

A protective partnership at Wandoo National Park



Wandoo National Park, located 80 kilometres east of Perth, represents a mosaic of wandoo woodlands and low-lying seasonal wetlands across continuous and relatively undisturbed landscapes. It attracts visitors who come to enjoy the wildflowers, bushwalking, picnicking and observing wildlife, and is also a popular site for off-road vehicle driving. To help protect the fragile wetland ecosystems, a unique partnership has been established to raise awareness about the natural values of these wetlands and to develop strategies to minimise any damage being done.

**by Kate Brown, John Collins, Juliet Wege,
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Located between the Great Southern and Brookton highways, Wandoo National Park is the largest national park on the Darling Plateau, covering an area of 44,000 hectares. Although the park is named for its attractive wandoo woodlands, the area protects a diversity of vegetation communities including jarrah and marri woodlands, proteaceous heathlands and shrublands, and herblands associated with granite outcrops and seasonal wetlands.

WETLAND WONDERS

The park's seasonal wetlands, some of which are listed as critically endangered ecological communities, are both complex and varied, supporting a wide range of flora and fauna. These clay-based systems fill with rainwater over the course of winter and gradually dry through spring and summer, which means that they change dramatically in appearance over the course of the year. The pools of water that form in autumn and winter are an essential habitat for a myriad of microscopic aquatic invertebrates, including an undescribed species of rotifer (*Plationus* sp.) that is only known to occur in the park, and a range of aquatic plants such as floating bog-rush (*Schoenus natans*), a species once thought to be extinct in WA, and *Trithuria submersa*, a member of the ancient flowering-plant family Hydatellaceae that gives one of the wetlands a wonderful red hue in late spring.

In mid-to-late spring, as the water levels drop, the wetlands are transformed into a veritable artist's palette as tiny



ephemeral herbs including triggerplants (*Stylidium* spp.), bladderworts (*Utricularia* spp.), everlasting (*Rhodanthe* spp.) and *Goodenia* spp. begin to flower at the moist fringes of the swamps. In good seasonal conditions these herbs form a carpet of colour that, together with the blooms of featherflowers (*Verticordia* spp.) and *Melaleuca* spp., provides a feast for a range of insect pollinators. As the weather warms and the annual herbs begin to set seed, the red blooms of robin redbreast bush (*Melaleuca lateritia*) can be seen throughout the summer months at some sites.

One species that has garnered a great deal of attention in recent years is the asymmetric triggerplant (*Stylidium asymmetricum*) – a pretty, pink-flowering annual herb that is only known from a subset of wetlands in the Wandoo National Park. Since its discovery in 1999 by local volunteers and regional biodiversity experts Jean and Fred Hort, this species and the wetlands in which it

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Main Wandoo National Park.

Photo – Marie Lochman

Inset *Goodenia claytoniacea* swamp fringes in Wandoo National Park.

Above The asymmetric triggerplant known only from Wandoo National Park.

Photos – Fred and Jean Hort

occurs, are being threatened by multiple processes.

As a result of work conducted by the Horts and department staff, *S. asymmetricum* has just been listed as threatened flora (endangered) on the State's Threatened Species List.

BIODIVERSITY THREATS

Over the past 10 years, the quality of the habitat in some of the wetlands in Wandoo National Park has noticeably declined. Once pristine ecosystems have been severely impacted by increasing numbers of feral pigs that are drawn to the fresh water and the muddy wetland fringes. In some places they have completely denuded patches of vegetation, churning up the ground and altering the local hydrology such that the tiny herbs that make these ecosystems so enchanting can no longer grow.

Serious damage has also been caused by off-road vehicles, with both trail bikes and four-wheel drives straying from existing



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Wandoo National
Park

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Top Monitoring vegetation at Deefor wetland.
Photo – DBCA

Above DBCA botanist Tanya Llorens surveying rare plants on the swamp fringes.
Photo – Juliet Wege/DBCA

tracks to drive across the wetlands or through the herblands, creating wheel ruts that can persist for years, thereby encouraging further vehicular activity. A range of weed species has also been observed invading the disturbed areas, including one-leaf cape tulip (*Moraea flaccida*) and awned club rush (*Isolepis hystrix*), both of which are serious weeds of seasonal wetlands. The wetlands are also threatened by a drying climate since they rely solely on rainwater to fill.

Such a multitude of threats present an enormous management challenge but a range of steps are being taken to protect the biodiversity values of these wetlands.

SIGNS FOR THE FUTURE

The department has worked with the community to develop a number of programs to address the threats to Wandoo National Park. Over the past two decades several measures have been put in place to address feral pigs including an intense control program every summer, as well

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as working with neighbours to provide them with support and assistance to control feral pigs on adjacent land. This helps ensure that feral pig control is undertaken all year round. This combined effort has seen the removal of more than 200 feral pigs on average per year.

In response to the off-road vehicle damage, which is thought to have been caused by a minority of park users, Track Care WA Inc. has developed a partnership with the Motor Trade Association of WA's Four-Wheel Drive Industry Division Association and the department to help prevent further damage to the wetlands and to monitor their recovery.

The cooperative effort identified that there was a lack of signage communicating the conservation values of the wetlands in the park. The consensus was that most four-wheel drivers wanted to do the right thing but that a lack of information was causing confusion with regards to land status and the tracks that could be used. The team set about developing signs that explained the importance of the wetlands and carried

both industry and departmental logos. It was hoped that the signs would not only demarcate the environmentally sensitive areas but demonstrate that the wetlands are being actively cared for and using them appropriately would support management strategies.

In April 2016, a working bee was held to erect 12 signs at Deefor wetland – a particularly important site for the asymmetric triggerplant. In November 2016, in fantastic seasonal conditions, a series of flora transects were established across the wetland to monitor the flora, including the rare triggerplant, and to assess whether it could recover if the threats were ameliorated. The triggerplant was also independently surveyed and mapped across its range so that its conservation status could be accurately assessed. Ten signs and some bollards were later erected at Big Darkin wetland, where the track crosses the Darkin River. In winter this track is difficult to traverse, leading users to seek alternative routes causing damage to the surrounding wetland.

Preliminary indications suggest that the signage may have been effective in preventing further damage to the wetlands by off-road vehicles; however, vehicle tracks can persist for long periods and it can be difficult to differentiate older tracks from new ones. Ongoing monitoring and community liaison will be important to managing and protecting these wonderful wetland systems in Wandoo National Park.

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The signs installed in Wandoo National Park were sponsored by the Motor Trader Association of WA, OutBack Accessories Australia, Four Wheel Drive USA and Modern Motor Trimmers, Perth 4x4 and DBCA.