



On Track

Delivering natural resource management
in the SA Arid Lands 2011-12

Protecting our land, plants
and animals

Understanding and securing
our water resources

Supporting our industries
and communities



CARING
FOR
OUR
COUNTRY



Government of South Australia
South Australian Arid Lands Natural
Resources Management Board

Welcome

Etadunna Station

Welcome to the second edition of *On Track*.

In 2011-12, we completed the second year of delivery of the South Australian Arid Lands (SAAL) Regional Natural Resources Management (NRM) Plan.

The *SAAL Regional NRM Plan* sets the direction for natural resource management in the region to 2020, and *On Track* is a report to our community on the progress made in 2011-12 on meeting the Plan's targets.

In last year's *On Track*, we focused only on the activities that were funded by the SA Arid Lands Natural Resources Management Board.

This year, true to the guiding role of the Board and our Plan, *On Track* goes further and acknowledges the wide variety of organisations and individuals who are contributing to natural resource management in the SA Arid Lands region and helping to meet our targets.

On Track showcases the efforts of volunteer groups like the Sporting Shooters Association, industry groups such as Outback Lakes SA, and mining and petroleum companies like Santos, who join a variety of government agencies, in helping to deliver on the Plan.

The new 'Our stakeholders' page (see p. 4) gives you a sense of the huge variety of industry, government and community groups with whom we partner, while the 'Our performance' page (see p. 40) shows how the region is tracking against our 50 management action targets.

The collaborative approach to *On Track* this year is also timely as it reflects the new integrated delivery structure for natural resource management that now exists in the SA Arid Lands region.

Natural Resources SA Arid Lands is now the key agency delivering natural resource management in the region – including on behalf of the SAAL NRM Board, the Pastoral Board and National Parks.

It offers a landscape approach to managing natural resources across public and private land and provides a single, integrated face for environment and natural resource services in our region. But the pages of *On Track* will show that it's certainly not alone.

We show you how all land managers are benefiting from our collective efforts to manage the region's pest plants and animals, protect our threatened species, rehabilitate our land, conserve our soils, and manage our water resources. And we encourage you to get involved.

Indeed, *On Track* reveals that natural resource management really is about engaging people and working with them to improve their capacity to manage their backyard – and how critical it is to have your support to help deliver on the Plan.

With all land managers in the SA Arid Lands region paying a regional (land-based) NRM levy, the publication is also significant in keeping the Board accountable and we trust that you will see that your contribution is being put to good use.

On behalf of the Board, I thank our land managers, community, volunteers, NRM Groups, levy-payers, funding bodies and partner organisations for their efforts in contributing to the sustainable management of our region's natural resources and I encourage your continued involvement.

Enjoy the read!



Janet Brook
Presiding Member,
SA Arid Lands
Natural Resources
Management Board

Coongie Lakes dunes



GLEN NORRIW

Central Bearded Dragon



Gibber



Sturt Desert Pea

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Our region

The SA Arid Lands region covers over half of South Australia and includes some of the driest parts of the State.

The region's environment is characterised by irregular rainfall and other episodic weather events that rarely follow predictable annual cycles and it has the largest percentage of intact ecosystems and biodiversity in all of SA.

In this region more than any other, communities and industries are intrinsically linked to the environment and rely on integrated natural resource management to maintain healthy functioning ecosystems.

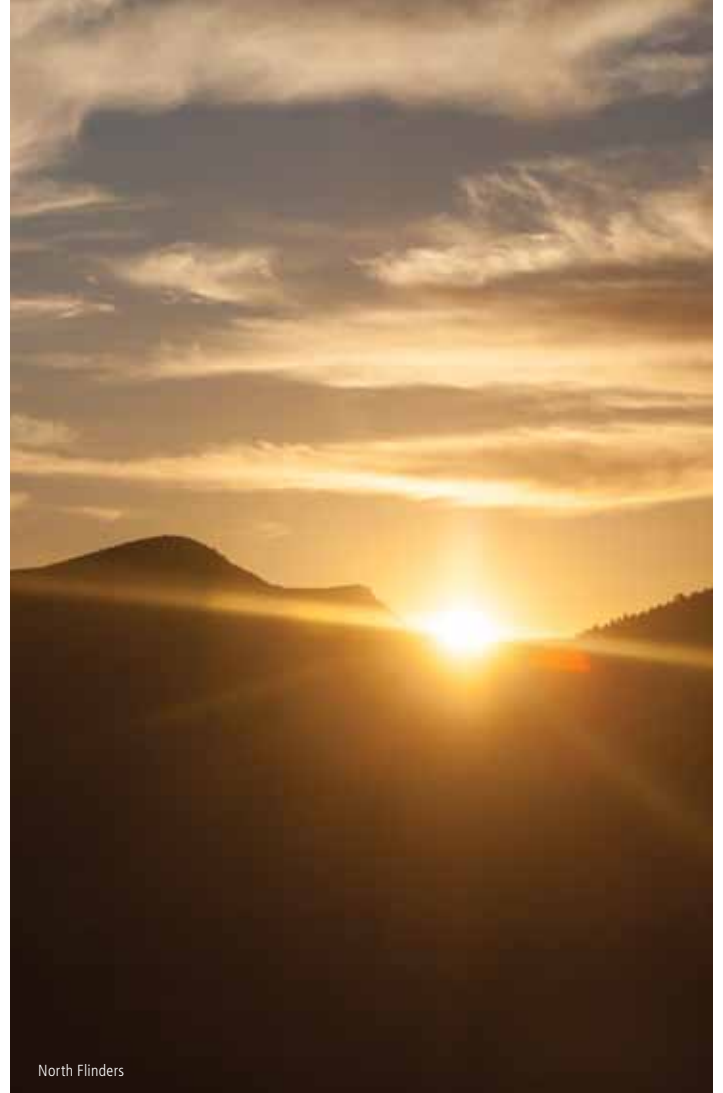
Water is a critical resource supporting biodiversity, communities and industries. Most water supplies in the region are sourced from the Great Artesian Basin, one of the world's largest underground water reservoirs.

The human population in this arid and semi-arid region is small – less than 2% of the State – and geographically dispersed. A number of landholdings, including parks, reserves and pastoral leases, are under Aboriginal management or co-management. The majority of towns have less than 1000 occupants, while the largest towns – Coober Pedy and Roxby Downs – are both associated with mining and home to less than 5000 people.

Pastoralism remains the dominant land use, with vast tracts of the region – over 40,000,000 hectares – taken up by sheep and cattle stations relying on native vegetation for feed.

Although much smaller in area occupied, the mining, gas and petroleum industries have become increasingly significant land users.

Tourism has also exploded in recent years as unprecedented numbers of people visit the region to enjoy the outback experience. This includes some of SA's most environmentally significant conservation reserves and National Parks, and the great inland water system of Lake Eyre.



Our Plan for the region

The SAAL Regional NRM Plan is pivotal to achieving better management of the region's natural assets as it outlines priorities and provides direction for all partners who invest in the region. Collaboration is the key to its effective delivery, so the SAAL NRM Board works closely with community groups, industry, government agencies, and individuals.

This edition of *On Track* showcases these collaborative efforts towards improving the condition of regional natural resource management during 2011-12 and towards achieving the short and long-term targets contained in the SAAL Regional NRM Plan.

The SAAL Regional NRM Plan was adopted by the Minister for Sustainability, Environment and Conservation in August 2010 and outlines a range of programs and associated targets to achieve better protection of ground and surface water; ensure sustainable industries; achieve best practice management of pastoral lands; conserve natural ecosystems and biodiversity; and encourage community participation.

It consists of two volumes: Volume 1 details the state of the region assessment, the policy and regulatory framework, and a 10-year Strategic Plan, including targets. Volume 2 describes the SAAL NRM Board's contribution towards achieving the region's vision and targets through its own actions and investments.



Contact Natural Resources SA Arid Lands 8648 5300 for your copy of the SAAL Regional NRM Plan



Our stakeholders

Natural resource management is about working with people – our industries and our communities – to ensure the sustainable use of our precious resources – our water, soils, plants and animals. It's about striking a balance between the economic, social and environmental outcomes we derive from our natural resources and between biodiversity and production benefits.

As we all depend on our natural resources, everyone with an interest in the SA Arid Lands has a stake in their sustainable management. Here we highlight those individuals, organisations and agencies whose **on-ground activities** are contributing towards achieving the targets in the *SAAL Regional NRM Plan*.

INDUSTRY GROUPS AND PEAK BODIES

Pastoral industry – employ good land management practices to prevent degradation and improve land condition where possible (eg SA Farmers Federation, S Kidman and Co, Outback Lakes SA)

Mining industry – avoid or minimise their impacts on natural resources and by investing in environmental projects to offset any damage that is caused (eg Santos, OZ Minerals, SA Chamber of Mines and Energy)

Tourism industry – ensure their members are well-informed about appropriate behaviours to avoid causing impact to natural resources (eg Flinders Ranges Tourism Operators Association, Regional Development Australia Far North, SA Tourism Commission)

COMMUNITY GROUPS/NGOs

Community groups – environmental or special interest groups contributing through on-ground works aimed at conserving and protecting natural resources in the region (eg Progress Associations, Blinman-Parachilna Pest Plant Control Group, 4WDSA, Friends of Parks groups)

Non-government organisations – not-for-profit organisations that are strengthening local communities and/or preserving natural resources in the region (eg Conservation Council of SA, Arid Recovery, Bush Heritage Australia)

ABORIGINAL GROUPS AND PEAK BODIES

Communities, organisations, agencies and authorities that represent the interests of Traditional Owners, promote native title rights and interests, and/or manage lands (eg South Australian Native Title Services, Aboriginal Lands Trust, native title groups, Co-management Boards, Department of Aboriginal Affairs and Reconciliation)

STATE GOVERNMENT AGENCIES AND STATUTORY AUTHORITIES

Department of Environment, Water and Natural Resources (DEWNR) – delivers activities on behalf of the **SAAL NRM Board** through the regional delivery agent **Natural Resources SA Arid Lands**. At a state level, contributes towards water security, climate change, sustainable land management, public estate management and biodiversity conservation to achieve productive and balanced use of natural resources and to help improve the condition and resilience of our natural systems

Biosecurity SA (part of Department of Primary Industries and Regions) – works with other government departments, industry and communities to manage the risks and potential harm to our community, our environment and economy from pests and diseases, or misuse of agricultural and veterinary chemicals

Environment Protection Authority (EPA) – works with other government departments, industry and community to protect air and water quality, and control pollution, waste, noise and radiation

Department of Planning, Transport and Infrastructure (DPTI) – supports transport services and strategic project delivery that minimises unnecessary impacts to natural resources

Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE) – leverages value from major projects, such as mining, for SA

SA Research and Development Institute (SARDI) – provides robust scientific solutions for primary industries

NRM Council – advises the State Government about the long term strategic directions for the management of the State's natural resources, and works with key stakeholders, including NRM Boards, peak bodies and other State Government agencies, to implement the State NRM Plan

Dog Fence Board – maintains the Dog Fence in SA

Pastoral Board – administers the pastoral lease system, determining and managing compliance with lease terms and conditions

Outback Communities Authority – manages and promotes improvements in the provision of public services and facilities to outback communities, as well as articulating the views, interests and aspirations of outback communities



Dusky Hopping Mice surveys on Mundowdna Station (see p. 10)

DID WE MISS YOU?

There are many individuals and organisations contributing to the sustainable use of our natural resources, more than we can possibly acknowledge here. If we have missed you, the SAAL NRM Board thanks you for your contribution to natural resource management in the region and invites you to contact Natural Resources SA Arid Lands by **30 August 2013** to tell us about your 2012-13 activities.

SAAridlands@sa.gov.au

NATIONAL BODIES AND GOVERNMENT DEPARTMENTS

Rangelands NRM Alliance – assists with cross-regional collaboration and raising awareness of rangelands issues at a national level

National Water Commission – drives national water reform by providing independent, evidence-based, scientific advice to the Australian Government

Invasive Animals CRC – develops tools to prevent and detect new invasions and integrated management tools and strategies for major pests animals

Lake Eyre Basin Community Advisory Committee (LEBCAC) – provides advice from the Lake Eyre Basin community to the Lake Eyre Basin Ministerial Forum and feeds back the decisions and activities of the Ministerial Forum to the Basin community

Lake Eyre Basin Ministerial Forum (LEBMF) – implements the Lake Eyre Basin Agreement, a cooperative framework for jointly addressing cross-border issues about the management of water and related natural resources within the Agreement area

Great Artesian Basin Coordinating Committee (GABCC) – provides advice from community organisations and agencies to Ministers on a sustainable, whole-of-resource approach to Great Artesian Basin management and coordinates cross-border activities

EDUCATION BODIES

Universities – supports innovative research activities and project delivery, such as remote sensing, threatened species recovery, and ecological restoration (eg Flinders University of SA, University of Adelaide, UniSA)

Schools – provide remote, or face-to-face instruction to children on a range of subjects and activities (eg Marree Aboriginal School, Port Augusta Campus School of the Air)

FUNDING SOURCES

NRM Levy ratepayers – all landholders (including lessees) in the SA Arid Lands region pay a Regional (land-based) NRM levy while an NRM water levy is payable on water allocated to the mining, energy, gas and petroleum sector, town water suppliers, irrigators, and commercial operators in the Far North Prescribed Wells Area (see p. 38 for further information)

Industry – some activities delivering on the *SAAL Regional NRM Plan* are partly funded through industry (eg Sheep Industry Fund, Santos, Australian Wool Innovation)

State Government allocation – specific funding is allocated to each NRM region to cover some costs associated with running an NRM Board and NRM Groups

State Government grants – when available, these can be applied for to support the delivery of activities associated with the *SAAL Regional NRM Plan* (eg State Community NRM Grants, Native Vegetation Council Significant Environmental Benefits Grants)

Australian Government – there are a range of funding sources available through the Australian Government, most of which support delivery of activities in the *SAAL Regional NRM Plan* (eg Caring for our Country, Community Action Grants, Land Sector Package)

A NOTE ON RESEARCH OUTPUTS

There are a range of other research programs, initiatives and organisations that operate at a State and/or national level (eg Terrestrial Ecosystem Research Network, Transect for Environmental Monitoring and Decision-making, Goyder Institute, Commonwealth Scientific and Industrial Research Organisation, and the Bureau of Meteorology). Their research outputs may inform on-ground activities in the region and their efforts are acknowledged, but not specifically addressed, in *On Track* which focuses on on-ground activities.



Our land & biodiversity

197 properties participated in **287** pest animal management activities across almost **7 million** hectares

37 properties participated in **52** weed management activities across over **800,000** hectares

25 properties covering almost **7 million** hectares participated in integrated property planning

Maintaining the soils, native vegetation and native wildlife in the SA Arid Lands region is critical to the sustainability of our industries and communities.

The region contains some of the State’s most environmentally significant and iconic terrestrial ecosystems including Sandy Deserts, Stony Plains, and the Gawler, Flinders and Olary Ranges. These ecosystems are home to a range of unique plants and animals, many of which are found only within this region. They also support our tourism industry which sees thousands of people flock here each year to enjoy our unique and diverse landscapes and native wildlife.

The production of cattle and sheep here is solely dependent on native vegetation as the grazing resource. Pastoralists, by far the largest land users, are legally responsible for maintaining land condition which means managing the pressure on native vegetation from the grazing of their stock but also from feral herbivores such as goats, camels, donkeys, horses and rabbits. Other pest animals include cats, pigs, foxes, and, where they occur south of the Dog Fence, dingoes.

Declared weeds occupy thousands of hectares of grazing land, undermining the long-term sustainability of pastoral production and biodiversity values of infested areas – two of these,

African Boxthorn and Opuntoid Cactus species, were added to the Weeds of National Significance program this year.

There are also emerging weedy threats such as Pepper Trees and Buffel Grass. While their current distribution and density is limited in SA, further introductions or spread of these weeds could occur via floodwaters, livestock movements or other means.

Many organisations and individuals are working to gain a better understanding of the plant and animal communities in the SA Arid Lands region. The key to their conservation relies on good land condition and in particular, healthy and sustainable vegetation communities where key threatening processes such as pests and soil erosion are managed effectively.

Through our work with land managers to undertake on-ground recovery and conservation, we are finding the balance between biodiversity management and pastoral production.

10 YEAR RESOURCE CONDITION TARGETS

1. Improve the average extent and condition of native vegetation

2. Maintain or reduce the risks to all species and ecological communities

4. Improve the condition of at least 50% of culturally-significant natural ecosystems which are suffering from disturbance

5. Reduce human-induced soil erosion

6. Maintain or improve the ecological sustainability of natural resource-based industries

Threatened fauna research & recovery



A Grey Grasswren captured during the surveys

GREY GRASSWREN SURVEYS

Grey Grasswren surveys were conducted this year as part of work to better understand this nationally vulnerable bird's habitat and distribution, and the genetic relationship between populations from different floodplain sites.

Occurring in the Diamantina River, Eyre Creek and Cooper Creek floodplains of northern SA and adjacent areas of Qld, the surveys revealed Grey Grasswrens from a few new sites – but, despite much searching, they were not detected in other areas of extensive and seemingly suitable habitat.

Although the Goyder's Lagoon and Bulloo River populations are known to be distinct from one another, the relationships between these populations and others on Eyre Creek, upper Diamantina and Cooper Creek are unknown.

DNA from grasswren feather samples collected during this project will be compared with DNA from specimens held in museums across Australia to determine if the grasswrens from these different areas are completely separate populations or even sub-species.

The surveys were conducted by ornithologists Andrew Black, Graham Carpenter and Lynn Pedler with help from others.

SAAL NRM Board, *Natural Resources SA Arid Lands, Australian Government*

NEW BIRD RECORD FOR SA

The Plum-headed Finch, pictured right feeding in seeding grasses near Cullyamurra Waterhole in the Innamincka Regional Reserve, has reached SA for the first time.

This nomadic species is normally found in central and eastern Qld and NSW although it has been recorded previously as far west as Thargomindah and Boulia in post-flood years.

The widespread flood events in recent years across the Qld Channel Country has converted open gibber landscape to continuous grasslands and enabled some bird and mammal populations to build and expand their normal range by following the newly available habitat opportunities.

Ornithologist Terry Dennis and party



Flock Bronzewing Pigeon at Purni Bore

CAMEL MOVEMENT CAMERAS DETECT RARE PIGEON

Motion detector cameras at Purni Bore, on the edge of the SA Simpson Desert, have captured footage of a variety of animals, including the rare Australian Flock Bronzewing Pigeon.

Set up to monitor feral camels (see p. 11), the cameras also confirmed the presence of Barn Owls, Australian Bustards, Mulga Snakes, Variegated Fairy Wrens, Lesser Long-Eared Bats, Rainbow Bee-Eaters, and Spotted Harriers.

These results are a reminder of the range of species that rely on scarce watering points in the Simpson Desert and that stand to be affected if feral camel impacts are not controlled.

Biosecurity SA, Australian Feral Camel Management Project, Australian Government



Plum-headed Finch

TERRY DENNIS



Dusky Hopping Mice

Threatened fauna research & recovery

DUSKY HOPPING-MOUSE SURVEYS

Dusky Hopping-mouse monitoring at 118 sites in the North East Pastoral and North Flinders districts in 2012 revealed that the species had declined in number and possibly retracted its range since a recent population boom during 2009-2011.

Formerly known from just a few sites and considered rare, the previous 2011 survey, along with information and specimens contributed by land managers, revealed Dusky Hopping-mouse in high abundance across large areas to the south and west of their previously known range. This population

expansion is thought to be a result of ecosystem changes brought about by rabbit calicivirus along with good seasonal conditions. Further monitoring is needed.

This work was carried out by ecologists Rick Southgate and Katherine Moseby.

SAAL NRM Board, *Natural Resources SA Arid Lands, Australian Government*

ANNUAL TRAPPING AT ARID RECOVERY

Over five days in February and for the fourteenth year in a row, Arid Recovery completed its Annual Trapping event, netting 932 animals in one of the longest running monitoring programs in the arid zone.

Using a combination of Elliot and pitfall traps, small mammals and reptiles are targeted at sites inside and outside Arid Recovery Reserve.

Fourteen years of data is showing six times more small mammals are captured inside the Reserve compared to outside, highlighting the devastating impacts of feral cats, foxes and rabbits.

BURROWING BETTONGS

An annual September survey has revealed the Burrowing Bettong population inside the Arid Recovery Reserve has risen to 1500, after 30 individuals were reintroduced between 1999 and 2001.

A team of staff and volunteers spent a week tracking the Burrowing Bettong, with the main aim to gather enough information to develop a population estimate.

Classified as a vulnerable species by both Australian and world standards, Burrowing Bettongs once occurred in most of arid southern Australia but became extinct on mainland Australia in the 1940s.

There are now natural populations on just three small islands off the coast of WA.

Arid Recovery, Adelaide University, Natural Resources SA Arid Lands, Friends of Arid Recovery, BHP Billiton

MARREE KIDS GET ON HOPPING MOUSE TRAIL

Thirteen Marree School students looked for evidence of Dusky Hopping-Mouse in May on Mundowdna Station. The kids may have lucked out but there was much excitement over the capture of a Knob-tailed Gecko, a Sandy Inland Mouse and other critters.

GET INVOLVED

For further information, to contribute a sighting or a specimen or to get involved with our volunteer groups, contact Natural Resources SA Arid Lands 8648 5300

BON BON STATION RESERVE

Staff of Bon Bon Station Reserve, a Bush Heritage site, undertook an extensive survey to map the Labyrinth land system, a 26,000 hectare ephemeral drainage system which is a key conservation priority for the property.

The Labyrinth is home to the Southern Hairy-nosed Wombat, and 220 burrows were found during the survey. A very large population of rabbits was also evident, with 1781 rabbit warrens mapped and, surprisingly, some rabbits were also found to be sharing wombat burrows.

Bon Bon Station continued their participation in EMU™, addressing priority soil conservation earthworks to help retain water in the landscape and restore natural landscape function. Track-related soil erosion was also mapped for future attention.

Other activities included mapping all known Buffel Grass occurrences across the whole property, and control of roadside infestations, as well as an expanded fox control program.

Bush Heritage Australia, SAAL NRM Board, Natural Resources SA Arid Lands, Native Vegetation Council, Australian Government

ABOUT ARID RECOVERY

Located just north of Roxby Downs, Arid Recovery is an ecosystem restoration initiative dedicated to the restoration of Australia's arid lands. Established in 1997, the program centres around a 12,300 hectare fenced reserve. Feral cats, rabbits and foxes have been eradicated from a total of 6000 hectares providing an area of complete protection into which four species of locally extinct mammals – Burrowing Bettong, Greater Stick-nest Rat, Greater Bilby and Western Barred Bandicoot – have so far been reintroduced. Arid Recovery is a unique example of a highly successful partnership between industry, government, education and community.

Bounceback

Bounceback is a landscape scale conservation program operating across a range of landholdings, including National Parks, privately managed sanctuaries and pastoral properties in the Flinders, Gawler, and Olary Ranges.

The protection and recovery of the **Yellow-footed Rock-wallaby** is a major component of **Bounceback**, with the project area encompassing most of the species natural range in SA.

Goats

An annual aerial feral goat removal netted 6195 goats over two weeks in March in the North Flinders and North East Pastoral districts, and for the first time included properties in the Southern Flinders Ranges.

Removal occurred across public land – including the Vulkathunha-Gammon Ranges National Park, Bimbowrie Conservation Park and the Flinders Ranges National Park – and private land, including 12 properties in the North Flinders district, one in the North East Pastoral district, and three privately-managed reserves, one in the North East and two in the North Flinders.

Aerial goat control was carried out by trained Department of Environment, Water and Natural Resources marksmen.

The aerial program complements ground control undertaken by the Sporting Shooters Association of Australia (Hunting and Conservation Branch), and Natural Resources SA Arid Lands staff on parks throughout the *Bounceback* target area. This year 3515 goats were removed from the Gawler Ranges and Flinders Ranges National Parks.

The *Bounceback* goat control program aims to achieve long term suppression of goat numbers to reduce browse pressure on native vegetation.

The long term results show a steady decline in the number of goats removed from target properties and the regeneration of native shrub and tree species, in particular the more palatable species that have been removed or damaged by goat browse.

Foxes

Aerial fox baiting was carried out in August and February across 650,000 hectares in the North Flinders, Gawler Ranges and North East Pastoral districts.

The baiting occurred across public reserves (Flinders Ranges National Park, Vulkathunha-Gammon Ranges National Park, Bimbowrie Conservation Park, Gawler Ranges National Park and Pinkawillinie Conservation Park), three private reserves in the North East Pastoral and North Flinders districts, and five pastoral properties in the North Flinders.

The aerial baiting was followed up by ground baiting by Parks staff and land managers in November and May.

Fox baiting has occurred as part of *Bounceback* since the mid-1990s. This coordinated landscape scale approach has reduced the impact of fox predation on native fauna and improved biodiversity across the Flinders, Gawler and Olary Ranges.

Monitoring

Fifteen volunteers from the Sporting Shooter Association of Australia (Hunting and Conservation Branch) continued their quarterly spotlight destructive surveys during 2011-12.

The surveys contribute to an 18 year monitoring dataset that records fox and cat response to 1080 baiting.

Surveys occur on Flinders Ranges National Park, which is regularly baited for foxes, and adjacent and distant properties that are not regularly baited for foxes, allowing a comparison of predator numbers.

Ninety cats and 47 foxes were removed in 2011-12.



Yellow-footed Rock-wallaby

Yellow-footed Rock-wallabies

A June aerial survey of Yellow-footed Rock-wallabies indicates that populations have increased in most survey zones in the last 10-15 years.

Aerial surveys of Yellow-footed Rock-wallabies have been carried out every few years since the early 1990s in the Flinders and Olary Ranges as part of *Bounceback*.

The surveys cover approximately 1000 kilometres along pre-determined ridge-top routes. Only a fraction of the animals are seen, perhaps 20-30%.

Several decades' data are required to separate long term recovery trends from the boom and bust cycle characteristic of the rangelands.

Results are indicating steady growth of Yellow-footed Rock-wallaby populations in areas where long term broadscale fox and goat control programs have been in place. There has been significant response in some areas in the recent good seasons.

In the Gawler Ranges, observations of tagged animals have revealed a sustained population recovery in the Gawler Ranges National Park where coordinated fox and goat control programs occur.

Bounceback is delivered by Natural Resources SA Arid Lands in partnership with the Adnyamathanha community, Landscape Partnerships, Australian Wildlife Conservancy, Biosecurity SA, Bush Heritage Australia, Conservation Volunteers Australia, Nature Foundation SA, NRM Boards, the Sporting Shooters Association of Australia, the Yellow-footed Rock-wallaby Preservation Association, Zoos SA, local land managers, and tourism operators

Pest management

weeds

MIMOSA BUSH

Nearly 7000 Mimosa Bush plants were treated at Innamincka Regional Reserve during the year after a June 2011 survey revealed healthy populations after two good seasons.

Eight properties in the Peake Creek catchment of the Marla-Oodnadatta district were surveyed for Mimosa Bush in May. This catchment approach to control the spread of mimosa has been land manager-driven with support from the Marla-Oodnadatta NRM Group. Control works will be determined by participating land managers and are expected to occur in 2013.

SAAL NRM Board, *Natural Resources SA Arid Lands, Marla-Oodnadatta NRM Group, S Kidman & Co, Australian Government*

PEPPER TREES

A long-term project to eradicate Pepper Trees from a North Flinders station continued with assistance for removal and controlling regrowth. The property has undertaken the Pepper Tree removal at the same time it undertakes its rabbit control using bulldozers to remove both Pepper Trees and rabbit warrens.

SAAL NRM Board, *Natural Resources SA Arid Lands, Australian Government*



Buffel Grass

BUFFEL GRASS

Buffel Grass control of outlier populations was carried out in Innamincka Regional Reserve after a June 2011 survey revealed an alarming increase in its distribution across the Reserve where it presents a major fire risk.

The Kingoonya NRM Group formed the Buffel Grass Action Group in August to encourage a collaborative approach to its control and minimise its spread in the district. The Group is capitalising on the partnerships that already exist in Buffel Grass control.

This includes funding from the Native Vegetation Council in August for a 600 litre vehicle-mounted Quickspray unit and herbicide to undertake Buffel Grass control on Bon Bon Station Reserve and neighbouring properties.

With roadsides the main pathway by which Buffel Grass is spreading in the region, an annual roadside management program continued on SA Arid Lands roadsides and in the Northern and Yorke and Eyre Peninsula regions.

SAAL NRM Board, *Natural Resources SA Arid Lands, Native Vegetation Council, Kingoonya NRM Group, Department of Planning, Transport and Infrastructure, Toyota Landcruiser Club members, Friends of Innamincka, Australian Government*

WEEDS OF NATIONAL SIGNIFICANCE

Weeds of National Significance (WONS) are high impact, established weeds which are causing major economic, environmental or social impacts in several Australian states and territories, and have a strong potential for spreading. In April, 12 additional species including Opuntoid Cacti, and African Boxthorn, were added to the WONS program. Seven of the 32 WONS occur in the SA Arid Lands region and several activities were undertaken in the SA Arid Lands this year to contain their spread.

BONESEED

Seventy Boneseed seedlings were removed from Parachilna Gorge in October. Inspection and removal of Boneseed seedlings has been occurring at the site for several years with the goal of eradication. All seedlings were found within 100 metres of the original 2002 collection.

ATHEL PINE

Watercourses on a lower Marree-Innamincka district station were inspected in May for Athel Pine. One of the worst Athel Pine infestations in SA, several hundred plants were removed from creeklines at the site in 2009. Fifty-five plants were treated for regrowth this year. Future work will focus on managing plants in the adjoining Lake Frome Regional Reserve.

MESQUITE

In 2010, 269 plants were removed from outlier infestations on North Flinders stations. This year, 21 of those plants were treated for regrowth while 200 new seedlings were removed.

OPUNTIOID CACTI

Four North East Pastoral stations, two Gawler Ranges station, and one Kingoonya station were assisted to treat Wheel Cactus, Prickly Pear, Rope Cactus and *Opuntia engelmannii*. This ongoing work is focusing on properties with outlier populations of cactus to prevent further spread.

Some mapping and treatment of Wheel Cactus also occurred in Flinders Ranges National Park as part of *Bounceback*.

See p. 28 for Opuntia removal undertaken by the Blinman-Parachilna Pest Plant Control Group and Arkaroola Wilderness Sanctuary.

SAAL NRM Board, *Natural Resources SA Arid Lands, Biosecurity SA, Australian Government*

NOOGOORA BURR

Following a June 2011 survey, control works were carried out in Innamincka Regional Reserve to remove 350 Noogoora Burr plants which had been introduced to the northern section of Innamincka Regional Reserve.

Natural Resources SA Arid Lands, Senex Energy Limited, Australian Government

OTHER WEEDS

A number of other weed control programs were supported in the region this year, particularly in the North Flinders. Land managers at one station were assisted in the ongoing treatment and containment of an African Rue infestation; another in their goal to eradicate an infestation of Horse Thistle; and another received support for Bathurst Burr control.

SAAL NRM Board, *Natural Resources SA Arid Lands, Australian Government*

Pest management feral animals



A male pig eats fresh-water mussels on the Cooper Creek at Innamincka



A feral camel fitted with a tracking collar

FERAL PIGS

Over 100 feral pigs were removed from the Innamincka and Coongie Lakes area in November after a survey estimated the presence of 85-115 pigs.

In total the combined operation removed over 3000 feral pigs from seven properties along the Cooper Creek, with the operation beginning at Innamincka in SA and moving north-east to Mt Howitt Station in Qld.

Feral pig surveys are conducted annually to monitor for changes in the pig population and to decide when a control program is required. Innamincka Regional Reserve and the Coongie Lakes National Park are internationally significant wetlands, and are recognised as important water-bird breeding grounds by the Ramsar convention.

Meanwhile, four land managers from the North East Pastoral district and six from the Marree-Innamincka district undertook opportunistic removal after pigs had entered SA from interstate following the rains. Assistance and advice was provided to land managers on their baiting, trapping and shooting efforts.

SAAL NRM Board, Natural Resources SA Arid Lands, Desert Channels Qld, S Kidman & Co, Santos, Australian Government

GET INVOLVED

If you have pest plant and animal problem on your property and you would like assistance contact Natural Resources SA Arid Lands 8648 5300

RABBITS

New and ongoing rabbit control programs occurred on six North Flinders stations and one North East Pastoral station this year. All programs used mechanical means to target and destroy rabbit warrens.

Work also continued monitoring long-term recovery of perennial plant and native pastures as a result of rabbit control and calicivirus, on Flinders Ranges National Park and two North East Pastoral stations.

Widespread recruitment of highly palatable shrubs such as *Eremophila alternifolia* occurred throughout the region after the initial spread of calicivirus but in many areas rabbit populations have recovered sufficiently to prevent further survival of perennial shrub seedlings and reverse improvements in pasture condition. By contrast, areas where rabbits have been controlled by warren ripping show continuing recruitment of perennials and a good mix of native pasture species, both on Park and in well-managed livestock pastures.

SAAL NRM Board, Natural Resources SA Arid Lands, Biosecurity SA, Australian Government

CAMELS

Camel efforts in the SA Arid Lands largely concentrated on the Simpson Desert this year. Motion detector cameras were installed at Purni Bore in August to monitor camel activity at the bore and changes in environmental impact. After 12 months, the data indicated low feral camel activity. This is thought to be the result of ongoing control efforts bringing densities below historical levels and good seasonal conditions allowing camel herds to disperse away from the permanent water at Purni Bore.

Satellite tracking collars were also attached to 25 feral camels in the Simpson Desert to track where camels occur and in what density.

Results from this have shown that the feral camel population is highly mobile with camels regularly moving across the SA, NT and Qld portions of the Simpson Desert.

The satellite collars also helped find camel populations during an aerial removal program in June. Over 700 camels were removed from Witjira National Park, the Simpson Desert Regional Reserve, and Simpson Desert Conservation Park.

Biosecurity SA, Natural Resources SA Arid Lands, Australian Feral Camel Management Project, Australian Government

Dingo management

North of Dog Fence

North of the Dog Fence in SA dingoes are neither specifically protected or declared but are acknowledged for the valuable ecological role they play in the environment. In this area they are only baited at times necessary to provide temporary protection to calves when alternative prey sources are low due to seasonal conditions.

BAITING APPLICATIONS

Increased dingo activity and calf predation on properties north of the Dog Fence as a result of the previous three years excellent conditions led to an increase in 2011-12 applications for dingo baiting by land managers.

Land managers attended bait injection services held on the Birdsville, Strzelecki and Oodnadatta Tracks between December and January. After consultation with the Marree-Innaminka and Marla-Oodnadatta NRM Groups, the baiting application process was also refined with a seven-day turnaround for approvals.

SAAL NRM Board, Natural Resources SA Arid Lands



DINGO RESEARCH PROJECT

Innaminka Station joined the *Dingo Research Project* which is investigating the relationship between 1080 baiting, calf predation/lactation failure, and biodiversity on cattle stations north of the Dog Fence.

Innaminka Station will now maintain 1080 baited and unbaited paddocks to identify the proportion of calf loss; the environmental factors associated with calf predation; and the ability of dingo baiting to protect against calf predation.

The *Dingo Research Project* has been operating on Cordillo, Quinyambie and Todmorden Stations since 2009.

Due for completion in 2014, the project will lead to a better understanding of the role that dingoes play in the ecosystem in this part of the region and to the development of best practice management strategies.

SAAL NRM Board, Natural Resources SA Arid Lands, Santos

DINGO ROLE IN THREATENED SPECIES CONSERVATION

Arid Recovery completed the first phase of its *Dingo Project* in 2011-12 which is investigating if dingoes play a role in suppressing cat and fox numbers, and in threatened species conservation, in the Australian rangelands.

The Dingo Project commenced in 2008 when a pair of dingoes was placed into the Dingo Pen, a 37 square kilometre fenced enclosure within the Reserve.

Seven foxes placed in the pen were found dead within 17 days and six feral cats all died within 123 days. 'Autopsies' indicated all the deaths could be attributed to dingoes.

If dingoes are found to suppress cat and fox numbers this could benefit threatened species like Greater Bilbies and Western Barred Bandicoots, both of which have been successfully reintroduced to the Arid Recovery Reserve.

However, dingoes will also prey on native animals such as Spinifex Hopping Mouse, and the next phase of the *Dingo Project* will investigate if the benefits of dingoes controlling cat and fox numbers will outweigh the impacts of their predation on threatened species.

Arid Recovery, Zoos SA, Adelaide University, Natural Resources SA Arid Lands, Friends of Arid Recovery, BHP Billiton

DOG FENCE MAINTENANCE

The Dog Fence Board continued its work in 2011-12 in maintaining the Dog Fence to prevent breaches by floods, fire or animal pressure.

The Board met four times and carried out their annual inspection of the Fence, this time inspecting the eastern half which stretches from Roxby Downs to the NSW border. The Board reported that the Fence is in good order and dog proof.

Patrolmen were kept busy installing solar panels, upgrading energiser stations, maintaining tracks, and clay-topping sand dunes. Extensive work repairing creek crossings and washouts was carried out on the Fence between Callanna and Wertaloon Stations after the March rains, while a new section of fence was completed at Lake Harry after the old section was washed away.

At Mabel Creek, work continued to electrify the top wire on the netting fence to prevent damage from camels. Washouts were also repaired along the Balta Baltana fence.

Dog Fence Board

Bait injection service in North Flinders



Dingo management South of Dog Fence

South of the Dog Fence the dingo is a declared pest animal under SA's *Natural Resources Management Act 2004* where it presents a real threat to the sheep grazing industry.

AERIAL BAITING

An aerial baiting trial in April distributed 32,180 baits over 69 properties, complementing *Biteback's* ground baiting efforts.

The trial targeted inaccessible areas including rugged parts of the Flinders and Olary Ranges and the margins of Lakes Torrens, Gairdner and Everard.

It was coordinated by Flinders Ranges' land manager Bill McIntosh and occurred after the July decision by the Minister for Sustainability, Environment and Conservation to allow aerial dingo baiting south of the Dog Fence in the SA Arid Lands region.

The decision followed calls from land managers to protect the region's sheep industry.

Biosecurity SA, SAAL NRM Board, Natural Resources SA Arid Lands, Australian Wool Innovation, SA Sheep Industry Fund

**YOUR
NRM Levy
at work**

BITEBACK

The initial three-year funding term for the *Biteback* program for dingo control came to a close in June and there were a number of highlights for the year.

Figures tracking land manager participation from 2006-07 to 2011-12 in wild dog baiting across the SA Arid Lands region south of the Dog

Fence revealed 50% more land managers were participating in some form of wild dog baiting as a result of *Biteback*.

The last three years has also seen 75% participation in wild dog control from non-livestock producing land managers which include National Parks, Aboriginal-owned properties, mining companies and conservation organisations.

Meanwhile a survey of participating land managers conducted in April showed that *Biteback* improved their knowledge and understanding of wild dogs; was good value for money; provided additional tools to manage wild dogs; and improved land manager participation, information sharing among neighbours and communications with the SAAL NRM Board.

Other highlights were the trapping of 24 wild dogs by doggers after land managers on 14 properties took advantage of a Sheep Industry Fund grant; a funding injection from Australian Wool Innovation responding to land manager requests for more freezers, traps/lures, and subsidised baits; and the release and distribution to land managers of *Wild Dog Trapping*, a DVD which demonstrates the use of nationally approved trapping devices for wild dog and fox control.

SAAL NRM Board, Natural Resources SA Arid Lands, Regional (land-based) NRM levy, Sheep Industry Fund, Australian Wool Innovation, Invasive Animals CRC

GET INVOLVED

If you would like to discuss dingo control on your property contact Natural Resources SA Arid Lands 8648 5300

PURE DINGO DISTRIBUTION SURVEY

The results of an Australia-wide study which genetically tested the level of inter-breeding between dogs and dingoes indicated that hybridisation is much less extreme in SA than it is in the eastern states.

The survey included 148 samples from SA, most of which were collected from the SA Arid Lands region from properties on both sides of the Dog Fence.

To account for statistical error around

the estimates of purity, dingo purity was classified as any sample returning over 90% dingo DNA.

Of the SA samples, 32% were from pure dingoes – while the remaining samples came from animals with at least 70% dingo DNA. The highest proportion of pure dingoes (87%) was found in the NT.

This study confirmed that a high density and duration of human settlement are associated with

hybridisation; that remote inland areas are the best sites for dingo conservation; and that large areas of south-east Australia have an almost fully hybridised population of wild dogs.

The survey of 3637 wild dog samples was conducted as part of a PhD by Danielle Stephens at the University of Western Australia supported by the Invasive Animals CRC

Land management

EMU™ property monitoring, Wirrealpa Station



MONITORING PASTORAL LAND CONDITION

Pastoral Lease Assessments were completed in the North East Pastoral district in 2011-12 and will next roll-out to the Eastern Districts (of the SA Murray-Darling Basin region) followed by the North Flinders and Marree-Innamincka districts.

This second round of Pastoral Lease Assessments commenced in 2005. The program is carried out on a 14-year cycle that allows for ongoing lease extension based on an assessment of land condition.

Pastoral leases are also inspected for compliance with lease conditions every 2-5 years and to effectively monitor and address any land management issues on individual leases.

In 2011-12, 23 pastoral inspections (encompassing 35 individual pastoral leases) were conducted and generally there were no significant environmental issues that required immediate attention.

Pastoral Board, Natural Resources SA Arid Lands

OUTBACK LAKES SA

Outback Lakes SA (OLSA) opened its Environmental Management System (EMS) to external assessment, contracting Rural Solutions and EconResearch to undertake a review of marketing opportunities for beef cattle, accreditation, and the organic status of some of the OLSA producers.

The EMS sets out OLSA's minimum standard of environmental management helping to reduce its negative environmental impacts and improve its environmental performance.

An independent group of sheep and cattle producers from the SA Arid Lands region, OLSA has been operating for nearly 10 years, drawing from its members' local knowledge and long experience in sustainably managing, preserving and improving their country with benefits for production and biodiversity.

Its 11 participating stations are bound by Lake Eyre North, Lake Eyre South and Lake Torrens and take in portions of the Marree-Innamincka, Marla-Oodnadatta, North Flinders and Kingoonya districts. BHP Billiton, which owns four of the stations, is also an OLSA member.

Outback Lakes SA, Trans-Australia Eco-Link

ECOSYSTEM MANAGEMENT UNDERSTANDING (EMU™)

The EMU™ process, an approach to land management and property planning which combines local knowledge of country with scientific expertise, was running on 17 properties across the region in 2011-12 including pastoral leases, Aboriginal-managed land, and conservation reserves.

'We saw the impact of what neighbours were doing and wanted to get involved... [after] 12 months [we're] already seeing great results.'

Michelle Reynolds, Willow Springs, EMU™ participant

A survey of EMU™ participants that was conducted in June broadly showed that the program is succeeding in improving their awareness of landscape processes; giving them practical tools for addressing land management issues; and significantly altering the way they plan and manage their properties, particularly in relation to the movement and retention of water to enhance grazing productivity and reduce erosion.

An EMU™ field day was held on Todmorden Station in November (see p.32).

'I've been flying around [Wirrealpa] for years... but some of the... erosion processes are so obvious I've just never seen them from the air... never noticed until they were pointed out.'

Warren Fargher, Wirrealpa Station, EMU™ participant

SAAL NRM Board, Natural Resources SA Arid Lands, Trans-Australia EcoLink, Australian Government



ARKAROOLA PROTECTED

Mining in the Arkaroola Wilderness Sanctuary was banned forever in February with the passing of the *Arkaroola Protection Bill 2011*.

Arkaroola is a privately-owned property managed for conservation and tourism bordering the Vulkathunha-Gammon Ranges National Park. It is home to over 160 species of birds and the endangered Yellow-footed Rock-wallaby.

The legislation was introduced to protect the cultural, natural and landscape values of Arkaroola in perpetuity.

The SA Government made the decision to give the area the highest level of protection that can be afforded by the Parliament of SA after extensive consultation showed there was overwhelming support to protect Arkaroola.

A formal application is also underway for National and World Heritage listing.

Arkaroola Wilderness Sanctuary, SA Government

KOONAMORE PHOTOGRAPHIC ARCHIVE ONLINE

The longest photographic archive in Australia to record the recovery of a degraded rangeland is now available for viewing online.

Recalling the Past: Responses of a degraded rangeland is a video series that pulls together repeat photography from 67 permanent sites located at Koonamore Station in the North East Pastoral district.

Since 1926, the University of Adelaide has researched the recovery of a degraded rangeland at Koonamore using repeat photography to record the changing vegetation.

Dean Graetz (formerly CSIRO), Russell Sinclair (University of Adelaide), Pastoral Board

Watch the videos

margaretdeangraetz.net/Walkabout/Koonamore.html

KANGAROO SURVEYS

The annual kangaroo survey took place in July, with trained observers flying east/west transects counting Red Kangaroos and Western Grey Kangaroos. The survey also recorded the presence of Euros, Emus, goats and other large species of interest such as camels and donkeys.

From this survey, the Red Kangaroo population size across the entire commercial harvest area was estimated to have increased by 31% on the previous five year average while the Western Grey Kangaroo population size increased by an estimated 21%.

With the exception of Western Greys in Kingoonya, population sizes of both species have increased in every surveyed sub-region.

While it is good to see the kangaroo population recovering following drought, landowners within the SA Arid Lands region have the option to manage the kangaroo component

of the total grazing pressure on their properties through commercial harvesting permits.

Natural Resources SA Arid Lands

GET INVOLVED

For more information about the sustainable harvest of kangaroos, please contact Natural Resources SA Arid Lands 8648 5300

Our activities

This map shows the location of activities delivered during 2011-12 that contribute to the SAAL *Regional NRM Plan* priorities. Each icon represents a project or activity, but icon size is not representative of the area covered.

● Water projects

Sites assessed to determine water quality, the condition of flora and fauna and to identify key threats and management priorities

● Aboriginal projects

Projects undertaken by Aboriginal communities on private land and by Co-management Boards on National Parks and Reserves

● Integrated property management planning

Properties participating in whole-of-property planning, using Ecosystem Management Understanding (EMU™) or Environmental Management Systems approaches

▲ Pest animal management

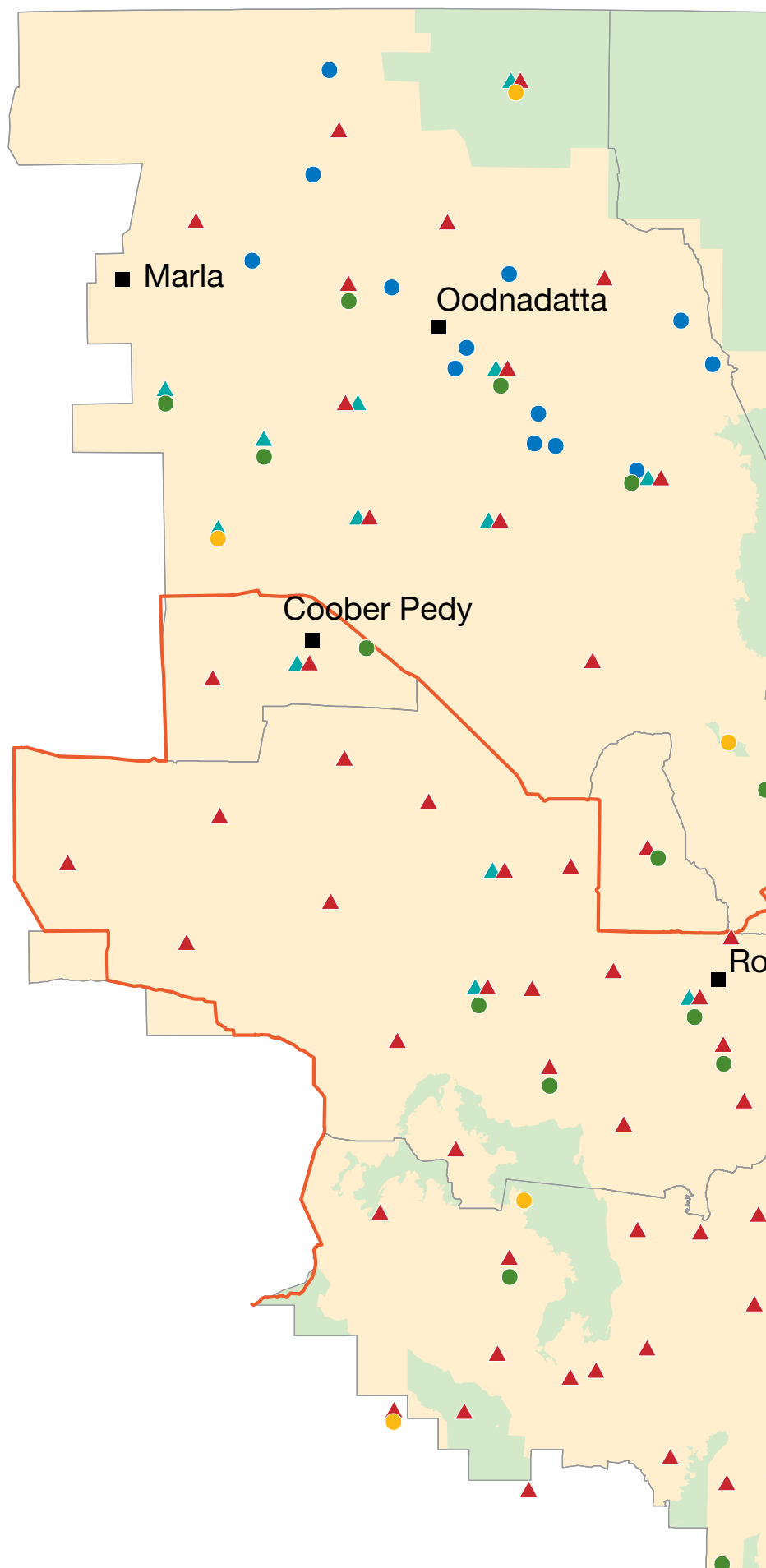
Projects involving the control of pest animals, including dingoes, pigs, goats, Gambusia (or Mosquito Fish), rabbits, cats, horses, donkeys, camels, foxes

▲ Pest plant management

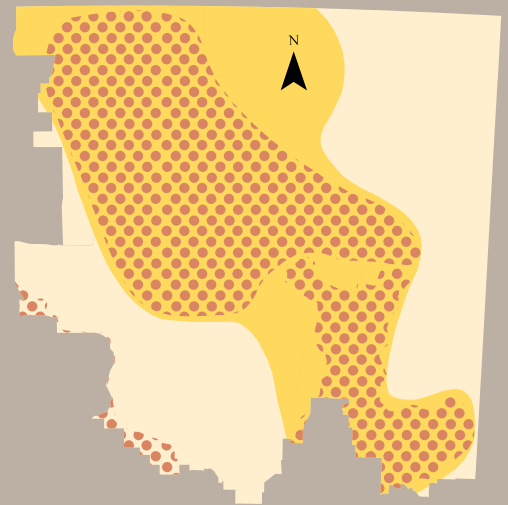
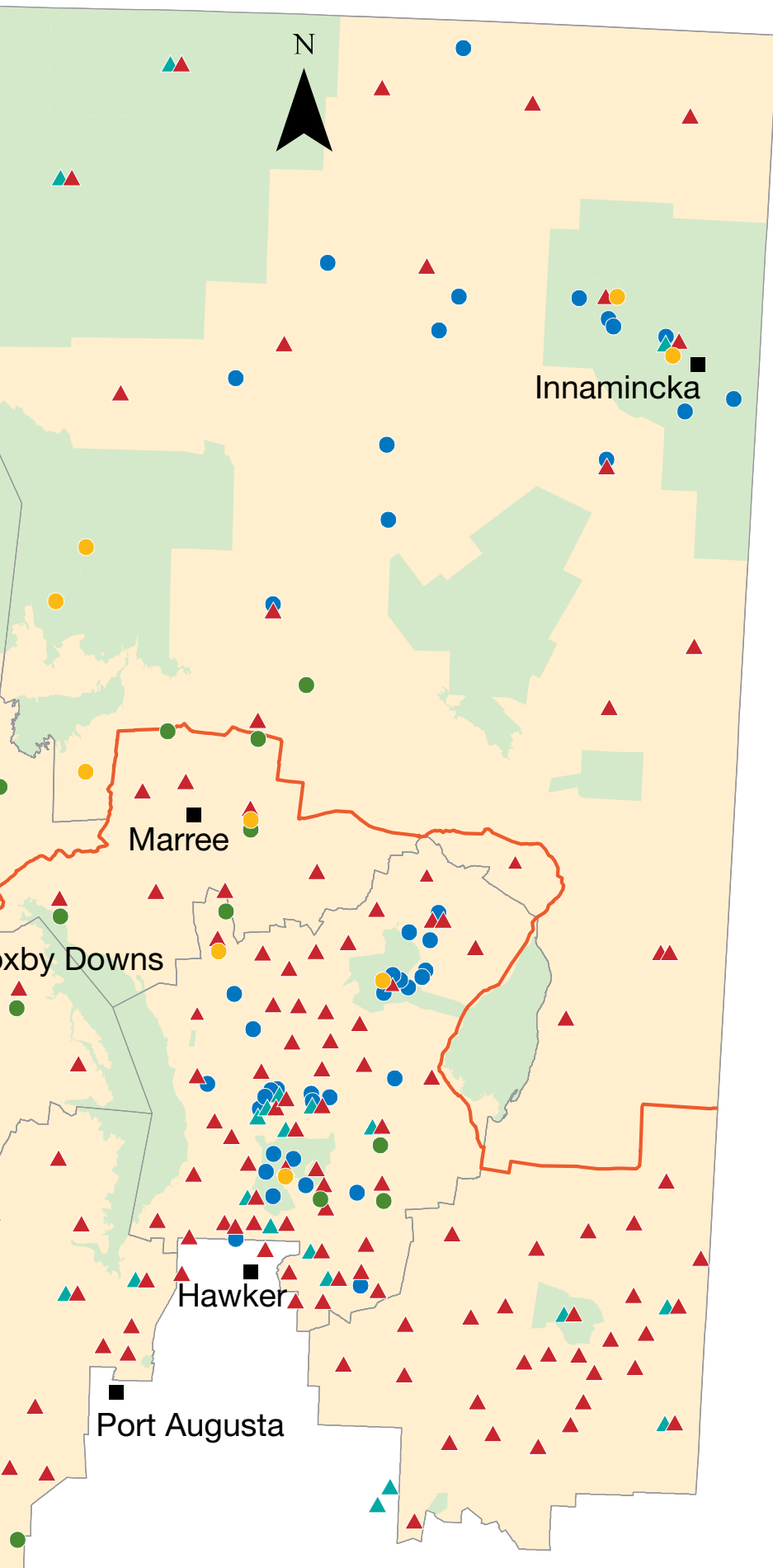
Projects involving the control of pest plants, including African Rue, Boneseed, Bathurst Burr, Buffel Grass, Date Palm, Jumping Cholla, Mesquite, Mimosa Bush, Noogoora Burr, Opuntia, Pepper Tree, Horse Thistle

■ National Parks and Reserves

— The Dog Fence



WILDLIFE CORRIDORS IN THE SA ARID LANDS REGION



-  NatureLinks
-  Trans-Australia EcoLink
-  Arid Lands Region

The map, above, shows the location of four wildlife corridors in the SA Arid Lands region. Three of these are part of NatureLinks; Flinders-Olary in the south-east, East meets West in the south-west and Arid Lands in the north. The fourth is the Trans-Australia Eco-Link which overlaps and expands on NatureLinks and extends north into the Northern Territory.

NatureLinks

Adopted in 2002 in response to ongoing biodiversity loss and the emerging threat of climate change, NatureLinks recognises the importance of ecological connectivity at the continental and regional scales. It focuses on the development of collaborative partnerships between those running conservation programs and those who can help to achieve landscape-scale biodiversity conservation.

Trans-Australia Eco-Link

Established in 2010, the Trans-Australia Eco-Link (TAEI) stretches south from Arnhem Land in the NT through to Port Augusta in SA. TAEI aims to connect conservation efforts across public and private land, focusing on developing economic diversification options for land managers.



Minkie Waterhole, Innamincka Regional Reserve

Our water

70 priority aquatic ecosystem sites monitored

11 bores decommissioned and **3** re-drilled with annual water savings of **24,920** megalitres equivalent to **27** Olympic-sized swimming pools per day

22 enquiries into Water Affecting Activity permits, **1** application

In the SA Arid Lands region water is the magnet that attracts people, biodiversity and industry. It is the key resource in an otherwise dry environment. For a region where rainfall is so low, there is an amazing ability to support a huge diversity of life through a phenomenon known as ‘boom and bust’.

North of the Dog Fence the region is dominated by four major catchments – Neales-Peake, Cooper Creek, Georgina-Diamantina, and Macumba – large surface draining networks which terminate at Lake Eyre. ‘Boom’ periods are triggered when floodwaters from interstate and major rainfall events enter the catchments and recharge the region’s lakes, dams and wetlands including the Ramsar-listed Coongie Lakes.

Plants regenerate and waterbirds and fish use the opportunity to breed in large numbers attracting thousands of visitors wishing to experience this unique phenomenon.

During frequent and prolonged droughts or ‘bust’ periods, waterbodies with permanent fresh water such as Algebuckina Waterhole in the Neales River catchment and Cullyamurra Waterhole in the Cooper Creek catchment provide critical refuge for plants and animals.

Underlying the Lake Eyre Basin is the Great Artesian Basin (GAB), one of the largest groundwater basins in the world. The GAB is characterised by groundwater-fed springs which support unique aquatic life forms. Dalhousie Springs, a popular tourist destination, is one of the best examples of a GAB spring complex in Australia. It supports a number of endemic aquatic species.

In the southern region, including the Gawler Ranges and North Flinders, the rainfall is low and the catchments are generally small. Surface water flows are generated on hilly-rocky headwaters and the majority is rapidly lost as the flows pass onto the plains or into shallow terminal lakes where it is lost through evaporation. Rain-fed rockholes and groundwater-fed springs are important cultural and ecological features in these landscapes.

The water resources of the SA Arid Lands region are, to a large extent, unmodified and in good condition.

However, there is a threat from pest species and the tourism sector, and pressure from the mining industry for water requirements.

In such an unpredictable climate with high variability from year to year, and with so much life dependent on a healthy water supply, careful management of water in the region is critical.

10 YEAR RESOURCE CONDITION TARGETS

3. Improve or maintain the extent and condition of at least 50% of priority aquatic ecosystems

7. Improve or maintain the average quality and pressure of groundwater

8. Improve or maintain flow regimes and water quality in surface water systems

NEW PERMIT FOR WATER AFFECTING ACTIVITIES

A new permit introduced in June means that land managers planning to undertake activities in the SA Arid Lands region that may impact on a water resource may now need to apply for a permit.

Designed to secure a sustainable water supply and natural habitat for future generations, a Water Affecting Activities permit is required for any work undertaken by an individual or organisation that may adversely affect the health of natural watercourses, springs, waterholes, floodplains and dependent ecosystems in the SA Arid Lands region.

The intent of this regulation is not to stop or slow down development within the region or to control land managers' decisions.

It is to work with land managers through the permit process, trying wherever possible to achieve a win-win result where Water Affecting Activities can be accommodated with some measures in place to protect the region's environmental assets.

**YOUR
NRM Levy
at work**

Through the permit process, the SAAL NRM Board will have oversight of the Water Affecting Activities that are taking place in the region and can assess and approve future infrastructure developments against potential environmental impacts and the long-term sustainability of the region.

There is considerable regional expansion occurring from the mining boom. Combined with the important contribution of pastoralists to our economy, the extra activity in the region creates new challenges to manage the sustainability of water resources upon which our plants and animals, communities and industries depend.

The Board is encouraging voluntary compliance to the Water Affecting Activities regulations but failure to comply can attract penalties.

SAAL NRM Board, Natural Resources SA Arid Lands, NRM water levy



DO YOU NEED A PERMIT?

Do you want to construct or enlarge a dam, levee bank or water crossing point? Excavate or modify a natural watercourse? Construct a bridge or road?

These are just a few examples of Water Affecting Activities that now need a permit. Water Affecting Activities (WAAs) are activities that have the potential to impact on the health and condition of water resources, on other water users and the ecosystems that depend on our water resources.

To find out more contact Natural Resources SA Arid Lands 8648 5300

Blinman-Parachilna Rd creek crossing, North Flinders

Surface water

Managing the Cooper Creek catchment

The 'Cooper Creek project' is investigating the natural features and human influences on key waterholes and wetlands along the iconic Cooper Creek in the Marree-Innamincka district.

The Cooper Creek catchment is an important but relatively poorly understood wetland system which supports unique and important biodiversity and a range of industries, including pastoralism, mining, and tourism.

In order to manage this unique resource into the future, the project is gathering information on these activities and on pest impacts to determine their influence on the catchment.

A *Cooper Creek pest alert and Cane Toad workshop*, *Cane Toad Alert Pack*, work with the Lake Hope fishery, and volunteer activities were some of the key 2011-12 outcomes.



PEST ALERT WORKSHOP @ INNAMINCKA

Around 30 people attended the *Cooper Creek pest alert and Cane Toad workshop* in Innamincka in April to raise awareness of potential and existing threats to the iconic Cooper Creek catchment – including the much reviled Cane Toad.

The event was held to provide attendees with the latest information on aquatic pest threats in the region and to increase the capacity of local land managers to manage their own pest management programs.

There were presentations on *Gambusia* (or Mosquito Fish), Goldfish, and Sleepy Cod which are all either present or travelling down the Cooper Creek catchment from south-west Qld.

Other presentations focused on pest plants including Prickle Bushes and Buffel Grass, feral pigs, and the impact of invasive species on the region's native birds.

Local residents, and land managers in particular, were given up-to-date information on pest abundance, distribution and impacts. The workshop promoted informal discussion and exchange of ideas, much of which centred on the impact of pest threats to the tourism, pastoral and petroleum industries in the district, and around how Cane Toads can be controlled.

SAAL NRM Board, *Natural Resources SA Arid Lands, Biosecurity SA, SA Research and Development Institute, Birds Australia, Australian Government*

CANE TOAD ALERT PACK

Australian frog expert Mike Tyler launched the new *Cane Toad Alert Pack* at Innamincka in April designed to help any visitor or resident of the region quickly identify Cane Toads and report any sightings to the Natural Resources Centre in Port Augusta.

There are four components to the *Cane Toad Alert Pack* – a poster, DVD, factsheet and stuffed Cane Toad – which are combined into a high-impact display unit that is available at key Tourist Information Centres in the region.

Factsheets and DVDs were mailed to land managers in the Marree-Innamincka district and south-west Qld.

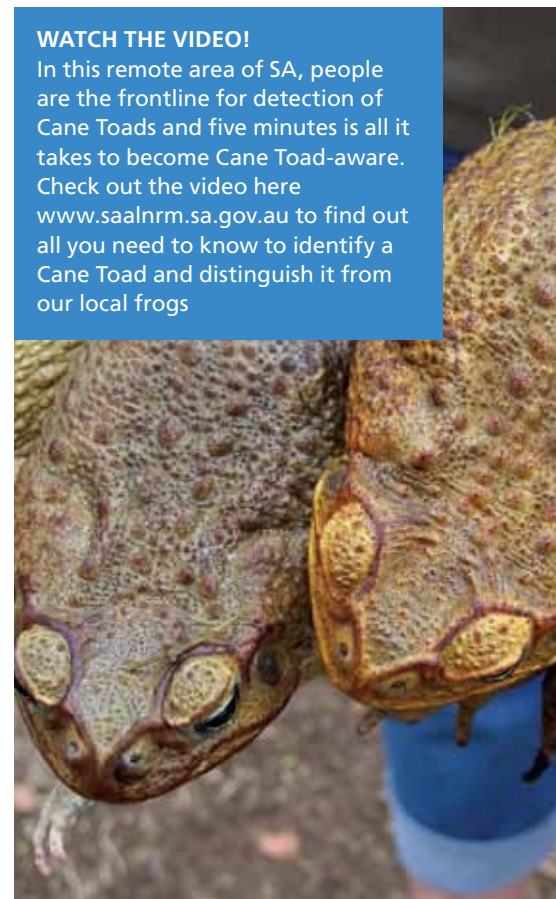
A 2011 survey of the south-west Qld region by Biosecurity SA found Cane Toads are still about 500 kilometres from the north-east border.

While there is no imminent danger of Cane Toads reaching SA there is concern that they will use floodwaters and permanent waterholes as stepping stones to SA's permanent Cullyamurra Waterhole, or the Ramsar-listed Coongie Wetlands.

SAAL NRM Board, *Natural Resources SA Arid Lands, Australian Government*

WATCH THE VIDEO!

In this remote area of SA, people are the frontline for detection of Cane Toads and five minutes is all it takes to become Cane Toad-aware. Check out the video here www.saalnm.sa.gov.au to find out all you need to know to identify a Cane Toad and distinguish it from our local frogs





ARID LANDS FISHERY

The catch from a unique sustainable fishery at Lake Hope on Mulka Station which operates only about every 10 years, is providing important information on the health of the Cooper Creek catchment.

Operated by Mulka Station manager Gary Overton, who has the only commercial fishery license in the region, the fishery is activated under strict license conditions when flow volumes at Innamincka reach a certain level during flood events.

Consequently, it has been in operation only four times – in the mid 1980s, 1990s, 2001 and 2011-12.

As a terminal lake of the Cooper Creek catchment, Lake Hope is an important indicator of the ecological health of the system – what we observe here can be an indication of what is happening further up the catchment.

Fish catch is an important measure of this – if Lake Hope yields good numbers and sizes of fish, and there is little disease, then the system is probably functioning in a healthy state.

Importantly, Gary has kept data from each catch stretching back to the mid-1980s. He has used consistent sampling at one locality providing a unique opportunity to analyse this information to gauge, and ultimately manage, the system's health.

Lake Hope is also an important opportunity to learn about how a sustainable industry that operates at limited times can function in the SA Arid Lands region and contribute to the nation's food security through the sustainable harvest of native freshwater fish.

*Primary Industries and Regions SA,
SA Research and Development Institute,
SAAL NRM Board, Natural Resources
SA Arid Lands*



Cooper Creek Turtle

VOLUNTEER BIRD AND FISH SURVEYS

Six members of the Toyota Landcruiser Club assisted with bird surveys and fish monitoring around Innamincka Regional Reserve in April.

The group visited Burke's Grave about 10 kilometres from Cullyamurra Waterhole where there was flowing water, good vegetation cover and habitat for smaller birds.

They learned how to survey birds, moving slowly along a track, looking either side, on the ground and in the canopy, for 20 minutes, recording the birds that were seen and heard.

Back at Cullyamurra Waterhole, the group checked fish nets with notable finds being a Cooper Creek Turtle, native fish – including large Yellow Belly, Hyrtl's Tandan, Barcoo Grunter and Bony Herring – and the introduced Goldfish and Gambusia (or Mosquito Fish).

They then spent several hours learning how to measure, sex and identify the fish.

***SAAL NRM Board**, Natural Resources SA Arid Lands,
SA Research and Development Institute, Birds Australia,
Australian Government*

Surface water



Spangled Grunters on the Stuart Creek causeway

LAKE EYRE BASIN RIVERS ASSESSMENT

Over 55,000 fish were sampled in autumn 2012 surveys as part of the Lake Eyre Basin Rivers Assessment (LEBRA) in SA, Qld and the NT. The fish were captured at 53 monitoring sites, including 14 sites in SA.

Widespread rainfall and multiple floods in the past two years have led to an increased abundance and distribution of fish species throughout the Basin.

In the autumn surveys, 21 native and three introduced species (Sleepy Cod, Gambusia and Goldfish) were captured, with the latter generally in low abundance.

Bony Herring was the most common species, occurring at all 53 sites and accounting for over one quarter of all fish.

Cuttupirra Waterhole in Cooper Creek returned the most fish (nearly 5000), while the lowest was 14 fish at Wadlarkaninna Waterhole in SA, and Retreat on the Barcoo River in Qld.

Site richness varied from three to 13 species per site and the booms in juvenile fish recorded in autumn 2011 were no longer apparent in autumn 2012.

Disease was observed in nine fish species and predominantly in the Georgina (58% of sites) and Neales Rivers (20% of sites).

Department of Environment, Water and Natural Resources, SA Research and Development Institute, Lake Eyre Basin Ministerial Forum, Australian Government

HEALTH CHECK-UPS FOR SURFACE WATER

Seventy priority aquatic ecosystems in the Flinders region and Lake Eyre Basin were selected for a health assessment during 2011-12.

The results will identify any existing problems and emerging threats and help prioritise future projects aimed at ensuring a healthy and sustainable surface water resource.

Information was collected on water chemistry, turbidity, macro-invertebrates, aquatic vegetation, shade cover, bank erosion, siltation and pollution indications, as well as an assessment of potential impacts from mining or tourism activities, feral animals or weeds.

The intention is to repeat the fieldwork every five years.

This work builds on the LEBRA program (see adjacent story) to provide a full picture of LEB ecology and to assess the health of the Basin into the future.

Environment Protection Authority, SAAL NRM Board, Natural Resources SA Arid Lands, Australian Government

WHAT IS LEBRA?

The Lake Eyre Basin Rivers Assessment (LEBRA) is a long-term project which is assessing the condition of the Lake Eyre Basin catchments and their associated rivers, floodplains, overflow channels, lakes and wetlands.

Under LEBRA, SA scientists are working with their Qld and NT counterparts to assess portions of the Cooper Creek (including the Thomson and Barcoo Rivers), Georgina-Diamantina (including the Warburton Creek), and the Neales, Macumba, and Finke River catchments.

LEBRA uses consistent monitoring techniques throughout the LEB providing baseline data for many waterholes, tributaries, and in

some cases whole river systems; updated data on fish distribution and abundance from sites previously studied; and, continuing data for long-term monitoring sites.

LEBRA is delivered on behalf of the Lake Eyre Basin Ministerial Forum. The Forum was established in 2000 with representatives from the Australian, SA, Qld and NT governments. Its role is to implement the Lake Eyre Basin Agreement, a cooperative framework for jointly addressing cross-border issues about the management of water and related natural resources within the Lake Eyre Basin Agreement Area.



Fish surveys on an ephemeral lake near Coongie Lakes

Groundwater

Groundwater, particularly from the Great Artesian Basin, is critical to the health of ecological communities and the viability of the pastoral, mining and tourism industries in the region.

A number of partners are gathering ecological and hydrological data which will improve our understanding of the resource and our ability to sustainably balance user requirements with those of the environment.

Over time, this new information will be used by the SAAL NRM Board to refine the *Water Allocation Plan for the Far North Prescribed Wells Area* and refine Water Affecting Activities permit conditions (see p. 19).

This will become increasingly important in coming years as the demands on the Great Artesian Basin intensify due to the projected growth in mining, petroleum and geothermal industries in the region.



Date Palm removal at Dalhousie Springs

DALHOUSIE DATE PALM REMOVAL

Date Palm removal continued at Dalhousie Springs in Witjira National Park in April returning further environmental flows and allowing the recolonisation of springs by sensitive wetland plants and animals.

The work – this time with chainsaws – built on the successful removal of palms by fire at Kingfisher Springs and Dalhousie Ruins in July 2010 through the ‘GAB project’ (see adjacent story).

Efforts this year concentrated on the Missionary and Jess Springs north-west of the Dalhousie Ruins and treated regrowth and new seedlings.

Date Palms are voracious consumers of water with individual palms each consuming as much as 180,000 litres per year and the removal of Date Palms at Dalhousie Springs is conservatively estimated to have returned between 360-470 megalitres per year in environmental flows.

The work is expected to continue in 2013.

Natural Resources SA Arid Lands, Witjira Co-management Board



Little Bubbler mound spring

ALLOCATING AND MAINTAINING GAB WATER

A series of reports for the multi-disciplinary project *Allocating Water and Maintaining Springs in the Great Artesian Basin* are under preparation with their release expected in 2013.

There will be seven reports – on hydrogeology; groundwater recharge and groundwater flow; groundwater discharge; remote sensing and spatial mapping; management of spring ecosystems; spring classification and risk assessment; and a summary report.

Coordinated by the SAAL NRM Board, the ‘GAB project’ aims to further our knowledge of groundwater processes in the western margins of the Great Artesian Basin to increase our capacity to sustainably manage the resource.

The GAB provides essential water supplies for pastoralists, rural

communities and industries and it is therefore vital to have an accurate understanding of the system in order to balance user requirements with those of the environment.

Commencing in 2008, the four-year project has engaged staff from various agencies, including hydrogeologists, ecologists, spatial analysts and geophysicists.

National Water Commission; SAAL NRM Board; Natural Resources SA Arid Lands; NT Department of Natural Resources, Environment, the Arts and Sport; the Commonwealth Scientific and Industrial Research Organisation; Flinders University; University of Adelaide, Australian Government



Tail of The Bubbler mound spring

BIG BLYTH CAPPED

The capping of Big Blyth in October 2011 will lead to a saving of over 1000 megalitres of water per year from the Great Artesian Basin and increased health for surrounding waterholes.

A free-flowing bore located on The Peake Station, Big Blyth was drilled in 1917 and flowed freely for about 90 years, releasing more than 1000 megalitres of water and almost 2500 tonnes of salt each year.

Sealing the bore was technically complex and very challenging as it involved locating the original drill-hole within an overgrown artificial wetland and significantly-corroded bore casing. In its non-rehabilitated state, Big Blyth had negligible productive benefits to the pastoral industry and low ecological value – but it was a major source population of *Gambusia*, an introduced pest fish.

This population is thought to be a source of re-infestation into the Neales and Peake river system after flood events, and the capping of Big Blyth is expected to substantially reduce *Gambusia* numbers and increase the health of waterholes like Algebuckina – the most important permanent waterhole in the Neales-Peake River catchment.

Big Blyth's closure should also have major benefits for nearby GAB springs. Big Blyth is located 20 kilometres east of Freeling Springs and its closure is expected to increase pressure to the springs, leading to improved flow and wetland health.

The protection of these springs is important. Freeling Springs is nationally recognised as one of the more biologically-significant spring groups in the GAB and is preceded only by Dalhousie Springs in terms of its ecological values.

Land managers are also expected to benefit through an anticipated increase of pressure and improved water quality at controlled bores, while the conversion of Big Blyth's artificial wetland to more manageable grazing country on the Peake Creek floodplain is expected to improve grazing management outcomes.

SAAL NRM Board, *Natural Resources SA Arid Lands, Department of Environment, Water and Natural Resources, SA Research and Development Institute, University of Adelaide, Australian Government*

GREAT ARTESIAN BASIN SUSTAINABILITY INITIATIVE

Eleven bores were decommissioned and three were re-drilled as part of the Great Artesian Basin Sustainability Initiative (GABSI), a national program aimed at reducing groundwater waste from the Great Artesian Basin.

Since the program first commenced in 1999, GABSI has been working with land managers to rehabilitate (cap) uncontrolled bores and replace wasteful earthen bore drains with pipes.

So far the program has saved 24,920 megalitres per year.

This will improve the health of important groundwater-dependent ecosystems associated with GAB springs and ensure continued access to artesian water by industry.

This year, a particular highlight was the decommissioning of the technically challenging Big Blyth Bore (see adjacent story).

Department of Environment, Water and Natural Resources, GAB Consultative Committee, Australian Government

Groundwater



GABS13 is capping free-flowing bores in the western margin of the Great Artesian Basin

GAB MONITORING NETWORK

Another outcome of Great Artesian Basin Sustainability Initiative (GABS13) in 2011-12 was the establishment of a whole-of-Basin GAB Monitoring Network in Qld, NSW, SA and the NT.

The national network comprising a total of 263 bores, including 42 in SA, addresses whole-of-Basin water management issues, and ensures monitoring techniques and data collection are both comprehensive and consistent.

The information collected by the network will help water users understand the impacts of water extraction on the GAB; provide decision-makers with the tools to predict the impacts of new proposals for water allocation and keep impacts within acceptable limits; and help protect the plants, animals and people that depend on the natural discharge of GAB water.

It will also enable the impacts of the bore capping and piping program to be better monitored and inform future management of the GAB.

Nationally, work is underway to modify the bores to allow manual or automated measurements of pressure, temperature, pH, electrical conductivity, and unrestricted flow.

In SA, bore modification works continued in 2011-12 with all bores expected to be completed by 2013.

Further work was also undertaken in 2011-12 to select appropriate bores for monitoring the non-flowing (or non-artesian) western fringe of the GAB in SA – located roughly west of Coober Pedy. This section of the GAB is not currently monitored in detail.

*Department of Environment, Water and Natural Resources,
GAB Coordinating Committee, Australian Government*

WANT TO KNOW MORE ABOUT THE GAB?

.....
If you would like to know more about the Great Artesian Basin grab a copy of the new *GAB Poster Map* or *Water Down Under* booklet.

The products tell the story of the Great Artesian Basin from its Gondwana beginnings through to its critical modern day importance in the lives of many thousands of people across key sectors of the Australian economy.

They were released by the GAB Coordinating Committee in 2012, a committee providing advice from community organisations and agencies to Ministers on the sustainable management of the Great Artesian Basin.

To order a copy of either publication contact the GABCC 02 6295 7573



Our community

172 events, including workshops and field days attended by **2138** people

277 volunteers contributed **16,140** hours to activities including flora and fauna surveys, pest animal and plant control, boardwalk construction and tree planting

3125 people, including community members, land managers and volunteers participated in natural resource management activities

While the SA Arid Lands region's vastness and remoteness have provided crucial protection to our native plants and animals and ensured the region retains some of the State's most intact ecosystems, with few on-ground managers in proportion to the region's size their continued conservation and management can be problematic.

However, the SAAL NRM Board recognises that people are a critical element to ensuring that our natural resources are managed sustainably – all who live, work or visit the region have a role to play in adopting sustainable practices, and in supporting and participating in programs and projects as groups and individuals.

Effective engagement with local communities is essential for meeting targets identified in the *SAAL Regional NRM Plan*; this section of *On Track* recognises and salutes the outstanding efforts of our community, including industry, local land managers, schools, volunteers and townfolk striving to reach these shared goals.

Specifically, Natural Resources SA Arid Lands, on behalf of the SAAL NRM Board:

- develops and disseminates up-to-date information on best practice management of natural resource management issues through newsletters, factsheets, reports, site visits, workshops, forums and field days
- provides advice and other support to land managers to help improve knowledge and skills in natural resource management practices, including sustainable pastoral productivity, grazing management, pest animal and plant control, and property planning
- encourages the participation of Aboriginal people in natural resource management activities, including biodiversity conservation projects, sharing traditional and scientific ecological knowledge, property planning, and fencing sensitive sites
- provides advice, support and opportunities to individual volunteers and community groups, including planning and delivery of projects such as community gardens, weed control, fencing areas of high conservation value, and participation in field trips
- develops and delivers appropriate information on natural resource management issues and their management for inclusion in school programs (such as local fauna and flora ecology), interactive workshops to learn how to identify fauna species, and class materials
- engages with industry operating in the area (including mining and tourism companies) to negotiate mutually satisfactory natural resource management outcomes.

Natural Resources SA Arid Lands, on behalf of the SAAL NRM Board, will continue this commitment to improving the capacity of all land managers, residents and industry in the region to manage their backyard effectively, by providing support to develop the necessary skills and ensure access to appropriate information, expertise and programs.

10 YEAR RESOURCE CONDITION TARGETS

9. Equip all people who are actively involved in natural resource management with the information, knowledge and skills needed to support the achievement of *SAAL Regional NRM Plan* priorities

10. Increase by 30% the number of people actively involved in natural resource management and supporting the achievement of the *SAAL Regional NRM Plan* priorities

Industry partnerships

PARTNERS IN DINGO MANAGEMENT

Industry has made a critical contribution to several dingo management programs in the SA Arid Lands in 2011-12, partnering with land managers and SA government agencies.

Since 2011 and through the Industry Partnerships Program supported by the SAAL NRM Board, Santos has been funding important research into the economic impacts and ecology of dingoes in northern SA (see p. 12 for further information).

Important knowledge will flow back to the regional community with the research also informing our own approach to dingo management at Moomba,' said a spokesperson for Santos at the time the funding was announced.

Keen to do their bit to maintain a sustainable sheep industry south of the Dog Fence, the Sheep Industry Fund and Australian Wool Innovation also made contributions in 2011-12 to the SAAL NRM Board-supported *Biteback* program for dingo control and Biosecurity SA's aerial baiting trial (see p. 13 for further information).

Land managers and the SAAL NRM Board are also doing their bit – with the NRM levy collected from landholders directed into dingo management on both sides of the Fence by the Board.

Meanwhile, the cost of maintaining the Dog Fence continues to be shared on a dollar for dollar basis by landholders, especially sheep producers, and by the SA Government.

Through its support for the Arid Recovery Reserve, BHP Billiton has also supported dingo management in the region (see p. 12 for further information).

SAAL NRM Board, *Natural Resources SA Arid Lands, Biosecurity SA, Dog Fence Board, Sheep Industry Fund, Australian Wool Innovation, Santos, Arid Recovery, BHP Billiton*



Prominent Hill

MINING REFERRALS

Natural Resources SA Arid Lands staff consulted with 30 mining and exploration companies this year and commented on 170 referrals.

With mining activity and interest in the SA Arid Lands region continuing to increase in 2011-12, both on-Park and off-Park referrals largely came from Exploration Licence Applications.

The referral process provides an opportunity to advise companies on how to manage their development or activity in an environmentally sensitive manner that minimises the impact on the health and condition of water and soil resources, on native vegetation, and on any known populations of threatened species.

Where native vegetation clearance was proposed, opportunities were identified for offsets along with practical suggestions for minimising clearance.

Dialogue is maintained with mining companies from the exploration phase through to production and mine closure.

Minerals exploration activity in the past year was particularly focused in the North East Pastoral district, around the edge of the Gawler Craton geological area, and in and around Tallaringa Conservation Park, near Coober Pedy.

SAAL NRM Board, *Natural Resources SA Arid Lands, Department of Environment, Water and Natural Resources, Department for Manufacturing, Innovation, Trade, Resources and Energy*

Get involved

If you or your organisation are proposing a new development or activity that may impact the SA Arid Lands region's natural resources, contact Natural Resources SA Arid Lands 8648 5300 to ensure you have access to up-to-date information to account for natural resource management in your planning and decision-making

Volunteers

BLINMAN-PARACHILNA PEST PLANT CONTROL GROUP

The Blinman-Parachilna Pest Plant Control Group – a partnership of Flinders Ranges pastoralists and Adelaide-based volunteer groups – continued their Wheel Cactus and Oleander control in the North Flinders this year.

Contractors continued their work treating Wheel Cactus, concentrating on areas that aren't easily reached or suitable for the Group's band of volunteers.

This included logistically challenging cliff-face control where the contractors must abseil in order to reach and treat the plants.

Through their efforts in 2011-12 they treated over 3500 Wheel Cactus around Parachilna Gorge, the Glass Gorge road and ruins, east of Angorichina Village, and on Alpana Station.

They also took the opportunity to dig up and burn Coral Cactus in gardens at Angorichina Village. Here are some of the other highlights.

SAAL NRM Board, *Natural Resources SA Arid Lands, State Community NRM Grant, Australian Government*

Biocontrol trial

The Group continued its investigation of Cochineal after one surviving strain from a Gum Creek Station trial spread naturally to hundreds of plants from two infected pads, killing several hundred and severely infesting dozens more.

Meanwhile, 25 people attended a Cochineal Field Day in November, including land managers, volunteers, contractors, and government staff.

Cochineal is a natural biological control for Wheel Cactus which attaches to and sucks moisture from its host plant.

Volunteer activities

This year six volunteer groups inspected 1350 hectares for Wheel Cactus and 125 hectares for Oleander, treating recruits as they went.

Adelaide Bushwalkers Club

Thirteen members inspected and treated Wheel Cactus on Gum Creek Station, covering 300 hectares over one week in August.

Toyota Landcruiser Club

Forty-six members inspected and treated Wheel Cactus on Gum Creek Station, covering 400 hectares over two weeks in May. A further 300 hectares of Wheel Cactus were inspected and treated by a small group of volunteers led by Club president Ralph Abbot on Oratunga Station in August.

Australian Retired Persons Association & Four Seasons Bushwalking Club

Seventeen members inspected and treated Wheel Cactus on Alpana Station, covering over 200 hectares over one week in August.

Mitsubishi 4WD Club

Five members inspected and treated Wheel Cactus on Moolooloo Station, covering 150 hectares over one week in October.

Blackwood Church of Christ

Eight members undertook their bi-annual inspection of Parachilna Gorge for new Oleander recruits in October treating 90 plants across the 125 hectare area. This was an outstanding result given the extent of the original 10 kilometre long infestation that the group initially treated over a period of six years.

4WD Club's work on Wheel Cactus recognised

Toyota Landcruiser Club environment officer Vince Monterola won the award for Services to Natural Resources Management at the 2011 Premier's Natural Resources Management Awards in October for his efforts in keeping Wheel Cactus out of the Flinders Ranges National Park.

Mr Monterola coordinates the Toyota Landcruiser Club involvement in the Blinman-Parachilna Pest Plant Control program where Wheel Cactus plants around Gum Creek Station are removed to prevent their spread into the Flinders Ranges National Park.

'Four-wheel drive motorists are sometimes criticised, but members of clubs are trained to look after the environment to ensure it isn't spoilt and the Toyota Landcruiser Club aims to take that further and do something practical to conserve the environment,' said Mr Monterola.

The award was presented by the Minister for Sustainability, Environment and Conservation Paul Caica at a ceremony in Adelaide. Mr Monterola was nominated by the SAAL NRM Board.





Stuart Highway pick-up

THANK YOU

The SAAL NRM Board extends its gratitude for all volunteer contributions to natural resource management in the region. Only a tiny proportion of this work is highlighted here.

GET INVOLVED

If you would like to find out what opportunities exist for volunteering in the region please contact Natural Resources SA Arid Lands 8648 5300

GREAT TRACKS CLEANUP

Twenty-one Great Tracks Cleanup Crew members, their families and friends took part in the annual cleanup in July, collecting over 32 tonnes of rubbish from the region's outback tracks and roads.

A total of 23,376 kilometres was travelled by the vehicles on the six day trek.

The volunteers cleaned the Marree Track from Leigh Creek, the Oodnadatta Track from Marree through to Marla, as well as subsidiary tracks from William Creek to Coober Pedy to Oodnadatta, Dalhousie Springs and return. The final part of the cleanup was the Stuart Highway from Marla to Woomera, Woomera to Roxby Downs as well as the Borefield Track, and the Pimba to Olympic Dam Road.

Rubbish included general camping and household waste, various truck, trailer and vehicle parts, galvanised iron sheeting, rusty water tanks, fuel tanks, bottles and cans.

SCIENTIFIC EXPEDITION GROUP

In the Vulkathunha-Gammon Ranges National Park, volunteers from the Scientific Expedition Group (SEG) continued their ecological monitoring work in the Arcoona Creek catchment area, completing two monitoring trips, and carrying out repairs to equipment and all scientific monitoring.

This hydrological, ecological and water balance monitoring program began in 1998 and is collecting continuous rainfall records at high and low altitudes from six sites as well as monitoring vegetation condition, aquatic biology, water quality, human impacts, feral animal and Yellow-footed Rock-wallaby numbers. Stream flow is also being measured at one site.

Rainfall is vital to people living in these locations, and rainfall data from the SEG sites is widely used including by the Bureau of Meteorology.



Arkaroola

Volunteers



FRIENDS OF SIMPSON DESERT

Twenty-one members attended the annual Friends of Simpson Desert working bee in May held at various sites in Witjira National Park, the Simpson Desert Regional Reserve and the Simpson Desert Conservation Park.

The group undertook a variety of activities including revegetation around campgrounds, control of Buffel Grass and Mimosa Bush, repair of historical grazing enclosures, and establishment of photopoints at Dalhousie Ruins and Approdinna Attora Knolls.

They also carried out general campground maintenance and rubbish collection, erected fencing for visitor control at Purni Bore, and repaired and/or replaced the safety markers along the Park's desert tracks.

ARKAROOOLA LANDCARE GROUP

The Arkaroola Landcare Group continued its work treating a 500 hectare infestation of Jumping Cholla on Arkaroola Wilderness Sanctuary.

The Group mapped and treated the infestation with an initial knockdown in December 2008 and undertook follow-up treatments each year to 2012.

With very dense patches of Jumping Cholla found high in the rocks and along animal trackways, it is thought that the plant is being spread in the fur of Yellow-footed Rock-wallabies and Euros.

The Group was established in 2009 to contain and hopefully eradicate the Jumping Cholla infestation.

FRENCH'S FOREST BAPTIST CHURCH, NSW

Four adults undertook cactus and feral animal control on Bullyaninnie Station in the North East Pastoral district in January.



Friends of Mound Springs members restocking the brochure box at Strangways Springs

FRIENDS OF MOUND SPRINGS

Friends of Mound Springs members established and maintained six kilometres of self-guided walking trails at Strangways Springs and The Peake.

Both sites are off the Oodnadatta Track and are of national importance because of their combination of mound springs and ruins of Overland Telegraph Repeater Stations.

Group members returned twice this year to check on the walking trail condition, complete minor infrastructure works and to restock brochures. Members also visited Wabma Kadarbu Mound Springs Conservation Park to remove vegetation growing through the ruins of the Mt Hamilton police station.

Tourism and heritage management



Dalhousie Ruins restoration

DALHOUSIE RUINS RESTORATION

Efforts to stabilise the State Heritage-listed Dalhousie Ruins, part of Witjira National Park, continued in June.

Conservation works to stabilise the ruins – the remains of the old Dalhousie homestead, stockyards and out-buildings – first occurred in 1994.

This year the team focused on the blacksmith's shop where cement mortar was chiselled out and then repointed with lime mortar while sand and stone debris were carefully removed from a flagstone floor in the workman's quarters.

The conservation works were carried out with support from contractors and volunteers.

Natural Resources SA Arid Lands, Witjira Co-management Board

DON'T FORGET YOUR DESERT PARKS PASS

If you are planning to travel to the National Parks and Reserves in the SA Arid Lands you may need to purchase a Desert Parks Pass.

The Desert Parks Pass provides 12 months unlimited entry (and camping where permitted) to seven Desert Parks, as well as a comprehensive 4WD handbook and maps, hints, tips and attractions.

A Desert Parks Pass is a condition of entry for the Simpson Desert Conservation Park and Regional Reserve or any travel east of Dalhousie Springs.

For further information contact Natural Resources SA Arid Lands 8648 5300

INNAMINCKA AND COONGIE LAKES SIGNAGE

New signs were installed during the year at Innamincka Regional Reserve and Coongie Lakes National Park as part of visitor site redevelopments.

The signs are an outcome of several years consultation with stakeholders, including with the Yandruwandha/Yawarrawarrka traditional custodians.

They provide a blend of European and Aboriginal history and perspectives in the area, and information on biodiversity, exploration, pastoralism, and campground etiquette.

The signs will add to the visitor experience and complement the information available at the Australian Inland Mission at Innamincka. Signs are still to be installed at Cullyamurra Waterhole and Coongie Lakes.

Natural Resources SA Arid Lands

WABMA KADARBU BOARDWALKS

The Blanche Cup and The Bubbler mound springs at Wabma Kadarbu Mound Springs Conservation Park are better protected after boardwalk upgrades were completed.

Both springs are significant ecological and tourism sites and part of the Arabunna cultural story.

The boardwalks will help keep people off the spring vents and reduce soil compaction. Signage is also under development to reinforce this message.

The work was conducted with cultural inductions and clearances from the Arabunna and Kuyani Aboriginal peoples.

Natural Resources SA Arid Lands

'GREAT TRACKS' TOURIST BROCHURE

The community-based Marree-Innamincka NRM Group launched its much anticipated tourist brochure at Innamincka in June.

Birdsville Strzelecki: legendary tracks of the Marree Innamincka district is a full-colour, 12-page brochure packed with interesting information including the history and origin, environment and ecology, and contemporary land use of the Birdsville and Strzelecki Tracks.

In brief easy-to-read snapshots, travellers on the Tracks can explore points of historical, Aboriginal, and biological interest by consulting the brochure's detailed map.

The brochure also contains information to ensure visitors have a safe trip – but also one that respects the privacy of local land managers and the security of livestock, and limits the impacts on our natural resources.

Marree-Innamincka NRM Group, SAAL NRM Board, Natural Resources SA Arid Lands, Australian Government

PUBLIC ACCESS CLOSURES

The K1 Warburton Crossing and the Walkers Crossing Public Access Routes (PARs) were closed throughout 2011-12 due to almost continual flooding of the Diamantina and Cooper Creeks and localised flooding.

Repair work is planned for late 2012 to reinstate and open the routes (subject to weather conditions).

Public Access Routes are a network of unimproved and unsurfaced station tracks that provide public access to points of interest in pastoral SA. Their condition can change rapidly with the weather.

Pastoral Board, Natural Resources SA Arid Lands

Community events



EMU™ field day, Todmorden Station

EMU™ FIELD DAY ON TODMORDEN

Forty-five people attended an Ecosystem Management Understanding (EMU™) field day hosted by pastoralist Douglas Lillecrapp at Todmorden Station in November.

EMU™ has changed the way Douglas manages Todmorden Station – a cattle producing pastoral lease in the Marla-Oodnadatta district – and he was keen to share his experience with pastoralists and other land managers.

The field day was attended by a cross-section of community including pastoralists, Aboriginal community members, and representatives of the SA and Australian Governments.

A convoy of over 20 4WDs toured six sites around the station to view the EMU™ project in action.

Landscape ecologist and EMU™ director, Hugh Pringle, fielded discussions surrounding landscape function while Col Stanton (Soils Conservation Officer, DLRM, Alice Springs) shared his expertise and knowledge on soil conservation.

SAAL NRM Board, Natural Resources SA Arid Lands, Marla-Oodnadatta NRM Group, Australian Government

ARID RECOVERY EVENTS

The Arid Recovery Open Day brought 150 people to the Reserve in August. Among the highlights were expert talks from ecologists on the Reserve's plants and animals and a 4WD tour which allowed visitors to see the northern areas of the Reserve which are not normally accessible to the public.

National Threatened Species Day in September was marked with a visit from 186 local St Barbara's Parish School students who took part in walks, trapping and radio-tracking demonstrations, and learned about the plants and animals of the arid zone.

Customised tours allowed groups to enjoy sunset at the Reserve, with a number of dinners and cocktail events held throughout the year. After walking the nature trail, visitors are taken on guided walks to the nocturnal hide to observe the resident Bettongs and Bilbies.

The Arid Recovery Kids Club was also launched in 2012 to encourage local children to learn more about their environment and the Reserve.

Arid Recovery, Adelaide University, Natural Resources SA Arid Lands, Friends of Arid Recovery, BHP Billiton

BHP BILLITON FAMILY DAY

Natural Resources SA Arid Lands staff and Arid Recovery put on a joint display at the BHP Billiton Family Day in December in Roxby Downs.

The stall attracted interest from about 50 Roxby residents with Arid Recovery's touch table of local animal skins and skulls a hit. Kids practiced making tracks of local critters in the sand, and also looked at Aboriginal stone artefacts, helping to sieve and catalogue them with local archaeologists and traditional owner representatives.

Arid Recovery, SAAL NRM Board, Natural Resources SA Arid Lands, BHP Billiton, Huonbrook Environment and Heritage Pty Ltd



Natural Resources SA Arid Lands stall at Yunta Races

NRM @ RACEDAYS

Natural Resources SA Arid Lands staff visited racedays across the region over 2011-12, operating stalls at the Yunta Races, Oodnadatta Races, Nonning Gymkhana, and Marree Races, and attracting about 120 race-goers and their children.

Talk of dingoes, stuffed Cane Toads, Dusky Hopping-mouse, a display of stuffed rodents and marsupials, and preserved specimens of various snakes and frogs, brought people of all ages to the stalls.

The stalls also proved very popular with kids, who were kept busy with competitions and kangaroo, fox and emu scat-making activities.

SAAL NRM Board, Natural Resources SA Arid Lands, SA Museum, BHP Billiton, Australian Government

MARREE BIRD WORKSHOP

With the SA Arid Lands attracting waterbirds from across the nation and the world, a bird workshop brought 14 local bird enthusiasts and land managers to Marree in October.

The *Wetland Birds of the Arid Interior Workshop* included presentations on birds as indicators of wetland health, how to identify the wetland birds of the region, the important place Marree holds in the Atlas of Australian Birds, and details on how people can contribute to this national monitoring program.

The workshop was followed by a field trip to Lake Harry to get a first-hand look at its inhabitants.

Birds Australia, Natural Resources SA Arid Lands

GRANT WRITING WORKSHOPS

Ten people attended grant writing workshops held in Roxby Downs and Port Augusta in March.

Aimed at helping community groups to successfully apply for grant funding in natural resource management, the workshops covered how to successfully plan a project, identify funding sources, write a solid grant application, address assessment criteria, and manage a funded project.

They were directed at members of Progress Associations, Aboriginal communities, and volunteer and landcare groups – anyone involved in caring for our land, water resources and native plants and animals – and provided ideal preparation for funding opportunities such as the Australian Government's Community Action Grants and SA Government's Community NRM Grants.

Department of Environment, Water and Natural Resources, SAAL NRM Board, Natural Resources SA Arid Lands, Conservation Council SA, Australian Government

GET INVOLVED

For assistance with natural resource management projects and funding applications and aligning them with the *SAAL Regional NRM Plan* contact Natural Resources SA Arid Lands 8648 5300

PASTORAL BOARD HOLDS OPEN FORUM

The Pastoral Board met at an open forum in Hawker in April meeting with 26 people representing 13 pastoral leases from the surrounding districts.

Presiding Member Geoff Mills introduced the Board and its members before briefly discussing a number of issues including rent, the pastoral assessment program, boundary fencing, tourism on pastoral leases, and Aboriginal access rights.

Alternative sheep breeds straying onto neighbouring properties, and grazing pressure, particularly around kangaroo management, were also discussed.

Pastoral Board, Natural Resources SA Arid Lands

GET INVOLVED

The Pastoral Board takes the opportunity to meet in the pastoral region at least once every year. Look out for information on the 2013 meetings or contact Natural Resources SA Arid Lands 8648 5300

TREES FOR TOWNS PLANTING DAYS

About 90 community members, including students from the Andamooka Primary School and Marree Aboriginal School, assisted with Trees for Towns planting days held in June.

For the students it was a chance to get out of the classroom and, in Marree, they were taught about the important role plants play in the ecosystem and how to plant trees.

The trees – around 120 local natives – were planted in town parks and squares, cemeteries, community recreational

areas and public congregation areas providing shade and shelter to both community members and tourists who visit the town.

The Progress Associations in both towns have committed to looking after the plants and trees and support watering programs and weed control.

Outback Communities Authority, Marree Progress Association, Andamooka Progress and Opal Miners Association, Trees for Life, ElectraNet, SAAL NRM Board, Natural Resources SA Arid Lands



Andamooka students learning how to plant their very first seedling

GET INVOLVED

If your school, community group or Progress Association have ideas for natural resource management projects or would like to take part in our *Tracks and Scats Workshop* or other activities contact Natural Resources SA Arid Lands 8648 5300

TRACKS AND SCATS WORKSHOP

Twelve School Of The Air students from across the region attended a mini-school at Tarcoola in November where they took part in a Tracks and Scats workshop.

The students, from years 3-7, searched sand dunes for evidence of critters including lizards and cats, made and studied their own tracks to understand how tracks can change depending on what we're doing, and made their own animals scats (or poos!) using modelling compound.

Tracks and Scats Workshops help people to read the landscape and detect signs of animals through the tracks they leave in the sand or through their scats. Being able to identify tracks and scats, burrows and diggings, can increase our understanding of the distribution and abundance of a range of threatened and introduced animals in the arid zone.

SAAL NRM Board, Natural Resources SA Arid Lands, Australian Government

NRM Group activities

The SAAL NRM Board is supported in its role by five active NRM Groups at the district level which each provide a vital link in relaying community issues to the Board and a local perspective on implementing on-ground projects. A sixth NRM Group has been gazetted in the North East Pastoral district and the Board has advertised for community members.



MARREE-INNAMINCKA

The MI Group completed and launched its 'Great Tracks brochure' at Innamincka (see p. 31 for further information). They also supported the completion of a biological survey of plants and animals in the far north-east of the Marree-Innamincka district, funded through a State Community NRM Grant following the exceptional rain events of 2010. They had input into the draft *Five-Year Strategic Plan for Dingo Management in SA* and the baiting application process north of the Dog Fence.

CHAIR: Maree Morton

MEETINGS: 3

DISTRICT PRIORITIES: Dingoes/wild dogs, foxes, mining and exploration impacts, tourism impacts, rabbits

MARLA-ODNADATTA

The MO Group continued their support for the land manager-driven project aimed at controlling the spread of Mimosa Bush in The Peake Creek catchment, and the Ecosystem Management Understanding (EMU)TM program which is now operating on eight properties in the district. They also had input into the draft *Five-Year Strategic Plan for Dingo Management in SA* and the baiting application process north of the Dog Fence.

CHAIR: Mark Fennell

MEETINGS: 4

DISTRICT PRIORITIES: Mining and exploration impacts, wild dogs, foxes, cats, weeds

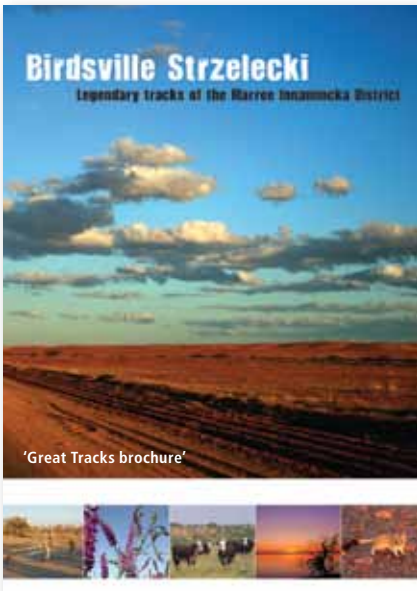
KINGOONYA

The K Group continued their support for the *Biteback* program for dingo control and the associated aerial baiting program; the Western Myall White Fly program; and the EMUTM program which is now operating on two properties in the district. The Group also initiated the Buffel Grass Action Group and purchased a spray tank for use in the district for Buffel Grass control. They also had input into the draft *Five-Year Strategic Plan for Dingo Management in SA*.

CHAIR: Julie-Ann Mould

MEETINGS: 4

DISTRICT PRIORITIES: Dingoes/wild dogs, rabbits, Buffel Grass, foxes, cats, Western Myall White Fly



Dog Fence



Communications

ACROSS THE OUTBACK

The December edition of *Across The Outback* may now be making way for *On Track* but the respected newsletter of 21 years standing continued its role as a 'one-stop-shop' to information from SA Government agencies operating in the region.

Across The Outback has become an essential read for nearly 1400 people or organisations with a stake or interest in the SA Arid Lands region including pastoralists, conservation, recreation and tourist groups, and the media.

Five editions were produced in 2011-12.

SAAL NRM Board, Natural Resources SA Arid Lands, Pastoral Board, Biosecurity SA, Australian Government

GET INVOLVED

Contributions from all government agencies and community groups with information relevant to the region are welcome. If you would like to join the *Across The Outback* mailing list or contribute an article contact Natural Resources SA Arid Lands 8648 5300

MEDIA

Local media such as ABC North & West, the Roxby Downs papers, and the *Port Augusta Transcontinental* remain an important avenue for raising community awareness about a range of natural resource management issues. In 2011-12, the hottest topic was undoubtedly dingo management but other natural resource management issues to score a mention were Cane Toads, Water Affecting Activities, bore-fed wetlands, EMU™, rabbit control, kangaroo management, Yellow-footed Rock-wallabies, the 'Great Tracks brochure', and the Wilpena Pound fire.

CHECK OUT OUR WEBSITE

The Natural Resources SA Arid Lands website is a hub of activity containing the latest natural resource management news, publications, events and news.

If you are after the latest on natural resource management in the region visit www.saalnrn.sa.gov.au

Wedge-tailed Eagle at Etadunna Station



GAWLER RANGES

The GR Group continued their support for the *Biteback* program for dingo control and the associated aerial baiting program, and the EMU™ program which is now operating on four properties in the district. They also had input into the draft *Five-Year Strategic Plan for Dingo Management in SA*.

CHAIR: Sandy Morris

MEETINGS: 3

DISTRICT PRIORITIES: Goats, dingoes, foxes, cats, rabbits

GET INVOLVED

Do you live or have an interest in the SA Arid Lands region? Are you interested in providing a local perspective to the Board on key natural resource management issues in your district or driving natural resource management projects? Then perhaps you'd like to be a Group member.

To register your interest contact Natural Resources SA Arid Lands 8648 5300

NORTH FLINDERS

The NF Group continued their promotion of and involvement in the *Biteback* program for dingo control and the associated aerial baiting program; the *Bounceback* conservation program; and the Pest Management and Rangelands Rehabilitation program. They also had input into the draft *Five-Year Strategic Plan for Dingo Management in SA*, continued their support of the Blinman-Parachilna Pest Plant Control Group, and initiated a Pepper Tree Workshop held in Blinman in September.

CHAIR: Keith Slade

MEETINGS: 4

DISTRICT PRIORITIES: Goats, dingoes, weeds, foxes, cats, rabbits

NORTH EAST PASTORAL

There may not be an operating NRM Group in the NEP district but the pages of *On Track* provide a record of the many natural resource management activities that are occurring here. A call for membership opens in January 2013.



Feral goats

Aboriginal land management

CO-OPERATIVE PARK MANAGEMENT

The Vulkathunha-Gammon Ranges, Flinders Ranges and Witjira Co-management Boards have each had productive years with eight meetings between them and a number of on-ground successes.

Plant and animal recovery

There has been widespread recovery of plants and animals on Flinders Ranges and Vulkathunha-Gammon Ranges National Parks where management of grazing pressure and fox baiting programs have continued through the *Bounceback* program (see p. 9).

Feral goats on both Parks are at their lowest levels since *Bounceback* began in the early 1990s and the role of the Sporting Shooters Association of Australia (Hunting and Conservation Branch) in feral animal control programs over the past two decades was formally recognised by the Vulkathunha-Gammon Ranges Board.

At Witjira National Park, Date Palm removal continued (see p. 23), returning important environmental flows to the mound springs and allowing native plants (eg White Tea-tree and Broughton Willow) and aquatic fauna (eg Dalhousie Catfish and Dalhousie Hardy-Head) to recolonise the springs.

Uncle Gil's Walk opened

The Vulkathunha-Gammon Ranges National Park Co-management Board held its third Open Day at Balcanoona in May to celebrate the launch of Uncle Gil's Walk. The interpretive walk around the Balcanoona shearing shed tells the story of Gil Coulthard an Adnyamathanha Elder who sadly passed away in June.

Protecting Aboriginal heritage

The Munyi Rock Art Site and Aboriginal gravesites are better protected after the Vulkathunha-Gammon Ranges National Park Co-management Board introduced measures to protect the sites from indiscriminate access and damage, while maintaining access for the Adnyamathanha people.

In partnership with the Department of Aboriginal Affairs and Reconciliation, the Board held a training program for the local Adnyamathanha community to ensure that Aboriginal sites both on and off reserve are recorded and protected in accordance with the *Aboriginal Heritage Act 1988*.

Wood collection prohibited

The Witjira Co-management Board decided to prohibit the collection of wood for campfires after consulting with stakeholders in 2011. The wood campfire is an iconic experience but years of firewood collection by visitors – including some irresponsible collection and use – prompted the Board's decision which will help protect the Park's biodiversity.

Wood fires are still permitted at designated camping areas but, from January 2013, they will no longer be permitted within the Witjira National Park.

WHAT IS CO-MANAGEMENT?

The co-management model for parks management in SA was introduced in 2004 when the *National Parks and Wildlife Act 1972* was amended to enable the Department of Environment, Water and Natural Resources to share responsibility for the management of national and conservation parks with the relevant Aboriginal group through the creation of either a co-management board or a co-management advisory committee.

There are currently four co-management boards and two co-management advisory committees in the SA Arid Lands region.

WITJIRA CO-MANAGEMENT BOARD

Established 2005

NATIVE TITLE GROUP: Irrwanyere Aboriginal Corporation

VULKATHUNHA-GAMMON RANGES CO-MANAGEMENT BOARD

Established 2005

NATIVE TITLE GROUP: Adnyamathanha Traditional Lands Association

FLINDERS RANGES CO-MANAGEMENT BOARD

Established 2011

NATIVE TITLE GROUP: Adnyamathanha Traditional Lands Association

GAWLER RANGES CO-MANAGEMENT BOARD

Co-management Agreement entered into 2011

NATIVE TITLE GROUP: Gawler Ranges Aboriginal Corporation
OVERSIGHT OF: Lake Gairdner National Parks and advisory role over Lake Gilles Conservation Park

2011-12 STATUS: Nominations have been received from the Gawler Ranges Aboriginal Corporation for representation on the board

WABMA-KADARBU MOUND SPRINGS CO-MANAGEMENT ADVISORY COMMITTEE

Co-management Agreement entered into 2012

NATIVE TITLE GROUP: Arabana Aboriginal Corporation

OVERSIGHT OF: Wabma-Kadarbu Mound Springs Conservation Park, Lake Eyre National Park and Elliot Price Conservation Park

2011-12 STATUS: Nominations have been received from the Arabana Aboriginal Corporation for representation on the committee

COONGIE LAKES CO-MANAGEMENT ADVISORY COMMITTEE

Established 2010

NATIVE TITLE GROUP: Yandruwandha Yawarrawarrka Traditional Land Owners (Aboriginal Corporation)

OVERSIGHT OF: Coongie Lakes National Park and with advisory role over Innamincka Regional Reserve and portion of Strzelecki Track

2011-12 STATUS: Committee has made progress on the Park's Management Plan and played a major role in ensuring Innamincka interpretive signage represents Aboriginal interests (see p. 31)

Members of the Vulkathunha-Gammon Ranges Co-management Board at Nudlamutna Hut



LEB ABORIGINAL FORUM

A two-day Lake Eyre Basin (LEB) Aboriginal Forum was held in Tibooburra, NSW in September, attracting around 75 people, including a mix of Aboriginal people, government and non-government organisations.

From SA, Dean Ah Chee spoke about conservation efforts in Witjira National Park, Mick Starkey spoke of his work with the rockholes project in the Gawler Ranges, and George Cooley presented as representative of the Aboriginal Community Advisory Committee to the Lake Eyre Basin Ministerial Forum.

Many presentations highlighted the unique characteristics of the LEB including the need to manage the conservation values of all aspects of the land and its resources.

Much of the final day was dedicated to consulting over the Aboriginal LEB Map which, once complete, will provide a pictorial overview of the diversity of Aboriginal groups, places, cultures and histories that are connected to the LEB.

The final hours of the forum were dedicated to producing recommendations for the federal Environment Minister.

A key area of discussion was the importance of considering groundwater and the Great Artesian Basin when talking about the management of the Lake Eyre Basin – both systems are interconnected and both ground and surface water is important to Aboriginal people. Qld's Wild Rivers legislation and its impact on Lake Eyre, its Qld tributaries, and the communities they support, was also a topic of interest.

LEB Community Advisory Committee, LEB Ministerial Forum, SAAL NRM Board, Natural Resources SA Arid Lands



Bronzeback Legless Lizard

MT WILLOUGHBY LIZARD CAPTURE

A record 15 Bronzeback Legless Lizards were captured on Mt Willoughby Station Indigenous Protected Area in March during a three-day survey targeting the nationally vulnerable species.

Six Mt Willoughby staff and family searched leaf litter beds and found Bronzebacks at six sites where they had not previously been recorded.

The large number and range of captured adults and young suggests that there is a large and healthy population of Bronzebacks on Mt Willoughby.

These new captures demonstrate for the first time that the species distribution is continuous between Coober Pedy and the Arkaringa Hills and represent the western-most records of the species to date.

Local community members will be trained in chemical handling and weed control to address the threat posed to Bronzeback habitat by weeds such as Buffel Grass.

SAAL NRM Board, Natural Resources SA Arid Lands, Australian Government

The Bronzeback Legless Lizard is a poorly understood reptile known only from a handful of sites between Coober Pedy and the NT border.

GEORGE COOLEY RECOGNISED

Long-time Umoona Council member and Coober Pedy resident George Cooley was a finalist in the 2011 Premier's Natural Resources Management Awards in October for his efforts in promoting Aboriginal participation in natural resource management in the SA Arid Lands region.

Mr Cooley has been a key advocate for natural resource management in the SA Arid Lands region particularly through his involvement with the Lake Eyre Basin Community Advisory Committee, First Peoples' Water Engagement Council, and as a previous member of the Aboriginal Lands Trust Board.

Mr Cooley was delighted by the nomination and recognition of his efforts.

'There are many people out there who love this country, spend a lifetime caring for the environment and have great respect for the land that they live and walk upon daily, but only a few are recognised for their lifetime efforts.'

Mr Cooley was nominated for the Services to Natural Resources Management award by the SAAL NRM Board. Vince Monterola ultimately won the award (see p. 28).

COMMUNITY GRANTS FUND SHRUBLAND PROTECTION

The Marree Arabunna People's Committee and Myrtle Springs PIDIA Aboriginal Corporation both undertook shrubland protection this year.

The Marree Arabunna People's Committee protected the chenopod and low open shrubland of Finnis Springs within the Stony Plains area.

The health of these shrublands was threatened by tourism, particularly 4WDs, causing damage to vegetation and increasing erosion.

A fence was erected around the Finnis

Springs Mission site which has cultural importance to the Arabunna people.

Myrtle Springs used the funding to protect the chenopod shrubland in the Mount Playford area from feral goats. The preferred home of the Eastern Thick-billed Grasswren, the habitat is currently being degraded by grazing pressure from feral goats.

Department of Environment, Water and Natural Resources, Marree Arabunna People's Committee, Myrtle Springs PIDIA Aboriginal Corporation, State Community NRM Grant



MATT TURNER

Mick Starkey (SA Native Title Services) on Gawler Ranges rockholes

Our finances

Through the activities of the SAAL NRM Board your community is supported in the sustainable use of its natural resources and in maintaining its natural ecosystems. You and your community benefit from:

- improved care of sites and areas of environmental and cultural significance
- programs that help protect valuable ground and surface waters; support industries to operate sustainably; improve pastoral land management; conserve natural ecosystems; and encourage community participation
- improved partnerships and integration with regional community groups as well as peak body non-government organisations (NGOs)
- support for township economies including maintaining industries, water supplies and tourism opportunities
- monitoring and control of pest animals and plants both for industry and for biodiversity
- support to community groups involved in the sustainable management of the region's natural resources
- a coordinated and integrated approach to managing the natural resources in the SA Arid Lands region to 2020.

These benefits require an investment of funds and the SAAL NRM Board derives its income through four main sources:

- State recurrent funding
- Commonwealth funding
- An NRM levy
- Industry and other opportunistic funds

2011-12 INCOME

Carry-over funds	\$4,311,000
NRM levies	
Regional (land based) NRM levy	
Inside council	\$110,000
Outside council	\$69,000
NRM water levy	\$435,000
State Funding	
State recurrent allocation – NRM fund	\$1,042,000
State NRM competitive	\$232,000
State other	\$162,000
Payroll tax refund	\$18,000
Australian Government Funding	
Caring for Our Country – base funding	\$1,859,000
Caring for Our Country – competitive	\$430,000
Other Australian Government funding	\$89,000
Industry Partnerships Program	\$320,000
Other sources	\$42,000
Interest	\$191,000
TOTAL INCOME	\$9,310,000
Carryover to 2012-13	\$2,595,000

2011-12 EXPENDITURE

EXPENDITURE AREA	
Active Communities	\$526,000
Functioning Ecosystems	\$899,000
Sustainable use – water	\$2,398,000
Sustainable use – land	\$1,637,000
Support to Groups	\$205,000
Board governance, monitoring, communications & administration	\$1,050,000
TOTAL EXPENDITURE	\$6,715,000

Major Mitchells at Tarcoola



THE NRM LEVY

WHAT IS THE NRM LEVY?

The *Natural Resources Management Act 2004* provides for a regional (land-based) NRM levy and a NRM water levy to provide additional funding for the Board to take care of our natural resources for future generations.

WHO PAYS THE NRM LEVY?

All landowners (including lessees) in the SA Arid Lands region pay the regional NRM levy. The NRM water levy is payable on water allocated to the mining, energy, gas and petroleum sector (collectively called industrial licences), for town water suppliers, irrigators and for commercial operations such as tourist park operators in the Far North Prescribed Wells Area. The NRM water levy is not payable on water licences held for stock and domestic use.

WHO COLLECTS THE NRM LEVY?

Local councils collect the regional (land-based) NRM levy annually from their ratepayers and forward the collected funds to the Board. The levy is shown separately on council rates notices.

The Department of Environment, Water and Natural Resources collects the regional NRM levy from outside council areas, and also collects the NRM water levy from water licence holders.

HOW IS THE NRM LEVY SPENT?

The regional (land-based) NRM levy and NRM water levy contribute 20 per cent of the Board's total budget and are critical for leveraging extra funds from other sources including State and Australian Governments. The Board also actively promotes other partnerships (eg with industry) to secure additional funding for natural resources management. The Board applies these investments wisely to carry out the work, showcased in *On Track*, that it believes is necessary to achieve sustainability of the region's natural resources.

WHAT ACTIVITIES WOULD YOU LIKE TO SEE FUNDED?

The Board's three-year Business Plan – part of the wider 10-year *SAAL Regional NRM Plan* – is reviewed annually under the *Natural Resources Management Act 2004*.

Public meetings are held throughout the region to gather feedback on how the Board plans to generate and invest its income over the following three years. These meetings are a terrific opportunity to meet with Board members and comment on how the Board plans to raise and invest its income and about natural resource management issues in general.

THANK YOU

The Board thanks those community members who turned out in February 2012 for regional public meetings to provide feedback on the proposed amendments to its Business Plan for 2012-13 – 2014-15.

If you would like a copy of the consultation report or to have your say on how the Board raises and invests its income, contact Natural Resources SA Arid Lands 8648 5300

Mungerannie borefed wetlands

Our performance

'Our performance' shows how the SA Arid Lands region is tracking against the 50 1-5 year Management Action Targets (MATs) that contribute to achieving the 10-year Resource Condition Targets (RCTs) and, ultimately, the longer term goals identified in the *SAAL Regional NRM Plan*. It is important to note that these targets are contributed to by the actions of all those operating in the region, including all levels of government, industry organisations, land managers and community members.

MANAGEMENT ACTION TARGET	STATUS
1 Develop register of priority significant sites and policies for management and protection by 2014 and implement on-ground protection by 2016	
2 Review and ensure adequate resourcing for the Pastoral Assessment Program by 2014	
3 Ensure that 100% of land managers have sufficient information to incorporate biodiversity stewardship into enterprise decision-making by 2014	
4 Revise methodology and format of land management plans for the installation of new water points by 2013	
5 Develop best practice guidelines and related extension programs for sustainable grazing management by 2014	
6 Ensure that at least 50% of pastoralists are engaged in best practice management programs by 2014	
7 Complete pest distribution mapping, determine control priorities, and establish mapping data process by 2014	
8 Develop programs for achieving reductions in the distribution and numbers of identified priority pests by 2014	
9 Ensure pathways for new pest animals and plant incursions are identified and monitored regularly, and a management framework is in place by 2014	
10 Undertake risk assessment processes for climate change by 2015 to identify most vulnerable native species, most advantaged pest species, and other potential implications for natural resource management, including water resources	
11 Ensure all relevant land managers are engaged and supported in pest control programs by 2014	
12 Develop cross boundary protocols and guidelines for pest control by 2014	
13 Identify and implement priority research needs in support of MATs 7 to 12 by 2014	
14 Survey and map regional ecosystems, including environmental water requirements, by 2016	
15 Develop programs to support the management and recovery of 50% of the conservation priorities identified within the SAAL Biodiversity Strategy by 2016	
16 Determine the status and vulnerability of 50% of non-priority species, ecological communities and ecological processes by 2016	
17 Commence research to improve knowledge regarding ecosystem function and services for priority ecosystems by 2014	
18 Enhance the public, private and indigenous protected areas network within 80% of all IBRA subregions by 2017 to improve climate change adaptation capacity	
19 Identify priority GAB springs for protection from total grazing pressure by 2012 and protect 50% of those by 2018	
20 Identify other priority aquatic ecosystems for protection from total grazing pressure by 2014 and protect 50% of those by 2018	
21 Develop a regional action plan for pest animal and plant control in aquatic ecosystems in the SA Arid Lands region by 2014	
22 Ensure that the Water Allocation Plan for the Far North Prescribed Wells Area is being fully implemented by 2014	
23 Ensure that a sustainable program for monitoring and repair of leaking artesian bores is in place by 2014	
24 Complete a management/rehabilitation plan for currently flowing artesian bores by 2012 and implement by 2016	
25 Integrate the policies and actions to sustain the GAB within national policies and actions by 2014	
26 Develop water extraction guidelines for surface water systems by 2014	



In Oodnadatta for the annual review of the SAAL NRM Board's Business Plan

-  No progress
-  Limited progress
-  On track
-  Complete

MANAGEMENT ACTION TARGET

STATUS

27	Ensure Water Affecting Activities administrative processes are in place and land managers are aware of their responsibilities by 2011	
28	Review Water Affecting Activities requirements to ensure that they are consistent with the objectives of maintaining natural flow regimes by 2014	
29	Implement protection, management and/or rehabilitation measures in at least 10 priority ecosystems by 2016	
30	Develop a regional water resources research register, highlighting information gaps, priorities, responsibilities and potential funding sources by 2012	
31	Ensure that high research priorities are being addressed by 2014	
32	Work with Aboriginal people to establish engagement process for involvement in natural resource management by 2013	
33	Develop landscape assessment framework by 2014 and ensure all development and land management standards incorporate ESD principles by 2016	
34	Review the extent and priority of impacts upon natural resources associated with features of cultural importance by 2016	
35	Identify soil erosion priority areas and initiate on-ground management by 2014	
36	Establish consultative arrangements for the assessment of soil conservation implications of proposed new infrastructure by 2012	
37	Develop register of priority infrastructure sites with significant soil disturbance/erosion and initiate on-ground management by 2014	
38	Ensure that 50% of pastoral and other broad-acre land managers are applying best practice measures for dingo and fox control and management by 2014	
39	Establish strategic response protocols regarding over-abundant native species by 2014	
40	Establish process for managing native vegetation clearance offsets by 2014	
41	Develop best practice natural resource management guidelines relating to tourism by 2014	
42	Ensure 50% of tourism operators are accredited for Environmentally Aware Tourism by 2014	
43	Review feasibility of expanded partnerships with regional industry and identify priority areas/issues for partnerships by 2014	
44	Develop a predictive water demand model for the region by 2014	
45	Review policies and practices for management of wastewater by 2014	
46	Ensure that programs are in place to provide up-to-date natural resource management information to all sectors of the community by 2014	
47	Develop a support program to increase the participation of Aboriginal people in projects that link with Aboriginal priorities by 2013	
48	Establish ongoing dialogue with relevant educational bodies and ensure inclusion of regionally relevant natural resource management issues in local school programs by 2014	
49	Review adequacy of current training and skills development programs in natural resource management for community by 2012	
50	Identify any significant barriers to effective natural resource management associated with infrastructure by 2014	

Our Board

Section 25 of the *Natural Resources Management Act 2004* provides for the appointment of the South Australian Arid Lands Natural Resources Management Board. The Board comprises up to nine members appointed by the Governor of South Australia on the recommendation of the Minister for Sustainability, Environment and Conservation.



Janet Brook
Presiding Member



Leanne Liddle



Leonard Nutt



Daryl Bell



Catherine Hollingsworth



Rick Barratt



Murray Tyler



Ross Sawers



Michael Malavazos
(Department for Manufacturing, Innovation, Trade, Resources and Energy)



Neil Power
(Department for Environment, Water and Natural Resources)



Toni Bauer
(Outback Communities Authority)

In addition to the appointment of community representatives, there are three non-voting Board members authorised by the Minister to represent the interests of the State



VISIT US

The Natural Resources Centre SA Arid Lands provides a one-stop service where you can access services and information on National Parks and the management of wildlife, land and water

Level 1, 9 Mackay St, Port Augusta
SAAridlands@sa.gov.au
8648 5300

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GRAPHIC DESIGN
elevenacross.com.au

PREPARED BY
Jenny Barker (Senior Communications Officer)
Jackie Watts (Monitoring & Evaluation Officer)

