

AUSTRALIAN DESERT EXPEDITIONS

Songlines and Shared Journeys



2019 Scientific Summary Report

Compiled by Dr Max Tischler
(ADE Chief Scientist)

photo: Eyre Creek in flood, May 2019



www.desertexpeditions.org



1. Background

This was the first year of Australian Desert Expeditions (ADE) 'Songlines and Shared Journeys' Project: a planned systematic documentation of the flora, fauna and cultural artefacts across the least known and poorly surveyed parts of the Simpson Desert, using traditional knowledge and historical benchmarking as a framework for planned groundwork. The 2019 trekking season allowed ADE to traverse many new areas, as well as revisit some points of interest from previous years. A concerted survey effort was made to establish the ecological, cultural and historical context of one particular *mikiri* (located in 2018) within the broader landscape.

The 2019 scientific and ecological team included ADE staff and crew, members of the National Museum of Australia (NMA), Australian National University (ANU), University of New England (UNE), former members of The Department of Conservation and Land Management (Western Australia), Parks and Wildlife (Northern Territory) and Department of Environment and Science (Queensland).

This overview presents a brief summary of the scientific results for ADE's 2019 season. The season was hampered by flooding of the eastern Lake Eyre Basin, especially the Diamantina, Georgina, Mulligan and Eyre Creek drainage lines. As such, major rescheduling and repositioning was required to begin work in the first half of the season. Surveys began on the eastern fringe of the Simpson Desert, crossed the flooded Eyre Creek channels, traversed the dune fields into Munga-Thirri National Park, before heading into South Australia through the Regional Reserve and Conservation Park, and finally looping back and finishing near the northern terminus of Nappanerica (Big Red).

2. Introduction

Two major late-monsoonal weather systems in February and March resulted in very wet conditions across the northern portion of the Lake Eyre Basin (LEB), inducing significant flooding down the Thompson River, Cooper Creek, Diamantina and Georgina Rivers and, Eyre Creek (see Figure 1). Whilst the rain was a welcome respite in the north, widespread rainfall was variable in the central and southern parts of the LEB. As such, generally below average climatic conditions across the east and south of the Simpson Desert produced relatively dry conditions throughout most of the season (Figure 2), and the scientific results reflect the current 'bust' state of the Simpson Desert more generally.

Obtaining accurate climatic data for the entire Simpson Desert is difficult. Weather patterns are predictably variable in both time and space. We rely on information from the Bureau of Meteorology's online database which logs basic patterns from many remote regional centres and locations. The Birdsville weather station was the closest to ADE's 2019 trekking program and has been used to provide generalised rainfall and temperature indices for the eastern and central parts of the desert. This weather station has long-term continuous data sets that provide a benchmark onto which we can compare current patterns and models. The previous five years has seen Birdsville display a typically average pattern with annual rainfall totals of 52.3mm, 167.5mm, 327mm, 104mm, 98.5mm in 2014, 2015, 2016, 2017 and 2018 respectively. Birdsville's long-term average is 167mm per annum. Figure 2 shows the climatic conditions for



Birdsville for the twelve-month period starting in October 2018 through to September 2019, compared to the long-term averages for the location. In contrast, widespread rainfall was recorded across much of the northern LEB, with weather stations at Urandangi and Winton providing evidence of significant falls in February and March (Figure 1).

ADE conducted twelve surveys during the 2019 season (May to September), ranging from 5 to 18 days duration. The treks included the recording of archaeological material, fauna trapping, predator scat analysis, spotlighting, vegetation surveys and botanical collections, conducted across a range of land types during a period of relatively low productivity and restricted 'flood-induced' pulses. These included the eastern and central dunefields, riparian zones along ephemeral river systems and drainage lines, floodplains, saltlakes, inter-dunal woodlands, low *Acacia* shrublands, run-on and run-off hydro-lines (gilgai) and areas immediately surrounding a number of *mikiri* or native wells. As stated, one *mikiri* site (name unknown) in the Munga Thirri Regional Reserve (SA) provided the focus for much of the survey effort for Treks 6, 7, 11, 12 and 13.

Data from these surveys will again be lodged with varying agencies, as per regulations via the South Australian Department of Environment and Water (Permit No. M26773-1), Queensland Department of National Parks, Sport and Racing (Permit Nos. WITK18622817 and WISP16036515), and the Northern Territory Parks and Wildlife Commission (Permit No. 61526). We will share some relevant data with the Atlas of Living Australia (mammals), Birdlife Australia (birds), South Australian Museum (reptiles), University of Queensland (gidgee), University of Sydney (Global Bio-Genome Project), Australian National Herbarium (Canberra), South Australian Herbarium (Adelaide) and University of New England (Armidale). ADE has a formal partnership with the Watti Watti Aboriginal Corporation (Wangkangurru) where the reciprocal sharing of ecological and cultural data forms the foundation of a long-held and ongoing relationship.



Plate 1: Diamantina River in flood February 2019 (Photo: ABC Online)

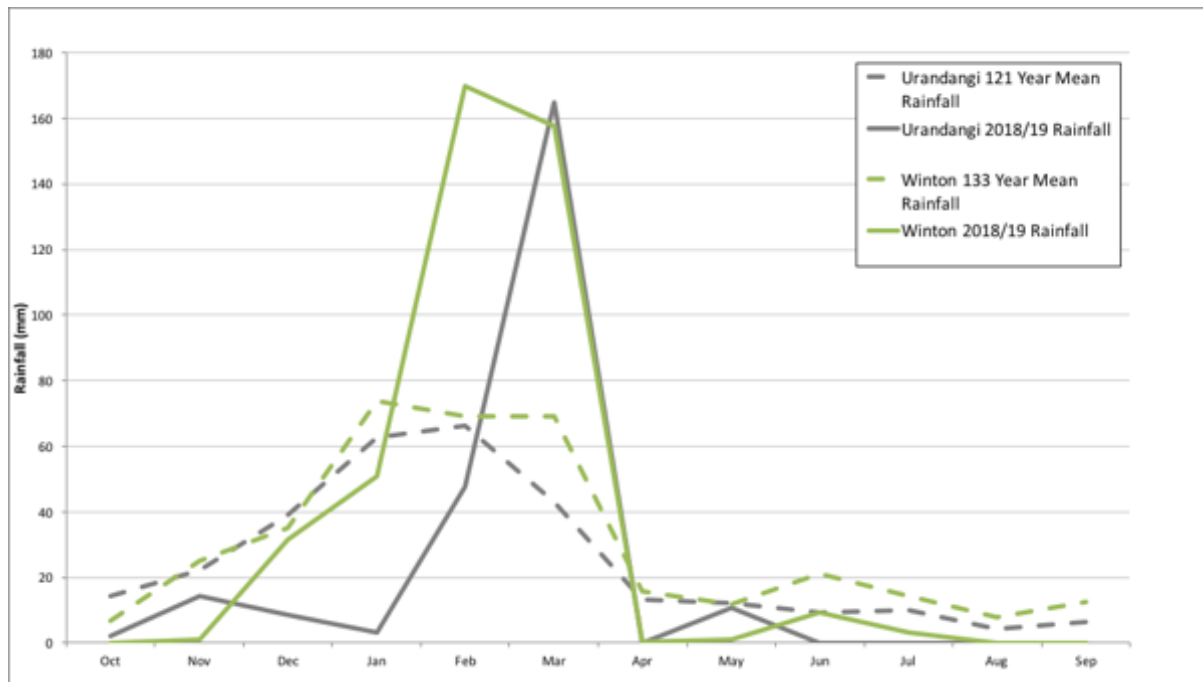


Figure 1: Long-term Averages vs 2018/19 monsoonal rainfall for Urandangi QLD (Georgina R/ Eyre Creek Catchment) & Winton QLD (Diamantina R Catchment), from the north LEB.

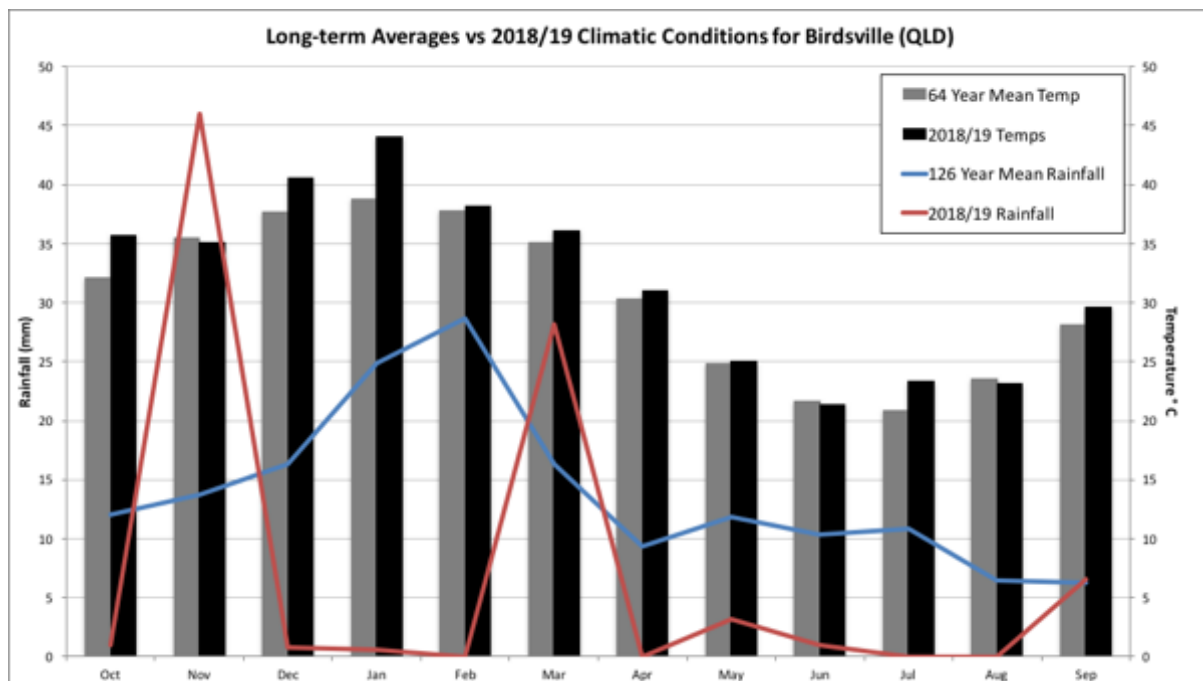


Figure 2: Comparative historical climate data for Birdsville (QLD)- Eastern Simpson Desert



In this summary, Section 2 provides an overview of archaeological work, Section 3 relates to fauna trapping data, active searches and bird sightings; Section 4 reports on botanical recordings and observations; Section 5 notes the current fire patterns and regimes and; Section 6 is a brief discussion of these results.

2. Archaeological Surveys

The discovery of two ‘unknown’ *mikiri* in 2018 were key factors in establishing the ‘Songlines and Shared Journeys’ survey program. Even though flooding along the Diamantina River and Eyre Creek required a revised spatial itinerary it provided the opportunity to begin concentrated and concerted efforts to survey the areas surrounding the ‘northern’ most *mikiri*. These included a three-day dedicated survey at the site (T7), as well as surveys radiating from the site to the south, east west and north. Of particular interest was the area to the east between the site and Eyre Creek.

Extended periods of low rainfall provide favourable conditions for archaeological surveys, with limited ground cover enabling discrete artefacts to be located and recorded. As such, the season provided the opportunity to record a variety of stone artefacts, including: flakes, cores, blades, grindstones (see Plate 2), hammer stones (*kulki*), tulas and axe heads. The main discernible source materials were a range of quartzite, chert, chalcedony, silcrete, basalt, ironstone and sandstone. A number of stone arrangements were also recorded.



Plate 2: Large portion of a double-sided grindstone, or *mudda*



3. Fauna Trapping, Active Search Results and Bird Sightings

Following average climatic conditions it was expected that most fauna species would be in low numbers, held up in small (possibly isolated) baseline populations or moving into and throughout the region to find more favourable conditions (e.g. recently inundated floodplains). Understanding how animals respond to these conditions, across various land systems, was the primary objective of these fauna surveys. We aimed to sample in areas where survey effort has been limited in the past. We intend to use these results to make predictions about boom-bust cycles in the region. This information can then be used to assist and inform adaptive land management decisions by the varying agencies that manage these areas (e.g. QLD National Parks).

A number of different (and one new – see below) techniques were used to survey fauna during the season. Trapping with pitfalls, belt transects, point counts, active search, and anecdotal observations were the predominant methods employed. Ten pitfall traps were set at every overnight camp. Traps comprised 600mm length PVC pipes (150mm diameter) buried flush to the surface. The spatial configuration of the ten traps was dependent on the terrain, but the most common arrangement was two perpendicular lines of five pitfalls. Each trap was spaced at 5m intervals, with a continuous length of aluminium mesh acting as a driftnet (approximately 30m in length) spanning each series of traps to guide animals into the traps (Plate 3). Active searches using plots, belt transects and point counts complimented this sampling regime, and included the exploration of other areas of interest (e.g. discrete microhabitats). Formal and anecdotal observations, including all scat, reptile and bird sightings, were verified and compiled on a daily basis.



Plate 3: A trap-line established on an open dune crest



Diagnostic and morphometric measurements were taken on all captured animals. The collection of this information was done swiftly and with care to ensure compliance with animal welfare regulations. All animals were released at the point of capture.

Track-based monitoring was a new methodology undertaken in the second half of the season. This survey protocol, introduced to ADE by Rick Southgate and Pip Masters records the abundance and occurrence of faunal species across a 2ha plot. The 25minute search includes sighting tracks, scats and diggings with specific reference to their abundance, age, visibility and general habitat associations and characteristics. Results have not been analysed, nor included in this summary, however, the methodology proved an effective technique to gain an understanding of overall faunal activity in an area and will be included in ADEs general survey program in future seasons.

Considerable effort was also given to the collection of predator scats throughout the season. These samples will be analysed and included in the project headed by Karl Vernes (UNE) assessing the historical distribution of the Desert Rat Kangaroo (*Caloprymnus campestris*) - a medium-sized mammal once occurring in the Simpson Desert but now thought to be extinct. This project has and will continue to assess the contemporary anecdotal sightings of *Caloprymnus*, including extensive searches and surveys in the southern and central Simpson Desert.

Mammals

Overall, a total of 14 species of mammals, both native and introduced, were recorded during the season (see Appendix 1). Of these, despite a total of approximately 1100 pits being dug over the season only 4 species of small mammal (<200g) were captured using pitfall traps. Historical data for the Simpson Desert indicate 14 species of extant small mammal occur in the region, suggesting our surveys recorded a low proportion of known species. Observations of tracks were frequent on dune crests with both rodent and dasyurid pads evident, although the overall abundance of small mammals was clearly low.

Captured species included Wongai Ningai (*Ningai ridei*) (Plate 5), Sandy Inland Mouse (*Pseudomys hermannsburgensis*), Hairy-footed Dunnart (*Sminthopsis hirtipes*) and Lesser Hairy-footed Dunnart (*Sminthopsis macroura*). Interestingly, in areas close to floodplains there was no noticeable increase in small mammal numbers. Perhaps the heightened threat of predation by introduced predators in these areas limits the response of small mammals to restricted (i.e. floodwaters passing through otherwise dry landscapes) flooding events.

The Mulgara (*Dasycercus blythi*), a listed Vulnerable Species under the Environmental Protection & Biodiversity Conservation (EPBC) Act 1999 was recorded from tracks on a number of dune crests (see Plate 6), suggesting isolated populations of this species in some regions.

Other native mammal species recorded were Red Kangaroo (*Macropus rufus*), Echidna (*Tachyglossus aculeatus*), Yellow-bellied Sheath-tail Bat (*Saccolaimus flaviventris*) and Dingo (*Canis lupus dingo*).



Of note was the discovery of a small unidentified lower jawbone (mandible), the general morphology of which suggests it belonged to a macropod, however, the size would indicate either a very young red kangaroo or (the remote) possibility of a bettong or hare wallaby. The sample was collected and has been sent for analysis and correct identification.

Furthermore, remnants of possible Burrowing Bettong (*Bettongia lesueur*) burrows were found frequently within dune swales, especially in the southern portion of the season's survey area (Plate 4). These appeared as low rises of calcrete and gravel approximately 0.5–1.0m high by 10-15m in diameter. Their exact origin is unclear and the hypothesis of their biological origin remains to be tested!



Plate 4: Low calcrete mounds – possible remnant burrow systems (photo: D.Gibson)



Plate 5: Wongai Ningui, *Ningaui ridei*



Plate 6: Mulgara prints sighted during a track based monitoring plot.



Birds

Bird numbers were low throughout the season, although some species were locally abundant especially close to Eyre Ck. Overall, activity was relatively reduced with 69 bird species recorded during surveys and from anecdotal observations (see Appendix 1). As in past seasons, the majority of birds seen within the dunefields were either generalist feeders (e.g. singing honeyeaters) or insectivores (e.g. fairy wrens). This pattern was also reflected on the vegetated floodplains with brown and rufous songlarks, orange and crimson chats abundant although, flocks of little corella and galah were regularly seen moving up and down the flooded corridors during the early and late hours of daylight (Plate 7).



Plate 7: Flooded corridor on Eyre Ck provided an attractive pulse of resources for some bird species

A number of wedge-tailed eagle nests were again located throughout the season. None were found to be active, however some had evidence of activity within the last 12-24 months and a number of (regurgitated) pellets were collected for dietary analysis. Nests of other birds were a common sight (e.g. corvids, babblers, pigeons), however, only a few species were displaying breeding behaviours (e.g. emu, chats) and all were associated with the floodplains on Eyre Ck.

Reptiles and Amphibians

Reptiles are known to reduce their activity during the cooler winter months in the region, and most frog species are absent (or buried in a state of torpor) unless free-standing water is available. However, unseasonal warm conditions experienced throughout much of the season,



especially at night, provided good conditions for surveying some reptiles (e.g. geckos). Pitfall trapping is conducted for only short periods during diurnal hours (mostly overnight), and the inventory of reptile (and amphibian - it didn't rain!) species needs to be interpreted with this consideration. Overall captures were low with the majority of our survey results coming from active searches and anecdotal observations. A total of 21 reptile species were recorded during the surveys (see Appendix 2).

Invertebrates

The recording of invertebrate species was generally anecdotal, with notes made from pitfall traps as well as daily observations. Mild weather provided good conditions for many species (especially flies!) with high activity recorded for many beetles, spiders and moth species, especially.

2. Introduced Animals

Cats and foxes were recorded across much of the traversed land systems visited. Track plots were established adjacent to pitfall trapping sites to record activity, and these suggest predators were present but in lower abundance than that recorded for previous seasons. The impact of feral predators is highest during 'bust' periods, as such it is likely the impact of predators was high in some areas throughout the season. Rabbits were present, albeit in low numbers, especially in the south-eastern portion of the desert despite poor vegetation as a resource base.

Feral camels were in relatively low numbers, although a number of small groups were recorded 'trapped' on the eastern side of the floodwaters near Eyre Ck. Horse tracks and dung was frequently sighted close to Eyre Ck, with a number of small herds observed feeding along the vegetated floodplains, and their impact is likely to be localised.



Plate 8: A fox sighted during a survey in early August



3. Plant Collections and surveys

Much of the Simpson Desert flora is comprised of expansive hummock grasslands with interspersed ephemeral or short-lived grasses and forbs. These ephemerals are mostly absent from the vegetation during dry times, and also tend to be small and inconspicuous. The below average rainfall preceding the treks meant that ephemeral forbs and grasses were in low numbers across most habitat types. The exception this season were the verdant corridors associated with Eyre Ck (see Plate 7). Surveys in these areas provided the opportunity to collect and record some ephemeral species associated with the Coolibah (*Eucalyptus coolibah*) dominated riparian areas.

a. Vegetation Transects

At each pitfall trapping site a 100m belt transect was measured to record plant species. All species along the 100m x 5m transect were recorded and given an overall abundance index, as well as all floristic (i.e. flowering and fruiting) aspects recorded. These provide a measure of species richness and resource abundance at each site. Results are used in the analysis of pitfall trapping data.

Over the survey season a total of 105 belt transects were established and measured.

b. Gidgee Profiling

In 2019 ADE continued collecting morphometric data associated with the Gidgee (*Acacia georginae*) woodlands as part of a joint research project with the University of Queensland. The project aims to look at:

1. Distribution of gidgee across the Simpson Desert
2. Extent and connectivity of gidgee stands
3. The botanical associations of gidgee stands
4. The animals using gidgee stands

Sites were established at most overnight camps throughout the season. At each site a 100m x 10m belt transect was measured to look at morphometrics including tree height, densities, and canopy widths/depths. Adjacent to these transects birds were also surveyed, using a standardised 15-minute point count over three independent locations, where and when possible.

Overall 441 trees were measured across 33 unique sites. This data will be incorporated into a larger metadata set (including ADE 2018) to be analysed (and added to) over the next two years. Initial interpretation of the results suggest stands with higher tree densities, in close proximity to adjacent groves are important habitat for birds within the dunefields, especially during periods of low productivity. These areas may be acting as dry period refuge sites from which birds (and other animals such as small mammals) can colonise the broader landscape with conditions become more favourable.



4. Fire

Following the significant rainfall events of 2010/11 the resulting productivity led to a mass accumulation of vegetative growth. Unfortunately, this fuelled widespread wildfires in the summer of 2012, started by dry-storm lightning strikes (Figure 3). One of the primary foci of ADE's surveys has been to document the extent, impact and regeneration of these burnt areas.

A major finding of the last six years has been the demise of many fire-sensitive plant communities (e.g. Mulga *Acacia aneura*) especially on the western side of the desert, as well as the slow recruitment of spinifex (*Triodia basedowii*) in those areas severely burnt. Long unburnt spinifex appears to be restricted, and our survey results have found these areas are often isolated and fragmented.

Surveys this year continue to support these findings. A number of good stands of spinifex were located and surveyed, however, it does appear that it will be many more years before the distribution of spinifex will re-establish to pre-2012 extents and condition.

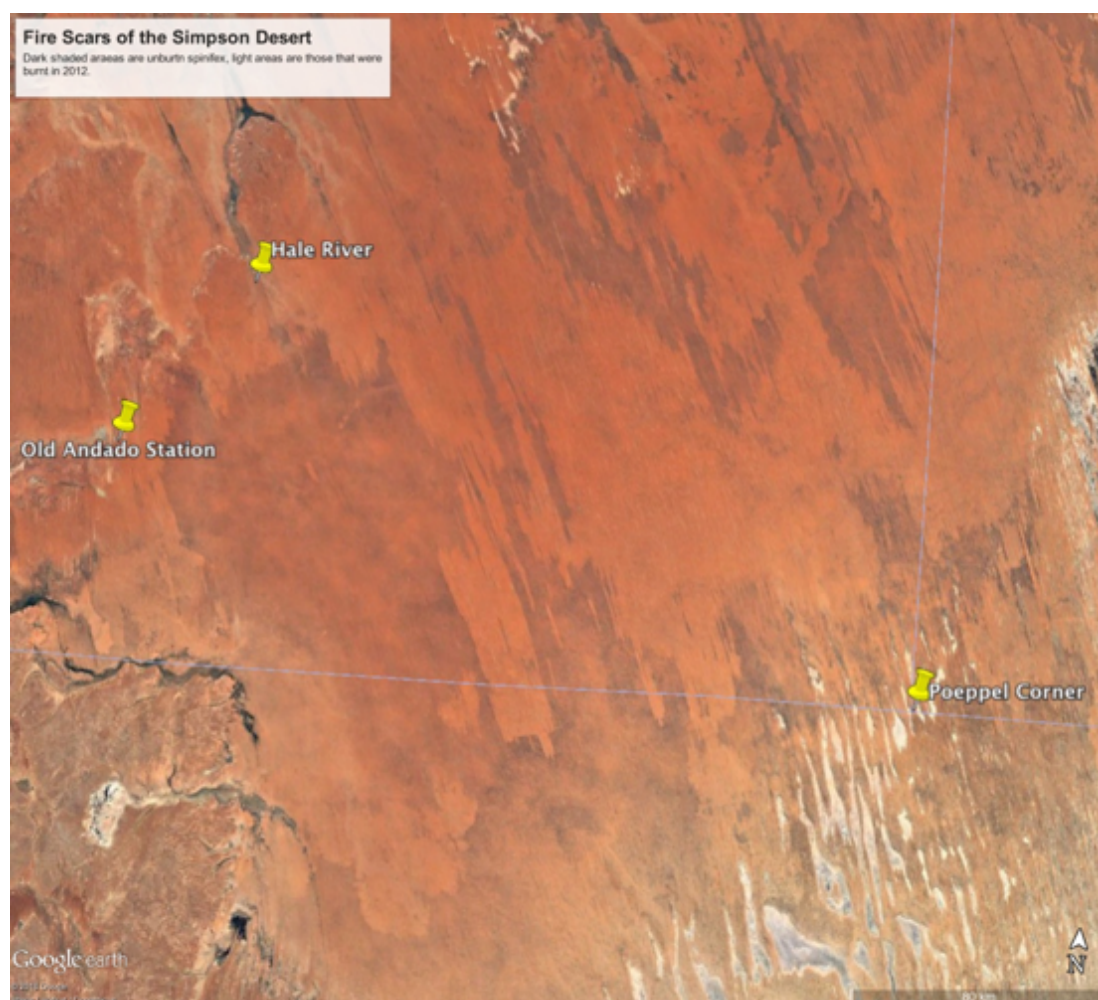


Figure 3: Fire scars of the Simpson Desert post 2012 wildfires



5. Discussion

The 2019 season was the first year of the 'Songlines and Shared Journeys' Project. The trekking program, whilst severely hampered by the February/March flooding events, did provide opportunities to: contextualise one of the *mikiri* site discovered in 2018; locate many areas previously unexplored or poorly surveyed; revisit some areas of ecological interest; assess the role of the Eyre Ck floodplains to surrounding dunefields.

The revised trajectory of the season, due to flooding, meant considerable effort was made assessing the dunefields immediately east of Eyre Creek – an area generally overlooked in past surveys due to its proximity to a traditional 'endpoint' for ADE seasons (i.e. the corridor between Eyre Ck and Big Red is often traversed quickly at season's end). The rich archaeology discovered in this area provides considerable evidence to suggest it would have historically supported large numbers of aboriginal people.

The three-day archaeological survey of the 'northern' *mikiri* during T7, led by Mike Smith, Duncan Wright and Ingreth McFarlane was a season highlight. A considerable amount of data was gathered at the site and its immediate surrounds. Initial observations by our scientific team suggest the site was abandoned before European contact in the area, which might explain its absence from the current knowledge of Simpson Desert *mikiri*. Observations and recordings from subsequent surveys (radiating out from the site) allowed our team to interpret how aboriginal people may have used the *mikiri* within the broader dunefields. Results are currently being analysed, with some fascinating initial results and a short publication of the survey is in preparation.

The overall paucity of animal captures and observations was, as noted, not unexpected given the current climatic conditions. Low numbers of animals are indicative of the 'boom-bust' cycle inherent in central Australia's desert regions. The physiological and behavioural adaptation of the animals that were observed offer substantial insights into the resilience and fragility of these ecosystems. The captures made in areas of long-unburnt spinifex, especially Wongai Ningai, which are known to be reliant on the dense cover provided by unburnt hummock grasslands are particularly noteworthy. These results suggest that some small mammals are maintaining baseline populations in these areas which will, in time, provide source recruits for the broader landscape when/if spinifex re-establishes itself.

Interestingly, there was limited response from faunal taxa to the available water and resources along the flooded Eyre Ck. Bird activity clearly increased and the evidence of feral animals (e.g. horses) was also noted. Small mammals did not respond (in any significant way) to the restricted resource pulse. Our results suggest that dry conditions across the majority of the landscape were still dominating community dynamics, with only marginal responses to the flooding event by most taxa.

The inclusion of track-based plot methodology is an exciting prospect for future ADE surveys. It complements our current program and will expand our current inventory methodology to



incorporate a broader range of 'target' animals including their activity and abundance, more specifically.

Whilst the large number of scats collected, in collaboration with UNE, aims to detect any possible remains of *Caloprymnus* it will also provide excellent insights into the diet of predators within the dunefields. Scats from foxes, cats and dingoes were collected and are currently being analysed.

Ephemeral forbs and annual grasses were in low numbers across most habitat types. There was some growth and ground cover evidenced within the dunefields during the first half of the season, but flowering and seeding events appeared to be stunted. In contrast were the verdant corridors associated with Eyre Creek, many flushed with vegetation. This productivity persisted throughout the season, providing a pulsed resource for some fauna (as discussed).

Of note was the 'early' flowering of many *Acacia* species. It is not uncommon for desert *Acacias* to flower seasonally during the winter months, but observations from the 2019 season suggest many species were flowering earlier than expected, especially *A.victoriae*, *A.ligulata* and *A.murrayana*.

The continuation of the gidgee project will extend the current knowledge base of an often overlooked yet important vegetation community within the Simpson Desert. It has been projected (using historical and futuristic modelling) that Georgina Gidgee will be vulnerable to predicted climate change. If this vegetation community is an important dry-period refuge site for many species of animals it is important to better understand its current attributes, distribution and extent. The results from our surveys will contribute significantly to these ends.

Overall, ADE successfully executed its 2019 scientific program, despite early operational difficulties. It provided comprehensive surveys for many poorly understood parts of the Simpson Desert, especially those associated with significant cultural sites. It expanded its scientific methodology and continues to partner with leading arid-zone experts and research institutes. Our results will offer a significant contribution to the better understanding of the archaeology and ecological dynamics of the Simpson Desert.



Plate 9: ADE Head Cameleer Harry and Sweeny (B6) checking pitfall traps



Appendix 1. Fauna Records

Mammals

Tachyglossidae

Tachyglossus aculeatus Short-beaked Echidna

Canidae

Canis lupus dingo Dingo

Dasyuridae

Dasyercus cristicauda Mulgara

Sminthopsis hirtipes Hairy-footed Dunnart

Sminthopsis youngsoni Lesser Hairy-footed Dunnart

Macropodidae

Macropus rufus Red Kangaroo

Emballonuridae

Saccolaimus flaviventris Yellow-bellied Sheath-tail Bat

Muridae

Notomys alexis Spinifex Hopping Mouse

Pseudomys hermannsburgensis Sandy Inland Mouse

Introduced Mammals

Camelidae

Camelus dromedaries Dromedary Camel

Felidae

Felis catus Cat

Canidae

Vulpes vulpes Red Fox

Leporidae

Oryctolagus cuniculus Rabbit

Equus caballus Horse

Reptiles

Gekkonidae

Gehyra purpurascens

Gehyra variegata

Heteronotia binoei Bynoe's Gecko

Lucasium damaeum Beaded Gecko

Lucasium stenodactylum Sandplain Gecko

Rhynchodeura eyrensis ^Beaked Gecko

Scincidae

Ctenotus calurus Blue-tailed Skink

Ctenotus regius Royal Skink

Ctenotus taeniatus

Ctenotus piankai

Eramascincus fasciolatus Sand-swimming Skink

Menetia greyii

Agamidae

Ctenophorus isolepsis Military Dragon

Ctenophorus nuchalis Central Netted Dragon

Ctenophorus pictus Painted Dragon

Pogona vitticeps Bearded Dragon

Varanidae

Varanus gouldii Gould's Sand Monitor

Elapidae

Pseudechis australis Mulga Snake

Pseudonaja modesta Ringed Brown Snake



Pseudonaja nuchalis
Suta sp.

Western Brown Snake

Birds

Dromaius novaehollandiae
Anas gracilis

Phaps chalcoptera
Ocyphaps lophotes
Geopelia cuneate
Eurostopodus argus

Haliastur spheonurus
Milvus migrans
Circus assimilis
Aquila audax
Falco cenchroides
Falco berigora
Falco longipennis
Ninox boobook
Grus rubicunda
Ardeotis australis
Himantopus himantopus
Charadrius australis
Vanellus tricolor
Turnix velox
Eolophus roseicapillus
Cacatua sanguinea
Nymphicus hollandicus
Melopsittacus undulatus
Chalcites basalus
Cacomantis pallidus
Todiramphus pyrrhopygius
Malurus leucopterus
Malurus lamberti
Amytomis goyderi
Aphelocephala nigricincta
Pardalotus rubricatus
Pyrrholaemus brunneus
Acanthiza uropygialis
Certhionyx variegatus
Lichenostomus virescens
Lichenostomus penicillatus
Manorina flavigula
Acanthagenys rufogularis
Epthianura tricolor
Epthianura aurifrons
Sugomel niger
Pomatostomus superciliosus
Cinclosoma cinnamomeum
Psophodes occidentalis

Emu
Grey Teal
Shelduck
Common Bronzewing
Crested Pigeon
Diamond Dove
Spotted Nightjar
Owlet Nightjar
Whistling Kite
Black Kite
Spotted Harrier
Wedge-tailed Eagle
Nankeen Kestrel
Brown Falcon
Australian Hobby
Southern Boobook
Brolga
Australian Bustard
Black-winged Stilt
Inland Dotterel
Banded Lapwing
Little Button-quail
Galah
Little Corella
Cockatiel
Budgerigar
Horsfield's Bronze-Cuckoo
Pallid Cuckoo
Red-backed Kingfisher
White-winged Fairy-wren
Variegated Fairy-wren
Eyrean Grasswren
Banded Whiteface
Red-browed Pardalote
Redthroat
Chestnut-rumped Thornbill
Pied Honeyeater
Singing Honeyeater
White-plumed Honeyeater
Yellow-throated Miner
Spiny-cheeked Honeyeater
Crimson Chat
Orange Chat
Black Honeyeater
White-browed Babbler
Cinnamon Quail-thrush
Chiming Wedgebill
Chirruping Wedgebill



Pachycephala rufiventris
Colluricincla harmonica
Oreoica gutturalis

Rufous Whistler
 Grey Shrike-thrush
 Crested Bellbird

Artamus cinereus
Artamus leucorhynchus

Black-faced Woodswallow
 White-browed Woodswallow
 White-breasted
 Masked Woodswallow

Cracticus tibicen
Rhipidura leucophrys
Corvus coronoides
Corvus bennetti
Petroica goodenovii
Melanodryas cucullata
Cincloramphus cruralis
Cincloramphus mathewsi
Cheramoeca leucosterna
Hirundo ariel
Hirundo nigricans
Dicaeum hirundinaceum
Taeniopygia guttata
Anthus novaeseelandiae

Australian Magpie
 Willie Wagtail
 Australian Raven
 Little Crow
 Red-capped Robin
 Hooded Robin
 Brown Songlark
 Rufous Songlark
 White-backed Swallow
 Fairy Martin
 Tree Martin
 Mistletoebird
 Zebra Finch
 Australian Pipit