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Ground Parrots

The Society's Wildlife of the Year **Doctor Julie Old**

This year, the Australian Wildlife Society's animal of the year consists of three species, all in the Genus *Pezoporus* and otherwise known as Australia's ground parrots. The three species of ground parrots include the western ground parrot (*Pezoporus flaviventris*), the eastern ground parrot (*Pezoporus wallicus*) and the night parrot (*Pezoporus occidentalis*).

The Society recently supported Friends of the Western Ground Parrot's western ground parrot recovery efforts in Western Australia. In partnership with the Department of Biodiversity, Conservation and Attractions, Friends of the Western Ground Parrot installed twenty-five predator camera traps into potential western ground parrot translocation sites for predator detection and management purposes. The camera traps are required to undertake predator surveillance (feral cats and foxes) to guide necessary management actions to conserve the western ground parrot. Four feral cats

and one fox have already been detected, and subsequently, the Department of Biodiversity, Conservation and Attractions implemented appropriate predator control.

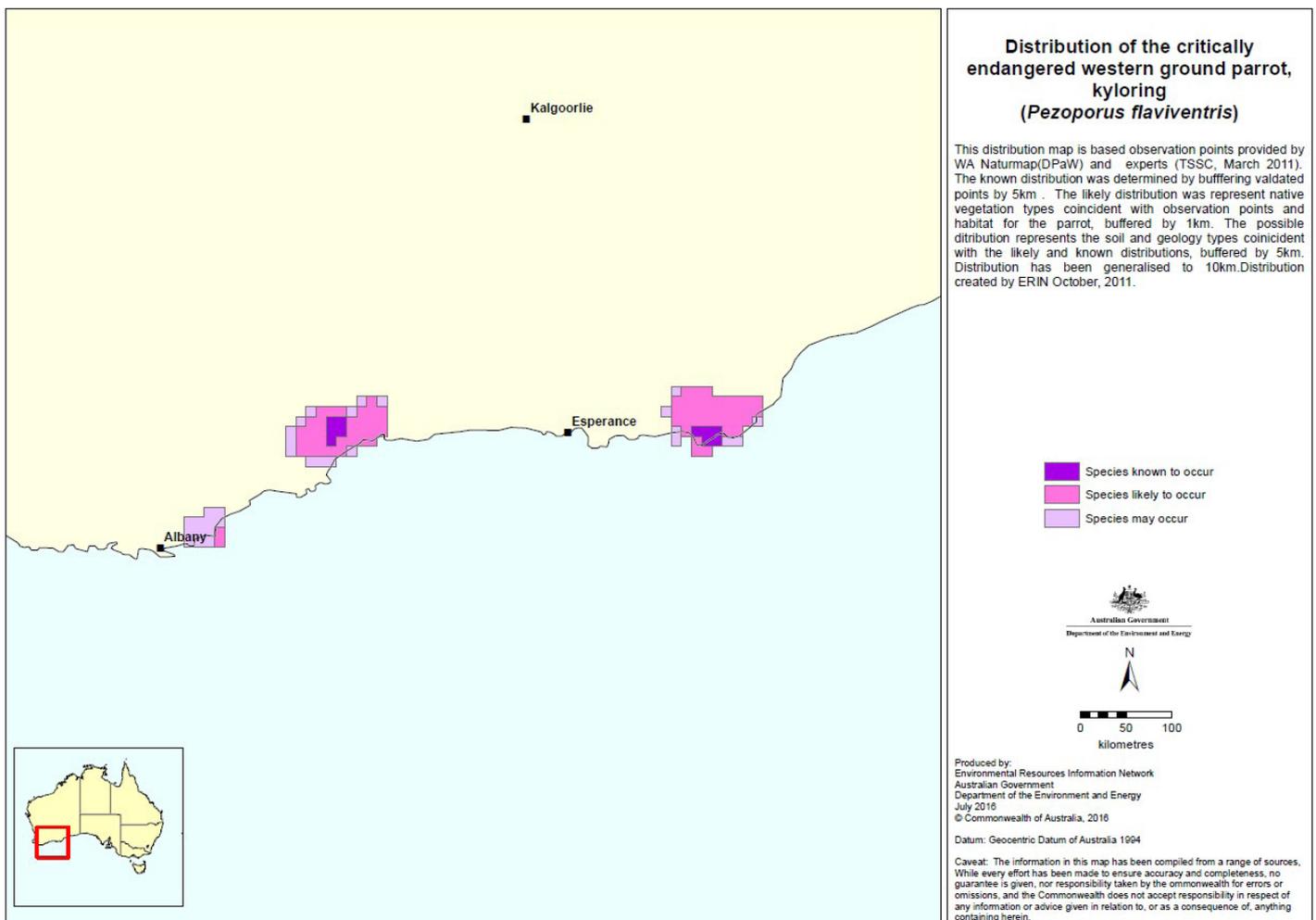
Western ground parrots were first photographed in 2004. Whilst they are yet to be formally assessed by the International Union for the Conservation of Nature, given the low numbers of individuals, around 150, and the main threats to the species, they are likely to be listed as Critically Endangered. The main reason for their critically endangered status is significant declines in distribution and population size due to habitat clearing for agriculture.

Western and eastern ground parrots are similar in appearance, and therefore it was not until 2010 that genetic studies confirmed they were two separate species. Western ground parrots differ slightly from the eastern ground parrot in their appearance due

to yellow on the underside of their tail and belly. Their tail also has black bars, whereas the eastern ground parrot is bright green on the belly and underside of the tail. Both parrots are otherwise green with black flecks and have a red band of colour just above the beak.

Previously, western ground parrots were distributed along the coast of south-west Western Australia, from Israelite Bay to Geraldton. Now they are limited to two main areas on the southern coast of Western Australia, with the largest population being in Cape Arid National Park. They have also been recorded in the Fitzgerald National Park, Nuytsland Nature Reserve, and Waychinnicup-Manypeaks.

Above: The western ground parrot (*Pezoporus flaviventris*) is listed as Critically Endangered and is under threat from historical habitat clearing for agriculture, frequent and extensive fires, predation by feral cats and foxes, and climate change. Image: Brent Barrett, Department of Biodiversity, Conservation and Attractions.



Distribution of the critically endangered western ground parrot (*Pezoporus flaviventris*). Image: Department of the Environment and Energy July 2016, Distribution of the critically endangered western ground parrot, kyloring (*Pezoporus flaviventris*), viewed 25 July 2021, bit.ly/WGPDistribution

Western ground parrots prefer low heathland habitats with a large number of sedges, specifically those that have not been burnt for more than four decades. However, they have also been observed in areas that are regenerating after several years post-fire, as long as there is long-established unburnt vegetation adjacent to it. Fire is, therefore, one of the biggest threats to the species, which is only expected to increase as a result of climate change. Introduced feral cats and European foxes (*Vulpes vulpes*) also pose significant threats given the birds' ground-dwelling habits. Dieback, as a result of *Phytophthora cinnamomi*, is also impacting some vital food plants.

Western ground parrots mostly eat seeds, flowers, fruits, and leaves from a variety of plant species. Seeds are consumed from the sedge *Mesomelaena stygia* subsp. *stygia*, whilst flowers are eaten from grevillias, beaufortias, and dryandras.

Precise numbers of western ground parrots are difficult to determine because they are elusive, rarely fly during the day, and are often only observed singularly or in pairs.

Furthermore, their colouring allows them to be perfectly camouflaged in low vegetation. However, they can be heard calling at dusk and dawn, using a call described as an old-fashioned boiling kettle.

A captive breeding program was established at Perth Zoo in July 2014 with the hope of one day breeding them in captivity and releasing them back into the wild. At present, the zoo supports the conservation of the species by observing their behaviour and developing better husbandry protocols to aid breeding. They nest on the ground in a shallow scrape in the wild and lay up to five eggs, usually three to four. The young have been recorded from September to November at Cape Arid National Park.

In contrast, the eastern ground parrot resides in heathlands, sedgelands, and areas of button grass plains, with dense areas of low bushes and reed beds. Like the western ground parrot, it is also found in fragmented populations but is secure, with an estimated 4,000 breeding individuals remaining. Its range includes Tasmania and some of the offshore islands in the Bass Strait

and extends along the coast of Victoria, New South Wales, and southern Queensland. It is listed as Vulnerable in Victoria, New South Wales, and Queensland, Endangered in South Australia, and secure in Tasmania and nationally. Threats to its status include habitat modification, and as with the western ground parrot, introduced predators and fire. The breeding period for the eastern ground parrot is from September to January.

By far the most elusive of the Australian ground parrot species, and perhaps the most elusive of birds worldwide, is the night parrot. It was first described by John Gould, the famous ornithologist in 1861, and was believed to be extinct due to a lack of confirmed observations between 1912 and 1979. Very rare sightings have been recorded since, including a sighting of a flock in far north South Australia and a roadkilled individual in 1990 in a remote area of Queensland. Hence, the International Union for the Conservation of Nature currently lists the night parrot as Endangered, suggesting there might be between 50-250 or more individuals remaining. Nationally, the night parrot is listed

as Endangered. It is also listed as Endangered in Queensland and South Australia and Critically Endangered in the Northern Territory and Western Australia.

Sightings or recordings of the night parrot have been attributed to Astrebla and Diamantina grasslands in southwestern Queensland (2006), the Fortescue Marshes in the Pilbara and Kimberley regions of Western Australia, as well as Kalamurina Station near Lake Eyre in South Australia, and areas in the Northern Territory. However, controversially, some photographs and sightings of the night parrot have since been retracted.

Ornithologists, however, captured and tagged a live night parrot in southwestern Queensland in 2015, the exact location of which has remained a secret to aid its conservation. Fledglings have also since been photographed in 2016 and 2018 in Pullen Pullen Reserve in southwestern Queensland.

While some aspects of its appearance are similar to both the western and eastern ground parrots, the tail of the night parrot is significantly shorter. It also differs in its distribution and habitat, preferring the arid interior spinifex grasslands. However, it may also occur in chenopod and mallee shrublands, as well as eucalypt woodlands. It is believed to eat herbs and seeds from *Triodia* grasses, but further research is required to gain a better understanding of the species.



Predator camera trap. Image: Helena Stokes, BirdLife Australia.

A recent study by Vera Weisbecker and colleagues at Flinders University examined the skull of a specimen found dead on a barbed wire fence using computed tomography or CT scans. Interestingly, the scans suggested that the visual system of the night parrot was more similar to diurnal parrots than other nocturnal birds, and it is likely that at night their visual resolution is poor. Weisbecker and colleagues made these conclusions based on the night parrot having smaller eyes than other nocturnal birds and smaller optic nerves and optic lobes in the brain, both essential

for visual processing. Limitations with night vision may mean the nocturnal parrot would have difficulty avoiding obstacles such as the barbed wire fencing that led to the death of the individual night parrot examined in the study and predators such as introduced foxes and feral cats.

So, it is without a doubt that Australia's ground parrot species are unique. The Society is proud to highlight these species in 2021 as our species of the year and hope that these species will be conserved for future generations with our members' ongoing support.



A feral cat in potential western ground parrot habitat. Image: Department of Biodiversity, Conservation and Attractions.