

## New South Wales south coast bitou bush and boneseed control program

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### Introduction

Coordinated weed control programs focusing on the weeds bitou bush and boneseed (*Chrysanthemoides monilifera* subsp. *rotundata* (DC.) (Norl.) and *C. monilifera* subsp. *monilifera* (L.) Norl., respectively) have been undertaken along the south coast of New South Wales (NSW) since the development of a regional weed control plan in 2002 (Broese van Groenou and Wolfenden 2001). Previously, only fragmented control was undertaken by individual stakeholders. Bitou bush has invaded approximately 9400 ha or 38% of the NSW south coast coastline from Wollongong to Bega (see DEC 2006). It is a major component of the vegetation north of Sussex Inlet (where the National Bitou Bush Southern Containment Line has been established) but is less abundant to the south. The National Southern Containment Line delineates the geographical location where the southern spread of bitou bush is being contained (Figure 1).

The full extent of boneseed on the south coast is not yet fully known. The majority of infestations appear to be in the Wollongong region just south of Sydney, although scattered infestations are also found further south through to Bega.

Rare and threatened plant species on the south coast such as *Pimelea spicata* R.Br, *Cynanchum elegans* (Benth) Domin. and *Thesium australe* R.Br. are particularly at

risk from bitou bush invasion (DEC 2006). On the far south coast the habitat of the white footed dunnart, *Sminthopsis leucopus* Thomas, is also threatened by bitou bush infestations.

After only five years of coordinated programs there has been a significant reduction in the density of bitou bush and boneseed throughout the entire south coast region. However, as with any weed control program, there is still much to be done and new challenges to overcome. This paper describes the development and implementation of coordinated regional activities to control bitou bush and boneseed along the NSW south coast and includes a case study of the Southern Rivers Catchment Management Authority (SR-CMA) Coastal Land Restoration Project.

### South Coast Bitou Bush and Boneseed Taskforce

#### Background

Bitou bush was first declared a noxious weed in Shoalhaven City Council in 1993 when the NSW *Noxious Weeds Act 1993* was established. It was later declared noxious in all remaining south coast councils in 1999, when boneseed was also added to the list. In NSW, noxious weeds are declared on a Local Control Authority (LCA) or council basis hence the listings may vary in different council areas. No formal regional action had been undertaken to address the bitou bush or boneseed problem prior to 1999.

In 2000, the Southern Tablelands and South Coast Noxious Plants Committee established a taskforce to deal with bitou bush and boneseed in the region. The establishment of the South Coast Bitou Bush and Boneseed Taskforce (SCBBBT) was supported by funding from the Regional Weed Action Program run by the NSW Noxious Weeds Advisory Committee. The SCBBBT comprises regional weed experts from local and state government agencies and the community. The initial role of the taskforce was to have direct input into the development of the bitou bush and boneseed management strategies, and oversee the implementation of these strategies into the future. All members of the Taskforce had input into the development of the management strategies through

progressive workshops and advisory recommendations.

In 2002 the SCBBBT developed the South Coast Regional Bitou Bush Strategy (Broese van Groenou and Wolfenden 2002), and five year Management Plan (SCBBBT 2002). This regional plan placed emphasis on and encouraged a coordinated approach to bitou bush and boneseed management and control by all stakeholders throughout the region. An updated plan has recently been prepared (SCBBBT 2007) and endorsed by all stakeholders for a further five years until 2012. This plan also includes regional priority sites for control of bitou bush for biodiversity conservation, as identified in the NSW Bitou Bush Threat Abatement Plan (DEC 2006).

#### Taskforce Objectives

The role of the Taskforce is now well established and includes:

- i. the implementation, review and updating of the regional Bitou Bush and Boneseed Strategy and Management Plan;
- ii. the implementation of public awareness programs, and
- iii. provision of a coordination role and funding body for regional weeds projects (see case study below for further discussion).

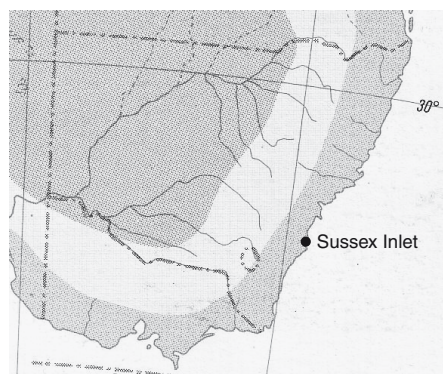
The existence of the SCBBBT also ensures integrated planning between all stakeholders to overcome agency boundaries, implementation of best practice management techniques for comprehensive on-ground control works and the ability to maximize funding opportunities through coordinated efforts. Education and extension programs are also promoted and supported.

#### Major achievements of the Taskforce

Coordinated management has resulted in the National Southern Containment Line being moved 100 km north from Tuross Heads to Sussex Inlet in only five years.

All bitou bush populations south of the containment line are being controlled continuously, as per the regional, state and national management plan initiatives, with the specific objective of preventing seed production each year. North of the containment line, bitou bush is being controlled strategically with the aim of controlling all new and light infestations by 2009, and containing all medium and core infestations by 2012, so that there is no increase in size or spread of infestations. Boneseed is being eradicated from the region wherever it occurs.

As an ongoing initiative of the SCBBBT, a school bitou bush resource kit was produced in consultation with the NSW Department of Education, Illawarra Environmental Education Field Studies Centre. The kit, designed for primary and secondary students, has an investigative



**Figure 1. National bitou bush Southern Containment Line at Sussex Inlet, approximately 200 km south of Sydney.**

approach with an emphasis on bitou bush and its impacts on the environment. Under funding from the Australian Government's Defeating the Weed Menace program, this initiative has now been adopted at a State level and is being further developed with the NSW Department of Education to create integrated classroom learning tools to increase weed awareness (Schembri *et al.* 2008). The program, which will be known as *Weeds Attack!*, will use bitou bush as a prototype. It will also include lessons about the other Weeds of National Significance and will conform to national curriculum standards to allow national adoption.

### Southern Rivers Case Study

The SCBBBT currently manages the SRC-MA Coastal Land Restoration and Bitou Bush Control Project, one of many programs running simultaneously but complementary to other local projects throughout the South Coast region. The aim of the project is to implement the Bitou Bush and Boneseed Management Plan using a co-operative regional approach across the whole of Southern Rivers CMA region (over 600km of coastline). Six local Government agencies cooperate with four State agencies, two facilitator groups and a variety of community groups, contractors and landholders.

Diverse links and associations are forged between these numerous agencies and community groups to effectively implement on-ground works. This cooperation is a key component to successful control of bitou bush over such an expansive geographic area. The adoption of diverse best practice management for each specific site throughout the project area ensures maximum effectiveness of weed control. The project builds on existing weed control and environmental revegetation works in all areas, thus strengthening local efforts and networks.

An innovative approach to support existing programs has been the integration of the NSW Department of Corrective Services into the project. Community Service Order (CSO) clients complete on-ground weed control at three suitable sites within the Illawarra. CSO clients undertake primary and secondary control of bitou bush and other weeds at each site, thereby extending the control efforts of agencies and community groups. The work carried out by the CSO clients involves an

integrated approach using physical and hand weeding methods to support chemical and biological approaches. The end result has been a reduction in infestation levels of bitou bush at each site that in turn has prevented the weed from spreading to less infested areas. The addition of this agency with a 'non environmental' focus is a good example of 'thinking outside the square' when seeking partnerships in environmental management.

Within the Shoalhaven, Eurobodalla and Bega Valley council areas where CSO clients are less able to meet local requirements, a project officer or the Noxious Weeds Officer has been appointed to work with community groups and contractors at a total of 15 sites. These managers coordinate and implement on-ground control of bitou bush at each site and in so doing ensure the National Bitou Bush Southern Containment Line is maintained.

Through the partnerships forged in this project, a significant impact on bitou bush and boneseed infestations has been achieved across the project area since the program's inception in 2004. The major achievements to date include:

- i. 2700 ha of bitou bush and boneseed controlled,
- ii. 35 ha revegetated after control,
- iii. 4340 native trees planted,
- iv. 40 ha of other environmental weeds treated that co-occurred or re-invaded after bitou bush control,
- v. Over 20 000 hours by CSO teams on the project and,
- vi. 3546 volunteer hours worked.

The volunteer hours have been accrued by environmental 'Care' groups working throughout the project area. In any one year, the project has 24 volunteer groups involved in weed control and revegetation efforts. These volunteers are a fundamental component of the integrated on-ground works and offer a significant contribution to the overall success of the project.

### Summary

The expansive spread of pest plants into the natural environment demands that the management of these weeds be a combined effort between all stakeholders utilizing integrated control techniques. This regional coordination of bitou bush and boneseed management along the entire coastal fringe of southern NSW has contributed significantly to successful control

of these noxious weed species. The SRC-MA land restoration project is a prime example of forging strong partnerships between people from many agencies and different facets of the community who are all focused on combating a serious weed invasion, whilst aiming to attain long term biodiversity outcomes throughout the coastal zone.

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