

## **MANAGING NOXIOUS WEEDS IN AN URBAN PARKLAND – THE CENTENNIAL PARKLANDS, SYDNEY**

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Managing noxious weeds in urban parks presents a diversity of problems and is a challenge to park managers faced with diminishing financial and human resources for weed control. In urban parks situated in high population density areas, there is an expectation that parks will be managed to be free of weeds. Recognising limited resources, it is necessary to be strategic and diligent in designing control solutions for such situations. It is also essential to adopt a 'best management practices' approach to weed control, cause minimal environmental impact, select effective weed control techniques, have realistic goals, monitor progress and be resilient.

This paper discusses such an approach taken at the Centennial Park, Queens Park and Moore Park, which are the highest profile public parks in Sydney. Dense infestations of noxious weeds - green cestrum, lantana, pampas grass, blackberry, castor oil plant, pellitory and bitou bush existed in the parks as a result of many years of habitat disturbance and introduction of alien seeds, causing a lowering of amenity value and habitat quality of the parks. Priority control of these infestations was imperative to arrest further spread within and out of the parks, release the land from pressures of weed occupancy, comply with legislation and demonstrate 'duty of care'.

A project-based approach allowed a systematic assessment of the weed problems, identifying key issues, nomination of possible solutions, and a methodical pursuit of acceptable solutions. Continuous monitoring and measurement of success through agreed performance criteria were critical components. The performance criteria used were: (i) nil presence of mature, target noxious weed species from the original infestations in the Parks; and (ii) nil-to-very low percent cover of target noxious weed species from regrowth in the Parks. Developing cost-effective, practical, environmentally friendly 'Site-Specific Weed Management Plans' was also critical to accommodate the occurrence of the major infestations in a variety of habitats, including open parklands, slopes, boundaries, edges of waterways, underneath historically significant trees and remnant bush lands.

An 'integrated approach', combining repeated treatment with herbicides-glyphosate and triclopyr, mechanical and manual weed removal and habitat manipulation, was used to achieve the desired drastic reduction of the target noxious weed infestations. The long-term strategy was rehabilitation of previously weed-infested habitats by a combination of natural regeneration from residual natives, and by planting of competitive native species.

The success of the project can be attributed to: (a) the judicious combining of foliar applications and 'cut-stump' applications of glyphosate and triclopyr; (b) manual weed control operations including brush-cutting; and (c) the extensive use of leaf/bark mulching. Although labour intensive and time consuming, physical weed removal and clearing made a strong contribution to the enhancement of aesthetic and amenity values of the parklands. Physical removal was the only option available to remove large infestations of lantana that had scrambled up native trees and to clear dead weeds from underneath the historically significant fig trees. The use of mulch, a means of habitat manipulation, was one of the most outstanding successes in the project. Underneath fig trees and other critical areas of the Parks, the plant-based organic mulch served the purpose of discouraging regrowth of noxious weeds and invasion by environmental weeds.

The project has led to setting up regular monitoring and surveillance to early detect recurrent noxious weed problems. The success of its key components is a demonstration that application of an appropriately designed integrated weed management program can produce an ecologically friendly solution to noxious weed problems of major urban parks.