

Weed management in NSW national parks

BLACKBERRY

FACT SHEET



Pictured above: Blackberry fruit, flower and leaves at South Lawson, NSW.
Photo, J Hosking/DPI

History

By the early 1840s, blackberry (*Rubus fruticosus* agg.) had been deliberately introduced from Britain into NSW for its fruit and for making hedgerows. Shortly after it escaped into the wild and by the 1880s was recognised as a significant weed.

Distribution in NSW today

Blackberry is most prevalent in south-eastern NSW. Because of its genetic variability, the weed thrives in a wide range of habitats, invading both grazing lands as well as natural ecosystems.

Impact on the environment and agriculture

Blackberry forms dense thickets that exclude native species, leading to its complete dominance of the understorey and eventually the canopy. The thickets also impede access, alter fire regimes and dominate the landscape.

Blackberries are spread mainly by birds and foxes and in water, such as creeks.

Blackberry has been declared a noxious weed in NSW and is also listed as a Weed of National Significance.

Management by NPWS

The NSW National Parks and Wildlife Service (NPWS), now part of the Department of Environment and Conservation, uses an integrated approach to control blackberries, combining different control methods to achieve the best results and minimise its impact on native plant species. Many blackberry control programs are run in conjunction with local communities and councils.

Control techniques

Biological control attempts to control weeds by introducing the weed's own natural enemies. Blackberry leaf-rust fungus has been released as a biocontrol agent, but it is too early to tell if it will have a significant impact on infestations. Because blackberry is genetically variable, new strains of the rust are also being trialled.

Herbicides are an effective tool for controlling blackberry and this is the most commonly used control method throughout Australia.

Mechanical control methods include slashing, grubbing (digging out by the roots), bulldozing and burning.

SOME NPWS BLACKBERRY CONTROL PROGRAMS

Blackberry control to protect Sydney's water supply

In the Warragamba Special Areas, including Blue Mountains, Nattai and Kanangra-Boyd national parks, Yerranderie Nattai State Conservation Area and Nattai State Recreation Area, NPWS run a very important and successful blackberry control program. In this area, blackberry infestations provide protection for feral animals, such as pigs and rabbits, which can have an impact on water quality in Lake Burragorang, the source of Sydney's water. By removing the blackberry, increased visibility allows NPWS to undertake more effective pest control programs and thus improve the water quality of the lake. Blackberry removal in these areas has also allowed better access to riverside tracks for bushwalkers and natural regeneration of habitat for threatened species such as diamond firetails and turquoise parrots.

To protect Lake Burragorang, NPWS uses a combination of control methods including vehicle-based control for accessible areas, and horses and helicopters for the remote areas of the catchment. Over a four year period, NPWS has treated more than 100 kilometres of riparian areas and around 45 hectares of surrounding bushland within the Warragamba Special Areas and have succeeded in virtually eliminating blackberry along the entire length of the Kowmung River within the reserve system. Having now achieved primary knockdown of blackberry in these areas, NPWS has moved into the maintenance phase of the control program and are working with the Hawkesbury-Nepean Catchment Management Authority and private landholders to expand the control program to include areas outside the reserve system.

Remote area control work in eastern NSW

In the Guy Fawkes River and Chaelundi national parks on the North Coast, field staff use specially equipped quad bikes for blackberry control work in remote areas. In 1997–98 major blackberry infestations in these areas were mapped using Global Information Systems (GIS) technology and found to

occur along 43 kilometres of the Guy Fawkes River and 15 kilometres of creek and river systems in the Chaelundi National Park. A management strategy was put in place and an annual control and monitoring program began. The success of this program was highlighted following the Guy Fawkes River wild fires in 2000–2001, when the previously treated, dead blackberry was burnt with minimal re-shooting. Careful follow-up work by NPWS staff ensured that many of the initially treated areas were left free of blackberry, thus allowing the control effort to be expanded into new areas.

Specialised spot-spraying equipment has been mounted in the NPWS helicopter and successfully trialled to control blackberry in Towarri and Wollemi national parks in the Hunter Region. This technique has achieved more than 90% control of blackberries in treatment areas that are inaccessible by any other means.

Blackberry control in Kosciuszko National Park

Blackberry infestations occur in parts of Kosciuszko National Park. Over a number of years, NPWS has been tackling this problem using a range of methods as part of an ongoing control program to protect the natural, cultural and recreational values of the park. For example, high priority control occurs to protect the habitat of threatened species such as the northern corroboree frog and various threatened wildflowers and shrubs. Blackberries are also targeted along neighbouring properties, areas where they impede recreational use of the park and also to protect cultural heritage sites such as Yarrangobilly Caves and Jounama Homestead. Additionally, NPWS has financially assisted in:

- CSIRO trials of new strains of blackberry rust for biological control.
- a study by Charles Sturt University into the ability of a particular remote-sensing technique to map infestations of weeds such as blackberry over broad areas in Kosciuszko National Park.