

# Conservation for culture and livelihoods – Angas Downs, Northern Territory

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Angas Downs is an Indigenous Protected Area (IPA) located 300 kilometres south-west of Alice Springs, Northern Territory, and 135 kilometres from Uluru-Kata Tjuta National Park. It is in the Finke bioregion and lies directly on the north-south chain of the Territory Eco-link connectivity initiative. The Angas Downs pastoral lease, which is the underlying tenure of the IPA, is 320,500 hectares. In the past, the property was damaged by poor land management practices, and by cattle and feral animals. Today it provides employment and income for the Indigenous community, creates learning and training opportunities, and improves health (through exercise and diet). It reconnects the traditional people of this area – Anangu – to their land and culture, instilling a sense of pride.

The lease was first taken up by William Liddle in 1927. He and his Aboriginal descendants ran sheep and then cattle until the 1990s. As with many pastoral enterprises during the 1980s and 1990s, Angas Downs struggled financially and was eventually taken over by a mortgagee. In 1994, the lease for Angas Downs was purchased by the Imanpa Development Association Inc of the nearby Imanpa Indigenous Community. It is managed by their company Lisanote Pty Ltd.

In 2009, Angas Downs was declared an IPA after a management plan was developed by Australian Wildlife Services (Wilson et al. 2005) in consultation with the local community, and with funding provided by the Australian Government's IPA Program. The plan sought to adhere to the principles of IUCN Protected Area Management Category VI, and remains a planning resource for members of the Imanpa Community.

Angas Downs is important to Anangu because it has significant *tjukurpa* (Indigenous law and customary knowledge) places and sacred sites where ceremonies continue to occur. The acquisition and management of the land is a community-based initiative that seeks to balance conserving and restoring natural systems with deriving benefits from commercial use.

Previous land management practices and other anthropogenic pressures damaged Angas Downs and many native species had disappeared. Preferred game and culturally important animals are less common, and feral animals and weeds pose a major challenge.



Senior Ranger David Wongway and Emu chicks being reared for release on Angas Downs IPA. © Photo: George Wilson, Australian Wildlife Services

The key innovative feature of the Angas Downs IPA Plan of Management is promotion of *kuka kanyini* – looking after game animals. The goal addresses an Anangu aspiration for subsistence food consumption from their lands, more wildlife on the property for cultural reasons, and as the basis of proposed tourism developments. There is also limited livestock grazing for what local people call a ‘killer herd’ for local meat consumption, and a small scale commercial operation in one part of the property (low-key sustainable use of natural resources where compatible with conservation is consistent with IUCN Category VI Protected Areas).

The management plan outlines the natural and cultural resource base, land management operations, sustainable development opportunities, training and education, and collaborative partnerships for management of the property. The objective of the plan is to manage land and wildlife resources in order to maintain Anangu culture, conserve biodiversity, and enable sustainable production in support of human communities and economic development. To achieve this, it has two strategies: first, blending the *tjukurpa* (Anangu law and customary knowledge) with *piranypa* (non-Indigenous) non-Anangu scientific knowledge to improve wildlife habitat, enhance landscapes, and increase the numbers of those species of wildlife preferred as bush tucker; and second, improving the health and wellbeing of communities and maintaining culture through tourism and other enterprise development centred on land management.

The management plan details priorities for environmental restoration and activities to restore and protect biodiversity, including bush foods. Activities include:

- Restoring and maintaining water points and erecting fences around key water and cultural sites to keep out large feral animals
- Reducing the density of feral animal populations, including camels, horses and cattle
- Reducing the impact and spread of weeds
- Restoring patch burning and reducing fire hazards
- Re-establishing and protecting threatened or significant species, including:
  - building a 28,800 hectare feral herbivore-free wildlife enclosure
  - establishing a native animal breeding compound, initially for Emu (*Dromaius novaehollandiae*)

- establishing a native plant nursery, initially for Quandong (*Santalum acuminatum*)

- Managing a small sustainable cattle production operation restricted to a 26,600 hectare zone, being 8% of the property area.

A key feature of the management plan and the associated funding provided by the IPA Program is the provision of ongoing scientific support to monitor landscape and ecosystem health and wildlife populations. The plan enables scientists to work with Indigenous communities to help them manage their land and wildlife through sustainable use, and to provide the sound monitoring and surveying which underpins all of this work.

CyberTrackers can also be used to record Elders from the Impana community telling stories about the land and special places. Files are being entered into the Ara Irititja Anangu cultural database, a purpose-built computer archive that digitally stores repatriated materials and other contemporary items. This will include information on Indigenous rock paintings and engravings that were rediscovered in August 2011 at Puna Kura Kura waterhole, and elsewhere in the Liddle Hills.

Aerial surveys are a cost-effective way of assessing populations of large animals over large areas quickly. Much of Angas Downs does not have road access, and aerial surveys can monitor trends of both feral animal and preferred animal species (such as kangaroos). Fixed-wing aerial surveys are conducted over Angas Downs and the surrounding landscape annually and observers count kangaroos, camels, horses and cattle. Sampling intensity is approximately 5% of the total 400,000 hectare survey area (Australian Wildlife Services 2010). Aerial surveys enhance the Anangu rangers’ knowledge of the density and distribution of surveyed animals. This helps them manage landscapes and take action to either encourage populations or control them. Initial results from 2010–2012 show kangaroo numbers increasing and camel numbers decreasing.



Angas Downs rangers (left to right, Paul Pumpjack, Leo Armstrong, Phillip Tucker, Fly Maloney), and Geoff Kay (far right) elated with results of pitfall traps during biodiversity surveys on Angas Downs. ©Photo: Jenny Smits, Australian Wildlife Services

Track-based monitoring on sandy substrate areas set up on Angas Downs have been established. Two hectare (100 metre x 200 metre) plots are searched for animal tracks and movements using the methodology described by Southgate and Moseby (2008). This method enables rangers to identify where native and feral animals are occurring without intensive intrusive animal trapping.

Pitfall and funnel trapping is used to survey for small mammals and reptiles on Angas Downs. 'Drift fence' barriers direct foraging animals towards traps (funnel traps or 20 litre buckets dug into the soil). Surveys since 2010 have identified 51 reptile species, six small mammal species, and four amphibian species.

Photopoints are established around the property as reference points enabling comparison of landscape health through time. At each photopoint, Angas Downs rangers erect two steel posts five metres apart. The two posts are for aligning the photos; rangers take photos at each photopoint every two to three months and collate the images in a photographic journal.

Landscape Functional Analysis (LFA) is a field-based method of assessing soil and site conditions and vegetation cover (Tongway and Hindley 2004). LFA assesses how the landscape regulates resources (water and nutrients) – whether they are being lost or recycled within the landscape, and how the landscape is functioning as an ecosystem. On Angas Downs, there are 28 LFA transects at selected photopoints and other areas of interest. Initial results have shown an increase in functionality of all points but it is likely this is due to high rainfall and good seasons over 2010–2012, increasing plant cover. Training is ongoing for the rangers, but illiteracy is inhibiting the transfer and uptake of this knowledge. Inclusion of LFA on a Cybertracker system could increase capacity.

On Angas Downs, mustering of feral cattle and horses for sale is ongoing. Camels are shot opportunistically with an annual take of between 70 and 100 camels. Rabbits can also do substantial damage. However, in many communities rabbit management is more complex than straightforward pest control, as rabbits can be an important food source. Predators such as foxes and cats can also pose threats to many species, and may require control programs in the future.

Angas Downs rangers have completed a course in Indigenous fire management run with neighbouring rangers at Uluru-Kata Tjuta National Park and Docker River, and are reinstating traditional mosaic burning. Cool burns at the right time of the year reduce fire damage to the dominant overstorey and create a mosaic of vegetation ages. Under the management plan, the aim is to reduce the risk of large wildfires and to increase the heterogeneity of habitats and niche ecosystems.

Angas Downs rangers have begun the training for reintroduction of wildlife now locally extinct – *kuka iritija* (animals from before). A breeding and release program for Emus is currently being implemented. Emus were once more numerous on Angas Downs and while there are other species that are considerably more threatened, Emus were chosen as they are a keystone species in the propagation and distribution of a number of plant species.

Rearing Emus is also providing training opportunities for rangers in working intensively with animals. Emus are relatively easy to rear, and the program is likely to be successful and provide motivation for more difficult efforts. Once Emus are re-established, the rangers will apply their new skills to reintroducing other more difficult to raise species, including two that are extinct in the wild in the Northern Territory – the Mala (*Lagorchestes hirsutus*) and the Brush-tailed Bettong (*Bettongia penicillata*) – as well as Australian Bustard (*Ardeotis australis*), Greater Bilby (*Macrotis lagotis*), and Common Brushtail Possum (*Trichosurus vulpecula*).

Under current management arrangements, Angas Downs' hunting activity is governed by the 2005 management plan developed by Australian Wildlife Services (Wilson et al. 2005) and there is very little hunting of native species to allow populations of desired species such as kangaroos to recover and breed up to allow future sustainable hunting. The demand for kangaroo in the local community remains strong and frozen kangaroo tails are favoured items in the store; the tails come from pastoral lands elsewhere in Australia where kangaroo populations are higher.

Angas Downs' location on the prime tourism route to Uluru-Kata Tjuta National Park gives it substantial tourism potential and there are opportunities for private sector investment and collaboration with government tourism programs such as the Red Centre Way and National Icons. Unfortunately government programs such as the Indigenous Enterprise Development Program have been reluctant to fund the potential which we believe Angas Downs has.

Good science, blended with traditional knowledge, is a great way to innovate and grow conservation at the landscape scale. Potential initiatives are numerous particularly in the carbon, biodiversity and tourism markets.

Anangu board members responsible for the property are still coming to grips with the complexities of financial governance and strategic management, nevertheless significant progress is being made on the ground.

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