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Land management on the Anangu Pitjantjatjara Yankunytjatjara Lands

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The Anangu Pitjantjatjara Yankunytjatjara (APY) Lands are freehold aboriginal lands spanning approximately 10 million hectares of country in the North West corner of South Australia. APY Land Management runs three main programs which include Indigenous Protected Areas (IPAs), a Women's Land Management program and a Black-flanked Rock-wallaby Recovery Program. The IPA program includes five separate IPAs and covers an area equivalent to almost half the APY Lands.

There are three key ecological issues affecting the APY Lands which are addressed through one or more of the above Land Management programs, including; Threatened Fauna, Fire Management and Buffel Grass (*Cenchrus ciliaris*) Management.

The key threatened fauna across the APY Lands are *Warru* (Black-flanked Rock-wallaby, (*Petrogale lateralis*), *Nganamara* (Malleefowl, (*Leipoa ocellata*) and the *Tjakuṛa* (Great Desert Skink, *Liopholis kintorei*). *Warru* were once common across Central Australia, however there has been a dramatic reduction in their distribution and abundance and they are now considered one of South Australia's most endangered mammals (NRAW, 2014). There are currently only two wild populations known in South Australia, and both are in the APY Lands: one in the Eastern Musgrave Ranges near Pukatja Community, and second in the Tomkinson Ranges near Kalka community. In 2007, the 'Warru Recovery Team' was formed, which is a partnership between Traditional Owners from the APY Lands - particularly from the Kalka, Pipalyatjara and Pukatja communities, the Australian Government, Alinytjara Wilurara Natural Resources Management Board (now Natural Resources Alinytjara Wilurara (NRAW)), APY Land Management, Ecological Horizons Pty Ltd, Conservation Arc and the University of Adelaide (NRAW, 2014). One of the first major actions by the Recovery team was the erection of a 4km long predator-proof fence in 2010 to provide a 'soft release' (i.e. minimal competition and predation) area for Black-flanked Rock-wallabies, bred in captivity at Monarto Zoo in Adelaide (Anangu Pitjantjatjara Yankunytjatjara, N.D.). The Warru Program (as it is known on APY) employs 3 permanent staff, including one Indigenous Field Officer and eight permanent part-time Indigenous rangers, along with numerous Indigenous casual rangers.

Nganamara (Malleefowl) are Vulnerable in South Australia, and occur on the APY Lands in a very low numbers. They generally live in Mulga (*Acacia aneura*) and Mallee (*Eucalyptus spp.*) Woodlands, and prefer to build their nests in habitat which has not been burnt for a long period of time. The species may not returning to a burnt areas for up to 30 years (Partridge, T., N.D.). From the beginning of 2015, there were 42 known Malleefowl mounds across the APY Lands on Walalkara IPA, Apara-Makiri-Punti IPA, Watarru IPA and Kalka-Pipalyatjara IPA. In 2014, 31 of the 42 known Malleefowl mounds were monitored as part of APY Land Management's ongoing annual Malleefowl Mound Monitoring Program. The 2014 Monitoring Program only identified recent activity at one of the 31 surveyed mounds. A large number of Malleefowl mounds were destroyed in 2012 on Watarru IPA, due to bushfires, which resulted in a dramatic reduction of available habitat for the Malleefowl. Despite this there were two individual sets of tracks detected in other areas of the IPA suggesting

that Malleefowl are persisting. Suitable Malleefowl habitat is thought to be present in Antara-Sandy Bore IPA, and searches for evidence of other populations will take place in 2015.

The *Tjakura* (Great Desert Skink) is a large burrowing lizard, restricted to gravelly and sandy country of the Western Deserts region of Australia (McAlpin, 2001). Listed as Vulnerable in South Australia (Department of the Environment, 2015) the only known population in the state is located within the Watarru IPA (McAlpin, 2001). The Great Desert Skinks generally occupy habitat which has been burnt between three and 15 years previously (McAlpin, 2001). Surviving a large-scale fire may be difficult or impossible for this species, as a hot bushfire can remove virtually all vegetation cover over a very large area, exposing or destroying most invertebrates and small vertebrates present, resulting in a lack of food and cover for the lizards (McAlpin, 2001). The main threats to the Great Desert Skink's survival in the APY Lands is destructive fire regimes, and added predation pressure of Cats and Foxes (McAlpin, 2001). Watarru IPA is monitoring known Great Desert Skink burrows with remote cameras and APY Land Management is developing an annual monitoring program to gather information on population dynamics, to try and determine population growth rates.

Fire management has a long history in the APY Lands, and Australia as a whole. Before the arrival of Europeans, fire was thought to be more common across the landscape. Anangu (Indigenous Pitjantjatjara and Yankunytjatjara people) would use fire for hunting, tracking and clearing old tough spinifex, as a result, more of the landscape was burned with smaller, less-damaging fires throughout the seasons. Contemporary fire regimes differ markedly from those under pre European occupancy, leading to significant and negative biodiversity impacts (Russell-Smith *et al.*, 2007). In an attempt to prevent large, destructive bushfires, APY Land Management runs a fire management program. Fire Management on the IPAs is conducted for three main purposes: 1) Protecting significant cultural sites, threatened species sites and infrastructure from larger more destructive bushfires; 2) Protecting vulnerable vegetation communities such as rare flora and old growth Mulga (*Acacia aneura*) and Mallee (*Eucalyptus spp.*) Woodlands; and 3) Creating a landscape-scale mosaic of different vegetation types and age classes. Fire management is mostly limited to within the IPA areas, however the Black-flanked Rock-wallaby Recovery Project and the Women's Project also undertake some fire management works and planning.

'Prescribed' burning requires the participation and permission of the Indigenous Protected Area steering committees and other Traditional Owners for the relevant country. The planning process includes: Looking at fire history (scar) maps; Road accessibility; Terrain; Desktop assessments of sensitive areas such as known cultural, threatened species and biodiversity sites; Mapping prescribed burns for the upcoming fire season; and validating ground conditions and sites with the relevant traditional owners. All prescribed burning is conducted in the cooler months of the year from June to August and is carried out through on-ground burning using drip torches, as well as from helicopters using incendiary balls where vehicle access is not possible. Managing fire at a landscape-scale has been identified as a key activity by APY Land Management, as large uncontrolled fires have the potential to threaten flora and fauna populations across the lands.

Buffel Grass originated in the Middle-east and Northern Africa, and was introduced onto the APY Lands by health authorities in the 1980s as a dust prevention measure around communities (Natural Resources Alinytjara Wilurara, 2013), as well as for a pasture plant and has successfully established across vast areas of the northern APY Lands. Buffel Grass is widely recognised as one of the most serious threats to the South Australian Rangelands, due to its ability to rapidly invade and out-compete native vegetation communities (Natural Resources Alinytjara Wilurara, 2013). In early 2015, the South Australian government declared Buffel Grass as a Category 2 Declared Pest under the *Natural Resources Management Act, 2004* (Government of South Australia, 2015). This classification restricts the movement and sale of declared pest plants, as well as placing responsibilities on land owners for the management of infestations (Government of South Australia, 2015).

APY Land Management are creating Buffel Grass management zones across the APY Lands, based on the current infestation level, presence of important cultural sites, threatened species and communities. Management actions include mapping of infestations, chemical application, burning for biomass reduction and physical removal of plants. APY Land Management and NRAW have recently purchased two slip-on spray units for use on the APY Lands, which will dramatically increase management efficacy. The spray units will allow large-scale spraying, using booms along access roads and around critical cultural and biodiversity sites.

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