



ACROSS THE

OUTBACK

APRIL 2019

Reduced stress brings productivity gains

Cattle handling techniques to reduce stress, increase productivity and encourage positive change to the landscape were featured at popular workshops held in the far north of the region in March.

An initiative of the Marla Oodnadatta NRM Group, the two-day Stress-Free Stockmanship workshops were presented by animal behaviour expert Bruce Maynard and were hosted at Todmorden and Mount Barry Stations.

Twenty-six stockmen and women from 15 properties took part in the practical workshops which saw groups take it in turns handling and moving cattle through the yards.

Mr Maynard said the aim of learning Stress Free Stockmanship techniques is to ensure animal handlers take an active role in assisting animals to destress following a stressful event. This has resilience benefits for the animal which will reproduce at higher rates, grow quicker and get sick less often, as well as the handler and the broader landscape.

"If you take an active role and give the animal practice in destressing, they then learn the behaviours and are able to better recover," Mr Maynard said.

"Animals that are not stressed will eat a wider range of plants, which broadens their diet and also means they can graze across the landscape rather than eating a limited range of plants.

"It has real implications for the landscape and is good for business with greater productivity and easier work, it's also a personal win for the handler."

Bruce said at both of the workshops participants were able to get a significant amount of change in the animals and he was impressed by the high attendance levels and skills of participants.

Some comments from the workshops included:

"I was pleased to be involved with the Stress Free Cattle Handling Work and found Bruce Maynard a great instructor. Well done to the organisers."

"Great initiative and top marks to all who made the effort to participate. Bruce is the best no stress animal behaviouralist."

If you are interested in finding out more, resources are available at stressfreestockmanship.com.au

William Clarke, Sihle Jiyane, Douglas Lillecrapp, Tom Martin and Harvey Vermeulen take time out during the Stress Free Stockmanship training course at Todmorden Station in March

**YOUR
NRM Levy
at work**

FAREWELLING AND WELCOMING NRM BOARD MEMBERS

The NRM Board farewelled three of its members at the February meeting. Catherine Hollingsworth and Leonard Nutt have provided a long and valuable service to the SA Arid Lands region, having each served eight years on the Board. Malcolm Pridham has opted to not renew his term and has provided three years of service to the Board.

The Board also welcomes the appointment of Dr Ellen Litchfield, from Wilpoorinna Station near Marree for a two-year term. A third generation pastoralist, Ellen has practical experience in primary production and pastoral land management through her work on the Litchfield family properties located between Lyndhurst and Marree. Current Board Member Jan Ferguson has also been appointed to continue with the Board for another two years.

2019 SA ARID LANDS NRM BOARD MEETINGS

- Tuesday 30 April and Wednesday 1 May 2019
- Tuesday 25 and Wednesday 26 June 2019
- Tuesday 27 and Wednesday 28 August 2019
- Tuesday 22 and Wednesday 23 October 2019
- Tuesday 17 and Wednesday 18 December 2019

*Dates may be subject to change

Welcome to the return of the printed edition of *Across the Outback (ATO)*.

While we have been continuing the ATO as online editions, the Board has made the decision to return to two printed versions a year, based on the results we received from the community in our Communications Survey last year.

The results highlighted that people wanted the ATO to continue and a balance of print and online is sought by our readers. As a result of what you told us, we will be continuing to deliver two paper and two online editions of the ATO annually. The printed edition also incorporates the reporting previously featured in On Track.

In Board news, it has been a busy time. We have finalised negotiations with the Australian Government for four new projects in our region using the second round of National Landcare Program funding (NLP2). The revised draft of the Water Allocation Plan (WAP) is nearing completion and we will be seeking your input over coming months to shape the final plan. The Board's business plan for the next three years has also been out for comment and has now been adopted by Minister for Environment and Water David Spiers. And most importantly, the consultation process has been underway for the new Landscape Act which will replace the current NRM Act in South Australia.

The consultation process for the proposed Landscape Act in our region was quite comprehensive considering the size of our region, with the Board and the District NRM Groups involved in making comment on the proposed changes.

There will be some major changes introduced as a result of the Landscapes Act but many of these will be behind the scenes and the transition to the new Act should be a relatively seamless one for the SA Arid Lands community. The new Act will bring some exciting new opportunities, one of which is the proposed addition of the Port Augusta, Quorn and Hawker areas into the SAAL region. Although there will be some challenges with the addition, the areas are a good fit.

The new Landscapes Boards will be 'at arms length' from government which will allow for more flexibility to respond to the region's priorities and adopt a back to basics natural resource management approach.

As a Board, we have been incorporating the upcoming changes into our decision making. You would notice the new style of Business Plan and reporting in this publication picks up on some of the new language and design that will be in line with the introduction of the Landscapes Act. We have also been conscious not to make major changes to the Board's business that will impact on the ability of the new board to make adjustments to regional priorities and activities. It is however, business as usual for the SAAL Board, the staff and our regional activities.

Please enjoy the return to the printed edition of *Across the Outback*.

Janet Brook
Presiding Member

LANDSCAPE PRIORITIES

The Government's priorities under the proposed Landscapes SA reform include a 'back to basics' approach for natural resource management which includes focussing on soil, water, pest plants and animals, biodiversity and stewardship. These symbols will be used throughout the Board's publications and highlight the priority areas of projects and programs.



Soil quality



Water management



Pest plant and animal control



Other stewardship priorities
eg. revegetation



Reform of NRM

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The SA Arid Lands community was strongly represented in the consultation for the reform of the current natural resources management (NRM) system late last year.

The South Australian Government is committed to reforming NRM – focusing on a back to basics approach targeting soil quality, water management, pest and plant control and biodiversity conservation – and its proposed new Landscapes SA Bill was tabled in parliament in March. The aim is that the current NRM Act will be repealed and the new legislation be introduced later in 2019 once it has passed through the two houses of parliament. This will see a new process for appointing Board members including a vote by community members for some positions, some members appointed by the Minister for Environment and Water, and the Boards known as Landscape SA Boards rather than NRM Boards. A boundary change is also proposed for the SAAL region to include Port Augusta, Quorn and Hawker.

Across the State there were 250 written submissions received and 26 community forums, five of which were in the SA Arid Lands at Marree, Coober Pedy, Leigh Creek, Yunta and Nepabunna, as well as one in Port Augusta. The SA Arid Lands community was engaged in the consultation that informed the development of the new Bill to ensure the regions needs and desires were considered. Submissions were made by the North Flinders and North East Pastoral NRM Groups along with a formal submission by the SAAL NRM Board. The Board advocated heavily for retaining the district NRM Group model and this was echoed by attendees at all of the forums in the region as well as by the NRM Groups.

Some key aspects of the statewide feedback included:

- regional communities wanting less 'red tape' and a greater voice in decision-making, with local Board membership reflecting their communities

- overwhelming support to distribute some levy funding from the metropolitan area to regional South Australia
- regional communities want a system of managing natural resources that not only focuses on the basics of delivering effective water management, pest, plant and animal control, soil and land management but also focuses on biodiversity
- the need to ensure that landscapes are climate resilient and support our regional communities, primary producers and economies to thrive
- new conservation and nature based sector sought greater support for ecological communities with thriving biodiversity
- strong support across all areas of the state for the continuation of nature education and nature stewardship

At the same time as the reform of the NRM system is underway, the Department for Environment and Water is also undergoing its own reform process to line up with the proposed transition to Landscape SA Boards. As of 1 July 2019, NRM Boards (or the new Landscape SA Boards) are not expected to sit directly in the DEW structure as they have done. The Boards will be reporting directly to the Minister.

And while there will be a partial separation of DEW and NRM, a focus remains on maintaining and strengthening partnerships including jointly working on projects in the region, sharing facilities, and maintaining one shop front at Mackay Street.

To stay updated on the reform process go to www.yoursay.sa.gov.au/decisions/landscape-reform

\$10m funding secured for land management and conservation

Projects across the SA Arid Lands region will benefit from just over \$10m in Australian Government funding to be spent over five years.

The SA Arid Lands Board was successful in winning funding for four projects in the second round of the Australian Government's National Landcare Program (NLP2). The projects range from one to five years for conservation and land management initiatives and will include SAAL NRM staff working with NRM Groups, landholders and communities to deliver the projects.

Feral animal control and removal of invasive weed species to improve conservation outcomes for threatened plant and animal species is a significant component of two of the projects: Bounceback and Beyond (five year project) and Coongie Wetland Wonders (five year project).

The remaining two projects have a sustainable agriculture focus with Landscape Legacies (one year) capturing and sharing stories of successful soil rehabilitation, and Grazing Best Management Practice (four year project) providing industry-led performance benchmarking for improved sustainability and profitability in the South Australian pastoral zone.

SA Arid Lands NRM Presiding Member Janet Brook welcomed the National Landcare funding to support the work of the Board in the region.

The new round of Australian Government funding brings to a close previously funded projects including Ranges to Riches and Desert Jewels.



Landscape Legacies

Best-practice soil conservation activities from across the region will be captured as part of an SA Arid Lands NRM Board program.

Landscape Legacies is recording successful stories of soil rehabilitation after recently being awarded funding from the Australian Government's National Landcare Program.

The 12-month program began in July 2018 and is focussed on collecting historical data to capture stories from sites where soil management works have been successful over the past 30-40 years.

As part of the project, case studies will be presented from properties that have actively taken part in soil management works including reseeded, and mechanical techniques including pitting, contour ripping, water ponding and diversions.

This will allow land managers and people living in the SA Arid Lands and other Rangeland environments to learn from tried and tested soil management works on arid properties prior to starting, or expanding, their own projects.

The combination of techniques that have provided the best results will feature in case studies and stories of the successful outcomes and the lessons learned will be shared.

Among the benefits of the program will be the identification of long-term changes in ground cover on selected sites. There is also the opportunity for land managers to engage with industry experts to understand the effectiveness of different soil management practices and look at ways to improve retention of soil moisture and perennial vegetation on their properties.

OUR PERFORMANCE

ACHIEVEMENTS SINCE JULY 2018

Property site assessments: 8
Workshops: 2

SAAL NRM STRATEGY: 2, 13

2. Increase and diversify participation in NRM activities
13. Provide opportunities for landscapes to adapt





Bounceback and Beyond

This five-year Australian Government funded project will reduce the impacts of foxes and goats across the landscape for wildlife and livestock and improve the conservation status of a range of native flora and fauna species.

Bounceback and Beyond significantly expands the positive impacts of 26 years of coordinated landscape-scale feral animal control under the State-funded Bounceback Program and related Commonwealth grants. This ongoing investment directly resulted in the spectacular recovery of the Yellow-footed Rock-wallaby across much of its former range as well as the recent unfenced reintroduction of Western Quolls with help from funding partner – the Foundation for Australia’s Most Endangered Species Ltd. (FAME).

The project will expand management and monitoring activities well beyond the original Bounceback footprint, benefiting livestock as well as plants and animals recognised as threatened under national environmental legislation. In addition to the Western Quoll and Yellow-footed Rock-wallaby, these species include: the Sandhill Dunnart; four bird species – Malleefowl, Plains-wanderer and two species of Short-tailed Grasswren; a native fish – Flinders Ranges Purple-spotted Gudgeon; and six tree or shrub species – Slender Bell-fruit, Purplewood Wattle, Menzell’s Wattle, *Xerothamnella parvifolia*, Spidery Wattle and Ooldea Guinea-flower.

By re-engaging with private landholders previously involved in Bounceback and targeting new areas that support habitat for threatened species, the aim is to expand current activities by more than 4600km².

Staff will work with landholders on pest management to ensure complementary ground baiting is undertaken at optimal times between aerial work, and that goat mustering and ground shooting are undertaken at suitable times.

Complementary monitoring will be set up on properties undertaking normal land management in similar types of country to compare more intensively fox and goat managed areas against current standards. The monitoring will include the use of motion cameras and on-ground assessments of the impact of goats and other herbivores on vegetation. Monitoring of threatened species will also be undertaken using a combination of best practice methods.

Motion-activated infrared cameras will be set up to provide comparative information on euros, western grey and red kangaroos, goats, wild dogs, foxes, cats, rabbits, emus, echidnas and any other animal larger than a rat that may be in the area. Properties involved will be able to access information from the cameras on the animals found on their properties. In some areas, this information will also include yellow-footed rock-wallabies, possums, quolls, malleefowl and bustards. The work will also provide information on the effectiveness of wild dog control on properties involved in the Biteback program, including the impact on foxes.

The impact of herbivores will be assessed along transects in areas inaccessible to

livestock – usually the steeper ranges or areas away from water points. The focus of these impact assessments is shrubs and trees, particularly those that are most palatable to goats. The proportion of individuals of a species that are heavily browsed versus lightly browsed will be recorded along each transect. This will provide a baseline for comparison with areas where goats are effectively managed and be a reference for future monitoring. At a regional scale it will inform which vegetation species may be threatened if goats are not managed to low levels.

Community involvement will be a focus of this project, with community stakeholders to be involved in planning and promoting on-ground activities through the relevant NRM groups. Landholders, Aboriginal Traditional Owners, community groups, Friends of Parks groups and volunteers will be involved in the management activities and monitoring where possible.

OUR PERFORMANCE

ACHIEVEMENTS SINCE JULY 2018

745,000 ha baited for foxes,
across 3 parks & 11 properties

SAAL NRM STRATEGY: 8

Maintain an effective cross-jurisdictional biosecurity system





Wetland wonders

The Malkumba-Coongie Lakes and associated Cooper Creek floodplains and swamps cover an area of more than two million hectares. As well as being a wetland of international importance, they are home to a variety of birds and animals reliant on the inland waters.

One of the five-year NLP2 projects being delivered by the SA Arid Lands Board and funded by the Australian Government, the Wetland Wonders project aims to protect the wetland environment and local threatened species, by controlling pest plants and animals at the Malkumba-Coongie Lakes Ramsar Site.

Work supported by the funding will protect environmental values recognised through the Ramsar Wetlands Agreement. This will include protecting the habitat of endangered animals including the Dusky Hopping Mouse, and Crest-Tailed Mulgara, as well as maintaining diversity of native fish species in the waterholes. Monitoring of the populations of species will also be carried out along with acoustic surveillance to determine the presence of the recently re-discovered Night Parrot.

Invasive weeds including Buffel Grass and Mimosa Bush will be treated and pest animals including feral pigs and large feral herbivores will be controlled to reduce the damage they do to waterholes and vegetation, the first feral animal control program taking place in late 2018.

Along with wetland habitats, the area also includes dune fields and gibber plains known to support threatened species also listed under Federal Environmental Legislation.

Project work will include:

- Assessing the extent and significance of impacts from exploration track and infrastructure development on surface flows and vegetation to guide future planning.
- Region-wide pest animal controls focussing on pigs and large feral herbivores.
- Managing weed infestations with focus on new strategic invasions to minimise further spread.
- Assessing impacts of pest species on the natural systems and the effectiveness of managing these pests.
- Improving the understanding of the extent and condition of the region's natural values.
- Supporting a strategic adaptive management approach through the Lake Eyre Basin Partnership.

The Ramsar site supports six nationally and/or internationally listed species of conservation significance.

These are the wetland-dependent and nationally endangered Australian Painted Snipe, Curlew Sandpiper plus the terrestrial Dusky Hopping-mouse, Plains Mouse, Kowari, Crest-tailed Mulgara (Ampurta) and potentially the Night Parrot.

It contains a number of different wetland types, land systems and vegetation communities that are characteristic of the bioregion.

A substantial number of migratory birds periodically use the Coongie Lakes wetlands, including 18 species listed under International migratory bird agreements, with 17 also listed as threatened. The site also supports the substantial breeding of other waterbirds, with 55 species recorded breeding at the site since being listed in 1987.

The area provides breeding habitat and drought refuge for many species of waterbird and fish with water from the upper Cooper in Queensland regularly reaching Coongie Lake which rarely dries out.

The Ramsar Wetlands agreement is part of the Ramsar Convention – an intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources. It was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975. It protects 2331 sites internationally covering 249,591,447 hectares. In Australia there are 66 sites covering 8,307,329 hectares – more than two million of which is at Malkumba-Coongie Lakes.

OUR PERFORMANCE

ACHIEVEMENTS SINCE JUL 2018

188,000 ha pest control, 5,100 ha weed control, 3 monitoring surveys

SAAL NRM STRATEGY: 8

Maintain an effective cross-jurisdictional biosecurity system



**YOUR
NRM Levy
at work**



Olary community grant

Habitat for Yellow-footed Rock-wallabies has been improved by reducing feral goat numbers in the Olary Ranges through the support of a SAAL Board Community Grant.

The \$10,000 granted for the Olary Ranges Aerial Goat Shoot was applied for by Jumbuck Pastoral in the 2017/18 round to assist with the cost of helicopter hire and saw 1057 removed.

The Community Grant project aimed to maintain enough pressure on feral goats to improve the health of native vegetation and Yellow-footed Rock-wallabies.

Richard Williams of Plumbago Station led the project, saying surveillance before the shoot, combined with prior knowledge of goat hotspots were used to map to maximise the effectiveness of helicopter time.

The aerial control operations were completed on Plumbago Station, Bimbowrie Conservation Park and Boolcoomatta Reserve in March 2018 in just over 14 hours flying time.

Participating properties have committed to ongoing feral goat control to allow them to continue to protect and enhance the native vegetation that benefits Yellow-footed Rock-wallabies by seeking future funding opportunities, maintaining surveillance and ground shooting and continuing to monitor the feral goat browse pressure.

This project, as an extension of the existing Bounceback program, and combined with the management by Jumbuck Pastoral on its participating properties was deemed an outstanding success to provide effective control of feral goats through continuity of controls.

PROPERTY	FERAL GOATS REMOVED
Bimbowrie Conservation Park	751
Plumbago Station	240
Boolcoomatta Reserve	66

New Community grants Round

Following the success of the 2017/18 grants program which saw the SA Arid Lands NRM Board provide \$100,000 to support 14 community projects, the Community Grants Program is returning.

The last grants round saw the successful delivery of projects including assisting the development of the Andamooka Arid Explorers Garden, opuntia control in the north Flinders, rabbit warren ripping and reducing feral predators.

Under the current round which opened on 1 April, 2019 land managers, progress associations and volunteer groups in the region are invited to submit applications for grants of up to \$10,000 for natural resources management (NRM) projects.

“The Board is pleased to be able to offer a second round of the community grants program following the overwhelming success of the inaugural program last year,” Janet Brook, Presiding Member of the SA Arid Lands NRM Board said.

Ms Brook said among the projects the Board will be looking to support are those that focus on the Back to Basics approach of pest and weed control, biodiversity, soil conservation, water, and sustainable agriculture.

Successful projects will be assessed against criteria that include broad alignment with the SA Arid Lands NRM Board’s Regional NRM Plan 2017-2027. The Board welcomes applications from single groups and properties; however collaborative, multi-partner applications tackling landscape-scale issues will be viewed favourably.

KEY TARGET AREAS INCLUDE:

- native vegetation and native species management and monitoring;
- support for biodiversity;
- soil conservation and erosion control;
- water resource management;
- pest plant and animal control;
- initiatives that support sustainable primary production.

For more information about the grants and to complete an application form go to www.naturalresources.sa.gov.au/aridlands/get-involved/grants-and-funding

Grant applications opened on 1 April 2019 and close on 31 May 2019.

OUR PERFORMANCE

ACHIEVEMENTS 2017/18
Number of projects: 14
Funding amount: \$100,000

NRM STRATEGY: 2, 12

2. Increase and diversify participation and capacity in NRM activities;
12. Build the capacity of communities to adapt.



Biteback news

BEST PRACTICE CONTROL

Baiting to reduce wild dog numbers has been the focus of the Biteback team during autumn, with bait injection services offered as part of the Biteback program underway for 2019.

Landholders south of the dog fence were invited to attend services in the North Flinders from 4-8 March, North East Pastoral District 19-22 March and the Kingoonya/ Gawler Ranges service from 8-16 April.

While delivering the bait injection services, Wild Dog Project Officer Chris Havelberg has also been discussing baiting at best practice levels.

Copies of the *Best Practice Guidelines for Wild Dog Control* released by the SA Arid Lands NRM Board in October 2017 have previously been sent to all land managers experiencing wild dog impacts.

The document outlines methods for implementing best practice control methods to reduce wild dog numbers. This is required by all land managers on properties in the SA Arid Lands located south of the dog fence to significantly impact on the wild dog population.

Wild Dog Project Officer Chris Havelberg said that reactive baiting can no longer be relied on solely to reduce wild dog numbers

“When talking to land managers about their baiting efforts, often they are localised to areas where there are stock impacts or where wild dog tracks are seen, but consideration also needs to be given to other areas of the property that may not be regularly visited,” Mr Havelberg said.

Best practice guidelines are based on a minimum level of proactive baiting effort, rather than reactively baiting after the damage is done. It involves baiting across a large scale area, regardless of signs of wild dog activity.

“It’s the most effective way to reduce high dog numbers in a short time. This method of baiting will not remove all wild dogs in an area, but it will remove a high proportion of young dogs who have not previously been exposed to bait and older dogs who are scavenging to survive,” he said.

“This allows land managers to concentrate their control efforts between coordinated baiting events on the breeding age dogs that are often harder to remove from an area.”

To achieve a large scale reduction in wild dog activity south of the dog fence, Mr Havelberg said land managers need to be coordinating their baiting efforts with their neighbours at the coordinated bait injection services.

The SAAL NRM Board uses the Best Practice Guidelines baiting records as a benchmark to assess landholder compliance with destroying wild dogs as required under the NRM Act. The Board has recently endorsed its compliance enforcement plan which will be implemented over the coming months targeting a number of landholders who are not implementing wild dog control.

For assistance with determining Best Practice baiting levels for your property, and any other wild dog queries, please contact Wild Dog Project Officer Chris Havelberg on 8648 5962 or email chris.havelberg@sa.gov.au

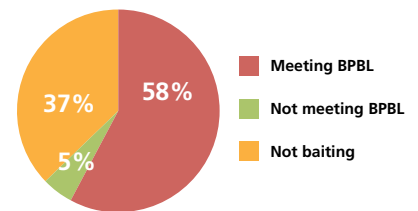


Wild Dog Best Practice Guidelines – download a copy at www.naturalresources.sa.gov.au/aridlands under wild dogs.



Wild Dog Project Officer Chris Havelberg injects baits

Land managers meeting Best Practice Baiting Levels (BPBL) in 2018



The percentage of land managers meeting the best practice level of baiting on their properties for 2018.

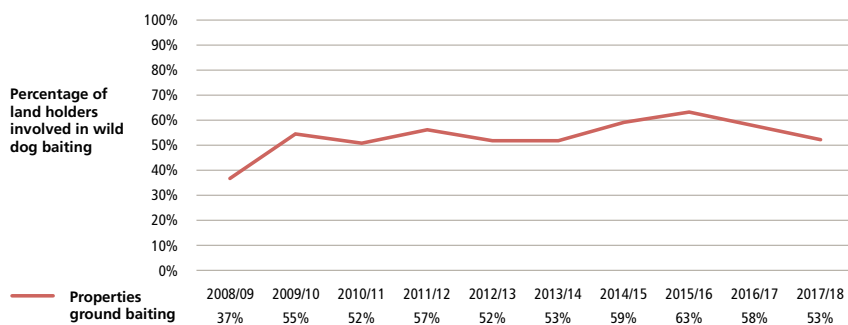
Currently almost 60% of properties in the SAAL region are meeting Best Practice levels of baiting. And while a further 5% are baiting but not meeting best practice baiting levels, almost 40% of all properties south of the dog fence in the SAAL region were not baiting for wild dogs during 2018 (according to the 1080 records database).

This includes 60 (36%) of livestock properties in the region, which are at most risk from wild dogs, not undertaking any baiting during 2018 and six (almost 4%) not baiting at best practice levels.

For non-livestock properties, records show that 14 (44% of non-livestock properties) not undertaking any baiting and five (16%) not baiting at best practice levels during 2018.

With almost 45% of the region south of the dog fence unbaited or under baited, this can enable wild dogs to travel through the landscape.

Land holder participation in injection services



Bait injection services participation

Participation rates at coordinated bait injection services of all 198 properties located south of the dog fence in the SA Arid Lands region has averaged 54 per cent since the Biteback program started a decade ago.

STATE TRAPPER PROGRAM

The State Government's wild dog trapper program, which began on 1 July last year continues to support land managers in wild dog impacted parts of the state with a total of 201 dogs controlled, 39 properties supported and about 210 hours of training undertaken to date. Land managers are encouraged to participate in the program by applying through the PIRSA website (www.pir.sa.gov.au/trappers). To be eligible to receive a trapper under the program, a property must, in the past six months, have carried out baiting in line with the SA Arid Lands NRM Best Practice Guidelines for Wild Dog Control.

SPRING BITEBACK UPDATE 2018

Ground Baiting (south of the fence) – Total Baits distributed (Spring (July – December) 2018)

- Managers south of the dog fence received 155,025 baits during the 2018 Spring baiting services. This was more than 90,000 baits higher than any other time in the programs history. This significant increase in baits can be attributed to the 93,850 free manufactured baits that were purchased by PIRSA and given to land managers to reduce wild dogs numbers prior to the Government funded Trapper program commenced.

Ground Baiting – Land manager participation (Spring period July – December 2018)

- 75 land managers (38%) from south of the Dog Fence attended coordinated injection services during the Spring baiting period. This was slightly below the previous spring period.

AERIAL BAITING

The 2019 aerial baiting program will be delivered in early May. Careful analysis of wild dog activity reports from land managers will see this year's program focus on high wild dog activity areas and will deliver a higher volume of baits over a smaller area than last year.

This year's program will also use a different type of bait to reduce the risk of dogs becoming shy to any one particular bait type.

MONITORING

Information on wild dog activity and control efforts received from land managers through the Biteback program are used to identify the extent of the issue.

This data also assists to provide evidence for the need for ongoing resources to assist land managers and also distribute resources to key wild dog hot spot areas. When no data is received from properties, it can only be assumed that there is no wild dog activity.

(2018 – January to December)

- 108 land managers (55%) returned maps for properties south of the Dog Fence for the 2018 calendar year. This was 18 less than the previous calendar year.
- Returned map information is used to determine high wild dog impacts and priority areas where more effort and resources will achieve the most benefits for land managers.

Data collected from returned maps 2018 (South of the dog fence)

Shot	Trapped	Seen	Stock Losses
260	201	196	5438

MAPS FOR 2019

Hard copy property maps have been sent to all landholders for recoding activity for the first half of 2019. Please hold onto this map and continue to add wild dog control/damage information until a new map arrives in the mail during June.

If you haven't already returned your previous map (July 1 – December 31, 2018), it's not too late.

WILD DOG SCAN APP – MONITORING ACTIVITY ONLINE

The Wild Dog Scan App is an alternative method of reporting wild dog activity on your property rather than using the current paper map system. It is available to download free on both android and apple devices and it allows land managers to map wild dog impacts, activity and control efforts in real time.

This data can be shared with your neighbours or Biteback group members to ensure wild dog activity is acted upon quickly and before impacts are experienced.

All land managers in the SA Arid Lands region are strongly encouraged to use the app as an alternative method of reporting wild dog activity in their area. The App allows you to record data when you are out of phone range, and upload it when you have connectivity.

Speak to your local community engagement officer or Biteback officer about Wild Dog Scan.

The Wild Dog Scan App can be downloaded at the App Store or google Play. More information is available at www.feralscan.org.au

OUR PERFORMANCE

ACHIEVEMENTS JULY 2018-DEC 2018

Bait injection services: 23
Participating properties: 74
Baits supplied: 155,025

SAAL NRM STRATEGY: 8

Maintain an effective cross-jurisdictional biosecurity system



Cochineal cleaning up cactus

A voracious microscopic insect is proving successful in sucking dry problematic cactus across areas of the SA Arid Lands.

Cochineal (*Dactylopius* spp.), a scale insect native to the Americas, is proving effective in tackling *Opuntia* (cactus) species including prickly pear, devil's rope and wheel cactus, across the region.

Cochineal are host-specific insects that have been used as a biological control agent since the 1920s. It was traditionally harvested for its natural red dye, carmine.

The Blinman Parachilna Pest Plant Control Group has been using cochineal in recent years to tackle wheel cactus in hard to access areas of the northern Flinders Ranges. While the volunteer groups are still using the herbicide, glyphosate for control, they have been increasing their role in growing and harvesting cochineal for use in the area. Promising results have also been witnessed on Prickly Pear east of Blinman, on devils rope cactus in the Flinders Ranges and on Jumping Cholla in the Gammon Ranges.

Natural Resources SA Arid Lands has also been expanding the use of cochineal in the Kingoonya and Gawler Ranges regions with some very successful results on coral cactus and wheel cactus, as well as some promising signs on the potentially devastating Hudson pear.

Through the SAAL Board, the Gawler Ranges NRM Group is exploring the possibility of having a cochineal holding facility in Port Augusta, which would grow and maintain populations of cochineal for different cactus species present in the region. This would then be used to disperse onto *Opuntia* species. It would also provide an insurance population for the most virulent strains of cochineal.

To date Natural Resources SA Arid Lands has been sourcing cochineal from Biosecurity Qld. The region having access to its own populations has a number of benefits including the cochineal being acclimatised to the local conditions; not being dependant on national supply and demand issues; allows for forward planning of *Opuntia* control; and can be accessed when required.

While cochineal is having success in controlling these Weeds of national Significance (WONS) it is not a silver bullet for *Opuntia* control, with herbicide still recommended as part of an integrated cactus management plan.

The image below left is of a coral cactus infestation in north western Gawler Ranges in November 2017. SAAL staff placed cochineal at the site and returned in January this year and observed that the cochineal is decimating the population, with the cactus turning black and crumbling and the young plants are blanketed by cochineal.



Coral cactus infestation in the north western Gawler Ranges, prior to the use of cochineal, November 2017

The same site in January 2019

The image on the right shows how cochineal released on *Cylindropuntia proliferata* (Jumping Cholla) at Arkaroola has established itself at the site. In just 12 months it is impacting the health of the pest plants with this photo taken in March 2019, one year after the initial release.

Hudson pear a threat to agriculture

Hudson pear (*Cylindropuntia rosea*) is an invasive cactus species that is now widely spread in areas of north-western NSW. It is also present in the Port Augusta region and is known to be on at least one pastoral property in the region. This *Opuntia* species is particularly nasty, with its extremely sharp spines able to puncture motor bike and car tyres. The NSW experience is that it has seriously degraded areas of land it has taken over, destroying ecosystems and having adverse impacts on native fauna and flora as well as stock. If it is not removed from the landscape, or its impact minimised, it severely reduces the amount of land available for stock and subsequently reduces land values.

SAAL staff are working to control the known population of Hudson pear and cochineal infected pads were received from Biosecurity Qld in December 2018 and deployed onto the site. This is the first time cochineal has been introduced into the region for this *Cylindropuntia* species and early signs are showing that the cochineal population is taking hold and growing.



Cylindropuntia proliferata (Jumping Cholla) at Arkaroola



Infected Hudson pear (*Cylindropuntia rosea*)

ABOUT COCHINEAL

- The insect has a 55-day breeding cycle, producing ~2000 offspring each cycle
- It lives on Opuntiods and feeds on sap, releasing an enzyme and effectively sucking the plant dry and killing it
- Cochineal is host specific and there are different species and biotypes of cochineal that live on a particular *Opuntia* species
- Cochineal is active in its lifecycle but are less active in winter months. Rain can wash the insects away or drown them.
- The reproductive fitness can vary and it's important to protect and spread these productive strains. This fitness varies within a population and can affect development success, development time and number of eggs laid over a lifetime.
- Predation from ants and beetles can impact cochineal. Controlling ants around cactus by spreading Coopex powder around the base can help protect the cochineal long enough to allow it to establish.
- Cochineal was first released in Australia in 1920 and many strains have been released since then.
- When harvesting infected cladodes (pads), it is best to cut them off at the node to reduce the area of sap flow. Cochineal that walk onto the sap can drown. Greaseproof paper can also be used to slow down the sap flow.

OPUNTIA ASSISTANCE AND INFORMATION

Contact SAAL Biosecurity Officer Paul Hodges on 8648 5194 or email paul.hodges@sa.gov.au to report any cactus, discuss options for cochineal release as part of management plans.

OUR PERFORMANCE

ACHIEVEMENTS SINCE JULY 2018

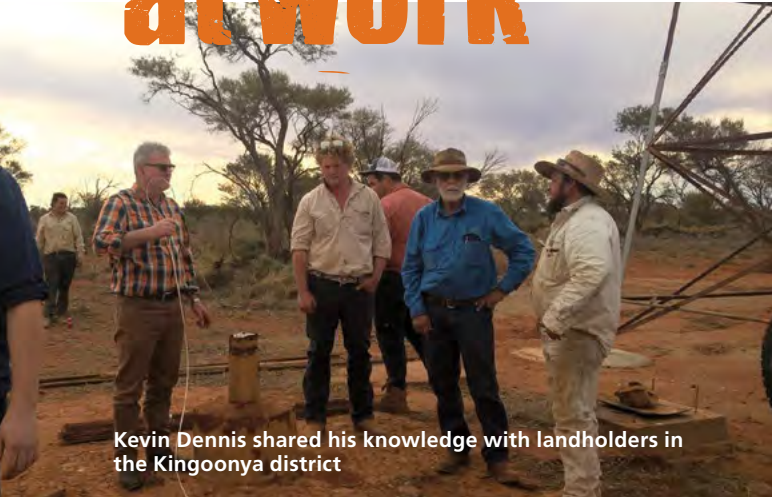
Properties cochineal released on: 4 (these releases were by SAAL staff only and does not include volunteer assisted releases)

SAAL NRM STRATEGY: 8

Maintain an effective cross-jurisdictional bio-security system



YOUR NRM Levy at work



Kevin Dennis shared his knowledge with landholders in the Kingoonya district

BORE MAINTENANCE WORKSHOPS

Land managers in the Kingoonya district were able to broaden their knowledge at a bore maintenance workshop held at Commonwealth Hill Station on 21 September 2018.

An initiative of the Kingoonya NRM Group, the afternoon demonstrated how fundamental water extraction and bore maintenance are to people's livelihoods.

Water experts Kevin Dennis and Michael Gogoll from the Department for Environment and Water shared their extensive water knowledge and on-ground experience with the 21 attendees.

The session included lowering a camera down an unequipped bore to show live footage of its condition, as well as information on aquifers and the Great Artesian Basin.



Herpetologist Julian Craig and participants of the Woomera workshop

SNAKE AWARENESS SESSIONS

Through the 10 Snake Awareness workshops held in the Kingoonya district in September, Herpetologist Julian Craig was able to share information with more than 200 people on snake behaviour.

Sessions were held in Woomera, Andamooka, Roxby Downs and Olympic Dam to prepare for the rise in snake numbers that coincided with the return of warmer weather.

The sessions covered snake bite first aid, behaviour demonstration of seven venomous snakes including some found in the local area, how to get away without aggravating the snake, as well as information about other animals that bite and sting.

The sessions were jointly funded by a BHP Community Grant, the Far North Science Hub, and the SA Arid Lands NRM Board. The Wildlife Hotline funded an additional two-day snake handling training course for wildlife hotline volunteers.



The horse shoe chair was a popular winner of the art prize

RECYCLED ART A WINNER

A chair made from horse shoes, a chicken wire emu and a bicycle wheel Christmas wreath were among the entries in Coober Pedy's Recycled art competition held in November 2018.

The event, held for the second year, is an initiative of the Marla Oodnadatta NRM Group, and is aimed at promoting recycling and reuse to reduce the impact of unwanted waste on the environment.

Entries also included pallet planter boxes, a mosaic table and a mosaic artwork, rusty garden sculpture, Melbourne cup hat and a variety of recycling themed posters and displays focussed on refashioned clothing and recycling cans and bottles.



Matt, Kate and Jen at the Comedy Night

COMEDY NIGHT

Pastoralists in the Gawler Ranges had the chance to meet their NRM Group members at a comedy night, aimed to provide some light relief from the pressures from a prolonged dry season.

Held in Port Augusta in August 2018, it was also a chance to welcome new community engagement officer (CEO) Chris Fulton, and farewell Louise Gavin who had been the CEO for the Gawler Ranges group for the past few years.

The night also promoted the role of SAAL NRM in the region and gave people a chance to chat with Gawler Ranges NRM group members, raising awareness of their presence and highlighting the work of the NRM group in the region.



Mary Chirgwin from Zoetis spoke at the field day



The Dusty Feet Mob performed at the Marree Field Day

MARLA-ODNADATTA FIELD DAYS

The Marla-Oodnadatta NRM Group hosted its two-day Field Day on March 1 & 2. Day one was held at Mt Barry Station with more than 100 people attending, including 30 students from Coober Pedy Area School who assisted with catering and learnt about careers in the pastoral and mining industries.

Former CEO of the NT Cattlemans Association, Tracey Hayes was the guest speaker at the evening dinner attended by 100 people at the Italo Australian Miners Club.

Day two of the event included stall holders and presentations on animal health, the new Water Allocation Plan, telemetry, red meat production and heavy vehicle regulations. About 160 people attended the day at Coober Pedy Area School.

MARREE FIELD DAY

The Marree-Innaminka NRM Group's Field Day, held for the first time in Marree, featured stall holders as well as technology presentations and more at the June 2018 event.

The purpose of the day was to provide a platform for local red meat producers to access information, tools, support around land management and production as well as access stakeholders such as industry bodies, suppliers and contractors. The program included: new technologies such as drones, remote weighing and telemetry; information on bore maintenance, Great Artisan Basin and water extraction; grazing pressure; wild dogs; mental health and fitness; cultural information; and access to suppliers and local contractors

Funding for the Field Day was provided by the SA Arid Lands NRM Board, National Landcare Program and external sponsorship from Santos.



Marla Oodnadatta Community Engagement Officer Sarah Stevens at the William Creek Weather Station

WILLIAM CREEK WEATHER STATION

A joint initiative by the SA Arid Lands NRM Board and the Outback Communities Authority (OCA) is keeping northern pastoralists up to date with the local weather.

The William Creek weather station was lobbied for by the Marla Oodnadatta NRM Group to fill a gap in data and forecasting in the region. The closest weather stations are all several hundreds of kilometres away in Oodnadatta, Coober Pedy and Marla.

The purchase of the \$14,000 weather station is part of the Board's commitment to climate change initiatives in the region. It was purchased through funding from the National Landcare Program and OCA has taken over its long-term management.

Current conditions and summaries for past periods can be viewed at: www.awsnetwork.com.au/station/2854



Becky Casanova and Josh Lines lead the sheep dog training at the field day

NORTH WEST PASTORAL FIELD DAY

The Kingoonya NRM Group hosted the North West Pastoral Field Day on 6 July 2018, attracting about 140 people from throughout the district.

Those attending were able to learn new skills including tips for sheep dog training, butchering their beef and removing salt from bore water. Information was also offered about sheep pregnancy scanning, drones, feral animals, weather, water and solar power and battery storage while company representatives delivered presentations on wool, livestock health, telemetry, commodities and mental health. Livestock SA also held a northern meeting of producers during the event.

The event was supported by the SA Arid Lands NRM Board and attracted additional sponsorship from Oz Minerals and SheepConnect SA. The North West Pastoral Isolated Children's and Parents Association also supported the event by providing catering.



Participants at the North East Pastoral Planning Day



Kingoonya group planning session



Sharing ideas at Boolcoomatta

NRM Group planning

**YOUR
NRM Levy
at work**

To determine the projects that NRM groups in the region will focus on, a new method of planning is being trialled. Open Standards planning is widely used in conservation and land management. It provides a systematic approach to identifying NRM priorities, the strategies and actions that will be most effective in the project design phase, and how progress will be measured. Monitoring the effectiveness of our efforts is key to adapting and improving what we deliver.

KINGOONYA PILOT

The Kingoonya NRM group trialled the Open Standards process for district planning at a community planning workshop at Roxby Downs in November 2018.

Eight group and community members attended the day and discussions focused on wild dog and fox management, improving people's knowledge and capacity in land management, control of priority weeds and bore capping and maintenance.

Participants were positive about the community-driven approach to planning, and the Kingoonya NRM group will progress project ideas at coming meetings. If you have ideas you want to contribute, please contact Kingoonya Community Engagement Officer Lucy Goldspink on 8648 5903 or email lucy.goldspink@sa.gov.au

NORTH EAST PASTORAL PLANNING

Members of the North East Pastoral NRM group, Adnyamathanha and Wilykali Traditional Owners, Bush Heritage Australia, pastoralists and property managers also participated in a two-day planning workshop in March 2019 to develop a joint plan for managing the North East landscape.

Supported by Natural Resources Northern and Yorke and Natural Resources SA Arid Lands the workshop was held at Boolcoomatta.

High total grazing pressure, feral pests and predators, and threats to cultural values were amongst the priority issues identified, and the group discussed and evaluated a range of potential management strategies.

The workshop built on existing planning work done by the NEP NRM group and included planning work undertaken for Bimbowrie Conservation Park and the adjacent Boolcoomatta reserve, a conservation property managed by Bush Heritage Australia.

The NEP NRM group will continue to support the plan's development through its regular meeting and will also seek input from the wider community. Priorities identified in the workshop will inform project development and activities in the district.

For more information on planning in the NEP district or NRM group activities, please contact North East Pastoral Community Engagement Officer Matt Westover on ph 8648 5385 or email matthew.westover@sa.gov.au

OUR PERFORMANCE

ACHIEVEMENTS SINCE JULY 2018

Community planning workshops: 2

SAAL NRM STRATEGY: 1,2,3

1. Encourage sustainable living and engagement with nature
2. Increase and diversify participation and capacity in NRM activities
3. Support cross-cultural innovation and knowledge sharing (traditional, local and scientific)





Members of the Toyota Landcruiser Club worked across Gum Creek clearing Wheel cactus (and below)



Heather Ford and Carmel Paxton of the Great Tracks Clean Up Crew

Members of the Great Tracks Clean Up Crew unload tyre bits to the bin at Moomba



OUR PERFORMANCE

ACHIEVEMENTS IN 2018

Opuntia control:
1604 hours, more than
50 volunteers

Great Tracks Clean Up:
2700 volunteer hours,
28 people, 44 tons rubbish
collected

Monitoring trips:
8 volunteers, 530 hours



SAAL NRM STRATEGY: 1, 2, 3

1. Encourage sustainable living and engagement with nature
2. Increase and diversify participation and capacity in NRM activities.
3. Support cross-cultural innovation and knowledge sharing (traditional, local and scientific)

Volunteers in the SA Arid Lands

Volunteers remain key to improving the landscape across the SA Arid Lands region.

In the 2017/18 financial year, 108 people contributed more than 8400 hours to SAAL programs and activities.

Time spent ranged from pest plant control, survey monitoring and rubbish collection to park maintenance and heritage restoration.

In the Flinders Ranges work on cactus (opuntia) control continued at Alpana, Gum Creek, Angorichina, Moolooloo, Blinman Town Common and at Oratunga. To control the spread of cactus volunteers drill and fill the cactus pads with glyphosate and also spread the biological control agent cochineal.

The cochineal is reported to be continuing to spread naturally onto healthy cactus plants and is helping wipe out populations of cactus.

The Great Tracks Clean Up Crew's annual trip focused on the Birdsville and Strzelecki Tracks and saw 29 volunteers contribute 3306 hours to collect 44 tonnes of rubbish.

Organisers of the annual trip, which has previously collected large rubbish, were amazed at the amount of small 'trash' collected this year. Some of their unique finds included a toilet seat, a galvanised rainwater tank and cans of unopened beer.

Over their 12 years, the group has collected 673 tonnes of rubbish and contributed 28,513 hours to removing the rubbish from outback areas.

Over the year, the Friends of Ikara Flinders Ranges National Park contributed 2960 hours to park maintenance over a variety of projects. These included historic building restoration and repairs, Wheel Cactus treatment and removal, campground and visitor site maintenance including picnic table sanding/oiling and barbecue ring maintenance. They were involved in the Sacred Canyon project which included refurbishing the carpark, constructing toilet access steps and ramp, and took part in a tree planting exercise with students from Hawker Area School.

These volunteers also worked on the Appealinna precinct up keep, Oraparinna and Wilpena Ranger Station site maintenance, and assisting with Arkaroo Rock infrastructure removal and general walking trail maintenance.

A further 530 hours were contributed on survey, monitoring and mapping trips by volunteers. The Friends of Vulkathunha Gammon Ranges National Park helped assess the condition of Wetootla Gorge, searched for the endangered Arkaringa Daisy at Arkaringa, and in Gawler Ranges National Park volunteers assisted with monitoring numbers of the short-tailed grass wrens.



**YOUR
NRM Levy
at work**

Participants at the feral pig workshop at Curnamona, hosted by the North East Pastoral NRM Group

New feral pig skills prove successful

Attendance at a feral pig workshop at Curnamona Station last year has paid off for Norton Warnest from Martins Well in the North Flinders.

Norton put his new skills to work on his property and was able to take care of 20 feral pigs. Here he tells of his experience with feral pig control.

“A sow and three piglets were spotted on Martins Well in September 2017 while mustering cattle. The piglets were about three months old and were seen about 300m from a trough and running through Cottonbush floodout country,” he said.

“Historically, the odd pig was seen or shot by the previous owners from time to time.

“No other sign of pigs were noticed until late April 2018, when rooting was observed around the permanent waters of Artipena Springs, which consists of about four kilometres of large deep waterholes interspersed with swampy reedbeds and marshy areas. At the time, I estimated the presence of only three or four pigs.

“I went along to the Curnamona workshop to learn about the best ways to bait and trap pigs, along with their general habits.”

“I found the workshop to be most helpful and informative, and although we didn’t nail any pigs on the day, I felt the course instilled in me enough knowledge and confidence to approach the task of eradicating the vermin on home soil.”

Returning home with a plan to survey the pig activity, Norton’s results showed that numbers had increased, a larger amount of soil had been disturbed and many scats found. The pigs were feeding on the young bulrush shoots.

The pigs had also dispersed. Five medium sized pigs were found close to the homestead, settling on hay that had been put out to feed the rams after shearing.

Armed with a bucket of feed supplied at the workshop, Norton set about feeding the group, although it took a couple of weeks for them to start to look for the free feed. Twenty hot baits were placed after three weeks of feeding and Norton was pleased to find five dead pigs, all within close proximity.

Buoyed by his early success, Norton turned his attention to Artipena Springs, where he had found fresh signs of pig presence.

“I settled on a reasonable location for camera surveillance, affording a short walk for rebaiting/camera checking and an elevated view, as not to disturb the pigs had they been in the vicinity when approaching,” he said.

“With the camera set, around 20 free feeds were distributed over a fairly large area of about two acres, allowing interception of any pigs moving up or down the spring system. They were placed in the middle of the springs but away from the water.

“Two days later we snuck down for a look and spotted nine pigs of an assortment of sizes and ages. It was apparent they had only just discovered the free feed, so more free feeds were outlaid.

“Upon checking a few days later, the same number of pigs were revealed on camera, feeding mostly early morning or late afternoon. Another round of free feed was administered, this time concentrated more around the camera, to gain a better understanding of numbers present. A sow with a litter of three or four juveniles and a boar showed up.



Change of Minister for Pastoral Act

The beginning of 2019 marked a change for the Pastoral Board, which now falls under the Department of Primary Industries and Regions.

This means the Pastoral Act (*Pastoral Land Management and Conservation Act 1989*) is now administered under the Minister for Primary Industries and Regional Development, Tim Whetstone.

The change has also seen the transition of the Pastoral Unit, which supports the Pastoral Board and Minister, to the Department of Primary Industries and Regions SA (PIRSA), where it is housed as part of the Rural Solutions SA division in PIRSA's Adelaide and Port Augusta offices.

Pastoral lands are a major agricultural resource for South Australia and as the key economic development agency for the state's primary industry sector, the transition of the Pastoral Unit to PIRSA brings exciting opportunities for increased collaboration across PIRSA and the pastoral industry.

The Pastoral Board remains committed to working closely with industry partners to identify new industry development opportunities, and to provide efficiencies in pastoral regulation.

The Board will continue to hold meetings across the region and updates will be provided regarding community forums to be held in 2019.

To provide feedback or to contact the Board, call the Pastoral Unit at PIRSA on 8429 0333 or email Pastoral.Board@sa.gov.au.

Pastoral Board and pastoral lease information will also be available on the PIRSA website in coming weeks, via www.pir.sa.gov.au. A link to the Pastoral Board information will also remain on the SA Arid Lands NRM website.

"The hot bait was then substituted in place of the free feed and three days later the lot was taken. On inspection of the camera, it was found there actually had been seven more pigs – a second sow and litter and more juveniles.

"More hot bait was put out and those that had not had a taste the first time cleaned it up.

"I really should have persisted with the free feed for another week or so to ascertain a more reliable count, as I feel I didn't have enough hot bait out the first time.

"Luckily most pigs were cleaned out, but camera footage showed three small pigs from one litter became shy of the bait, assuming they were pushed out by the bigger pigs and only had a small amount. There is also a single boar that had previously not shown up on camera during the baiting, only coming in a few days after the completion of the program.

"I wonder if perhaps trapping initially may have been a better approach, knowing now that I was dealing with 15 or more pigs."

A further seven dead pigs were sited within 300m of the bait and a very small piglet less than one week old was caught and destroyed. The mother was found dead and the remaining litter presumed perished too.

Large tracks were also found near Norton's own domestic pigs and a large black boar was shot early one morning as Norton fed his animals. He was a 90kg large black boar with lighter points, large razor sharp tusks and very thick battle pads on his shoulders.

FLINDERS FERAL PIG WORKSHOP

Baiting and trapping skills will be covered in a Pig Workshop to be held at Martins Well on Wednesday 5 June 2019.

The workshop will be run by Grant Davies, Senior Biosecurity Officer, Local Land Services Western Region and Troy Crittle, Invasive Species Officer Vertebrate Pests, Biosecurity NSW.

Attendance is free, but if you intend to come along, please RSVP for catering purposes to North Flinders Community Engagement Officer Matthew Westover at matthew.westover@sa.gov.au or call 0438 816 210.



Feral pigs captured on camera at Martins Well feeding on free baits



The Bubbler at Wabma Kadarbu Mound Springs Conservation Park

Far North Prescribed Wells Area Water Allocation Plan

WHAT IS CHANGING?

The South Australian Arid Lands Natural Resources Management Board (the Board) has committed to the development of a new Water Allocation Plan (WAP) for the Far North Prescribed Wells Area (FNPWA). This is a Statutory Responsibility of the Board.

The FNPWA was prescribed on 27 March 2003 and the first WAP was adopted on 16th February 2009. The WAP covers all wells drilled in the aquifers of the FNPWA, including the South Australian portion of the Great Artesian Basin (GAB).

The FNPWA covers an area of 315,000 km² (32% of the State), and includes the towns of Coober Pedy, Oodnadatta, William Creek, Marla and Innamincka with an approximate population of 4,000. The areas industries and annual economic value include: pastoral – \$84 million, mining – \$2.8 billion, oil and gas – \$4.5 billion, tourism and cultural enterprises – \$150 million. Groundwater from the GAB and the other aquifers provide a reliable water source for these industries. The GAB also supports endemic spring complexes that are listed as endangered under the *Environmental Protection and Biodiversity Conservation Act 1999*. The WAP sets out how water is shared between users including the environment, and how water can be accessed.

Why is the WAP for the FNPWA being changed?

As required by the *Natural Resource Management Act 2004* the Board undertook a review of the current plan and resolved to develop a new plan. The main reasons for this decision are:

- To reflect the changes to legislation which occurred in 2009, to meet the requirements of the National Water Initiative, to separate or ‘unbundle’ water rights, which provides more security around water rights and enables easier transfer of water rights.
- While the existing plan acknowledges that Aboriginal culture is connected to the water resources of FNPWA, the cultural relationship to water is not well understood or well documented in the current WAP.
- Due to emerging water demands, consider a more flexible approach to the management of the resource to enable opportunities for sustainable economic development.
- A raft of scientific work has been undertaken since the existing plan was drafted which has significantly changed our understanding of how the SA portion of the Great Artesian Basin functions. This improved understanding needs to inform the management of the resource.
- While the principles in the existing plan have provided a robust management framework for the GAB water resources, all of the water resources in the region are prescribed and the existing plan is largely silent on the management of non-GAB water.

What is the process for developing the draft plan?

The drafting of a new water allocation plan is not a simple undertaking. The SAAL NRM Board and its Water Advisory Committee have been working on this project for over 12 months and are now at a stage where discussions with the community about aspects of the plan are an important input.

Work undertaken to date includes:

- Initial consultation

The Board wrote to all stakeholders in November 2017 advising that the Far North Water Allocation Plan had been reviewed and that the Board had decided the plan needed to be amended. The letter invited people to complete a survey as part of the initial discussions about the new plan.

What has been happening since the initial consultation?

- The Board completed a 'Situational Analysis' to provide background to the new plan.
- An understanding of what is possible under the revised legislation has been developed.
- Developing an understanding of what demands are emerging

What will happen next?

The preparatory work has now been completed and the Board will undertake some targeted consultation on aspects of the plan. This process will engage with key stakeholders to provide input into the next stage of the process which will result in a Draft of the new Far North PWA Water Allocation Plan.

The Draft Far North Water Allocation Plan will then be released for formal consultation where all interest groups have the opportunity to comment on and shape the final plan.

Once the Board has finalised its work, the Plan will then be presented to the Minister for Environment and Water for consideration.

What is not changing in the new plan?

- The objectives for the new plan are largely unchanged.
- GAB springs are still robustly protected.
- Rights of existing licences are maintained.

What changes are currently proposed for the new plan?

- Licensees' rights under the new plan will be 'unbundled'. (See "New Water Licensing System" fact sheet)
- The resource will no longer be managed based on purpose of use. The WAP will now manage the resource based on impact to the water resource which is not dependent on what the water is proposed to be used for.
- There are two options of principles for people to consider. One which applies the same rules to all water users regardless of the purpose the water is intended to be used for, and a second which effectively quarantines water for stock and domestic supplies such that it can only ever be used for domestic and pastoral purposes. (See "Options for Draft Principles" fact sheet on the SAAL website)
- The Act requires that the needs of water dependent ecosystems are assessed and that, once assessed the WAP must ensure that there is sufficient water to sustain these ecosystems. In the FNPWA the groundwater is prescribed so the measures in the new Plan apply to those ecosystems that depend on groundwater.

In the case of the Great Artesian Basin (GAB) springs the primary focus is on maintaining pressure in the aquifer so that the springs and soaks continue to have water flowing to them.

There are other groundwater dependent ecosystems in the region that will also have their protection enhanced if the measures proposed in the new Plan are adopted.

- The existing cap on water available to the gas and petroleum sector will be removed.

What does all of this mean for my water licence?

Your Water Licence will look different.

Depending on the feedback on the principles options the ability to trade water may be enhanced.



Aaron Smith

AARON SMITH is the SA Arid Lands' Senior Water Resources Officer who can assist you with any questions regarding water affecting activities in the region.

Aaron can provide advice or guide you to the right department with regard to bore maintenance, drilling permits and water licences.

A Water Affecting Activity (WAA) is described as any infrastructure that diverts water or alters flows from a natural watercourse, potentially impacting ecosystem health or other users. All of these need a WAA permit.

Some examples include:

- the construction or enlargement of dams, or other structures that collect or divert water
- building or placing of structures in or near a watercourse such as construction of water crossings or dumping of material
- Excavating or removing rock, sand or soil from a floodplain, watercourse, lake, waterhole or rock hole
- Draining or discharging water into a watercourse or lake, or building infrastructure that will convey this water into a watercourse or lake.

Advice on groundwater extraction including requirement for a water licence and the legal responsibilities associated with bore ownership can also be provided.

"Water users in the Far North Prescribed Wells Area are reminded that the licence condition for water-tight water delivery became enforceable on all stock and domestic licences from 16 February 2019," Aaron said.

A water-tight delivery system is a self-enclosed water reticulation piped system with no leaks, including within the well headworks.

If you have any questions on Water Affecting Activities, groundwater use or concerns with meeting your water licence conditions, please contact Aaron Smith on 8648 5300 or email aaron.smith3@sa.gov.au

FOR MORE INFORMATION

The Board's website provides access to scientific reports and fact sheets supporting the development of the new plan.

Direct enquiries are welcome and should be made to David Leek, Principal Policy Officer, Department for Environment and Water.

P 0419 862 973 or 8648 5300

E david.leek@sa.gov.au

www.naturalresources.sa.gov.au/aridlands

New life for Aroona Dam

A disused dam in the Northern Flinders Ranges is once again offering a lifeline to communities in the region.

Located four kilometres south of the Leigh Creek township, Aroona Dam was once the key water source for the former coal mining town. The dam is no longer used as a water supply, with an alternative source in place, but it remains an important recreation space.

The dam has been open for fishing since 2018 due to anecdotal evidence of fish once being caught there. From 1 April 2019, it will offer new tourism opportunities to Leigh Creek and the region when, for the first time in its history, it will be open to non-motorised water craft such as kayaks and canoes.

The opening of the dam to non-motorised water craft as well as recreational fishing will provide new and unique visitor experience for the region, and will attract visitors to the Flinders Ranges to base themselves in the town.

Former coal mine operator Flinders Power has worked with the Department for Environment and Water (DEW) to make the new activities possible, assisting with funding to stock the dam with fish as well as providing a floating safety barrier behind the dam wall. Signs to manage risk and facilitate on-water access for kayaks and canoes have also been installed.

DEW has also worked with RecFish SA to create a future, high quality fishing experience. Ten thousand Murray Cod and 20,000 Golden Perch (yellow belly) fingerlings were released into the Dam in late February and are expected to take just two years to grow to a good size.

Danny Simpson for Recfish SA said the fish were selected as they are fast growing and are an attractive catch for recreational fishers. It is expected that the fish will thrive given the good habitat the dam provides and good food sources.

The guidelines around fishing are still to be finalised and include consideration of if it will be a catch and release site or a limited take zone.

SMART FARMS

Round two of the Smart Farms Small Grants program attracted strong interest from landholders within the SA Arid Lands Region.

Funding applications submitted from the region focussed on telemetry, soil rehabilitation, solar panel installation for bores, revegetation, options for collaborative management of total grazing pressure, biocontrol for pest plants, innovative technology to assist with locating pest plants and, fencing to enhance grazing and production potential.

Successful projects are expected to be announced before the end of the 2018/19 financial year.

Smart Farms is a component of the National Landcare Program administered by the Department of Agriculture and Water Resources. The grants program supports the adoption of best practices that improve the management and quality of natural resources and increases on-farm productivity.

Applicants can apply for between \$5000 and \$200,000 for projects that support on-ground activities to increase knowledge and capacity for farmers, and facilitate the adoption of tools, technologies and improved land management practices to effectively, sustainably and productively manage natural resources and adapt to significant changes in climate, weather and markets.

Another four rounds of Smart farms Small Grants are expected annually under the program until 2022-2023. The community grants website has the grant opportunity guidelines and grant terms and conditions and can be found at www.communitygrants.gov.au/grants/national-landcare-program-smart-farms-small-grants-0

Contact Melissa Horgan for more information on 8648 5148 or melissa.horgan@sa.gov.au



Support and resources for land managers in dry times

The continuing dry period is being felt across the SA Arid Lands region, as well as in other areas of the State.

While unfortunately there is no magic wand to make it rain, there are a number of services and avenues PIRSA has for assistance that are available to support farm families, businesses and communities as they manage through drought.

Drought Hub: pir.sa.gov.au/drought

PIRSA's Drought Hub is an easy-to-navigate portal that provides South Australia specific information and resources on health, wellbeing, finance, technical advice, and grants.

Drought Hotline: 1800 255 556

Those who have questions about their circumstances or animal health or welfare can contact PIRSA on the dedicated 24-hour Drought Hotline.

Rural Financial Counselling Service:
1800 836 211 or ruralbusinesssupport.org.au/RFC/

Delivered by Rural Business Support, the Rural Financial Counselling Service offers independent, confidential and professional business support for primary producers and related agricultural business owners who are experiencing financial difficulties.

The service can help with information about Farm Household Allowance (FHA), RIC loans, Farm Debt Mediation and SACWA financial assistance applications.

Support is also available to help people to prepare for lender meetings, plus business analysis and referrals to other services.

Family and Business Support Program

The Family and Business (FaB) Support Program supports the health and wellbeing of communities impacted by weather-related events.

FaB mentors are available to meet and connect individuals, farming families and regional businesses to the appropriate services and programs available.

Each mentor is experienced in discussing, addressing and providing advice about the difficult issues that arise as a result of drought.

To connect with John White, FaB mentor in the Arid Lands region, please email: PIRSA.Recovery@sa.gov.au or call John on 0447 787 436

On-Farm Emergency Water Infrastructure Rebate: pir.sa.gov.au/onfarm-water-rebate

The On-Farm Emergency Water Infrastructure Rebate scheme is available for drought affected farmers in South Australia who invest in new on-farm water infrastructure.

Eligible farmers can access a one-off 25 per cent rebate up to \$25,000, which can be applied to new purchases and installation of pipes, water storages, water pumps, and de-silting dams. The rebate can also be applied to drilling of new stock water bores and associated infrastructure including desalination plants and power supply such as generators. The rebate scheme covers work undertaken from 1 July 2018. The On-Farm Emergency Water Infrastructure Rebate Scheme is funded by the Federal Government and delivered by the State Government.

Tourism impacts

Tourism is a major economic driver in the region, attracting an annual income of about \$425m.

The SA Arid Lands is fortunate to have some of the States, and arguably Australia's, best natural assets with the Simpson Desert, Dalhousie Springs, Coongie Lakes, Kati-Thanda-Lake Eyre, Gammon Ranges and Flinders Ranges all featuring in our patch.

Combined with iconic towns like Coober Pedy, William Creek, Blinman and Innamincka and legendary tracks there is plenty to attract people to the region. And tourism is a growing industry with income increasing from \$320m in 2014 to \$425m in 2018. In 2018 the Flinders Ranges and Outback was also the second most visited region in SA attracting 717,000 visitors, second only to the Fleurieu Peninsula on 730,006.

With the increase in visitor numbers comes the challenge of ensuring that the region is not negatively impacted by increased litter and environmental damage and respect and courtesy is shown when accessing pastoral properties. All six NRM Districts have reported that negative visitor impacts have been experienced by pastoralists and communities, and the SAAL Board is supporting its Groups to promote messages to the travelling community about travel etiquette.

TOP 10 TRAVEL TIPS
Arid landscapes are incredibly fragile. They support a wide range of truly unique and amazing plants and animals. Every step off the path and every wheel off the track will have a lasting impact.

If you are not travelling through a national park or conservation reserve, you are likely to be travelling through a pastoral property – someone else's backyard – where people manage the landscape to make a living.

Here are 10 top tips to help enjoy your stay, and look after the landscape.

- 1. CHECK ROAD CONDITIONS**
Outback road conditions can change quickly depending on the weather. Plan for your trip and check road conditions, including Desert Parks roads, at bit.ly/outbacknow or call 1300 361 033. If you're planning to head to a National Park book ahead at bit.ly/bookahead. Visitor Information Centres can also help with road information and bookings.
- 2. KEEP ON THE TRACK**
For the safety of the fragile landscape and your vehicle, please keep to designated tracks. It is an offence to drive off established tracks without proper authority. Soils are fragile and prone to erosion, and plants can be very slow growing. Driving off track can also damage cultural sites.
- 3. CAMP IN DESIGNATED AREAS**
Camp only in designated areas or where you have obtained permission by the land manager. Please respect all signs and structures and remember that pastoral properties and buildings are people's homes and businesses. Please respect their backyard and camp more than a kilometre away from any buildings.
- 4. CAMP AWAY FROM WATERPOINTS**
Camping close to stock watering points disturbs grazing stock and could result in you having a few dozen noisy neighbours joining you at your campsite. Camp more than 500 metres away from these areas. Always seek permission from the land manager before camping on their property.
- 5. BRING YOUR OWN FIREWOOD**
Do not collect wood in outback areas – it is a limited supply and used by animals for shelter. Always check fire restrictions and be aware that some National Parks do not allow wood fires.
- 6. BE MINDFUL OF WASTE DISPOSAL**
Use designated dump points for RV and caravan waste and take your rubbish to the nearest town facilities for disposal in bins.
- 7. USE PUBLIC TOILETS**
When possible plan your toilet stops by checking the distance to the next amenities. If toilets are unavailable, dig a deep hole, burn any toilet paper and fill in the hole.
- 8. WATCH FOR ANIMALS ON THE ROAD**
Kangaroos come out after dark. Avoid a repair bill or getting stranded, by not driving after dark and before dawn. Sheep and cattle also graze on unfenced pastoral properties, so drive with this in mind. And for the safety of other road users, please remove any deceased animals off the road.
- 9. KEEP OUR WATER CLEAN**
Water is scarce and our unique plants and animals depend on it. Please do not use soap or detergents in or near waterholes, stock watering points or artesian springs.
- 10. STAY IN CONTACT**
Many areas of the Flinders and Outback do not have mobile phone coverage so UHF radios can be a great way to stay in contact with your group. UHF radios are also used by people living and working in the outback. Channels 11-30 are best to use, and in an emergency, Channels 1 to 8 or 31-38.

Looking for a true taste of station life? A number of stations offer a range of different accommodation options. Some also offer the chance to test your 4WD skills in an environmentally friendly way with 4WD tracks and tours. Visit a local visitor information centre to see what is on offer.

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

FLINDERS RANGES
FLINDERS RANGES OUTBACK
SOUTH AUSTRALIAN GOVERNMENT

Your NRM Levy at work

TRAVEL TIPS POSTER PROVES POPULAR

A poster promoting positive visitor behaviours is proving popular with tourist operators and communities across the SA Arid Lands region.

The Top 10 Travel Tips poster provides key messages to visitors on respecting the environment, both on pastoral property and on National Parks and conservation reserves.

Originally an initiative of the North Flinders NRM Group, copies of the poster have now been provided to all NRM Groups across the region and a reprint has been done for anyone requiring additional copies. The poster has also appeared in the latest edition of the Flinders Ranges and Outback Visitor Guide which prints in excess of 60,000 copies to be distributed within South Australia and interstate. The Guide is also available online.

If you would like copies of the poster to display, please call Community Engagement Officer Matthew Westover on 8648 5385 or email matthew.westover@sa.gov.au



Signs installed on the Strzelecki Track



Peter Newman and Peter Mbuteti

SIGNS INSTALLED ON STRZELECKI & BIRDSVILLE TRACKS

In a project that commenced a few years ago, the Marree-Innamincka NRM Group has installed signs promoting the responsible disposal of waste ahead of the 2019 tourist season. Placed at key areas along both tracks the signs also recognise the traditional owners at each site.

The 10 signs were installed in January this year.

Andrew David Nicholson 1932-2018

The Australian rangelands community is poorer for the passing of Andrew David Nicholson in June last year, but richer for the legacy he created.

Born in 1932, Andrew was a third generation born of pastoral family on Middleback Station properties near Whyalla.

A well-educated man, Andrew was an agricultural science graduate from the University of Adelaide. He worked as a sheep researcher for the CSIRO at Cunnamulla before returning to Middleback. A lifelong learner and assimilator of diverse knowledge, Andrew integrated his knowledge of geology, botany, animal production, sheep genetics, economics and people and applied it to his work.

Many people benefited from Andrew's quiet, deep wisdom and generosity. This included visitors to Middleback Station, including many generations of Rangeland students from the University of Adelaide and those on field tours, meeting participants of the then South Australian branch of the Australian Rangelands Society. More recently visitors to Adelaide Botanic Gardens, benefitted from Andrew's diverse knowledge where he reinvented himself as a garden guide and impressed visitors with first-hand accounts of Australia's arid vegetation.

Some benefited from Andrew's generosity in assistance with research and teaching – allowing use of the shearer's quarters and station facilities, fetching sheep for grazing experiments and sharing his wisdom as a scientific collaborator to benefit students' work.

When the association with the University of Adelaide was formalised in a joint venture between the Nicolsons, the university and the SA Minister for the Environment, Andrew chaired the Board throughout the life of the Agreement.

Andrew and his son Nico were interviewed at last year's Australian Rangelands Conference in Port Augusta. Andrew happily shared the secret of success at the Middleback properties was their subdivision into small paddocks, each grazed by a small number of sheep around a single watering point. It came about because the dust from the Wizzo Well that watered 12,000 sheep was so heavy, it collapsed the ceiling of the nearby Roopena Homestead and Andrew's grandmother demanded action.

He talked about the importance of good record keeping, of the enjoyment he and his wife Lesley gained from research students and of Middleback's symbiotic relationship with the BHP Steel works and its former chairman Sir Essington Lewis.

The Middleback properties were acquired by the Defence Department to expand Cultana Defence Training Facility. It ended the Nicholson tenure just short of 100 years.



Andrew Nicholson

Soon after retiring to Adelaide, Andrew joined the volunteer guides at Adelaide Botanic Garden, where he enjoyed meeting people and explaining the biological significance of the shapes of leaves and other topics.

In his last few days he donated the botanical notes accumulated over 17 years to the most recent intake of guides, and provided historical information to the new owners of Nonowie, the perpetual lease to the south of Middleback.

The Western Myall country he grew up in was never far from his thoughts.

With thanks to Dr Martin Andrew for this information, previously printed in greater detail in the July 2018 edition of Range Management Newsletter.



Martin Andrew, left, interviews Andrew right, and his son Nico, centre, at the Australian Rangelands Society Conference in Port Augusta in September 2017

Water flows into Innamincka

ACROSS THE OUTBACK

Across the Outback is prepared and edited by the Communications team, Natural Resources SA Arid Lands, a division of the Department for Environment and Water. It is currently funded by the SA Arid Lands NRM Board. This edition also incorporates reporting on the Board's progress which previously appeared in *On Track*. Comments and suggestions are always welcome.

Please contact cherie.gerlach@sa.gov.au or 8648 5979.



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Floodwaters flow through the outback

Floodwaters arriving in Innamincka from Queensland through the Cooper system has put a smile on local faces.

The first sign of water arrived in the town at 9am on 2 March 2019 and continued until it was well over the Causeway by 5 March.

The town has enough water to start off the tourist season and locals are very happy to have the water flowing again. At the time of printing, it seemed likely that a second heavy downpour in Queensland in late March is likely to provide enough flows to reach the Coongie Lakes.

Water from the Queensland floods in February and again in March have also made their way down the Diamantina and Warburton rivers to Lake Eyre.

Lake Eyre is starting to fill from the Queensland floodwaters. This image was taken between Alton Downs and Birdsville

FISH MOVEMENTS IMPROVED IN THE COOPER

Two newly completed crossings on the Cooper North West Branch will be a substantial improvement for water and fish flows in the region.

Completed by SANTOS, the new crossings are made up of three large rectangular culverts and replaces a series of small metal pipes previously in their place.

Senior Research Officer from the South Australian Research and Development Institute David Schmarr said the new structure was a substantial improvement on the previous crossing.

"This type of structure will provide much better fish passage at low flows, given they are largely bypassed at larger flows," Mr Schmarr said.

"Large flows into Coongie Lakes are relatively rare, so it is important that fish can move freely through the system in the regular low flows."



The new crossings will assist water and fish flow more easily through the Cooper