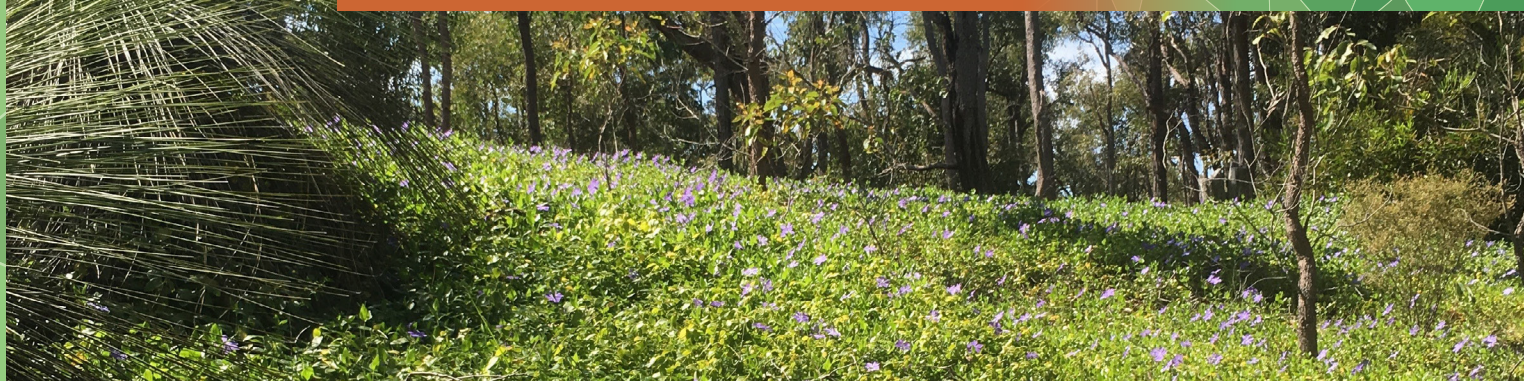




Draft Forest Management Plan 2024–2033

Fact Sheet: Disease, weeds and pests



Periwinkle weeds in Beelu National Park.

Introduced plants, diseases and animals pose a serious threat to the health and resilience of our forest ecosystems. They can disrupt or modify ecosystem processes, adversely impacting biological diversity at genetic, species and community levels.

Diseases

Phytophthora dieback is caused by *Phytophthora cinnamomi* which attacks the roots of plants, cutting off water and nutrients to the crown (leaves and branches), resulting in plant death. In Western Australia's south-west bioregion, more than 40 per cent of native plant species are considered susceptible to the disease including many banksia, hakea, eucalypt, and grass-tree species. As of 2021 at least 242,100 hectares in the forest management plan area are known to be infested with *Phytophthora cinnamomi*. Several other *Phytophthora* species also contribute to the decline in health of forest ecosystems.

As well as the direct impacts of *Phytophthora* dieback, the indirect effects of loss of canopy and understorey and the increased area of bare ground are thought to affect certain animals and plants (including those not susceptible to dieback), soil microbes, site hydrology, susceptibility to fire, and weed invasion.

Tuart forests are also in decline potentially due to ongoing decline in winter rainfall, hydrology and salinity changes near wetlands, increased nutrients in the soil, attack from invertebrates such as insect borers (*Phorocantha*), and fungal disease.

Crown decline has been increasingly observed in *Wandoo* spp. Research into the causes of this decline is ongoing, and water stress and spread of invasive species is thought to contribute to the dieback of foliage in wandoo.

Weeds

Weeds are transforming Western Australia's landscapes, including the south-west forests. Competition from weeds impacts many threatened flora and ecological communities in the forest area, particularly those restricted to small, disturbed areas highly vulnerable to invasion. They can also increase fuel loads, affecting both the occurrence and frequency of bushfires.

The existing impacts of invasive weeds is compounded by the effect of climate change on both invasive weeds and native species. In a warming climate, the suite of weed species in Western Australia will change, with

previously tropical and subtropical weeds making their way south and some existing weeds becoming more invasive but others less so.

There are 76 high priority weed species identified in the forest management plan area. Of these, seven species are common – bridal creeper, gladioli, narrowleaf cottonbush, blackberry, cape tulip, Victorian tea tree and arum lily. The management goals for these species include localised eradication, density reduction and containment. These goals are based on the biodiversity values being threatened and the size and density of the weed population.

The *Forest Management Plan 2024-2033* includes a range of activities to reduce the impact of pests, weeds and disease on the south-west forests, including:

- supporting next generation biological control of weeds – for instance, biocontrol for arum lily
- maintaining, adapting, and improving the *Western Shield* fauna recovery program, including implementation of the *Western Shield* monitoring plan across the planning area
- increasing the effectiveness of dieback mapping techniques by exploring innovative techniques and investigating emerging technologies for controlling its spread.

Pest invertebrates

The two most notable endemic (naturally occurring in the area) insect pests in the planning area are jarrah leaf miner and gum leaf skeletoniser, which can cause widespread, temporary canopy defoliation. Research by the department suggests that drier, warmer winters and autumn drought expected with climate change may lead to more frequent outbreaks of gum leaf skeletoniser. Other endemic invertebrate pests with consequences for tree health (particularly in overstocked regenerating stands) include endemic longhorn borers (*Phoracantha* spp.)

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These species are known to be responsive to physiological stress in trees induced by extremes of temperature and drought. Some tree decline syndromes such as wandoo and tuart decline result from an interaction of both pathogen and insect responses to a drying climate. There are numerous other potential pest species not yet detected in Australia that have the potential to damage forest health if introduced. Biosecurity is essential to protect forest ecosystems from potential future pest outbreaks.

There are other key biosecurity threats of management significance should they spread to the planning area. One example is the polyphagous shot-hole borer, a tiny beetle native to south-east Asia which has a symbiotic relationship with *Fusarium* fungus. Polyphagous shot-hole borer is known to cause *Fusarium* dieback in over 400 host species overseas, and is recognised as a significant environmental, forestry and agricultural pest.

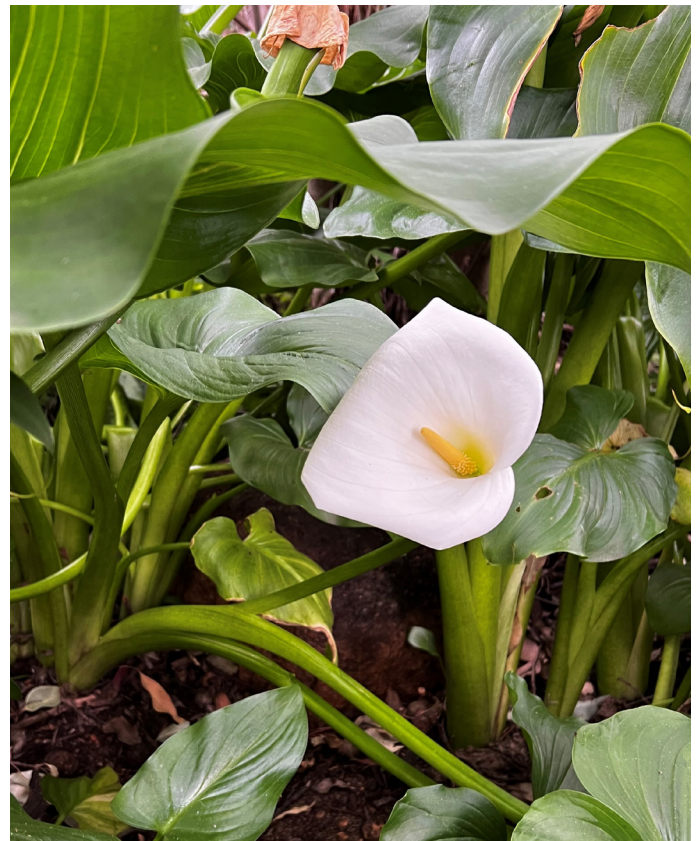
Pest vertebrates

Key vertebrate pest animals in the planning area include foxes, feral cats, feral pigs and deer. Foxes and feral cats are managed through the Department of Biodiversity, Conservation and Attractions *Western Shield* fauna recovery program.

Further reading

For information on the invasive animals and *Western Shield* programs, visit dbca.wa.gov.au/parks-and-wildlife-service/threat-management.

For information on forest pests and diseases refer to the Parks and Wildlife home page www.dpaw.wa.gov.au/management/pests-diseases



Arum lily infestation

The management of Western Australia's south-west forests will be outlined in the *Forest Management Plan 2024-2033*.

For more information visit our website at dbca.wa.gov.au/forest-management-plan



Conservation and Parks Commission
Department of Biodiversity, Conservation and Attractions