

## REGIONAL WEED MANAGEMENT PLAN

**1.1 PLAN TITLE:** South Coast Bitou Bush Management Plan

### 1.2 PLAN PROPONENTS

Regional Weeds Advisory Committee: Southern Tablelands and South Coast Noxious Plants Committee

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### 1.3 NAME OF PLANT(S)

WONS Y/N

Botanical name(s): *Chrysanthemoides monilifera* spp *rotundata* Common name(s): ..... Bitou Bush

### 1.4 PLAN PERIOD (not to exceed five years)

Starting date: 1 July 2002

Completion date: 30 June 2007

### 1.5 AREA OF OPERATION:

South Coast of NSW Local Council Areas: IDNWA, Shoalhaven, Eurobodalla and Bega Valley Shire Councils

### 1.6 AIM:

To control the spread and reduce the negative impacts of bitou bush on the South Coast of NSW

### 1.7 OBJECTIVES:

1. The spread of bitou bush will be prevented by targeting **new, light and medium infestations**: 100% new and light by 9/2005; 50% medium by 9/2007.
2. The Southern Containment Line will be shifted north to Sussex Inlet: Containment line moved North by 9/04 – this means that all infestations south of Containment Line under control by 09/2007.
3. Core areas south of Sussex Inlet will be contained (ie, no increase in size or spread of infestations) by 09/2007.

### 1.8 STRATEGIC PRINCIPLES:

1. Raise the level of community awareness and understanding of bitou bush and its impact on biodiversity.
2. Management programs will be for long-term biodiversity outcomes.
3. **Highest priority given to control of bitou bush where threat abatement plans are in place for threatened species or endangered ecological communities are at risk from bitou bush invasion.**
4. **Core areas north of Sussex Inlet will be given higher priority for management only in direct support of other long term biodiversity objectives.**
5. Improve linkages, foster new groups and enhance cooperation between stakeholders involved in the management and active control of bitou bush.

## 2.0 STAKEHOLDERS

### 2.1 Signatories

Shoalhaven City Council; Eurobodalla Shire Council; Bega Valley Shire Council; Illawarra District Noxious Weeds Authority, NSW National Parks and Wildlife Service.

### 2.2 Other Stakeholders

NSW Agriculture, Cooperative Research Centre (CRC) for Weed Management Systems, NSW National Parks and Wildlife Service (NPWS), Coastcare, Environment Australia, Southern Catchment Management Board, South East Catchment Management Board, private landholders; Department of Land & Water Conservation (DWLC); Australian National Parks; Aboriginal Land Councils; Landcare/Community Action Groups; environmental consultants.

## 3.0 BACKGROUND and GENERAL FACTS

### 3.1 Reason for Plan

The purpose of the plan is to detail how various strategies (National Bitou Bush Strategy, NSW Bitou Bush Strategy and the South Coast Bitou Bush Strategy) will be implemented on the NSW South Coast.

Bitou bush (*Chrysanthemoides monilifera* subsp. *rotundata* (DC.) Norlindh) is declared noxious in NSW and Queensland, and in 1999 it was listed as a *Weed of National Significance* and as a *Key Threatening Process to Biodiversity*. Bitou bush poses a major threat to biodiversity and ecological stability throughout the coastal zone of SE Australia. Infestations are increasing and, in many cases, this increase is beyond the capacity of the individual landholder to control. The cost of bitou bush to the community, in not only dollar terms but in loss of amenity and environmental sanctity, have yet to be measured, but must be considered highly significant.

Presently on the South Coast about 10,400 ha (38%) are occupied by bitou bush and, if management strategies are not successfully implemented to contain and control this weed, bitou bush will spread posing a major threat to the natural ecosystems along the south coast. This plan has been prepared to provide a co-ordinated approach to reducing the impact of bitou bush across a range of land tenures and management and user group interests.

There are a number of different treatment techniques available to manage bitou bush and numerous groups are involved in control programs. An effective strategy must achieve sustainable long-term management of bitou bush, based on current or realistically predicted resourcing levels. Furthermore, management of bitou bush must be seen as a core responsibility of the land manager with a commitment to future management.

**No Action Scenario:** If control activities are not undertaken it is anticipated that bitou bush infestations will continue to infill currently uninfested areas along the South Coast of NSW- eventually smothering native vegetation. Furthermore if active control is abandoned bitou bush will quickly reinvade areas where it has been previously controlled. There is community expectation that bitou bush control will continue and community criticism may be significant if bitou bush control is discontinued.

This Regional Management Plan embodies the following four principles consistent with the New South Wales and National Weeds Strategies:

1. Weed management is an essential and integral part of the sustainable management of natural resources and the environment, and requires an integrated, multi-disciplinary approach.
2. Prevention and early intervention are the most cost effective techniques that can be deployed against weeds.

3. Successful weed management requires a coordinated approach which involves all levels of government in establishing appropriate legislative, educational and coordination frameworks in partnership with industry, landholders, water managers and the community.
4. The primary responsibility for weed management rests with the landholder or land and water manager, but collective action is necessary where the problem transcends the capacity of the landholder to address it adequately.

### **Regional Priorities:**

- Control strategies for bitou bush must depend on land-use objectives.
- In natural ecosystems, the weed strategy's priorities relate to reducing adverse impacts and the biodiversity, aesthetic and recreational value of public lands.
- The resources available for controlling weeds need to be used effectively - focussing on programs that provide the greatest community benefit.
- Targeting new infestations and giving high priority to control in lightly infested areas will help prevented the spread of bitou bush.
- Additional funding may be required to reduce bitou bush in core areas with extensive areas of heavy infestations. This will entail initial large capital expenditure for accelerated control programs coupled with systematic follow up programs (5 yrs plus). These approaches have achieved great success in reducing significant infestations of bitou bush (eg Tathra, Eurobodalla).
- Containment: financial support for concerted control and eradication programs that result in shifting the southern containment line north from Tuross Heads to Sussex Inlet (see Figures 1-4); and more generally all programs resulting in containment of existing infestations and prevention of the spread of new infestations.

### **3.2 Description of the Problem**

Bitou bush has invaded the majority of coastal vegetation systems across the region and is the dominant plant or a major component of the vegetation in the northern part of the region, and more scattered south of Tuross Heads. It has invaded a variety of disturbed and undisturbed ecosystem types including dune and headland heathlands and grasslands, coastal woodlands and forests and littoral rainforests and leads to a decline in floral biodiversity as well as changes in the diversity of birds, native mammals and ground-dwelling insects. Stands of bitou bush have been known to harbour pest animals, such as foxes and introduced birds, which feed on and disperse the seeds or shelter under the canopies.

Bitou bush has recently been listed as a key threatening process to biodiversity in NSW and as a weed of national significance (WONS). Rare and endangered plant species on the South Coast, such as *Pimelea spicata*, *Cynanchum elegans* and *Thesium australe*, occurring in plant communities invaded by bitou bush, are particularly at risk due to the processes leading to a decline in floral diversity resulting from the aggressive competitiveness of bitou bush. On the Far South Coast the habitat of the White Footed Dunnart, *Sminthopsis leucopus*, is threatened by bitou bush infestations.

Destruction of mature bushes through mechanical means, herbicide spraying or natural senescence can result in sand dune blowout unless alternative species are established.

Economic impacts may occur because of losses to tourism. Substantial costs are also incurred by the community through effects on the recreational amenity of areas: dense bitou bush infestations

South Coast Bitou Bush Project.

can block access to beaches - continual maintenance of beach access tracks, coastal roads and parks is required to either prevent or reduce invasion and loss of use of these areas.

### 3.3 Distribution of Known Infestations

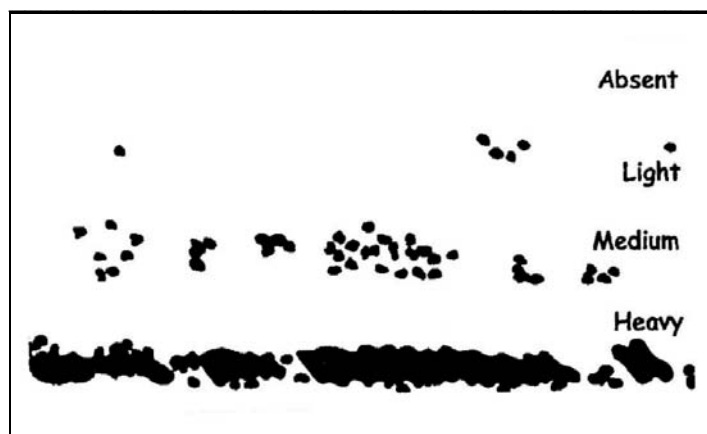
Existing information on bitou bush distribution and abundance along the NSW coastline is being coordinated Statewide by NPWS and NSW Agriculture in conjunction with local government councils, Dunecare, Coastcare, Bushcare and Landcare groups. A mapping information network has been established and consolidated in a series of regional community workshops held in December, 1999, and the information has been consolidated into a GIS database coordinated by Jeff Thomas, NPWS, State bitou bush coordinator (see attached GIS maps – with containment lines: current and proposed marked on maps).

Most infestations are on public land (due to the fact that most of the readily susceptible ecosystems are in public ownership) with much smaller infested areas on private lands.

**Table 1 Regional Distribution of Bitou Bush in the South Coast of NSW - NPWS Bitou Bush 2001 mapping Report**

Region	Density Category LIGHT - ha	Density Category MEDIUM - ha	Density Category HEAVY - ha	Total Area of infestation ha
Wollongong	902 ha*	121 ha*	1021 ha*	2,044 ha*
Shellharbour	356 ha	805 ha	406 ha	1,566 ha
Kiama*	222 ha*	169 ha*	65 ha*	456 ha*
Shoalhaven	990 ha	1,226 ha	662 ha	2,878 ha
Eurobodalla	1,868 ha	840 ha	30 ha	2,739 ha
Bega	662 ha	9 ha	-	671 ha
<b>Total:</b>	<b>5,000 ha*</b>	<b>3,170 ha</b>	<b>2,184 ha</b>	<b>10,354 ha*</b>

\*Values represent estimates from hand drawn maps and will need revising when corrected GIS figures become available.



**Figure 5:** Abundance categories of bitou bush. Source: Gerrand (2000)

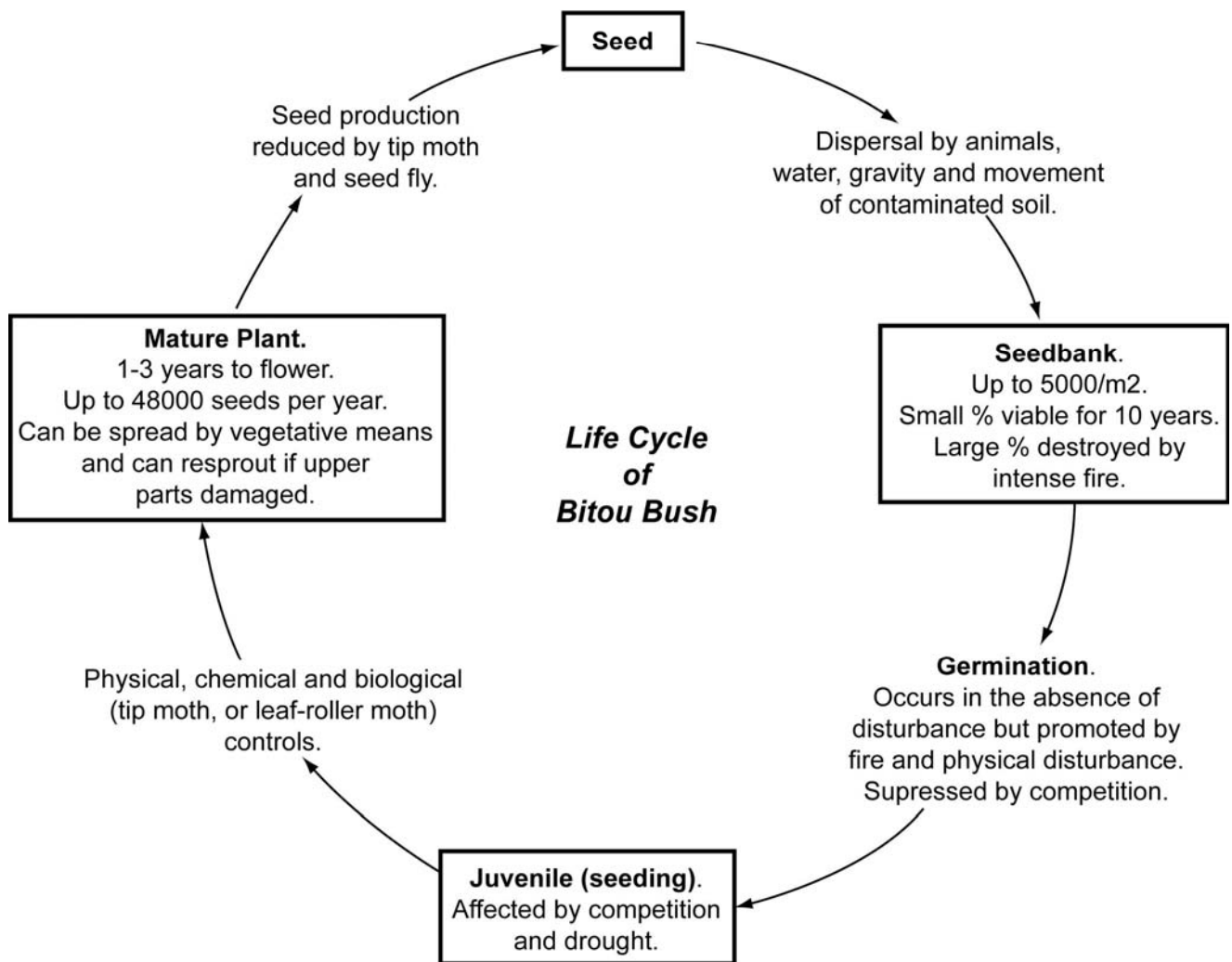
### 3.4 Weed Biology/Ecology

Bitou bush is a spreading woody shrub from the coastal areas of South Africa. Bitou bush was first recorded in Australia from Stockton near Newcastle in 1908 (an accidental introduction in ships ballast). From 1946 until 1968, it was recommend for sand dune stabilisation by the Soil Conservation Service. In southern NSW it was planted to stabilise blowouts.

It has a variety of growth forms ranging from a low prostrate spreading shrub (about 1-2m high) in very exposed locations to a tall straggly bush up to 10m high when growing under canopy. The leaves are bright green, succulent, oval, with irregular teeth along the edge and tapering at the base, young growth downy grey in appearance. Flowers are bright yellow, daisy like, with 11-13 ‘petals’. The fleshy fruit are green, becoming black when ripe and contain only 1 seed (egg-shaped, ribbed seeds 5-7 mm long).

Bitou bush can flower and set seed within 2 years on the south coast. Growth and time to maturity is faster with decreasing latitude. Bitou bush flowers intermittently all year round with a main April to July peak and a secondary flush in October-November.

**Figure 6: The Life Cycle of Bitou Bush**



The prevention of seedset (and secondarily, prevention of establishment of seedlings) is crucial in preventing bitou bush domination of invaded plant communities.

### **3.5 Method and Rate of Spread**

Bitou bush produces a succulent fruit that is attractive to a range of wildlife. Birds are the most important vectors and cattle, rabbits and foxes have also been recorded as eating the fruit and spreading the seeds.

Movement of seed can also occur from spreading of contaminated soil, from inadvertent collection of fruit and seed in footwear, clothing and vehicles and also in garden refuse.

Prevention of spread by controlling dispersal vectors is generally impractical. Controlling isolated plants and localised infestations is important to prevent the establishment of local dispersal points and the persistence of infestations.

### **3.6 Roles and Responsibilities of Land Managers**

Land managers have a responsibility under the Noxious Weeds Act to control bitou bush.

The main land managers with responsibilities for bitou bush are private land holders, NPWS, LCA's (Local Control Authorities), DLWC and Crown reserve trustees. In practice many of these land managers are already controlling bitou bush with a view to reducing the impacts described above.

Fortunately, there is a great deal of community interest in bitou bush as evidenced by the presence of many volunteer dune care groups along the coastline. Many of these groups are actively controlling bitou bush as part of their activities. The Coastcare program has supplied funding to help these community groups in partnership with local land managers in controlling bitou bush.

Note: it is the responsibility of all land managers and other participants in bitou bush control to conduct their respective activities in accordance with relevant legislation eg, NSW Threatened Species Conservation Act 1995, Environmental Planning and Assessment Act 1979, SEPP 26 and SEPP 14 (protection of littoral rainforests and wetlands), Native Vegetation Conservation Act 1999.

## **4.0 LEGISLATIVE AND REGULATORY SITUATION**

### **4.1 Current Declaration**

**W2** in Shoalhaven LCA i.e., bitou bush must be fully and continuously suppressed and destroyed

**W3** in all coastal LCA areas, i.e., bitou bush must be prevented from spreading and its numbers and distribution reduced.

NB: Bitou bush is not declared in ACT land i.e., Jervis Bay (Booderee National park).

### **4.2 Declaration Changes**

To be reviewed during the period of the management plan with view to changing to W2 in areas south of the Southern Containment Line.

### **4.3 Enforcement Strategy**

In areas north of the Southern Containment Line, this plan will involve appropriate control by integrated techniques, targeting new and **light to medium** infestations, with the aim of preventing the spread and reducing the numbers and distribution of bitou bush. **Light to medium** infestations could be found on the margins of core infestations, or in isolated patches separate from local medium or heavy infestations, or in rare cases separated by a number of kilometres from any other local infestation.

In areas south of the Southern Containment Line, this plan will involve the routine inspection and appropriate control by integrated techniques of all known infestations of bitou bush **giving highest** South Coast Bitou Bush Project.

priority to new outbreaks and areas of light to medium infestations, as discussed above. An active control and inspection program will be undertaken. The aim of the enforcement strategy will be to fully and continuously suppress and destroy all known bitou bush populations thereby limiting their potential spread, whilst simultaneously ensuring clean areas remain free of this weed.

These control activities will be subject to appropriate environmental impact assessment and will aim to protect native biodiversity and the functioning of natural ecosystems.

Where necessary Weed Control Notices under the Noxious Weeds Act 1993 will be served to ensure the aims of this Plan are being met.

## **5.0 CONSIDERATIONS and OPPORTUNITIES**

### **5.1 Opportunities to be exploited**

The concentration of population along coastal areas and the interest in and use of the coastal environment presents an opportunity to gain an extension of community support for the control of bitou bush. Community groups play a vital role in follow-up programs, in particular, the follow-up required to maintain the Southern Containment Line. Future funding is essential to insure the success of these programs.

The provision of Coastcare funding for joint community group/land manager projects has provided a significant increase in resources for controlling bitou bush in some areas. Further development of suitable projects and targeting of funds is appropriate. There are two federal incentives to assist in weed control – provisions for accelerated deductions for landcare works (including cost of chemicals), and a tax rebate for qualifying landcare expenditure (although these may only be available to land under primary production). An environmental levy for ratepayers to fund bitou bush control activities is worth investigating for LCA areas.

In recent years programs such as Greencorps, Work for the Dole and Periodic Detention Service have been used to help with control activities and these could be expanded.

### **5.2 Industry Sectors**

Traditional industry sources for support and assistance do not exist due to the non-commercial nature of infestations and the lack of impact on agricultural production. In the Port Kembla area BHP has been pro-active in bitou bush control where it occurs on BHP land and their continuing support for bitou bush control activities in areas outside of their land is greatly appreciated e.g., Hill 60 Landcare group.

However there may be value in approaching the tourism, beachwear, coastal development and coastal use (surfing/fishing) product industries to provide sponsorship for activities in the program.

### **5.3 Ecological**

NSW Agriculture has released a number of biological control agents in the region over the last 6 years. Two agents, the bitou bush tip moth and the bitou bush seed fly, are established and are having a varying impact on the population with significant reductions in flowering and seed production in certain areas. A third agent, bitou leaf roller moth, a leaf defoliator, has recently been released. The success of recent releases in several trial sites along the NSW coast is yet to be determined. Interactions between herbicide control and the biocontrol agents are currently being studied.

With regard to control of bitou bush in some sites, care needs to be taken that other weedy species do not invade or replace bitou bush, e.g. lantana and bridal creeper. Boneseed and bitou bush x boneseed hybrids, need to be controlled wherever they occur on the South Coast. Where

secondary invasion is a possibility a bush regeneration approach rather than a single species treatment is more appropriate.

Herbicide use is probably the major control method used with aerial spraying in recent years being used successfully to significantly expand the areas under treatment. While aerial application uses far less herbicide per hectare than other traditional herbicide application techniques, there are concerns in the community about aerial spraying and also the fate and persistence of herbicides in the dune systems. Some sections of the community are opposed to the use of any herbicide for Bitou Bush control.

### **5.4 Species Management**

Because bitou bush is present across a range of habitats and locations with various stakeholders involved no single management strategy is appropriate for the entire region. Development of local plans which fit into an overall framework and are supported by all stakeholders are required to address the problems.

These plans should consider:

- The distribution and density of infestations;
- The impacts and/or threats posed by Bitou Bush;
- Biodiversity value
- The level of community interest and support;
- The identification of priorities which have stakeholder agreement;
- Any restrictions on potential control methods;
- Integrated management approach;
- Vegetation response and the risk of other weed invasion after control;
- The resources required to implement and follow up on control actions; and
- Monitoring of success of control.

### **5.5 Community**

Fortunately, there is a great deal of community interest in bitou bush as evidenced by the presence of many volunteer dune care groups along the coastline. Many of these groups are actively controlling bitou bush as part of their activities. The Coastcare program has supplied funding to help these community groups in partnership with local land managers in controlling bitou bush.

The involvement of the various Care groups has limitations in that each group varies in its enthusiasm, knowledge and abilities. Also for some groups consistent effort is difficult to maintain from year to year and there are limits to the size and types of areas that volunteers could reasonably be expected to work on.

Some schools include environmental management in their curricula, and these programs offer an opportunity to generate additional interest in bitou bush.

A regional approach is required to identify ways to provide ongoing support to community groups where appropriate and to identify mechanisms to address the shortcomings identified above.

### **5.6 Extension and Education**

Existing programs that have been conducted over a number of years include public meetings to discuss proposed aerial spraying, Coastcare workshops for local communities about weed control,

plant identification and vegetation management and field days at various locations to inspect control activities. These have generally been implemented by LCA's and other stakeholders and it is expected that these will continue.

The South Coast bitou bush Project has implemented a series of measures to inform and involve the community in the development of the regional bitou bush management plan and strategy: A number of workshops and field visits have been conducted with community and stakeholder groups; an information brochure has been produced; press/radio media releases have coincided with workshops and Weedbuster Week activities, release of biocontrol agents and launch of demonstration sites; a web site has been developed for the project and it is proposed to maintain and improve this site. It is also proposed to develop activity kits for schools in coastal areas.

Additionally the bitou bush control handbook will be revised as part of the NPWS bitou bush Biodiversity project. This will be a valuable guide for the community and others willing to tackle bitou bush.

### 5.7 Links to other Strategies

The South Coast Bitou Bush Regional Management Plan provides direction for Local Action Plans (LAP's) of the member councils and the South Coast Bitou Bush Regional Strategy. It is closely linked with the North Coast Bitou Bush Strategy and the State Bitou Bush Strategy coordinated by NPWS. A number of other policies and strategies also provide strategic direction for the South Coast Regional Bitou Bush Project:

**Table 3. Policy and strategy linkages**

<b>JURISDICTION</b>	<b>WEED STRATEGIES</b>	<b>RELATED STRATEGIES</b>
Land/Property	Landholder Management Plans, Control Schedules.	Property Management Planning
Regional and local	Regional (south coast, central and north coast) and Local Bitou Bush Control Plans or Strategies, Local Government Pest Management Plans, Rail, Road and Utility Corridor Management Plans,	State of the Environment Reports, Local Environment Plans, Plans of Management for Community Land, Local Approval Policies, Annual Management Plans, Landcare, Dunecare, Coastcare Plans.
State	NSW Weeds Strategy, NSW Bitou Bush Strategy	NSW Biodiversity Strategy, NSW Coastal Policy, NSW Vegetation Forum, NSW Forest Policy, NSW Wetland Management Policy, Total Catchment Management, Estuary Management Policy
Commonwealth	Policies, strategies, plans and controls applied to own land (Conservation and Military).	Decade of Landcare, Natural Heritage Trust, Forest Practices Agreements, World Heritage Areas, Ramsa sites.
National	National Weeds Strategy, Weeds of National Significance Bitou Bush/Boneseed Strategy.	Ecologically Sustainable Development, National Strategy for the Conservation of Australia's Biological Diversity, Water Quality, Intergovernment Agreement on the Environment, National. Strategy for Resource Management.

## 5.8 Barriers and Contingencies

Several barriers and contingencies have been identified. These include:

Barrier 1 Not all people in the community can recognise bitou bush.

Barrier 2 Many in the South Coast community may not realise that the problem of bitou bush belongs to and affects everyone in the region.

*Contingency The level of community awareness and understanding of the environmental impact of bitou bush in the region needs to be raised.*

Barrier 3 Reluctance by land occupiers to implement recommendations of Noxious Weeds Officer.

Barrier 4 In some areas, programs lack coordination between stakeholders.

*Contingency Coordinate group control activities and enforce control where required according to priorities.*

Barrier 5 Funding for initial control and follow-up programs may be restricted.

*Contingency Local Action Plans that identify strategies for integrated management of Bitou Bush and prevention of re-infestation need to be developed to focus the scarce resources that are available.*

*Contingency Seek out other sources of funds to implement the plan.*

*Contingency Reassess and reprioritise feasible management actions.*

The sheer scale of the problem means that control actions need to be concentrated and consolidated in priority areas to prevent resources being spread too thinly. Control programs supported by this plan should have continuity of effort (funds) guaranteed if lasting success is to be achieved.

## 6.0 Actions and Performance Indicators

OBJECTIVE	PERFORMANCE INDICATOR	ACTION	WHO
1. The spread of bitou bush will be prevented by targeting new, light & medium infestations	Reduction in infestations in targeted areas as shown on maps based on GIS mapping	<p><b>Current:</b></p> <ul style="list-style-type: none"> <li>General property inspections and best practice integrated management control undertaken:</li> <li>Monitor and follow up control undertaken annually.</li> </ul> <p><b>Proposed:</b></p> <ul style="list-style-type: none"> <li>Monitor buffer zones up to 1 km around known infestation to detect new infestations</li> <li>Target new and light infestations for control: Apply best practice integrated management techniques</li> <li>Target medium infestations for control. Apply best practice integrated management techniques</li> <li>Target known light and medium infestations where priority sites are not being managed using latest GIS bitou bush mapping.</li> <li>Monitor and follow up control undertaken annually and record changes in levels of infestation to update maps</li> </ul>	<p>LCAs, care groups and land managers</p> <p>LCAs, care groups and land manager</p> <p>LCAs, care groups and land manager</p> <p>LCAs, care groups and land managers</p> <p>LCAs, care groups and land managers.</p> <p>LCAs, care groups and land managers.</p> <p>LCAs, care groups and land managers</p>
2. The Southern Containment Line will be shifted north to Sussex Inlet.	Containment line established at Sussex inlet by 9/2004	<p><b>Current:</b></p> <ul style="list-style-type: none"> <li>Seek WONS funding for Far South Coast Bitou Bush Control</li> </ul> <p><b>Proposed:</b></p> <ul style="list-style-type: none"> <li>Implement Far South Coast Bitou Bush Control project</li> <li>Extend containment line further north through committed control work south of the line involving targeted annual inspections and appropriate control of all known infestations.</li> <li>Monitor and maintain follow-up programs to prevent re-infestation of controlled areas below containment line</li> </ul>	<p>SCBBP</p> <p>SCBBP Task Force, LCA's, LCA's,</p> <p>LCA's, care groups, land managers</p>
3. Core areas south of Sussex Inlet will be contained.	No increase in size or spread of infestations by 09/2007	<p><b>Current:</b></p> <ul style="list-style-type: none"> <li>Seek WONS funding for Far South Coast Bitou Bush Control</li> <li>General property inspections and control using best practice</li> </ul>	<p>SCBBP</p> <p>LCAs, care groups and land managers</p>

		<p>integrated management</p> <ul style="list-style-type: none"> <li>• Monitor and follow up control undertaken annually.</li> </ul> <p>█</p> <p><b>Proposed:</b></p> <ul style="list-style-type: none"> <li>• Implement Far South Coast Bitou Bush Control project</li> <li>• Continue to apply integrated management techniques (above)</li> <li>• Core areas south of the containment line will be controlled through coordinated programs involving targeted annual inspections and appropriate control of all known infestations.</li> <li>• Monitor and maintain follow-up programs to prevent re-infestation of controlled areas below containment line</li> </ul>	<p>LCA's, care groups and land managers</p> <p>SCBBP Task Force, LCA's, LCA's,</p> <p>LCA's, care groups and land managers</p> <p>LCA's, care groups, land managers</p>
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STRATEGIC PRINCIPLES	PERFORMANCE INDICATOR	ACTION	WHO
<p>1. Raise the level of community awareness and understanding of bitou bush and its impact on biodiversity.</p>	<p>Numbers of media reports, field days held, brochures distributed, visits to garden clubs, schools, TAFE colleges</p>	<p><b>Current:</b></p> <ul style="list-style-type: none"> <li>• Implement community awareness and education programs and production of promotional material</li> </ul> <p><b>Proposed:</b></p> <ul style="list-style-type: none"> <li>• Prepare regular Press/radio - media releases for coming events and to inform public of achievements and success stories of work done by both community groups and government agencies</li> <li>• Regularly circulate news and updates on Bitou Bush management issues to those groups and individuals on the contact register</li> <li>• Liaise with Coastcare and/or NSW Dept of Education in developing material for schools and community groups.</li> <li>• Establish schools extension programs where schools adopt a site and undertake control.</li> </ul>	<p>LCAs and Government Agencies</p> <p>SCBBP Task Force and LCAs</p> <p>SCBBP Task Force and LCAs</p> <p>SCBBP Task Force, LCAs and Coastcare</p> <p>SCBBP Task Force and LCAs</p>
<p>2. Focus Management programs on long-term biodiversity outcomes.</p>	<p>Replacement of bitou bush with a diversity of local native plants</p>	<p><b>Current:</b></p> <ul style="list-style-type: none"> <li>• Establish Demonstration Sites &amp; apply integrated management techniques</li> </ul> <p><b>Proposed:</b></p> <ul style="list-style-type: none"> <li>• Ensure best practice integrated management is reflected in regional &amp; local management plans and implement in control works.</li> <li>• Identify sites and plant communities most at risk from existing and potential invasion of bitou bush.</li> <li>• Priority Setting: stress importance of placing highest priority for actions in new and light infestations</li> </ul>	<p>SCBBP, LCA's</p> <p>LCAs, NPWS, care groups, SCBBP Task Force</p> <p>NPWS, DLWC, LCAs, Environment Australia, CMBs</p> <p>SCBBP Task Force and LCAs.</p>
<p>3. Highest priority given to control of bitou bush where threat abatement plans are in place for threatened species or endangered ecological communities are at risk from bitou bush invasion.</p>	<p>No threatened species or endangered ecological communities will be at risk from bitou bush invasion in targeted areas</p>	<p><b>Proposed:</b></p> <ul style="list-style-type: none"> <li>• Target control of bitou bush in areas known to contain threatened species or endangered ecological communities.</li> <li>• Implement best practice integrated control techniques as appropriate.</li> </ul>	<p>SCBBP Task Force and LCAs</p> <p>LCAs, NPWS, care groups,</p>
<p>4. Core areas infestation north</p>	<p>Medium to heavy</p>	<p><b>Proposed:</b></p>	

<p>of Sussex Inlet will be given higher priority for management only in direct support of other long term biodiversity objectives.</p>	<p>infestation of bitou bush will be controlled where there is a good chance of natural regeneration of native species</p>	<ul style="list-style-type: none"> <li>• Identify sites that will benefit most from control of existing medium to heavy infestations of bitou bush where active programs are underway or planned to enhance biodiversity of native plant communities.</li> <li>• Implement best practice integrated control techniques as appropriate in core areas</li> </ul>	<p>SCBBP Task Force and LCAs</p> <p>LCAs, NPWS, care groups and land managers</p>
<p>5. Improve linkages, foster new groups and enhance cooperation between stakeholders involved in the management and active control of bitou bush.</p>	<p>New programs successful in funding applications. Volunteer hours worked; hours that Weeds Officers work with community groups, number of local action plans.</p>	<p><b>Current:</b></p> <ul style="list-style-type: none"> <li>• Maintain the Contact Register of key stakeholders and all relevant groups involved in Bitou Bush management in the South Coast to improve linkages between agency, community and stakeholders.</li> <li>• Organise and facilitate local meetings, workshops and field days</li> </ul> <p><b>Proposed:</b></p> <ul style="list-style-type: none"> <li>• Provide information on funding sources for community groups, private landholders or local councils to conduct initial and/or follow-up Bitou Bush management programs</li> <li>• Provide direct assistance to community groups to undertake control activities when it is beyond their capacity</li> <li>• Development of local action plans where there is local interest.</li> </ul>	<p>SCBBP Task Force</p> <p>SCBBP Task Force</p> <p>SCBBP Task Force</p> <p>LCAs</p> <p>LCAs and Care group Coordinators.</p>

## **7.0 MONITOR and REVIEW PROCESS**

The obvious indicator of success of the plan is the reduction in distribution and infestation levels of bitou bush along the South Coast.

This Management Plan is not an inflexible document but an adaptive management program that draws on the collective action of all stakeholders to address the problem at hand.

At the start of the plan a report of the initial status of performance indicators will provide a baseline to monitor future progress. A regional report will be prepared by the Chief Weeds Officer of the Illawarra District Noxious Weeds Authority to the Secretary of the Southern Tablelands and South Coast Noxious Plants Committee with information provided at each annual review. Information provided will need to be detailed in respect of the proposed action plan for control. This report will include an assessment of distribution and abundance.

Local control authorities that have active control plans review their progress annually. Reports to NWAC will be prepared by each LCA detailing actions undertaken. LCA's will be responsible for including in reports information from the other stakeholders about their activities in their local area.

Both local and regional reports will also report on the benefits as they are achieved and this information will provide a useful resource for future newsletters and press releases to promote public awareness of the success of the plan.

## **8.0 BENEFITS**

Infestations of bitou bush in the region cause, to varying degrees, ecological, economic and social impacts. In preventing the further spread and controlling existing bitou bush within the region, this Plan has the potential to benefit the environment and the community as a whole. Existing infestations of bitou bush within the region are mostly confined to coastal areas. Effective control of these infestations will benefit the aesthetic appeal of natural environments and recreational access to beaches and along walking trails.

With significant infestations of bitou bush recorded in coastal areas throughout the region, benefits to the environment, although difficult to measure, would also be expected to be immense, especially to native flora and fauna. Bitou bush competes for nutrients, light and space. Control and prevention in spread would enhance biodiversity, through all affected, or otherwise susceptible, ecosystems in the region. In this respect the community would benefit also. The aesthetic appearance of dunes would be improved, restrictions on recreational activities would be alleviated.

Implementation of this plan will enable an overview of the bitou bush problem on the South Coast. Specific benefits will be:

- Collation of control efforts over the region and an assessment of the effectiveness of those efforts;
- Preparation of recommendations for co-ordinated control actions between different stakeholders and guidelines for the preparation of local control plans or strategies;
- The maintenance of existing control programs which have stakeholder support; and
- Community awareness and acceptance, involvement and support for controlling Bitou Bush.
- In the long term, costs of control will be greatly reduced.

## 9.0 Resources

See attached regionally produced information brochures distributed to care groups, landholders and local councils within the South Coast area.

GIS maps to be provided when available.

Further information can be obtained by contacting relevant office below:

Attention: David Pomery  
Chief Weeds Officer  
Illawarra District Noxious weeds Authority  
PO Box 148  
KIAMA 2533  
Phone 02 4233 1129

Attention: Ian Borrowdale  
Chief Weeds Officer  
Shoalhaven City Council  
PO Box 42  
NOWRA 2541  
Phone 02 4429 3833

Attention: Graham Harding  
Chief Weeds Officer  
Eurobodalla Shire Council  
PO Box 99  
MORUYA 2537  
Phone 02 4474 1269

Attention: Alan Smith  
Chief Weeds Officer  
Bega Valley Shire Council  
PO Box 492  
BEGA 2550  
Phone 02 6499 2141

Attention: Michael Michelmore  
Regional Weed Control Co-ordinator  
NSW Agriculture  
PO Box 389  
GOULBOURN 2580  
Phone :02 4828 6617

Attention :Peter Gorham  
Noxious Plants Advisory Officer  
NSW Agriculture  
Locked Bag 11  
WINDSOR 2756  
Phone 02 4577 0600

Threatened Species Manager  
NSW NPWS  
Threatened Species Unit  
PO Box 1967  
HURSTVILLE 2220  
Phone 02 9585 6678

Threatened Species Manager  
NSW NPWS  
Threatened Species Unit  
PO Box 2115  
QUEANBEYAN 2620  
Phone 02 6299 2929

Information pertaining to herbicide usage may be referred to the:  
Environmental Protection Authority  
PO Box 513  
WOLLONGONG EAST 2520  
Phone 02 4226 8100

Further contact details for any organisation or individual not listed above may be available by contacting Local Council Authority staff detailed above.

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