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Traditional hunting of feral cats to help protect key threatened species at Kiwirrkurra

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Abstract

Kiwirrkurra country, in the remote Gibson Desert, hosts important populations of two key threatened species: bilby and great desert skink. These species are sparsely distributed throughout the western desert regions, and are declared as Vulnerable under the EPBC Act. Predation by feral cats and unsuitable fire regimes are two key threatening processes for both species.

Like many other desert Aboriginal groups, Kiwirrkurra people regularly patch burn their land whilst hunting. Kiwirrkurra people also have a long tradition of hunting feral cats for food, and importantly still undertake this activity today.

Recognising the significance of this unique skill, a program was set up in mid-2014 to maintain and expand traditional cat hunting in key bilby and great desert skink habitats. The program encourages the retention and passing on of this skill through:

- Reimbursement of costs for successful cat hunts, through direct payment to the hunter,
- Data collection on who hunts, and when and where cats are caught,
- Analysis of stomach contents by a wildlife ecologist (guts are kept and frozen for later analysis), and
- Two-way knowledge sharing on the value of cat hunting for biodiversity and culture.

The cat hunting program is complemented by regular patch burning in the same areas, both as part of Kiwirrkurra people's daily life and through paid land management work.

Regular (bi-annual) monitoring of the distribution and abundance of both threatened species and feral predators is being undertaken to assess the impact of this program on both populations. A key indicator will be the persistence (or otherwise) of known bilby and great desert skink populations.

Introduction

Kiwirrkurra is a community of about 120 mainly Pintupi Aboriginal people, situated within the 4.2 million hectare Kiwirrkurra Native Title Determination, in the remote Gibson Desert. They have recently declared this land an Indigenous Protected Area (IPA) and are supported by Central Desert Native Title Services (CDNTS) in managing the IPA.

Many older Kiwirrkurra people grew up living traditional lifestyles on their land, only encountering white people in the 1950's and 60's. A small group (now known as the Pintupi Nine) remained in the bush until 1984 when they moved into Kiwirrkurra after being contacted by their relatives. Three of this group are currently active members of the IPA program at Kiwirrkurra.

The high proportion of Kiwirrkurra residents that grew up living traditional lifestyles has resulted in significant retention of traditional skills and continued practice of activities such as hunting and patch-burning.

In Kiwirrkurra today, hunting for bush tucker is still a favoured activity, supplementing store-bought food. Bush meat such as *kurrkaṯi* (goanna), *malu* (kangaroo) and pussycat is considered healthier and

tastier than store-bought meat, and hunters regularly share portions of their catch with extended family.

Kiwirrkurra is one of the last indigenous communities in Australia where feral cats are actively hunted for food. A core group of older people, including three of the Pintupi Nine, retain strong skills in the difficult task of tracking and hunting cats; and they are passing these skills onto some of the younger generation. "We hunt for pussycat, all around Kiwirrkurra. We look for *tjina* (tracks) and chase him long way till we catch him. We cook him up and eat him, good tucker." (Nolia Napangarti, pers. comm.)

Threatened species and key threats

Kiwirrkurra, like most parts of central Australia, has lost many species of medium-sized mammals during the last century. However, populations of the bilby (ninu, or *Macrotis lagotis*) as well as the threatened great desert skink (tjalapa, or *Egernia kintorei*) can be found on Kiwirrkurra. Three other threatened species also occur on the IPA: brush-tailed mulgara (murrjtja, or *Dasycercus blythii*), marsupial mole (kakarraṭulpa or *Notoryctes sp.*) and princess parrot (kilkinṭari, or *Polytelis alexandrae*).

Predation by cats, foxes and dingo; habitat destruction from unsuitable fire regimes; and impacts from feral herbivores are listed as the key threats for both the bilby and the great desert skink (Pavey 2006, McAlpin 2001).

The persistence of threatened species in areas where regular hunting occurs suggests the presence of Pintupi hunters may have positive impacts on survival of threatened species. Through the IPA program we aim to document impacts of hunting and burning, and support the retention of important land management skills. This poster presents preliminary results from the program.

Methods

The distribution of threatened species on the IPA is being determined through tracking surveys, whereby a series of 2ha plots are searched for 30 person-minutes for signs of animals. Signs include tracks, scats, diggings and burrows, and target medium to large mammals, and larger birds and reptiles.

Cat hunting at Kiwirrkurra is based on the ability to follow the animal's footprints, and ultimately run it down. The hunt usually starts with sighting of a cat, or very fresh tracks. Then comes a long chase (mainly on foot) of up to a couple of hours, following the cat's tracks. Hunting dogs are often used to help, and fire is sometimes used to flush the cat from cover. If the hunt is successful, the cat eventually goes to ground or up a tree, and can then be clubbed with a digging stick. The cat is then cooked in coals in a similar way to kangaroo.

Hunting cats is obviously very hard work, especially when compared to shooting larger game with a gun and vehicle, or digging up goannas from their burrows. The skill is slowly disappearing across the western desert, with very few communities now engaged in hunting cats on foot, for meat.

Recognising the significance of the unique cat hunting skills in Kiwirrkurra, an incentive program was set up in mid-2014 to support and expand cat hunting at key bilby and great desert skink sites. The program is a means of documenting the extent of cat hunting currently being practised on the IPA and it encourages the retention and passing on of cat hunting skills through:

- Reimbursement of costs for successful cat hunts, through direct payment to the hunter,
- Data collection on who hunts, and when and where cats are caught,
- Analysis of stomach contents by a wildlife ecologist (guts are kept and frozen for later analysis), and
- Two-way knowledge sharing on the value of cat hunting for biodiversity and culture.

This hunting program supplements both traditional patch burning which occurs regularly around Kiwirrkurra, and a planned burning program which aims to extend the area managed for fire, especially around other threatened species habitats.

Extent of burning conducted on the IPA is being documented by analysis of satellite imagery (Landsat 8).

Results

Analysis of satellite imagery, coupled with field surveys, show that the fire regime in a 30km radius around Kiwirrkurra community, where people regularly hunt and burn, has created a fine mosaic of different aged spinifex and clear patches. Further afield, fire management is less regular and the potential for damaging wildfires is greater. Within the hunting zone average fire size was 78 ha, whereas in an adjacent unmanaged area, average fire size was 100 times larger at 8774 ha.

Tracking surveys conducted in 2000-2003, 2012 and 2014 have revealed that the sites where bilbies have persisted over the past 15 years occur within the main hunting areas close to Kiwirrkurra, and at Marruwa, a regularly visited outstation 50km north. These areas comprise sandplain habitat that is typical of vast areas of the Great Sandy Desert, except for its level of human intervention with respect to burning and hunting. Conversely, during this period bilbies have disappeared from areas of prime habitat in the region (Jupiter Well and the western edge of Lake Mackay), where Indigenous hunting techniques are now practised less frequently.

The only extant population of great desert skinks known to occur on the Kiwirrkurra IPA is also located within the hunting zone around the community.

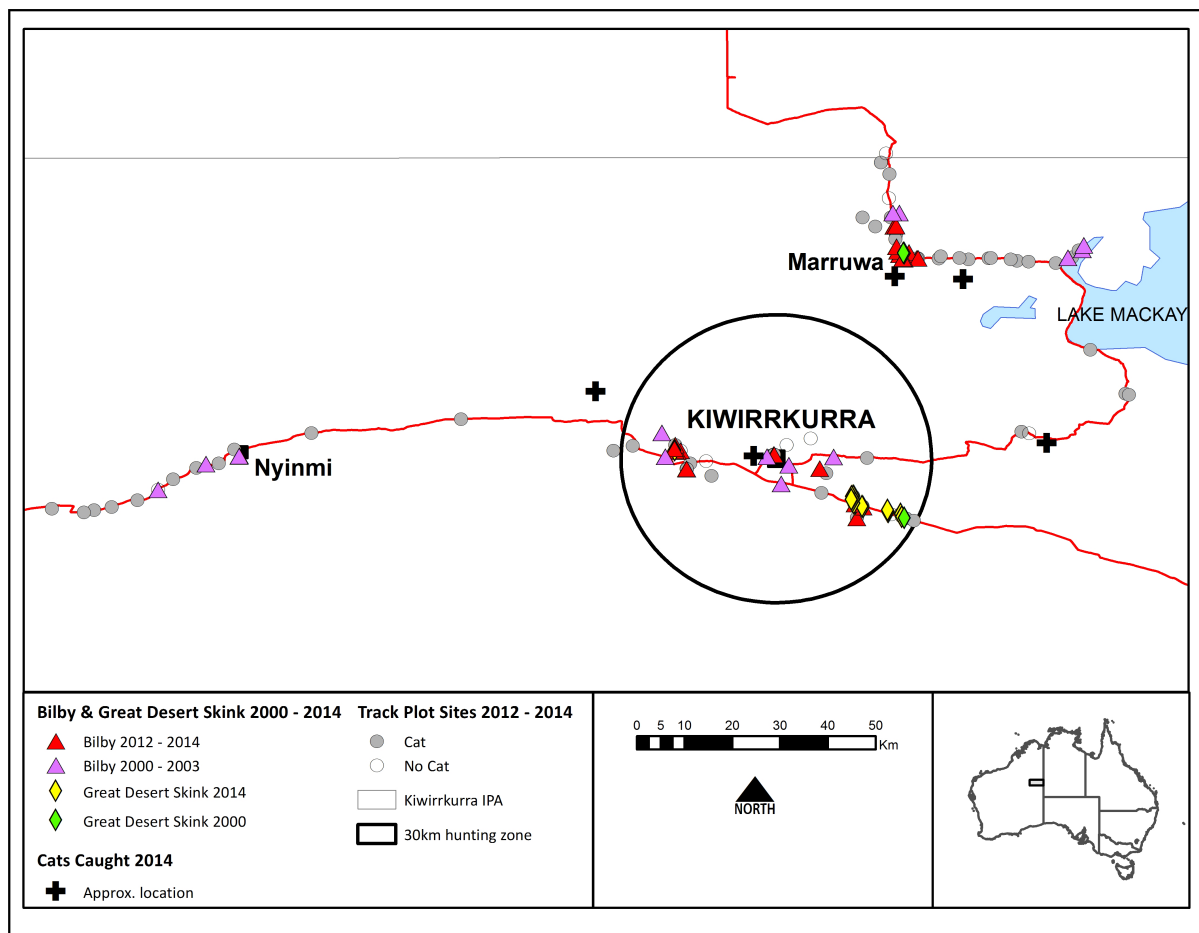


Figure 1. Map of the study area within the Kiwirrkurra IPA showing track plot locations, cats caught, and bilby, great desert skink and feral cat records.

The number of cats obtained in 2014 was less than predicted from anecdotal reports of the extent of cat hunting conducted during recent years. Only five cats were captured during the first 5 months of the cat hunting incentive program (June-October). Of these, two were hunted independently and three during land management work trips. Stomach contents were dominated by small lizards, plus a few birds. At least three unsuccessful hunts were also undertaken during work trips in the same period, highlighting the difficult nature of cat hunting.

Despite claims that the warmer months are the best time to catch cats because animals tire more easily in the hot conditions, there was no increase in hunting activity during summer. One reason given by people, including the key hunters, was simply that it was too hot for such strenuous work. The Christmas holidays is also an important ceremonial time for Pintupi, with a large proportion of the community leaving Kiwirrkurra for several weeks to attend initiation ceremonies for young men. The absence of a key hunter from the community for a 12 month period may have also contributed to the apparent decline in cat-hunting effort.

Modifying the strategy in 2015

Our initial strategy was based on a minimalist approach: we simply notified known cat hunters of the program through word of mouth. We also actively supported opportunistic hunts during work trips.

In light of the poorer than expected results, we plan to more be more pro-active in our engagement of hunters and potential hunters in 2015. Initiatives under consideration include:

- Raising the value of incentive payments for successful hunts
- More actively publicising both the payment system for cats caught and the benefits of cat hunting, within Kiwirrkurra community. This could include working with younger community members to develop posters or other publicity material.
- Undertaking dedicated cat hunting trips with known skilled hunters and younger people who show an interest.
- Investigating the possibility of sharing skills and experiences with neighbouring communities where cat hunting is practiced, or used to be practiced.

Conclusion

Kiwirrkurra community hosts important populations of two threatened species: bilby and great desert skink. Feral cats, foxes and unmanaged fire are key threats to the survival of these species.

Results to date suggest that the finescale burning conducted during regular hunting activities may be having more impact on the survival of threatened species in the Kiwirrkurra region than the current level of cat hunting. However, the presence of a core group of skilled hunters in Kiwirrkurra represents a unique opportunity to maintain and expand traditional cat hunting, as part of a suite of strategies aimed at protecting the biodiversity of the region. While initial results have been limited, we believe the program is worth continuing as standard cat control methods such as baiting or trapping often show limited success in desert environments.

References

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