

## MINING AND WEEDS

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Noxious weeds are generally considered to be problems associated with agriculture and conservation. Other areas whereby weeds may potentially become a problem should be investigated and addressed accordingly. Mining is certainly no exception.

In the Northern Territory of Australia there are many weeds such as hyptis (*Hyptis suaveolens*), spinyhead sida (*Sida acuta*), flannel weed (*Sida cordifolia*), Paddy's lucerne (*Sida rhombifolia*), snakeweeds (*Stachytarpheta* spp), mission grass (*Pennisetum polystachion*), grader grass (*Themeda quadrivalvis*), sicklepod (*Senna obtusifolia*), coffee senna (*Senna occidentalis*), rubberbush (*Calotropis procera*), and mimosa (*Mimosa pigra*) that quickly become established at and around mine sites.

Disturbance at mine sites predisposes the area to invasion by weeds. These weeds are spread between mines and throughout mine sites by the movement of trucks and machinery from infested to clean areas. Contaminated seed used in revegetation work may also introduce new weed seeds to remote areas.

Mining companies are becoming aware of the need to control weeds. Environmental Impact Statements, which are produced to support mining applications, now usually address weeds as an issue in the mine's management, and resources are being devoted to their control.

### THE ECOLOGY OF *MYRSIPHYLLUM ASPARAGOIDES*, AN ENVIRONMENTAL WEED IN SOUTH-EASTERN AUSTRALIA

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Bridal Creeper (*Myrsiphyllum asparagoides*), a geophyte native to South Africa, is an invasive weed in both disturbed and undisturbed vegetation of southern Australia. In conjunction with a search for biological control agents in South Africa, its population biology at Point Nepean National Park in Victoria has been studied since 1992.

Shoots of bridal creeper begin emerging in late summer or autumn, depending upon rainfall, and nearly all senesce the following summer. Early emergents contribute most to the above-ground biomass of the plant. Maximum stem density occurs in August, averaging 91 stems m<sup>2</sup>, when canopy cover averaged 75%. Tuber masses usually entwine to form dense mats just below the soil surface and comprise at least 94% of the plant's biomass. Tuber production begins in May and continues through winter. Birds disperse the fleshy fruits of bridal creeper; 46% of fruits are taken over summer. Seed germination in the field is affected by depth of burial; 54% of buried seed germinate after 3 months while only 2% of surface seed germinate.

Bridal creeper is a serious environmental weed. It is able to regenerate vegetatively from extensive tuber reserves and establish from seed (which may be dispersed to new sites) to reach high densities and cover. Its establishment may limit seedling regeneration of native species, alter soil and litter biota, and affect rates of litter decomposition and nutrient cycling. For effective biological control, defoliating agents, tuber-depleting organisms, and pre-dispersal seed predators will be required.