

Weed management in NSW national parks

BITOU BUSH

FACT SHEET



Pictured above: Bitou bush in flower. Photo, S Ruming

History

South African bitou bush (*Chrysanthemoides monilifera*) was first recorded in Australia at Stockton near Newcastle in 1908. Between 1946 and 1968, it was widely planted to stabilise mined sand dunes. However in 1999, *invasion of native plant communities by bitou bush and boneseed* was listed as a key threatening process by the NSW Scientific Committee and bitou was declared a Weed of National Significance by the Australian Government in 2000.

Distribution in NSW today

Bitou bush has now infested about 80% (or more than 900 kilometres) of the NSW coastline, extending 10 kilometres inland in some areas. It has become the dominant species along about 36% of the state's coastline. There is also a small infestation in far western NSW around Menindee Lakes.

Impact on the environment and agriculture

Bitou bush is a highly competitive weed that smothers native plant communities and destroys natural habitat and food sources for native animals. It threatens a variety of:

- native plant species, including shrubs, small trees, herbs, orchids and ferns
- populations
- ecological communities, such as Eastern Suburbs Banksia Scrub and Kurnell Dune Forest.

Management by NPWS

The NSW National Parks and Wildlife Service (NPWS), now part of the Department of Environment and Conservation, is the host agency for coordination of the National Bitou Bush and Boneseed Strategic Plan as part of the Weeds of National Significance Program.

A draft Threat Abatement Plan for Invasion by Bitou Bush was released in 2004 which identifies 153 native plant species, two plant populations and 24 ecological communities at risk from bitou bush invasion in NSW. The draft plan also nominates 60 priority sites where active control programs will be undertaken to benefit 11 threatened plant species, two endangered plant populations and four endangered ecological communities.

NPWS works on these and other bitou control programs in cooperation with more than 650 volunteer groups, all NSW coastal councils and other agencies.

Control techniques

A combination of herbicides, physical removal, fire and

biological control may be used. Biological control has been used since 1986. Three insects have been established in the field as biological control agents for bitou in NSW: the bitou tip moth, bitou seed fly and bitou leaf-rolling moth.

Revegetation is often used to prevent weeds from re-establishing.

SOME NPWS BITOU BUSH CONTROL PROGRAMS

NPWS cooperative control with volunteer groups

The Mid-North Coast branch of the National Parks Association celebrated 25 years of 'bitou bashing' in 2004. The program began at Diamond Head in Crowdy Bay National Park in 1979 and was the first organised program targeting bitou. With the help of NPWS staff, bitou bush has almost been eradicated from the headland.

NPWS is working with the Illuka Landcare Group and the Australian Government Envirofund to undertake a major restoration project in the World Heritage-listed Illuka Nature Reserve and adjoining areas of southern Bundjalung National Park. Volunteers, park staff and contractors are systematically controlling bitou bush and other weeds over an increasing area and restoring natural vegetation. This combined effort in restoring and preserving the Illuka Peninsula helped earn the beach at Illuka Bluff the Cleanest Beach award for NSW in 2002.

Aerial spraying programs

Aerial spraying can be an effective technique to control bitou bush. In a number of reserves (Bundjalung, Yuraygir, Hat Head, Crowdy Bay, Botany Bay and Eurobodalla national parks), helicopter spraying has resulted in better than 95% control of bitou in the areas sprayed, while native plant species have been largely unaffected. Where NPWS uses aerial spraying, follow-up ground-based control is undertaken to prevent bitou reinvasions. NPWS is also trialling a helicopter-mounted retractable hose and spray nozzle to spot-spray inaccessible areas.

Research on biological control

The national research program on biological control of bitou bush and boneseed has been ongoing since 1986. The bitou leaf-rolling moth, one of the most destructive agents found to date, has been released in eight national parks and populations have become established in Botany Bay National Park. Another agent, the bitou seed fly, has been successfully established along the NSW coastline. Populations of this fly commonly reduce bitou seed production by more than 50%.

South Coast Bitou Management Plan

NPWS is a partner in the South Coast Bitou Task Force, which covers the coastal area south of Sydney to the Victorian border, including the Illawarra, Shoalhaven and Bega Valley. Under the plan:

- The southern bitou bush national containment line has been shifted 100 kilometres northwards from Tuross Head to Sussex Inlet and the plan aims for all infestations of bitou south of the containment line to be under control by September 2007.
- Council inspections have resulted in control work being carried out on all bitou infestations found on both public and private lands in this area.
- Density and spread has been reduced to a level that infestations no longer require aerial spraying but can be controlled from ground vehicles and by abseiling over steep cliffs between Batehaven and Tomakin.

Bitou control on the Central Coast

NPWS, Wyong Shire Council and Birdie Beach Dunecare Group are working together on the Central Coast with the result that bitou bush has been dramatically reduced along Birdie Beach in Munmorah State Conservation Area.