

ARID RECOVERY



2011-2012

Annual Report



For more information on Arid Recovery visit www.aridrecovery.org.au or call 08 8671 2402.

This document is the 14th in a series of annual reports and outlines the activities of Arid Recovery for the period from 1st July 2011 to 30th June 2012.

Arid Recovery is an independent, not-for-profit conservation initiative that has been restoring Australia's arid lands since 1997. Our success is attributed to many supporters including the unwavering support of the local community through volunteers and the long term support from our major sponsors BHP Billiton, SA Department for Environment, Water and Natural Resources and the University of Adelaide.

Copies of this report, supplementary information and previous reports are available on the Arid Recovery website.

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Chair Report

GARRY WINTER

THE PAST 12 MONTHS have seen a significant change in Arid Recovery as an organisation. In November 2011 I made the trip to Roxby to meet with the Board and staff and to develop a plan for the direction of Arid Recovery for the coming years. The visit to the Reserve was, in itself, one of learning for me with the opportunity to meet the new staff at Arid Recovery and get close to some of the Reserve's favourite inhabitants, the bettongs.

The planning session that accompanied the visit was inspiring. It is often the case that meetings like these can take their toll on the participants, but throughout the session the enthusiasm of the group assembled grew. The few hours of discussion that took place on the deck of the field station, have been transformed into a new business plan for Arid Recovery to take it forward over the coming 5 years.

The time to reflect on the past year brings with it a chance to recall the successes of an organisation and also to look at future opportunities that can be developed. I am looking forward to what these opportunities may bring, and know that by building on the strength of the past year we will be able to move further forwards towards achieving our goal of becoming an internationally recognised conservation and research organisation.



CEO Report

KYLIE PIPER

LOOKING BACK ON my first full year at Arid Recovery I can see that real changes have occurred and it's not just the sparkle and shine of the new coat of paint on the ATCO. There is a vitality back at AR, both from a passionate and enthusiastic new AR staff team and from the Board with the development of our 5 year business plan.

Our community involvement, and in turn recognition of Arid Recovery, has increased significantly. New education programs have been a success with school groups and families both in Roxby Downs and further afield. A national advertising campaign has seen Arid Recovery taken into homes, newspapers and cinemas around Australia (page 23), with great feedback and a number of future opportunities springing from it.

2012 saw the culmination of more than 10 years of research at AR with the submission of a PhD thesis by Katherine Moseby (page 11). This, along with a number of new students undertaking research and the ongoing management of species has seen our focus remain steadily on the work undertaken at the Reserve and inside the fence.

Although in periods throughout the past 12 months we have been without integral team members, the enthusiasm, commitment and support of the AR staff, volunteers and the Roxby Downs community have seen us through and I look forward to working with them over the coming 12 months and beyond.



Arid Recovery Board

Garry Winter

Chair of Arid Recovery Board
Independent
Partner at Kelly & Co
Lawyers in South Australia.

Kym Winter-Dewhirst

Representative for
BHP Billiton
Vice President of External Affairs
for BHP Billiton's Uranium Customer
Service Group.

Associate Professor

David Paton AM

Representative for the University of
Adelaide
School of Earth & Environmental
Sciences

Professor Sue Carthew

Independent
Pro Vice Chancellor for the Faculty
of Engineering, Health, Science &
the Environment at Charles Darwin
University

Mark Priadko

Independent
Financial management, financial &
business analysis and business case
consultant.

John Schutz

Observer on behalf of the SA Department
of Environment, Water and Natural
Resources
Executive Director of Regional
Services for DEWNR.

Arid Recovery staff

Thanks to all Arid Recovery staff and special contractors who assisted in the development and administration of the organisation over the past year.

For more information on the people of Arid Recovery visit www.aridrecovery.org.au or call 08 8671 2402.

General Manager/CEO

Kylie Piper

Staff

Tyson Brown
Perri Carter
Helen Crisp

Bianca Dodd

Kate Holmes

Kimberley Jarman

Marty Kittel

Katy Read

James Rees

Hannah Spronk

Clint Taylor

Hayley Thompson

Anni Walsh

Scientific Advisory Group

Peter Copley
Katherine Moseby
David Paton AM
John Read

Thankyou to the volunteers of Arid Recovery:

Special thanks to the following people who have volunteered their time over the past twelve months:

Mel Allan	Tom Clarke	Jennifer Hayes	Jamie Millard	Peter Pole	Libby Walsh
David Andrew	Christian Comoli	Colin Heckenberg	Shilton Moat	Katy Read	Pete Walsh
Charlie Antsey	Glen Cullinan	Ben Hughey	Paula Modra	Connor Rhyhan	John Warneke
Brett Backhouse	Bassam Darwiche	Ellen Ingold	Kane Mooney	Jacqui Rhyhan	Cameron Watson
Douglas Bedell	Tim Earl	Shane Jennings	Kevin & Yvette Mooney	Jason Rhyhan	Shane Watson
Lauren Blanchard	Kara Edmonds	Stewart Jones	Hannah Nicholas	Tony Robinson	Brenton Welk
Kate Carroll	Bree Galbraith	Dion Khan	Glen Norris	Luke Sanders	Millie Young
Rowan Carroll	Bruce Gotch	Jamie Kohler	Robert Oppenheimer	Tina Schroder	Rachel Young
Perri Carter	Travis Gotch	Dave & KJ Kovac	Pete & Angus Paisley	Clancy Smith	
Brendan Casey	Alessandro Grazianai	Sam & Jack Kovac	Ben Parkhurst	Jason Smout	
Simon Castley	Travis Hague	Grant Linley	Dayle Partington	Philip Strugnell	
Lana Chamberlain	Brooke Halkyard	Leo McCormack	Reece Pedler	Deb Towler	
Rebecca Clark	Gayle Hardie	Chris McGoldrick	Magda Pfaffl	Antonio Vottari	



Re-introduced species

THE POPULATIONS OF all four re-introduced species within the Reserve, Burrowing Bettong (*Bettongia lesueur*), Greater Bilby (*Macrotis lagotis*), Western-Barred Bandicoot (*Perameles bougainville*) and Greater Stick-nest Rat (*Leporillus conditor*), continue to thrive ensuring that 2011-2012 has been a period of species management. Safeguarding the control area within the Reserve by removing re-introduced species has been paramount, as has the development of new techniques to estimate populations of the species inside the feral free areas.

CAPTURE-MARK-RECAPTURE

Annual cage trapping to monitor re-introduced species was completed over 4 nights in September 2011 in the Main Enclosure and Red Lake Expansion (RLX). The Capture-Mark-Recapture technique was used to ascertain population estimates (in addition to demographic info) and to compare with long term track transect data. These two expansions were surveyed as they exhibit both extremes of bettong densities (Main – high densities, RLX – low). Using a very basic model in Program Mark, the population estimate for the Main Enclosure was 589 and for the Red Lake Expansion was 53. Track counts for bettongs were at ~110 tracks per km in the Main (see graph below for further information on track counts in the Reserve). Both areas had more new animals captured, than tagged animals recaptured from previous years.



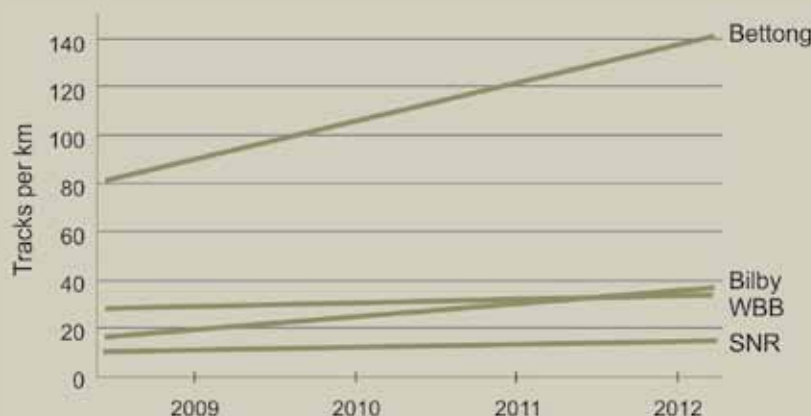
◀ (far left)
Burrowing Bettong
(*Bettongia lesueur*)
Photo by: Tane
Sinclair-Taylor.
◀ Releasing a
Western-Barred
Bandicoot
(*Perameles
bougainville*).
Photo by: Melissa
Jensen

SECOND EXPANSION

In the Arid Recovery Reserve, the Second Expansion is the control area. By keeping the area free of feral and re-introduced species we are able to minimise grazing pressures to vegetation and compare this with other areas of the Reserve. Throughout 2011 and 2012 regular trapping for re-introduced species has occurred on the northern fence line of the Second Expansion, the area of highest activity. In the past year there have been 533 animals captured in total, including 7 bandicoots, 6 Stick-nest Rats, 20 bilbies and 500 bettongs. Trapped animals have been relocated to the eastern boundary of the Reserve, however many bettongs manage to find their way back to the Second Expansion. Of the 533 captures, 240 of these animals have been recaptures. Recaptures are commonly found at the site of previous capture, and can be caught on more than one occasion. These animals tend to put pressure on the fence, creating holes that require constant monitoring and repairs.

INCREASING POPULATIONS

Average track counts per km for feral-free areas inside the Arid Recovery Reserve



Populations of re-introduced species in the feral-free area of the Reserve are monitored through track counts.

On average over the past four years, counts taken in the feral free areas (Main Enclosure, First Expansion & Northern Expansion) have shown an increase in activity for all four re-introduced species.



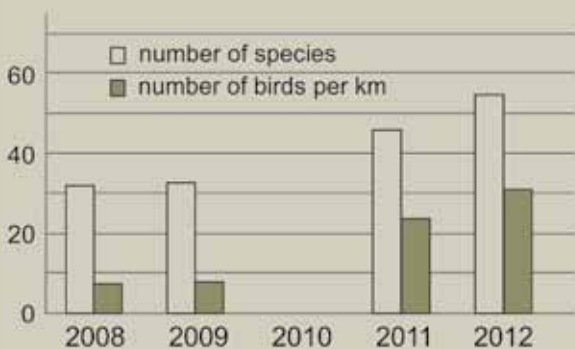
Bird monitoring

BIRD MONITORING IS undertaken in and around the Arid Recovery Reserve by David Paton in April of each year. Analysis of the data from the past few years has shown a marked increase in abundances and species richness. 2011 and 2012, with above average rainfalls, saw high numbers of species when compared with 2008 and 2009 that were dry years. In general the overall abundances of birds were 3-4 times higher in April 2011 and April 2012 than in April 2008 and April 2009. Amongst the additional species detected during the searches in 2011 and 2012 were Budgerigars, Diamond Doves, Little Button-quails, Masked Woodswallows, Rufous Songlarks and Brown Songlarks.

A range of resident species also showed a marked increase to the better conditions. Amongst these were Black-faced Woodswallow, Red-capped Robin, White-winged Fairy-wren and Zebra Finch.

The wetter years also saw a marked differences between the numbers of birds present inside the reserve compared with outside the Reserve. There were few if any Blue Bonnets, Bourke Parrots, Mulga Parrots, Crested Bellbirds, Chestnut-rumped Thornbills, Inland Thornbills, Hooded Robins and Southern Whitefaces detected in the area searched outside the Reserve compared to the areas searched within the Reserve. A number of other species were less abundant outside as well, including Black-faced Woodswallows, Red-capped Robins, Singing Honeyeaters and White-browed Babblers. A few species were more abundant outside than inside the reserve. These were Diamond Dove, Cinnamon Quail-thrush, Australian Pipit and Zebra Finch.

BIRD ABUNDANCE



Changes in species richness and relative abundances of birds within the Reserve in April 2008, 2009 (dry years) and April 2011, 2012 (wet years).

◀ A rare female Scarlet- chested parrot (*Neophema splendida*) spotted inside the Reserve in May 2012

Photo by: Brett Backhouse

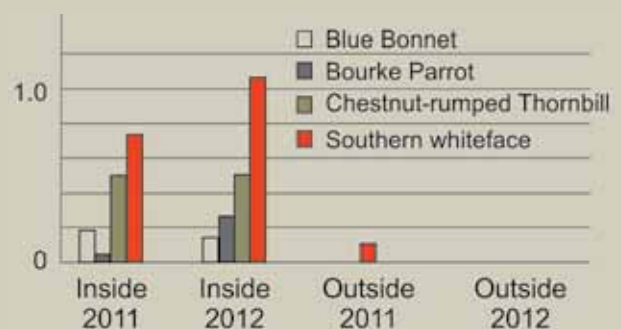
▼ A Brown Falcon (*Falco berigora*) Photo by: Kylie Piper



ⓘ Further information regarding birds of the arid zone, including a full list of birds sighted in and around the Arid Recovery Reserve is available on the Arid Recovery website at www.aridrecovery.org.au.

INSIDE AND OUTSIDE

Relative abundances (per km) of various bird species inside and outside the Arid Recovery Reserve in April 2011 and April 2012. This group of species – consisting of various parrots and ground or shrub-foraging insectivores were absent from the area searched outside the Reserve, despite the good condition. 55.5 and 56.6 km of searching were conducted within the areas searched within the Reserve, and 35.9 and 40.8 km of searching conducted within the area outside the Reserve in April 2011 and April 2012 respectively.





Research report

IN NOVEMBER 2011 a strategic planning meeting of the the Arid Recovery Scientific Advisory Committee was held. The purpose of this meeting was to look at the direction of Arid Recovery research over the coming five years and to develop a strategy to assess current research practices of Arid Recovery including the current monitoring programs. This meeting determined the following four research outcomes for 2012 and beyond that build on the original research priorities of Arid Recovery, enabling the organisation to maintain a robust scientific program and expand beyond the Reserve fenceline.

- Arid Recovery provides a research structure that supports and encourages succession, gives direction, and focuses on disseminating what is known.
- The Arid Recovery system is sustainable with multiple trophic levels and the resilience to cope with environmental changes.
- The Arid Recovery Reserve is a demonstrable and usable model that provides net mutual benefits to mining, pastoralists and conservationists.
- Landholders in arid and semi-arid environments use Arid Recovery data to sustain their own environments.

◀ Digging pitfall traps during Annual trapping in February 2012

▶ A Desert Banded Snake (*Simoselapis bertholdi*)

Photos by: Hannah Spronk



LONG-TERM MONITORING

One of the features that sets Arid Recovery apart from other fenced reserves is long-term monitoring of the restoration process. The design of the Reserve provides a unique opportunity to investigate and monitor the effect of different grazing and predation treatments on the local ecosystem. Arid Recovery has data sets spanning more than ten years that are an invaluable management tool for the program and for other restoration programs as well. The Arid Recovery monitoring practices are currently under review, and assistance is being sought from experts at the University of Adelaide regarding modelling and the statistical analysis of all of Arid Recovery data.

📄 Further information regarding the Arid Recovery research strategy is available on the Arid Recovery website at www.aridrecovery.org.au.

Arid Recovery Research 2012-2017

The following strategies and initiatives have been identified for Arid Recovery Research for 2012-2017.

Strategies and Initiatives	Measures of Success
Define and replicate key treatment areas	<ul style="list-style-type: none"> • The treatments (inside/outside) are defined • Areas where treatments can be replicated identified • New partnerships created to replicate, collaborate and build knowledge
Develop a 10 year re-introduction plan	<ul style="list-style-type: none"> • Risk assessment (vegetation and habitat related) completed and information obtained to support the priority list (research vs conservation) • Native predators introduced
Build the scale and focus of adaptive management (longer term, landscape scale, conservation gain)	<ul style="list-style-type: none"> • Treatment areas and adaptive management include all trophic levels (including invertebrates, reptiles, birds, and predators) • Long-term monitoring includes: <ul style="list-style-type: none"> – trends across treatment areas – re-introduced species – key vegetation – ferals – trophic patterns – bio-indicators • On-going research into feral interactions and eradication
Development of a five-year plan for external release of re-introduced species	<ul style="list-style-type: none"> • All data regarding releases and management of target species to date compiled • Vegetation and habitat restored to support an outside release
Focus on the productivity of the landscape	<ul style="list-style-type: none"> • Monitoring of seed and new plant material • A document outlining potential need for and implementation of seed bank developed
Development of training program for monitoring and conservation management	<ul style="list-style-type: none"> • Priorities and strategy document for implementation developed



PhD Thesis

IN JUNE OF 2012 Katherine Moseby submitted her PhD thesis focusing on over 10 years worth of research at the Arid Recovery Reserve. The following is an extract from the contextual statement of the submitted thesis.

Improving mammalian reintroduction success in the Australian arid zone

Katherine Moseby, PhD candidate, University of Adelaide

The Australian arid zone has experienced the highest recent extinction rate in the world and the worst success rate for reintroductions. It is clear from previous arid zone reintroduction studies that predation from introduced foxes and cats are the major determinants of reintroduction success or failure in arid Australia. The development of new techniques for predator control and/or the improved predator awareness of naive native species are likely to be critical elements required to improve reintroduction success. Other factors that appear to be important include reintroduction protocols such as soft releases and release size. Little is known about the influence of factors such as temperature and rainfall, despite the fact that in arid environments these are major productivity drivers. The objective of this thesis is to explore intrinsic and extrinsic factors that influence the success of mammalian reintroductions in arid South Australia and ultimately improve reintroduction outcomes.

◀ Greater Stick-nest Rat (*Leporillus conditor*) Photo by: Jane Adams

This thesis is divided into four sections: The first three sections on predation, reintroduction protocols and post-release population dynamics are considered key determinants of reintroduction success. The first section compares the success of mammalian reintroductions using two already established methods of feral animal control; exclusion fencing and integrated predator control (poisoning, shooting, trapping). The success or failure of these reintroductions is discussed in relation to predator abundance counts. Additionally, two relatively new methods of broadscale feral animal control; aerial baiting and the use of dingoes, are also investigated and their merits discussed.

Secondly, reintroduction protocols to maximise post release survival are investigated, including hard and soft releases, captive versus wild source populations and predator-awareness training. The fates of reintroduced animals exposed to these different treatments are compared. Results are used to suggest optimum reintroduction protocols for arid zone threatened species.

Thirdly, the post-release population dynamics of four re-introduced species and the influence of extrinsic factors such as season, rainfall and time since release are investigated. Results from four species reintroduced over 10 years are compared with other arid and mesic release sites and used to predict the success of future reintroduction programs in arid Australia. Where possible, management actions required to ensure the persistence of self-sustaining populations are also suggested. This is particularly important in arid areas where temperature and rainfall extremes exist and where few reintroductions

have been successful. Finally, the results from the three sections are synthesised in a conclusion chapter which also include directions for future research.

This thesis consists of seven research chapters and a conclusions chapter. Five of the research chapters [references 1-5 below] had been published in Australian and international journals at the time of thesis submission with a further chapter [reference 6, below] currently under review.

References:

1. Moseby, K.E., Read, J.L., Paton, D.C., Copley, P., Hill, B.M. and Crisp, H.M. (2011). Predation determines the outcome of 11 reintroduction attempts in arid Australia. *Biological Conservation* 144, 2863-2872.
2. Moseby, K.E. and Hill, B.M (2011). The use of poison baits to control feral cats and red foxes in arid South Australia 1. Aerial Baiting Trials. *Wildlife Research* 38, 338-349.
3. Moseby, K.E., Read, J.L., Galbraith, B., Munro, N., Newport, J and Hill, B.M. (2011). The use of poison baits to control feral cats and red foxes in arid South Australia II. Bait type, placement, lures and non-target uptake. *Wildlife Research* 38, 350-358.
4. Moseby, K.E., Neilly, H., Read, J.L. and Crisp, H.A. (2012). Interactions between a top order predator and exotic mesopredators. *International Journal of Ecology* Article ID 250352, 15 pages doi:10.1155/2012/250352.
5. Moseby, K.E., Cameron, A., and Crisp, H.A. (2012). Can predator avoidance training improve reintroduction outcomes for the Bilby (*Macrotis lagotis*) in arid Australia? *Animal Behaviour* 83, 1011-1021.
6. Moseby, K.E., Hill, B.M. and Lavery, T. (submitted). Do release protocols influence translocation outcomes when predation risk is low? *Biological Conservation*, under review.

▼ Katherine Moseby during Arid Recovery annual trapping 2012





Student projects

THREE STUDENTS commenced projects at Arid Recovery over the past 12 months during which time they have undertaken extensive fieldwork and assisted with Arid Recovery trapping events.

Bandicoot foraging

Habitat use of the western barred bandicoot (*Perameles bougainville*) at Arid Recovery

Melissa Jensen, Honours candidate, University of Adelaide

THIS STUDY AIMS to investigate to what extent leaf litter is important to the Western Barred Bandicoot (*Perameles bougainville*), and whether this appears to be affected by the presence of Burrowing Bettongs (*Bettongia lesueur*), who may disturb leaf litter. By analysing tracks and radio tracking a number of bandicoots, Melissa will determine whether bandicoots use areas containing thick leaf litter disproportionately more than areas without leaf litter, whether bandicoots avoid areas used extensively by bettongs, and gather data on bandicoot nest sites locations and construction material.

◀ Reptiles as prey species Photo by: Brett Backhouse.

Predators and prey

Re-introduction of the western quoll (*Dasyurus geoffroii*); their habitat and dietary preferences

Brett Backhouse, Honours candidate, University of Adelaide

AUSTRALIA HAS SUFFERED one of the worst extinction rates of any country in the world, with many mammalian species now severely restricted in populations and home range. Changes to Australia have come in many forms, such as the introduction of exotic predators like the fox and cat, changes in fire regimes, overgrazing and human activity. It is these pressures that have led to conservation initiatives, such as the Arid Recovery Reserve, which have had these factors removed and locally extinct mammals re-introduced. These introductions have proven mostly successful, however the reserve is in lack of native predators. The Western Quoll (*Dasyurus geoffroii*) is a species that can be classed as a native predator, and was found historically in the area. However, quolls have become restricted in their range since European colonisation, and are totally extinct within South Australia. This project will focus on assisting Arid Recovery to make an educated, informed decision as to whether a release of quolls would be suitable for this site. Available prey items will be determined, and their relative densities, with small mammals, reptiles and invertebrates monitored by pitfall trapping and night transects. Data obtained will also assist in determining if this species may impact on other re-introduced species such as Stick-nest Rats or Western Barred Bandicoots.

➔ Spotlighting for a Western Barred Bandicoot Photo by: Melissa Jensen

⬇️ Ants and termites Photo by: Nicole Coggan



Termite trenches & boodie spoils

Effects of marsupial extinctions and their reintroduction on the biodiversity and ecosystem functioning of ground-dwelling invertebrates
Nicole Coggan, PhD candidate, Latrobe University

WILD POPULATIONS OF Australian marsupial species within the 35g- 5500g critical weight range (CWR) are under extreme threat of extirpation due to rapidly increasing densities of feral predators. Reintroducing threatened CWR species into feral-predator exclusion sanctuaries is their best hope for survival. However, the decline and disappearance of multiple CWR species from most of Australia's mainland is likely to have disrupted ecosystem process and interactions which are necessary for the long-term survival of reintroduced threatened species. This project aims to assess hypothesized differences in invertebrate diversity between wild CWR species populations on the mainland and habitats where CWR species have been reintroduced. An assessment of the efficiency of ecosystem processes in reintroduction and intact CWR species' habitats will also be conducted to determine whether ecosystem processes such as decomposition can be bolstered through co-reintroduction in predator-free habitats.





Feral control

FERAL CONTROL BOTH inside and outside the Arid Recovery Reserve remains a priority for all Arid Recovery staff and volunteers. In 2011-12 an increased presence of cats and foxes outside the Reserve has led to an increased chance of predator incursion and in response an increase in the number of trap nights and predators caught around the Arid Recovery boundary.

COST OF INCURSIONS

In September 2011 during the annual cage trapping, tracks of a cat were identified inside the Main Enclosure. No tracks were detected during the August feral or native transects, leading us to believe that the cat had only been present in the Reserve for a short period of time. There had been no significant fence damage around the Main Enclosure but it is thought that increased pressure on the fence due to favourable conditions and limited shooting along the southern boundary on the mine lease may have been factors leading up to the incursion.

Following the discovery of the tracks a concerted effort was made to locate the cat, document its activities and remove it from the Reserve. In the first two weeks following the discovery of the incursion over 120 hours, the equivalent of one and a half full time staff members, were spent monitoring the incursion. Tracks were checked by both staff and volunteers on a daily basis, remote cameras were positioned throughout the area to monitor overnight, a number of corrals and leg-hold traps set-up with a variety of lures and baits, and volunteer shooters sent into the area to spotlight for the cat. Although activity was quite high for the first few weeks of the incursion, after a short period of rainfall, no more activity was sighted within the Reserve. After a month of monitoring no further sign of the cat was found, no tracks have been picked up on any transect lines or during major trapping events in the Main Enclosure or in surrounding expansion areas. As it is much easier for a predator to escape from the Reserve than to enter it, it is thought that the cat has climbed the fence and exited the Reserve.

TRAP NIGHTS AND THE OBSERVANT SYSTEM

Over the 2011-12 financial year the Observant system, which remotely monitors the permanent trap sites around the Reserve, received a much needed upgrade. The system, previously run through the Arid Recovery computer network, is now functioning directly through the internet, enabling the software within the remote monitoring stations to be upgraded. This has ensured that the system itself is now much more stable and reliable, leading to an increase in trap nights from 114 in the previous reporting period to 3076 in the 2011-12 financial year (See Box 1 below). This led to almost four times the number of predators being captured in traps compared to the previous year. Over three times as many cats, 48 for the period, and almost eight times as many foxes, 17, were captured on the boundary of the Reserve.

RED LAKE EXPANSION - RABBIT CONTROL

Rabbit control has been undertaken in the Red Lake Expansion (RLX) on an ongoing basis for the past three years. In 2011-12 Arid Recovery received funds from the SAAL NRM Broad to undertake further rabbit control within RLX. In spite of numerous efforts, rabbits are still present within RLX, along with a small number of cats and, more recently, foxes. The difficulty with rabbit control in RLX is due to the size of the expansion as well as the presence of bettongs. Locating rabbit warrens and mapping of high activity areas was first priority, undertaken in late 2011, early 2012. Spotlight shooting has commenced within the expansion, with volunteer and staff shooters undertaking runs through the area to remove rabbits. The issue of the size of the area is being dealt with through the proposed construction of a new rabbit-proof fence running north-south through the expansion. Development of the fence will commence in earnest at the end of 2012, with the hope that at least half of RLX will be rabbit-free in the near future.

 Further information regarding feral animals of the arid zone is available on the Arid Recovery website at www.aridrecovery.org.au.

COST OF A CAT



ESTIMATED COST OF STAFF TIME:

\$3522

◆ 122 hours of monitoring in the first two weeks of an incursion

TRAP NIGHTS



CATS

48



FOXES

17

TOTAL TRAP NIGHTS

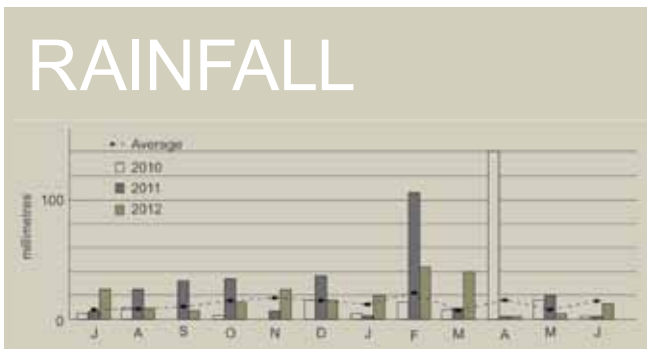
3076

◆ Number of predators captured in permanent trap sites around the Reserve.



Reserve report

FOR THE PAST THREE YEARS the Arid Recovery Reserve has experienced above average rainfall. This has once again led to an abundance of vegetation around the Reserve, and also a number of issues in terms of access to roads and repairs to fences. In 2012 a new ATV was purchased to ensure access around the Reserve during rainfall events. This new ATV came to the fore in February of 2012 when once again high rainfalls hit the Reserve. With rains predicted 24 hours in advance a staff member was stationed at the Reserve to ensure any repairs could be undertaken as soon as possible.



A number of road repairs had been undertaken in late 2011 ensuring that high risk areas that had previously succumbed to erosion and flooding remained accessible. Minimal damage was done to fences and roads, with only some areas in the northern parts of the Reserve requiring repairs. This proactive approach to maintenance and repairs has ensured that no new incursions occurred after rainfall and that damage to Reserve infrastructure was minimised. Future predicted rainfall events will see a similar approach being taken with a minimum of two staff members stationed at the Reserve so that access post-rainfall can be assured. A full road audit was once again undertaken in May 2012, with all areas of damage monitored. Some high use roadways also underwent minor repairs in May to minimise ongoing damage.

INFRASTRUCTURE UPGRADES

Arid Recovery's field station has seen many researchers, students and interns throughout the years, but never before had it seen a coat of paint! In March 2012, with the assistance of the PREO Program members (see page 15 for further details) the ATCO received not just a coat of paint, but also a complete facelift. Repairs were undertaken to mouse proof all areas of the kitchen and accommodation rooms and new bunks were erected to allow for up to 12 people to stay at the Reserve. Doors and windows were repaired, old wiring removed and new smoke alarms fitted to all rooms.

Signage at the Reserve has also undergone an upgrade with new signage erected at the roadside information booth at the entrance to the Reserve. All new interpretive panels are currently being designed for the viewing platform, and repairs to the sails and deck and painting of the platform is scheduled for the coming year.



↑ Fence repairs are undertaken in the Reserve after rain in March 2012.
Photo by: Helen Crisp

FENCE REPORT

In 2011 an annual maintenance plan for the AR Reserve fence was established to ensure the integrity of all external and internal fencing. The major concern was the rate of perishing of the footnetting, the main defence against incursions by rabbits. In May 2012 the annual fence audit was undertaken and a surprising number of areas of high degradation were found. We are currently reviewing the cause of this degradation and a concerted effort has been put in place to ensure that all external footnetting is maintained.



↑ Painting the ATCO field station, March 2012.
Photo by: Kylie Piper

◀ Field Officer, Anni Walsh, releases a hopping mouse into the green fields of the AR Reserve. Photo by: Hannah Spronk



Community



◀ Community events took centre stage, the 2011 Open Day
Photo by: Arid Recovery

↑ Roxby Downs Christmas Pageant Photo by: Charlene Lloyd

◀ (Far left) Shane gives 'Rusty's chair' a new lease on life during removals at the Reserve. Photo by: Kylie Piper

COMMUNITY PARTICIPATION has been an important part of Arid Recovery for many years. In 2011-12 a special effort was made to be a part of the wider Roxby Downs Community through involvement in events such as Christmas Pageant, Clean Up Australia Day and the BHP Billiton Family Day.

Through a regular attendance at Contractors Framework Implementation Team (CFIT) meetings, Arid Recovery has also gained a number of valuable new supporters and a range of volunteers from contractors working at Olympic Dam.

The most valuable association that has been made this year has been through the inclusion of Arid Recovery in the Prisoner Re-integration and Employment Opportunity Program run by BHP Billiton, Xceptional Recruitment and ODT Australis

at Olympic Dam. For a total of six weeks, 12 men from the Port Augusta Prison took part in the program. The extra hands were quickly put to work around the Arid Recovery Reserve as part of the community service aspect of the program, replacing approximately 4 kilometres of foot netting and renovating the ATCO field station. Their enthusiasm saw the sanding, patching, painting and staining completed in record time. The new kitchen and bunk beds have since been enjoyed by a number of field staff and researchers.

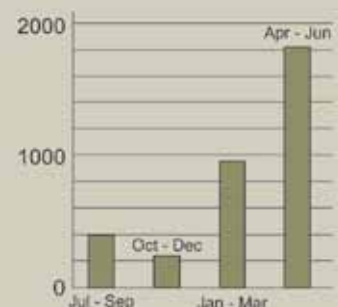
Since graduating from the program in late May, many have gained employment in Olympic Dam and have since returned to volunteer in their free time at the Reserve. Arid Recovery is now an ongoing part of the program with at least two more sessions scheduled for the coming twelve months.

VOL HOURS

VOLUNTEER HOURS

3445

↓ Hours worked by volunteers each quarter throughout the last 12 months.





COMMUNITY REPORT



◀ (left and far left) Students from St Barbara's Parish School in Roxby Downs visited the Reserve for Threatened Species Day.
 ↓ Sunset tours including drinks on the viewing platform were developed for the 2012 tour season.
 Photos by: Kylie Piper



OPEN DAY

One of the biggest public events for the year was the 2011 Arid Recovery Open Day. Supported by a National Science Week grant, the day saw more than 150 people make their way to the Reserve to enjoy the sunshine and activities behind the fence. Scat making was a hit with the children, learning how scats and tracks can be used to find out more about various animals. Expert talks were a highlight including those from ecologist Helen Crisp on the animals found inside the Arid Recovery Reserve and volunteer, Kara Edmonds, on plants of the arid zone. The booked out 4WD tour explored the northern areas of the Reserve, giving visitors the opportunity to see sections of the Reserve not often accessed by the public.

NATIONAL THREATENED SPECIES DAY

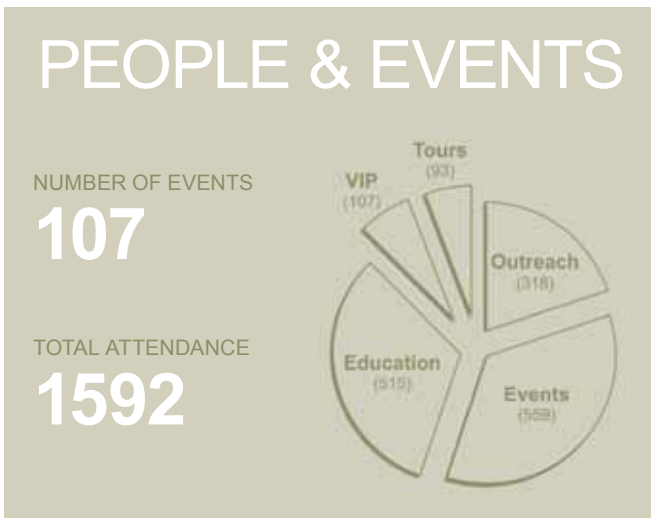
National threatened species day in September 2011 was marked with a visit by the students of St Barbara's Parish School. All 186 students visited the Reserve taking on walks, trapping and radio-tracking demonstrations and learning about the plants and animals of the arid zone. Thank you cards from all classes poured into the Arid Recovery Office after the event from the Roxby Downs students.

CUSTOM TOURS LAUNCHED

Custom tours were developed throughout the tour season to allow groups to enjoy sunset at the Reserve, with a number of dinners and cocktail events held throughout the year. A tour open night, held in April to launch the start of the tour season saw approximately 100 locals taking advantage of the opportunity to experience the Reserve at night. After walking the nature trail, visitors were taken on guided walks to the nocturnal hide where they spotted plenty of bettongs and keen eyes scoured the sand dunes for the flash of a bilby tail.

ARID RECOVERY KIDS CLUB

2012 saw the launch of the Arid Recovery Kids Club, encouraging local children to learn more about their environment and the Arid Recovery Reserve. A big hit was the sold-out bettong spotting night, with 30 children visiting the Reserve to search for bettongs. Learning about the cheeky bettongs at school and through Maccas Newsletter, the children were finally able to spot one in the flesh at the Reserve. The Arid Recovery Kids Club, along with its mascot Macca the Bilby, now also has a regular monthly column in The Monitor Newspaper.







◀ Helen Crisp looks out across the Reserve
 ◀ (Far left) A close-up of one of the Reserve's inhabitants for the "This is our Story" advertisement
Photos courtesy of Lawrence Creative

Marketing and publicity

THIS YEAR SAW the launch of the monthly Arid Recovery E-news, comprised of blog stories, events and updates about the Reserve. The E-news, now sent to 384 recipients, and the regular blog updates assisted to increase website visits significantly. At the start of the year, website visits were under 1800 per month. This has steadily been increasing. The addition of a daily blog during the week of annual trapping assisted in helping website visits jump to over 3000 visits per month. Numbers of visits to the website have remained over this target since that time and as of June 2012 had increased 250% to 4540 visits for the month.

2011-12 also saw a number of film crews visiting the Reserve. A documentary crew filming dingoes made two visits to the Reserve, whilst publicity focusing on Arid Recovery itself came courtesy of an Optus Community Grant and the "This is our story" campaign. The "This is our story" advert brought Arid Recovery into homes across Australia, via two months of television adverts, four weeks of cinema adverts and the inclusion in newspapers nation-wide.

i Further information on Arid Recovery community events can be found online at www.aridrecovery.org.au or by contacting the Education and Community Officer on 08 8671 2402.

OUR STORY

ESTIMATED NATIONAL AUDIENCE:

6,900,000

↓ The print coverage for the "This is our story" advertisement ran in newspapers across Australia at an estimated cost of \$332,000.

Publication	Audience
STM	634,000
SA Weekend	542,000
Q Weekend	697,000
Weekend Australian magazine	770,000 - National
Sunday magazine	2,783,000
Good Weekend	1,474,000



2011-12 Financial Report

THE 2011-12 FINANCIAL year saw an increase in fundraising events, including tours, education events and merchandise sales, leading to an overall higher income for the year. A number of small contracts for environmental monitoring also lead to the organisation finishing in a stable position after an increase on expenditure, including the purchase of a new ATV for the Reserve.

Profit and loss

INCOME	2012	2011
Interest received	\$26,555	\$25,059
Sponsorship	\$400,000	\$420,574
Grants	\$101,808	\$78,748
Fundraising income	\$33,108	\$9,061
Sundry income	\$59,687	\$288
Total income	\$621,159	\$533,732
EXPENDITURE		
Accountancy and audit fees	\$6960	\$6,600
Administration expenses	\$4353	\$3,579
Advertising	\$45	\$422
Bank fees	\$900	\$1,300
Conference and seminars	\$1714	\$1,849
Board meeting expenses	\$543	\$550
Functions	\$5633	\$5,024
Insurance	\$14,465	\$13,731
Interest	\$102	\$1,193
OH&S expenses	\$867	\$454
Minor plant expenses	\$310	\$953
Depreciation	\$17,155	\$13,668
Projects	\$88,523	\$102,998
Merchandise	\$2,274	\$20
Postage & freight	\$4,040	\$811
Publicity & education	\$13,993	\$12,432
Scholarships	\$7,018	\$2,154
Telephone	\$6,850	\$6,564
Staff recruitment & training	\$13,601	\$8,028
Travel & accommodation	\$7,803	\$9,408
Subcontractors	\$28,475	\$84,134
Wage and salary expenses	\$378,247	\$299,604
Uniforms	\$2,024	\$215
Vehicle expenses	\$29,228	\$16,074
Total expenditure	\$635,128	\$591,774.26
NET PROFIT / (LOSS)	(\$13,969)	(\$58,041.85)

FUNDRAISING AND IN-KIND SUPPORT

A fundraising event for bettongs through the Australian Geographic Society over November and December 2011 saw donations of over \$46,000 to Arid Recovery. The national fundraiser, held through Australian Geographic Stores, was the most successful of it's kind for Australian Geographic, and we thank all those who donated to our "National Boodie Call".

2011-12 saw an increase in the in-kind support provided to Arid Recovery from businesses in Olympic Dam and Roxby Downs. Significantly was the donation of earthmoving equipment from ODT Australis, allowing for significant roadworks within the Arid Recovery Reserve, with the assistance of members of the PREO Program. BHP Billiton continue to provide support through the provision of office space for all Arid Recovery staff and the use of the environmental laboratory.

Balance sheet

EQUITY	2012	2011
Retained profits - beginning of year	\$390,793	\$448,834
Profit/(Loss) - earned this year	(\$13,969)	(\$58,041)
TOTAL EQUITY	\$376,824	\$390,793
CURRENT ASSETS		
Cash on hand	\$1,050	\$1,050
Trade debtors	\$9,118	\$137,325
Cash at bank - operations	\$216,178	\$169,441
Cash at bank - AR fund	\$5,356	\$4,113
Term deposits - NAB	\$162,360	\$157,461
Prepayments	\$1,673	\$0
Stock on hand	\$1,780	\$0
GST refund	\$11,545	\$799
TOTAL CURRENT ASSETS	\$409,214	\$470,213
FIXED ASSETS		
Plant & equipment	\$69,897	\$73,320
Less: Accumulated depreciation	(\$31,434)	(\$29,444)
TOTAL FIXED ASSETS	\$38,463	\$43,876
TOTAL ASSETS	\$447,676	\$514,090
CURRENT LIABILITIES		
Trade creditors	\$17,340	\$6,717
Income in advance	\$44,000	\$88,000
Creditors - other	\$5,834	\$26,912
Credit card - NAB	\$3,677	\$1,666
TOTAL LIABILITIES	\$70,852	\$123,297
NET ASSETS	\$376,824	\$390,793



Business plan

IN NOVEMBER 2011 the Arid Recovery Board met in Roxby Downs to hold a strategic planning meeting to develop a plan for the future of the organisation. The major outcome of that meeting was to develop a five-year business plan for Arid Recovery which builds on the outstanding scientific and conservation success of the initiative to date. The plan, developed in early 2012, identifies a strategy for expanding the influence of Arid Recovery, increasing its value to key sponsors and stakeholders and improving the financial sustainability of the initiative.

The business plan identifies the need for continued sponsorship of the core Arid Recovery program, but also identifies opportunities to dramatically increase external funding, achieving the vision of Arid Recovery, which is “recognition as a world class conservation and research program, with research outcomes and management techniques recognised and adopted on a regional, national and international scale”.

PARTNERSHIPS

This five-year business plan will help to achieve the environmental requirements and social objectives of the BHP Billiton Olympic Dam Mine. It will contribute to the objective of the new Department for Environment, Water and Natural Resources to form regional partnerships. The research and teaching objectives of the University of Adelaide will be enhanced

through collaboration with Arid Recovery. Most importantly, the business plan expands Arid Recovery from a world-class 123 km² restoration site, taking the knowledge and know-how to the community, arid zones in Australia and potentially beyond.

SERVICE DELIVERY

The purpose of the service delivery business is to provide even greater support for the objectives of Arid Recovery, by generating a financial dividend for re-investment in Arid Recovery programs, and to extend the knowledge and skills of the Arid Recovery program to wider landscapes. It is not the intention to distract staff from the existing Arid Recovery program of works, or to create profits for the personal gain of individuals or companies.

FUTURE OPPORTUNITIES

Sponsorship and in-kind support from BHP Billiton has been the major source of funding to Arid Recovery. Additional sponsorship and in-kind support has been provided by numerous corporate and community supporters. In the future, it is intended that Arid Recovery will generate a greater proportion of its income from external sources. Ideally this ‘earned’ income will be from government grants as well as income generated from consulting, eco-tourism and providing recreational services.

 A copy of the Arid Recovery 2012-2017 Business Plan is available online at www.aridrecovery.org.au

◀ Moon rise over Stuart Creek Station *Photo by Kylie Piper*

2012-13 OPERATIONAL PLAN

Area	Task/Objective
Safety and administration	Implementation of WHS plan, retention of staff, review of financial and governance compliance issues
Conservation and research	Development of AR research strategy including re-introduction plan, feral free area of Reserve extended
Community	Development of new school (including outreach) and training programs (including indigenous and monitoring)
Publicity	Increase attendances, increase membership retention
Business plan	New sponsorship agreement with BHPB, development of new MoU with DEWNR & University of Adelaide, implementation of new business plan

Thank you to the sponsors and supporters of Arid Recovery:



Government of South Australia
Department of Environment,
Water and Natural Resources



Arid Recovery is a conservation initiative supported by BHP Billiton, the SA Department of Environment and Natural Resources, the University of Adelaide and the local community.

Thanks to the many organisations who have assisted us over the past 12 months and continue to support the work of Arid Recovery:

Alliance Airlines
Australian Geographic Society
Coates Hire
Cowell Electric
Design Experts
Ecological Horizons
EnSystex

Global Leadership Foundation
Group GH
Greyhound Australia
Kelly&Co Lawyers
MFP Insurance
Monadelphous Engineering
National Science Week

Northpoint Toyota
ODT Australis
Optus Communications
Roxby Pest Management
Roxby Leisure
RoxFM
SAALNRM

Sodexo
The Monitor Newspaper

You can assist the ongoing work of Arid Recovery through a variety of ways. Visit the website or contact the Arid Recovery Office on 08 8671 2402 for further information.

Volunteer

Join us for a working bee or assist around the office, there are many opportunities to volunteer with the staff of Arid Recovery.

Join

Become a member of Arid Recovery for as little as \$25 a year and receive our quarterly newsletters and monthly e-news updates.



↑ The long walk home, February trapping 2012

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