate bitou bush management strategies into their respective regional investment plans to protect biodiversity through targeted bitou bush control.
- A focus on raising the awareness of young people through significant national educational initiatives. *Weeds Attack!* is an innovative education tool (based on bitou bush) being used in NSW schools in conjunction with the *Weed Warriors* program. Students and teachers are gaining greater knowledge of weeds and how they can help to prevent the problem. This initiative continues to be very successful.
- On-going cooperative partnerships ensure continued action at local and regional levels. The 2007 Bitou Bush & Boneseed Forum and other extension events have created long-lasting networks and partnerships for the future.

Bitou bush and Boneseed Program Outcomes in 2008-09

The National Coordinator, National Bitou Bush and Boneseed Management Group and stakeholders have worked together to make significant progress. A summary of significant outcomes from 2008-09 is presented below.

Goal 1: Preventing the spread of bitou bush and boneseed

The National Program's priorities for 2008-09 include maintenance and enhancement of the national eradication and containment zones and improvement of national, regional and local maps and distribution data.

National bitou bush maps were revised in 2008 providing a better understanding of the threat of bitou bush and allowed stakeholders to gauge the success of bitou bush programs. For example, data analysis revealed that from 2002 to 2008, the density of bitou bush nationally in the 'heavy' class (>40%) has decreased by 39%. These achievements are due to efficient use of integrated weed management practices, including aerial and ground spraying and effective biological control, which are supported by the national program. Results confirm that regional groups are getting a strong benefit from being involved in the national program and its associated activities.

The successful “Boneseed Blitz” awareness campaign in September 2008 helped engage the community and land managers in the Western Australian boneseed eradication program. As a result, three new boneseed infestations were reported and controlled. Boneseed was also one of four weeds featured by the Department of Agriculture and Food WA at the Royal Perth Show display. At the time of writing, all known boneseed in Western Australia is under active management and should lead to eradication of boneseed from Western Australia.



In Victoria, researchers suspect hybridisation may be occurring between bitou bush and boneseed. This could be extremely detrimental to the biological control program and hybrids could present a further threat to the environment. The National Coordinator is working with CSIRO scientists to determine if hybridisation is occurring.

The Victorian Government has completed a feasibility study that indicates it would be possible to eradicate bitou bush, including the entire suspected hybrid population in Victoria, as well as outlier populations west of the southern bitou bush containment line in NSW, within ten years. Funding is now being sought to implement this eradication program, as control of hybrid and outlier populations is a high national priority.

Discussions are continuing in Victoria and NSW on the possibility of boneseed containment zones to prevent northward spread. Actions in NSW strongly support efforts to establish containment zones in Victoria. The majority of local government areas in southern and western NSW approved legislative re-classification of boneseed to ‘eradication’ status with the remaining councils agreeing in-principle. A formal submission to reclassify is expected in 2010.

Tasmania continues to implement effective control of outlier boneseed populations. The Tasmanian “Boneseed Blitz” in October 2008 resulted in greater community awareness, engagement and action. The majority of infestations are now confined to core areas in the South and North NRM regions. All boneseed in the Cradle Coast NRM region of Tasmania has been extirpated and continued awareness and control ensures this region (1/3 of the State) will remain boneseed-free for the future.

Researchers, land managers and the community are working together on seed dynamics research, with over 200,000 seeds collected and subjected to longevity experiments. The laboratory studies have revealed that bitou bush and boneseed seeds may be shorter-lived than previously believed. Long-term seed burial studies will confirm the results of the study over the next ten years. The results of both studies will inform management and are especially critical for determining success of eradication programs.

Goal 2: Minimising adverse impacts of bitou bush and boneseed on biodiversity

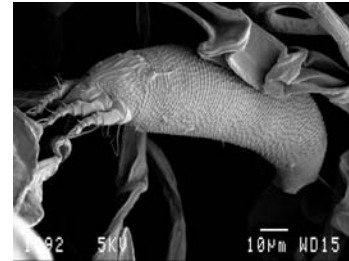
Reducing the impact of bitou bush and boneseed is critical to protecting Australia’s biodiversity. The national program’s key goals for 2008-09 included the introduction and assessment of biocontrol agents, refinement and adoption of best management

practices, identification of assets most at risk, and prioritising areas for protection and control.

In January 2009, the Hon Peter Garrett MP, Minister for the Environment, Heritage and the Arts, launched the *Bitou Bush Management Manual* which provides the most updated best practice management information, as well as all the information necessary for community members to understand and engage in the bitou bush program. The manual was developed through extensive consultations with land managers and the community to ensure that all aspects of management were included. Outcomes from the 2007 National Bitou bush & Boneseed Forum ensured the content of the manual was aligned to the needs of the community, for example, with the inclusion of restoration information and extensive guides to where the community fit into weed management.



Excitement spread across the boneseed program in August 2008 when the boneseed leaf buckle mite was released for the first time in Australia. The National Bitou bush and Boneseed Management Group visited the Victorian Department of Primary Industries Laboratories in Frankston to assist with the first release from quarantine. Since then, there have been over 80 releases by researchers and the community in Victoria, South Australia and Tasmania with promising signs that the mite will reduce the vigour of boneseed in the future. The national program also sourced funding to continue future releases and expand community capacity to participate in biological control redistribution for bitou bush and boneseed through 2011.



Implementation of the bitou bush Threat Abatement Plan (TAP) continues along coastal NSW. Monitoring guidelines to measure the response of native biodiversity to bitou bush control are now available. Guidelines are being delivered to the community through NRM regions, who are providing training and support for implementation. This is increasing community capability to monitor and report on their efforts, as well as undertake better adaptive management. The baseline data generated will also assist future monitoring and reporting efforts.

The national program's support for the TAP has increased the social engagement in biodiversity protection and lead to greater awareness of weed impacts to biodiversity. Institutional change has occurred that ensures stakeholders (e.g. within regulatory agencies and regional and local institutions) are managing bitou bush in a holistic manner to protect biodiversity assets.

The national program is seeking to achieve similar results to the bitou bush TAP for boneseed, which is spread over a larger area and more diverse range of vegetation than bitou bush. While there is still considerable work to be done, research is in progress to identify sites and communities most at risk from boneseed invasion and set monitoring priorities. The current study is 40% complete and will provide the first step to prioritising sites for control nationally to achieve the strategic protection of biodiversity. Results are expected in June 2010 and should provide a greater understanding of boneseed impacts and identification of the priority assets impacted by boneseed to allow more effective planning.

Goal 3: Maintaining national commitment to coordination and management of bitou bush and boneseed

National coordination has greatly increased awareness, capability and willingness to take action among the community, land managers and government agencies. Community drive and action is essential to ensure future management because there is no economic incentive to manage the environmental impacts of these weeds.

The national program's key goals for 2008-09 include providing support for volunteers and expanding the volunteer effort, increasing the recognition and understanding of the impact of bitou bush and boneseed, providing extension materials and promoting communication and information exchange.

Nationally coordinated awareness efforts have broadened the range of stakeholders engaged in bitou bush and boneseed management and led to additional investment in management and control. Partners invested over \$6 million towards bitou bush and boneseed management in 2008-09. Despite prevalent budget constraints in the natural resource management realm, there was no significant decrease in investment from the previous year. Investment levels continued the trend for state, regional and local government and the community to invest five times that of the Australian Government, a trend that has occurred for the last three years.

Critically, community volunteers provided *more than half* of the \$5.2 million matching contribution in 2008-09, reflecting the dedicated community effort and reinforcing the need to provide community partners with strong support. Continued support and resourcing to date has led to greater participation and behavioural shifts to better management of bitou bush and boneseed, as well as an increase in voluntary contribution to bitou bush and boneseed management from the community.

To assist the community and land managers, the national management group updated the bitou bush and boneseed National Priority Action Frameworks in 2008. These frameworks distil priority goals and actions from the National Strategy and enable stakeholders to plan strategic projects in-line with national priorities.

From December 2008 to March 2009, the National Coordinator organised multiple meetings (see Appendix C) to facilitate cross-regional partnerships for Caring for Our Country project development. Some of the most productive outcomes of these meetings are the partnerships that were formed, which are expected to continue into the future. For example, the Tasmanian Boneseed Steering Committee, which was organised by the National Coordinator in 2007, has expanded into the Tasmanian WoNS Steering Committee, which streamlines WoNS activities across the State and ensures coordinated action. In Western Australia, new invasive species working groups have formed out of workshops organised by the National Coordinator. These cooperative partnerships ensure a focus on bitou bush and boneseed (and other WoNS) as well as continued investment and resourcing of programs at local and regional/cross-regional levels.

Another outcome of national coordination is a partnership between the Invasive Animals CRC, the NSW Aboriginal Land Council, the NSW Department of Education and Training and the bitou bush and boneseed program to further develop educational materials focused on invasive species. This was prompted by the success of *Weeds Attack!*, an educational resource developed by the national program in conjunction with education experts. *Weeds Attack!* was launched in July

2008 and is now being used by teachers throughout NSW to educate students about weeds.

After using this resource, teachers are now seeking similar educational material that integrate weeds and other invasive species. The partners have developed a project to provide these resources and are now seeking funding for development. As knowledge is power, it is critical to provide education resources and integrate them into the school curriculum, where they will continue to educate the land managers of the future about the impacts of weeds and other invasive species.

Throughout 2008-09, the National Coordinator worked to raise awareness and encourage nationally consistent best practice management, which has led to increased desire and ability of stakeholders to better manage bitou bush and boneseed (see Appendix C for detailed activities). These national awareness activities benefit regional and local groups and have helped community groups engage new members. There is also an increased cross-community and cross-generational awareness of the weed problem, including among school students, land managers and community groups. The community is now empowered with knowledge and capability to add significant value to the Government's investment.

Thanks to awareness and education activities, partnership development, resource support and opportunities provided by the national program, there is a truly national commitment to management of bitou bush and boneseed among most stakeholders. This is evidenced in the quantified increase in community involvement, stakeholder investment and effort and, most importantly, on-ground results.

Future bitou bush and boneseed program opportunities

While a fundamental and lasting change towards effective management of bitou bush and boneseed has occurred in many regions, there is still a need for concerted effort to improve boneseed management. Boneseed's ability to invade a range of habitats is greater than for bitou bush, and therefore requires a greater effort to achieve success.

Significant effort was directed to the management of bitou bush prior to the start of national coordination, however, there was no nationally coordinated action on boneseed prior to 2005. The national program must focus on implementation of national action on boneseed to the same standard as action on bitou bush. This will include:

- ▶ Compile information on natural assets for protection from boneseed and prioritise sites for control nationally;
- ▶ Establish Northern and Eastern containment zones for boneseed while maintaining the western containment line, including the WA eradication program.
- ▶ Increase awareness of the threat of boneseed;
- ▶ Further research to establish other biological control agents for boneseed, with particular support for the boneseed rust agent currently under development;
- ▶ Extend herbicide technologies to boneseed (e.g. aerial spot spraying) and develop contingencies to manage boneseed after wildfire;
- ▶ Develop and implement site specific management plans; and
- ▶ Improve and extend engagement and commitment of NRM regions and some jurisdictions on boneseed.

Areas for future bitou bush and boneseed action include:

- ▶ Establish a system for national collation and storage of spatial data, improve and extend baseline data, mapping and analysis to prevent further spread;
- ▶ Assist in directing limited resources to highest priority strategic containment and seek further resources;
- ▶ Develop restoration guidelines to support holistic management of bitou bush and boneseed;
- ▶ Undertake social and behaviour change research and monitoring to ensure adoption and efficiency of extension and best practice methodology and more effective targeting of awareness activities;
- ▶ Increase the capacity to influence funding priorities with the opportunity for the National Bitou Bush and Boneseed Management Group to recommend priorities for funding;
- ▶ Maintain community momentum and foster sustained long-term support and resourcing for volunteers; and
- ▶ Maintain community and institutional focus on the importance of weed research.

Conclusion

National coordination over the last four years, and associated national funding, has facilitated actions that would not have otherwise occurred and initiated many others, bringing management of bitou bush and boneseed to a point where significant progress in reducing impact is occurring, however further work is still needed to achieve boneseed outcomes and program goals. Successful implementation of containment and eradication programs, availability of effective control options and widespread community support offer considerable hope for the future.

References and Publications from 2008/09

* Denotes resource available at www.weeds.org.au/WoNS/bitoubush.

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- Mason, T.J., French, K., and Lonsdale, W.M. 2009. Do graminoid and woody invaders have different effects on native plant functional groups? *Journal of Applied Ecology* 46:426-433.
- *N&YNRM and EPNRM Boards (Northern & Yorke and Eyre Peninsula Natural Resource Management Boards) (2008). Ten Year Boneseed Management Plan. Eyre Peninsula NRM Board, Port Lincoln SA.
- Schoeman, J., Steadman, K.J., Buckley, Y.M., and Cherry H. (in press). Inter-population variation in seed longevity for two invasive weeds: boneseed and bitou bush (*Chrysanthemoides monilifera* ssp. *monilifera* and ssp. *rotundata*). *Weed Research*.
- *Winkler, M.A., Cherry, H., and Downey, P.O., editors. 2008. Bitou Bush Management Manual: Current Management and Control Options for Bitou Bush (*Chrysanthemoides monilifera* ssp. *rotundata*) in Australia. Department of Environment and Climate Change (NSW), Sydney.

Further bitou bush and boneseed references are available from the National Coordinator and are documented in previous reports.

Appendices

Appendix A – Investment Information July 2008 – June 2009

Please see report for analysis.

Significant bitou bush and boneseed projects: July 2008 – June 2009

<u>Project Location</u>	<u>Project</u>	<u>Project Partners</u>	<u>State, regional local and community investment</u>	<u>Australian Government investment</u>
National	Introducing LWSF for <i>C. monilifera</i> biocontrol	VIC DPI AWRC	\$5,000	\$ 5,000
National	National program for release of Boneseed leaf buckle mite	Vic DSE/DPI TAS TIAR DWM	\$ 161,419	\$ 156,680
National	Boneseed impacts to biodiversity	Wollongong Uni AWRC	\$24,500	\$ 62,054
National	Restoration guidelines for building weed-resistant and biodiversity rich coastal communities	SCBBTF Wollongong Uni CFOC	\$ 51,070	\$ 65,634
NSW Coast	Strategic control of Bitou bush to protect biodiversity	5 coastal CMAs CFOC	\$ 269,140	\$400,000
NSW Coast	Bitou bush removal in Myall Lakes NP Ramsar site	DECC NSW CFOC	\$110,000	\$113, 575
South Australia	Battling boneseed in Upper SE & MDB regions of SA	SE & MDB NRM CFOC	\$ 178,493	\$ 156,190
Tasmania	Progressing natl strategic control of boneseed and asparagus in S Tasmania	NRM South CFOC	\$ 63,754	\$ 59,862
NSW, VIC & TAS	Coastcare – small grants pertaining to bitou bush & boneseed	Multiple CFOC	\$ 198,000	\$ 182,000
National	National Bitou Bush and Boneseed Management Coordinator	DECC NSW CFOC	\$ 156,300	\$ 136,900
TOTAL	Investment in significant bitou bush and boneseed projects		\$ 1,207,676	\$ 1,224,320
Additional investment	Local, state, regional & community programs in addition to projects listed above	NSW, QLD, SA, TAS, VIC and WA	\$4,045774	
Grand Total			\$5,253,450	\$1,224,320

Budget Statement: National Coordination of Bitou Bush and Boneseed 2008/09

2008/09		Planned budget		Actual Expenditure	
Employees & Positions Held	Recipient's Contributions (without GST)	Funds paid by the Commonwealth (without GST)	Recipient's Contributions Expended (without GST)	Commonwealth Funds Expended (without GST)	
Co-ordinator salary and on-costs		\$97,350		\$97,350	
NRM groups, state /territory community support inputs, NBBBMG	\$ 152,500		\$158,500		
A Total Employment Costs	\$158,500	\$97,350	\$158,500	\$97,350	
Operating Cost Items	Recipient's Contributions (without GST)	Funds be paid by the Commonwealth (without GST)	Recipient's Contributions Expended (without GST)	Commonwealth Funds Expended (without GST)	
Management Group travel & meeting expenses		\$12,750		\$12,750	
General operating costs incl workshops	\$18,000	\$19,850	\$18,000	\$19,850	
Community Awareness incl research	\$4,000	\$6,950	\$8000	\$6,950	
Financial Administration		\$300	\$450	\$300	
B Total Operating costs	\$22,000	\$39,850	\$26,450	\$39,850	
C Total Cost (without GST) (A+B)	\$180,500	\$137,200	\$184,950	\$137,200	
D GST (10%)	\$18,050	\$13,720	\$18,495	\$13,720	
E Total Cost (including GST)	\$198,550	\$150,920	\$203,445	\$150,920	

Appendix B - Bitou Bush & Boneseed Management Group Members

National Bitou Bush and Boneseed Coordinator

Hillary Cherry, NSW Department of Environment, Climate Change and Water

Chair and NSW Community Representative

Bruce Thom, Visiting Professor University of Sydney and Wentworth Group of Concerned Scientists

NSW Local Government/Community Representative

David Pomery, Illawarra District Noxious Weeds Authority
(Outgoing: Ian Turnbull, Bellingen Shire Council May 05-April 09)

NSW Agency Representative

Paul Downey, NSW Department of Environment, Climate Change and Water

ACT Community Representative

Gavan Cattanach

QLD Agency Representative (associate member)

Clyde Mcgaw, Department of Primary Industries, Biosecurity Queensland

SA Community Representative

Peter Tucker, Rural Solutions SA

SA Agency Representative

Shauna Potter, Department of Water, Land and Biodiversity Conservation

TAS Community Representative

Jamie Cooper, Feral Management Solutions
Outgoing TAS Community Representative and Chairperson
Peter McGlone, Flagstaff Gully Landcare Group(May 06-June 07)

TAS Agency Representative

David Lane, Department of Primary Industries and Water

VIC Community Representative

Margaret Macdonald, ANGAIR – Friends of Aireys Inlet Wetlands

VIC Agency Representative

Anne Dennis, Department of Sustainability and Environment
David Roberts, Parks Victoria – You Yangs Regional Park

WA Representative

(currently vacant)

Research (Biological Control) Representative

Tom Morley, Department of Primary Industries - Frankston

National Weeds Coordinator (ex-officio member)

John Thorp, National Weeds Management Facilitator

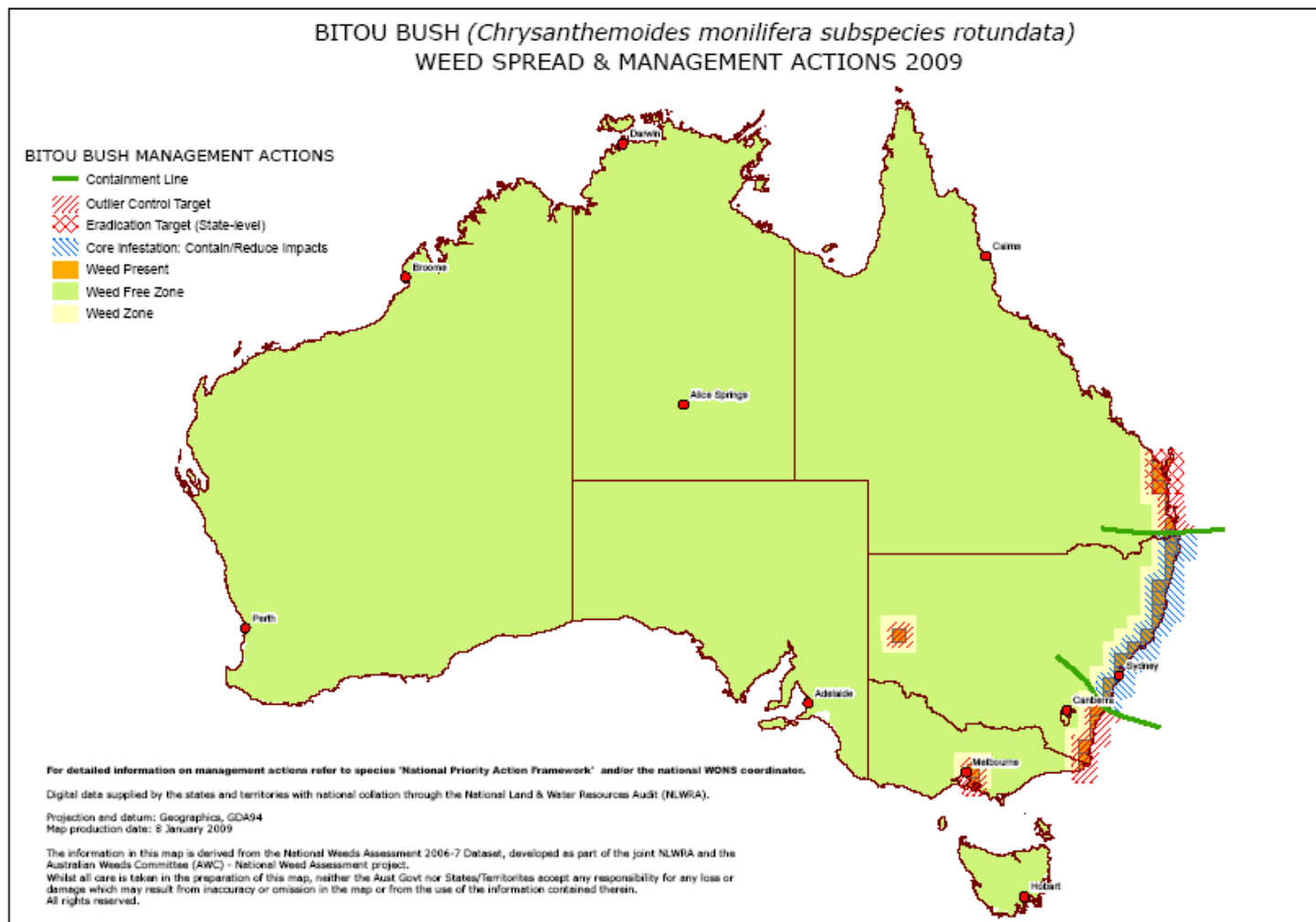
Appendix C - Bitou Bush & Boneseed Extension Activities 2008/09

Date	Extension Activities Bitou bush & Boneseed	Output/Outcome
2008		
July	Collection of 150,000 bitou bush and boneseed seeds for seed longevity study with CVA and Green Corp students and other stakeholders in NSW and Victoria.	Seeds collected, research underway; students aware of threat
	Seed researchers meeting (5 researchers).	Study underway
	Assisted with development of AWRC project - impact of boneseed invasion on biodiversity with Wollongong University researchers.	Project funded and underway
	Presented to the South Coast Bitou bush taskforce meeting.	Projects scoped and developed
July-Dec	Bitou Bush Management Manual workshops; manual review and revision; remapping national bitou bush distribution.	Manual launched, Updated national maps; increased community consultation & input
Aug	Launch <i>Weeds Attack!</i> website with partners (DET, DPI, DECC)	NSW schools engaged
	NBBBMG meeting Frankston, Vic, including release from quarantine of Boneseed Leaf Buckle Mite	NBBBMG with greater awareness of Victorian issues.
	Launch of the Boneseed Leaf Buckle Mite	Community engagement and biocontrol release
	Launch of the 10 Year Boneseed Management Plan in conjunction with Eyre Peninsula and Northern Yorke NRM CEOs at the Cleve Show	NRM and community engagement
	Field visits to the South Australian Yorke, Murray, Coorong and Fluerieu Boneseed Sites	Increased awareness and liaison
	2007-08 AWC Report submitted	AWC updated
Sept-Oct	Weedbuster Week and NSW "No Space 4 Weeds" education campaigns –planning and support; multiple boneseed and bitou bush displays in NSW throughout spring.	Increased community engagement and awareness
Sept	<i>Weeds Attack!</i> presentation to AWC Newcastle meeting	AWC with increased knowledge
Sept-Oct	Statewide "Tasmanian Boneseed Blitz" including multiple boneseed displays and events throughout Spring.	Community engagement and awareness
Sept-Oct	"WA Boneseed Blitz" including field events, newspaper and radio interviews and site visits. Distributed over 20,000 Western Australia boneseed awareness flyers and other materials.	Stakeholders aware of boneseed (how to identify and report); 3 new infestations found
Sept	Boneseed biocontrol monitoring with Victorian DPI researchers and stakeholders in Sydney and Blue Mountains	Increased information for biocontrol program
Oct	Boneseed presentations at W/E Riverina Noxious Weeds Advisory Group meetings to encourage revised legislative classification of boneseed in S/W NSW	Increased stakeholder participation: legislative change for boneseed
	Tasmanian boneseed steering committee and WoNS steering committee meetings organised by National Coordinator	Increased cross-regional and state partnerships
	Paper and presentation at the Tasmanian Weeds Conference	Increased awareness
	<i>Weeds Attack!</i> display at "Science Exposed" conference with DPI/DET partners and extensive liaison with teachers and students to promote resource.	Increased awareness uptake and development of resources
Nov	WONS position paper on Climate Change drafted by NC	Position paper on web
	Presentation at ST/SC Noxious Weeds Advisory Committee meetings to encourage revised legislative classification of boneseed	Increased stakeholder participation: legislative change for boneseed
Dec	WoNS coordinators meeting Canberra	Greater awareness
	CFOC Weeds Attack/Education planning meetings with Invasive Animals CRC, DET and NSW Aboriginal Land Council	Partnerships & strategic project developed
	WoNS Coordinators planning meeting with 8 Coordinators - organised by Bitou bush & Boneseed Coordinator	Strategic approach to CFOC planning

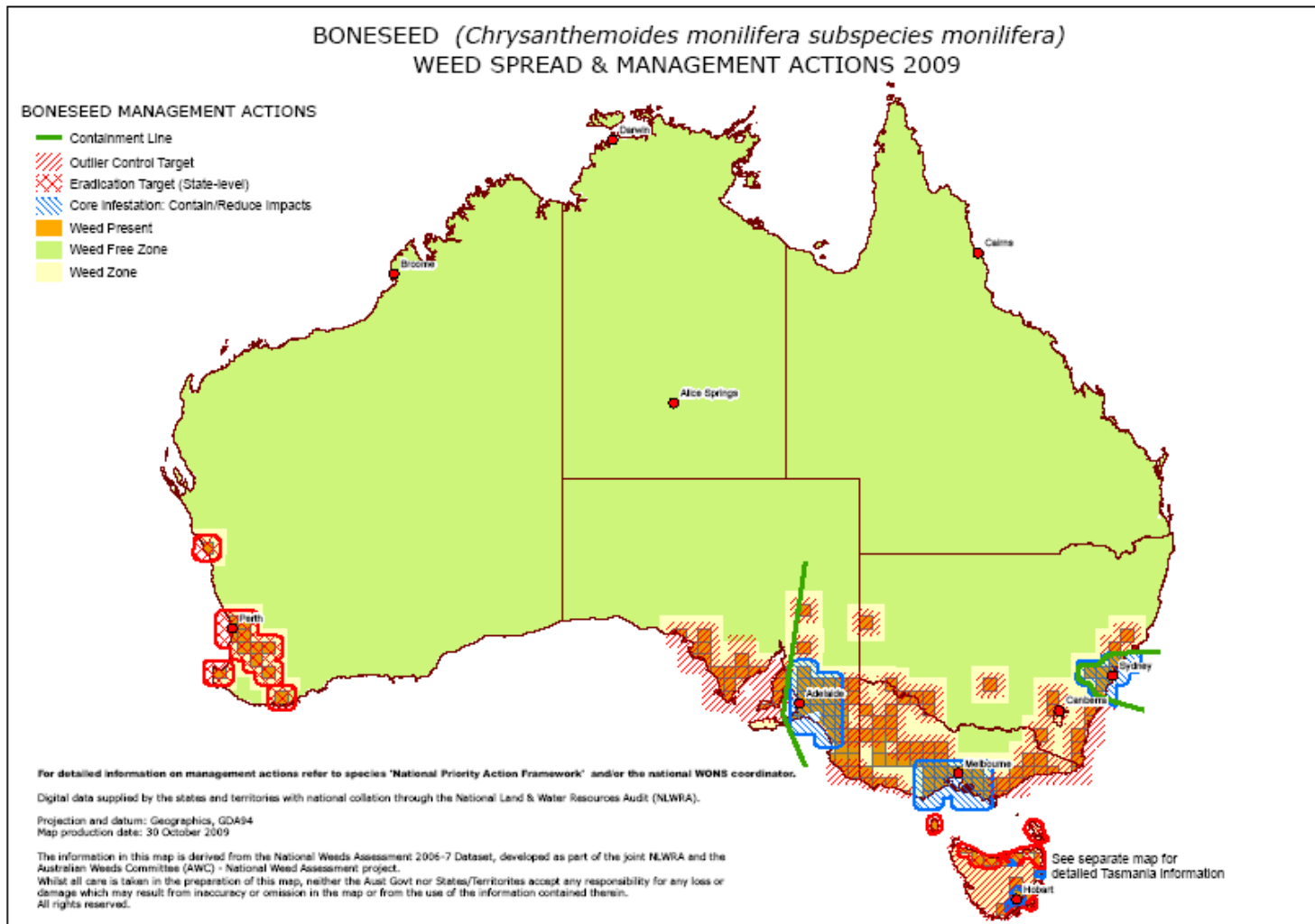
Date	Extension Activities Bitou bush & Boneseed	Output/Outcome
2009		
Jan	CFOC meeting with NSW South Coast Bitou bush Taskforce	Strategic project developed
	CFOC meeting with South West Western Australia NRM regions and stakeholders – organised by National Coordinator	Strategic project and partnerships developed
	Launch of Bitou bush Manual by Hon. Peter Garrett MP	Increased awareness
Jan-Apr	Distributed over 1000 Bitou bush Management Manuals to libraries, land managers and community groups	Increased best practice management
Feb	CFOC NSW cross regional meetings	Strategic project developed
	CFOC TAS cross regional meetings	Strategic project developed
	CFOC Community Biocontrol Redistribution project meetings	Strategic project developed and funded
	CFOC SA Eyre Peninsula/Northern & Yorke NRM region meeting (Western Boneseed containment line)	Strategic project developed
	Coordinator facilitated meeting between NSW CMA Chairs and WoNS chairs to promote engagement in WONS to NSW CMAs	CMAs better engaged in WoNS opportunities
Apr	Paper submitted to Victorian weeds conference	Information sharing
	Coastcare project development for post- weed control restoration project	Project successfully funded
	NBBBMG meeting in Port Lincoln ,including visiting the western containment line and discussions	NBBBMG with greater awareness of SA issues
	University of Sydney/Dept Education and Training education resource - project development meetings	Partnerships developed; ARC grant funded
May	NSW Plant Labelling Focus group workshop – liaison with NGIA and development of weed risk assessment for nursery species	Information sharing with Nursery Industry
	Paper submitted for NSW weeds seminar	Information sharing
	Paper submitted to 2009 NSW Noxious Weeds Conference	Information sharing
Jun	Meeting with CFOC representatives to comment on Business Plan	Comments provided
	MERI training and WONS Coordinators Meeting Canberra	Improved MERI skills & national coordination
	Victorian boneseed meeting to progress Conservation Management Network to support community weed control efforts	Actions underway to develop Network
	Organised printing of 2000 boneseed manuals and reprinting of 30,000 Tasmanian and 20,000 Western Australian flyers	Best practice materials widely distributed
On-going	Continually provided new information on the Weeds Australia webpage [www.weeds.org.au/WoNS/bitoubush]; Published awareness articles in a range of newsletters and newspapers.	Awareness and best practice materials available

Appendix D – National Bitou bush & Boneseed Management Maps

Map 1 – Bitou bush weed spread and Management Actions



Map 2 – Boneseed Weed Spread and Management Actions



Map 3 – Boneseed (Tasmania) Weed Spread and Management Actions

