Government of South Australia
Kangaroo Island Natural Resources Management Board

Natural Resources Centre
37 Dauncey Street
PO Box 39
Kingscote SA 5223
T 08 8553 4444
F 08 8553 2531
E kinrc@sa.gov.au
ABN 86 052 151 451

11 August 2014

I Hunter, MLC
Minister for Sustainability, Environment and Conservation
GPO Box 1047
Adelaide SA 5001

Dear Minister Hunter

Re: State Government Boards and Committee Reform

I write in response to your recent letter requesting advice on the value of the Kangaroo Island Natural Resources Management Board in response to the Premier's intention to abolish all state government boards and committees as of 30 October this year.

As Presiding Member of the Kangaroo Island Natural Resources Management Board, I would like to emphasise the value that the Board provides to the Island community and in particular to landholders. It is my intention also to ask that you advocate strongly for the retention of the Kangaroo Island Natural Resources Management Board.

Whilst Kangaroo Island is a relatively small area of South Australia with only a small population it does have some of the State's best natural resource assets. Its separation from mainland Australia and independent island nature make it important for these assets to be managed separately, uniquely and locally.

As the first place of European settlement in South Australia, Kangaroo Island has over its full 178 years of settlement been heavily reliant on its natural resources for its commercial existence and resident survival. From sealing, yaccas gumming, eucalyptus oil, wood cutting, salt scraping, wallaby and possum skins, fishing and farming all have been crucial to its survival. There is no doubt that the management of these resources during the early years of South Australian development and subsequently following World War II when large scale land clearing took place showed great care and respect for the landscape of Kangaroo Island. Nowhere else in South Australia was land cleared to leave corridors of native vegetation along roadsides, fence lines and creeks. Nowhere else have populations of native fauna remained and flourished like they have on Kangaroo Island. Nowhere is there a myriad of native species that have survived and been left to flourish in their own untouched communities. The Kangaroo Island community has clearly demonstrated a long history of capable self-management.

This has resulted in a region now with wonderful undamaged natural systems, which together with its unspoilt rugged coastlines, abundant and clean rivers and streams, fresh air and island remoteness makes it a sought after retreat to many conservationists, tree-change retirees and people choosing to escape from a busy and hectic society. The

great dilemma, of course, is that there are many on Kangaroo Island who demand a progressive and vigorous commercial region that will provide for their families on an appropriate income source and financial opportunities together with the expensive community social requirements of good education, health and communication services. Those who have come, having built wealth elsewhere, or come wishing to hideaway have of course different expectations about how this should occur within our unspoilt environment. It is in this area of conflict resolution and achieving consensus that the commitment and credibility of the Board and its members are vital.

There are of course great opportunities for agricultural production and the clean unspoilt nature of Kangaroo Island sits exceptionally well with the States "Premium Food and Wine from our Clean Environment Action Plan". Kangaroo Island's clean environment certainly its air, water and land, its island identity and recently released brand identification creates huge opportunities for natural resources management to partner agricultural production in developing exciting sustainable food opportunities.

The abundance and freshness of our natural systems are not only well recognised by those who relocate to live here, but also by tourists, eco-tourists who come not just to visit a natural wilderness, but to experience an island community that truly appreciates the value of natural and understands how to live comfortably within it. For this reason Kangaroo Island is recognised as one of Australians 10 National Landscapes. Again there are enormous opportunities and responsibilities for natural resource management on Kangaroo Island to work alongside industry to develop the very best sustainable tourism experiences.

Of course there is plenty of specialist technical expertise and knowledge available in the areas of agriculture, premium food production, tourism and conservation but it is the management of all natural resources together at the industry and landscape level that will achieve a sustainable balance within the community. This is very much the role of the Kangaroo Island Natural Resources Management Board. No other body can achieve this.

Using the Natural Resources Management Act as the legislative framework and the development of the community derived Regional Natural Resources Management Plan we are able to identify appropriate management tools such as sustainable use limits for water, pest animal and plant control measures, Island biosecurity programmes, vegetation retention requirements and invasive animal controls that enable all section of the community to work together to achieve desired long term sustainable outcomes.

Working with Agriculture Kangaroo Island, Good Food and Wine Kangaroo Island, Tourism Kangaroo Island, and a number of local conservation groups such as Eco-Action, Dolphin Watch and Kangaroo Island Shorebirds, the various skills, local knowledge and community standing of Board members enables credible partnerships with all of community.

This is a very important role in natural resource management that is only able to be provided by the Kangaroo Island Natural Resources Management Board, is unique to its role and function and underpins community acceptance and involvement. It not only sets direction for natural resource management but ensures that it is rolled out and delivered to all members of the community by its own community leaders.

The Kangaroo Island Natural Resources Management Board maintains three community advisory committees. These being:

- Biosecurity Advisory Committee
- Coastal, Estuarine and Marine Advisory Committee
- Sustainable Production Advisory Committee

Each consists of two Board members plus community members selected for their skills in the area required. Our Board also maintains an internal Finance and Audit Committee. We believe that the efficiency of the Board is improved by deliberations held within each of the Advisory committees and the recommendations that are then passed on to the Board as a result. It is our belief also that issues important to the community of Kangaroo Island are more quickly identified, prioritised and acted upon by enabling these special purpose committees to exist. Their role is solely to identify, research and recommend. They have no power to approve.

In the context of more efficient budgeting outcomes, and in order to achieve better regional results, the Kangaroo Island Natural Resources Management Board believes that greater decision-making powers in areas of native vegetation management and coastal development assessments could be given to Natural Resources Management Boards.

It is my belief that the role of the Kangaroo Island Natural Resources Management Board is an important and special role that is just beginning to be recognised at community level. The opportunity to join with and work alongside DEWNR personnel has strengthened this capability. The Kangaroo Island Natural Resources Management Board structure is critical to community involvement and understanding of natural resource management and there is no region where this is more important than on Kangaroo Island. Minister, I urge you to support the retention of the Kangaroo Island Natural Resources Management Board.

Please find enclosed a detailed response to the questions you posed in your letter (Attachment 1). Also enclosed are further supporting documents that highlight the contributions the Board, its members and projects make to our community. These consist of:

- A table of Board member skills and contributions to other community, industry and agency bodies (Attachment 2)
- A list of island groups that the Board supports (Attachment 3) and

- Copies of recent Achievements Report (Attachment 4)

I welcome the opportunity to discuss with you any aspect of natural resource management on Kangaroo Island and indeed specifically the functions of the Kangaroo Island Natural Resources Management Board

For further information on this matter please contact Richard Trethewey, Presiding Member on [redacted] or email [redacted]

Yours sincerely,

Richard Trethewey
PRESIDING MEMBER

Encl:
1. Kangaroo Island Natural Resources Management Board - Values and risks
2. Kangaroo Island Natural Resources Management Board - Member's contributions
4. Kangaroo Island Natural Resources Management Board - Community Support
3. Kangaroo Island Natural Resources Management Board - Achievements Reports

Attachment 1

PREMIER'S BOARD AND COMMITTEE REFORM RESPONSE

KANGAROO ISLAND NATURAL RESOURCES MANAGEMENT BOARD

Value and benefit of Kangaroo Island Natural Resources Management Board for Government

The Kangaroo Island Natural Resources Management Board value adds to government through the preparation and implementation of a regional natural resources management plan that articulates community aspirations and values, while reflecting and aligning with State and National NRM priorities, thus operationalising government targets. The Plan is co-created with and owned by local communities and stakeholders and delivers triple bottom line benefits to the region, its residents and its off-island landholders. Thus, the Kangaroo Island NRM plan sets the direction for the economic prosperity, social wellbeing and environmental health of the region. The plan also provides the NRM Board with a platform on which to collaborate with stakeholders to solve 'wicked problems' impacting on the community, and for the Board to negotiate with and influence the activities of agencies, industries and community groups to achieve best practice natural resource management in the region.

In delivering the Kangaroo Island NRM Plan, the Kangaroo Island Natural Resources Management Board empowers and supports the local community, landholders, residents, visitors and industry, to continually improve management of the region's land, water, soil and sea. For example, the Board:

- invests in natural resource management through deployment of its levy and government funding in ways that conserve natural assets, mitigate threatening processes and promote community stewardship of Kangaroo Island's natural capital
- leads the development of a biosecurity strategy and quarantine policy to ensure Kangaroo Island remains free of damaging pests and diseases such as rabbits, foxes and powdery scab (*Spongospora tuberosum*), thereby protecting Kangaroo Island's agricultural and premium food and wine industries, as well as its unique environment
- builds the capacity of Agriculture Kangaroo Island and the region's farmers to adopt best practice land management and access innovation in order to increase the production value of their land
- collaborates with KI Council regarding development of their Roadside Vegetation Management Plan so as to balance biodiversity benefits with economic and social practicalities
- sponsors and supports a diverse range of community groups in delivering on-ground surveillance and rehabilitation actions that reflect their local priorities and passions
- encourages tourism operators to develop best practice eco-tourism ventures.

The Kangaroo Island Natural Resources Board gains credibility and trust in direct proportion to its perception as an independent and impartial arbiter. The KI NRM Board is trusted and its decisions are accepted largely because its members are not bureaucrats and because it has a diverse and representative membership from a range of community sectors (primary industries, tourism, science, niche farming, conservation and local government) covering a wide geographic spread, including remote and isolated parts of the Island. Nomination for Board membership is open to all residents and therefore represents the broad spectrum of the Kangaroo Island community and Board meetings are open for all members of the public to observe, and are therefore transparent and accountable to the community.

Risks to Regional Investment Opportunities

The Kangaroo Island Natural Resource Management Board is the only conduit for Australian Government Regional Delivery funding into the region. In 2013-14, this funding totaled $1.187M for NRM on Kangaroo Island. In addition to the guaranteed Regional Delivery the Board is eligible to access competitive grants from the Australian Government as well as other funding agencies and private enterprise, and has been successful in obtaining on average $2.99M per annum. The KI NRM board also collects an NRM levy from ratepayers, which it is required to spend in the KI region. Board funding is used to deliver a range of NRM projects in the region focused on regional priorities and delivering economic, social and environmental benefits to the community.

Board funding also provides a revenue stream for community groups to access for the delivery of on ground actions based on their own local priorities and passions. This builds community capacity and awareness of the value of land and biodiversity management, generates a sense of empowerment and ownership and has created a community stewardship ethic. Project officers delivering on the NRM plan using Board grant and levy funding provide an irreplaceable source of expertise and technical and practical support to community projects and initiatives. These officers are also integral to community capital, contributing socially and economically to a depressed area through their purchasing power as well as through their membership of local sporting and recreational clubs and arts societies. Their spouses and children assist in making services such as health and education more viable. These officers are in many cases recruited locally, therefore the Board provides employment prospects that serve to maintain family cohesion, a vital issue in small remote communities.

Risks to Community Engagement and Empowerment

Abolishment of the Kangaroo Island NRM Board would jeopardise community confidence in their ability to influence decision-making and to focus political attention on issues of local relevance. The KI NRM Board is an advocate for regional concerns and priorities, takes responsibility for local issues and, as island residents, its members are accessible to their constituents on a daily basis. Board members drive action on priority issues and pro-actively canvass wider opinions. The abolition of the KI NRM Board would result in a loss of local leaders and community champions for natural resource issues on Kangaroo Island.

Furthermore, Board meetings offer a forum for rational, cross-sectoral, group discussion and debate, to exchange knowledge and expertise, to access a diverse collection of views and technical skills and to focus on the resolution of complex NRM issues (the so-called 'wicked problems'). The KI NRM Board has become experienced and effective in community-based NRM, skilled at resolving conflicts and achieving consensus. It is currently reviewing and revising its NRM Plan to make it more contemporary and relevant as knowledge and expertise grows and there is need to respond to emerging issues such as climate change. These gains would be lost were the Board to be abolished, and any new entity replacing it would need to re-acquire these capabilities.

Better, improved or smarter ways of government achieving natural resource management outcomes

The Board is established under the NRM Act, which is a relatively recent act incorporating many of the modern concepts of government through Boards and committees such as:

- a consolidated model of the Kangaroo Island Natural Resources Board Inc., Soils Board and Animal and Plant Control Board
- community representation
- regional decision making
- direct link between the Presiding Member and the Minister.

On Kangaroo Island, one of the key outcomes delivered by the board is engagement of the community in the development of a strategically-focussed natural resource management plan. This is achieved in the best possible way for a remote, low-tech, socio-economically depressed region. That is to say by physically travelling to dispersed townships and settlements to speak face-to-face with small groups of people in surroundings in which they feel comfortable, and where they are amongst their peers. To empower the Kangaroo Island community to engage with social media or other forms of online consultation would require a substantial investment by the State government in telecommunications infrastructure.

In delivering on the objectives of the Plan, Board members engage directly, one-on-one or in smaller groups with the community and stakeholders, and in many cases model, as individuals, best practice NRM on their property or in their backyard, thereby leading by example rather than instructing from afar.

Attachment 3

PREMIER'S BOARD AND COMMITTEE REFORM RESPONSE

KANGAROO ISLAND NATURAL RESOURCES MANAGEMENT BOARD

Supporting the Community to Deliver

The Kangaroo Island Natural Resources Management Board has supported and/or partnered with the following community groups and associations since 2006:

- Advance Kingscote Association
- Agriculture Kangaroo Island
- Birds Australia
- Bugga Bugga Creek Landcare Group
- Chain of Lagoon Landcare Group
- Conservation Volunteers Australia
- Country Fire Service – Eastern Plains Fire Trail
- Emu Bay Progress Association
- Friends of Dudley Peninsula Parks
- Friends of the Glossies
- Friends of Parks Kangaroo Island Western Kangaroo Island
- Friends of the Sea
- Kangaroo Island Art Feast
- Kangaroo Island Cat Control Committee
- Kangaroo island Community Education - Sustainable Schools
- Kangaroo Island Council – Feral and Domestic Cat Control
- Kangaroo Island Council – Roadside Clean Up
- Kangaroo Island Eco-Action Inc.
- Kangaroo Island Dolphin Watch
- Kangaroo Island Health Service
- Kangaroo Island Shorebirds
- Kingscote Agricultural and Horticultural Society
- Lower Cygnet River Landcare Group
- Native Vegetation Council – Heritage Agreements
- Parndana Agricultural and Horticultural Society
- Penneshaw School and Community Landcare Group
- Timber Creek Landcare Group
- Upper Cygnet River Landcare Group
- Western Kangaroo Island Landcare Group

This does not include the support provided by the Board to individual landholders through the on-ground works incentive program.

Working together Achievements 2011–2012

Kangaroo Island Natural Resources Management Board

Government of South Australia

Kangaroo Island Natural Resources Management Board

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Front cover image: Natural Resources Kangaroo Island fire crew Tim Field and Aaron Cheeseman working with land managers and the Country Fire Service to undertake a prescribed burn to promote the regeneration of threatened plants on Boxer Road.

Back cover image: A bee fly visiting an azure daisy-bush (Olearia rudis) flower.

Work outlined in this document is funded by:

CARING FOR OUR COUNTRY

Government of South Australia

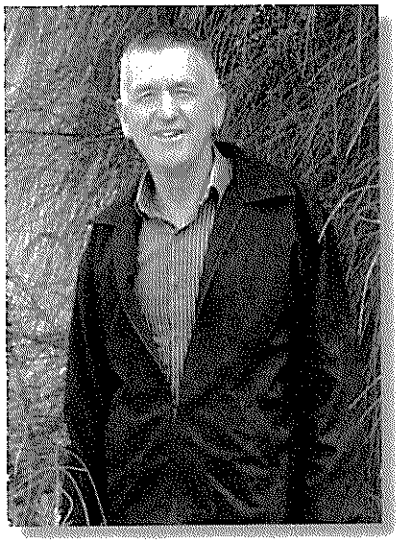
foreword foreword

Kangaroo Island was settled officially in 1836 when free English settlers landed at Reeves Point to begin the colony that was to become South Australia. Despite this long period of settlement and the ease with which sea transport enabled access to Kangaroo Island it has remained one of the few areas that has not been over-cleared, seriously infested with weeds or invaded by rabbits and foxes. Its natural systems have remained healthy and strong.

It was in fact these natural resources that provided income for those early settlers as they made their living. The very essence of survival on Kangaroo Island was about appropriate and sustainable management of natural resources. While land was cleared for cropping and livestock, vegetation along roadsides, fences and creek lines was kept. An abundance of native animals has continued to thrive in this idyllic environment.

Living here was about taking and using only what was required for comfort and survival, retaining the rest for future generations. The Island community has a long history of sound natural resources management and this commitment to sustainable use is strongly evident today in all things Kangaroo Island. Through our land and water management, native species protection and conservation, biosecurity management and continued development of strong eco-tourism ideals we reaffirm our commitment to natural resources management.

The *2011–2012 Achievements Report* reflects the outcomes of not just the Board, but the achievements of the entire community as we work to ensure our natural resources remain healthy and resilient. It is through a broad range of partnerships and with strong community participation that the many targets of the Regional Kangaroo Island NRM Plan are being achieved.



By working with government agencies the Board is continuing to develop its strategic water management programme. By working with landholders and government, successful pest plant and animal control programmes are being delivered. Primary producers have been successful in protecting areas of high value vegetation. By implementing soil, land and water quality improvements they are adding productivity to farmlands across the Island.

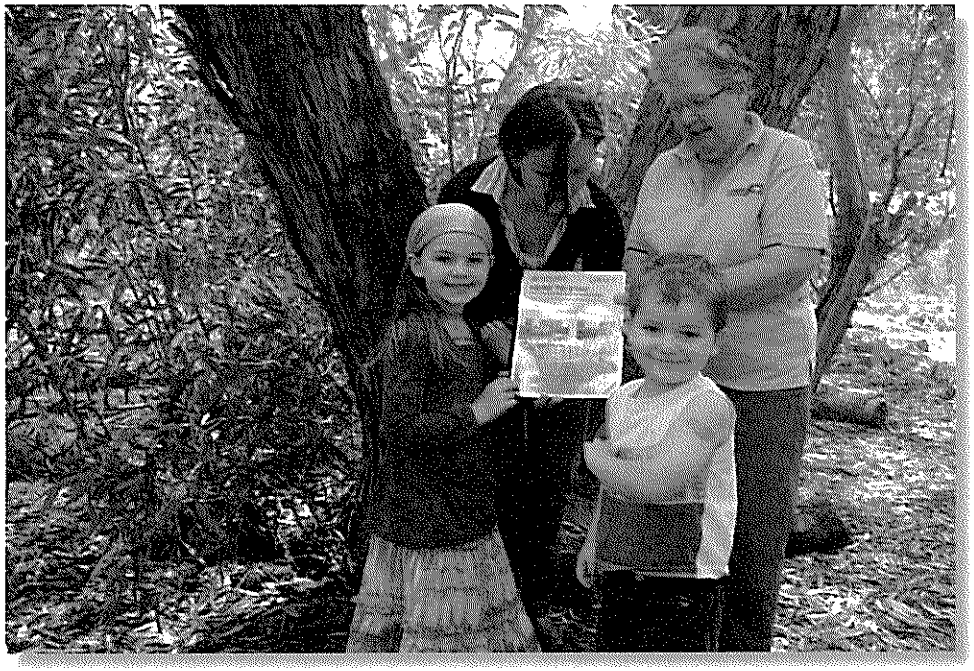
The Kangaroo Island Natural Resources Management Board is pleased to release this report on the achievements in natural resources management in the Kangaroo Island Region for 2011–2012.

Richard Trethewey
Presiding Member

measuring performance

The Kangaroo Island Natural Resources Management Plan *Here to Stay* (the Plan) was developed by the KI NRM Board following two years of consultation with the local community, scientists and technical experts in relevant disciplines, and off-island ratepayers. The Plan guides our actions in managing our natural and agricultural systems for 10 years from mid-2009 and sets short and long-term outcomes measured by targets to guide the direction of our actions.

Vision: The natural resources of Kangaroo Island managed sustainably by a capable and engaged community for environmental, economic and social benefit.



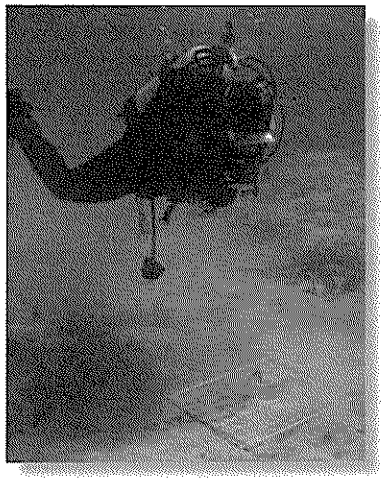


Image facing page: Jackie Kelly, previous KI NRM Board Presiding Member launching the 2009 KI NRM Plan with Catherine, Nataskia and Josiah Bennett.
Above left: Monitoring seagrass health near the Cygnet River mouth. Above right: Monitoring glossy black-cockatoo nests.

Case Study: Reviewing the Regional NRM Plan

The *Natural Resources Management Act 2004* requires the Board to conduct a comprehensive review of its operation and achievements by mid-2014. As well as identifying the vision, goals and outcomes we want to achieve for our region, the Plan includes a series of targets as measures to tell us how we are travelling towards delivering the Plan. There are 38 regional targets with timeframes of 10–20 years and 54 Board targets with five year timeframes.

The mid-term review of the Plan began with an analysis of how well we are tracking towards achieving these outcomes and their associated targets. The review process will involve selected panels of relevant experts and key stakeholders reviewing all available data. Operating in parallel will be a review of the adequacy of the targets themselves. Is their intent clear? Are they SMART (specific, measurable, achievable, relevant and time-bound)? Are there gaps or redundancies in the listed targets? Are the specified quantities or dates still appropriate?

Over the following year there will be a number of opportunities provided to the local and off-island community to have input into the process of reviewing the Plan. People will be invited to comment on the results of the initial target review and at other key stages in the process. The final chance to have a say will come with submissions being invited on the draft revised plan before it gets printed and submitted to the Minister in 2014.

The current regional NRM Plan can be obtained from the Kangaroo Island Natural Resources Centre at 37 Dauncey Street, Kingscote, or from the website at www.kinrm.sa.gov.au. Opportunities for input into the review process will be advertised in *The Islander* and *The Advertiser* newspapers.

managing water

The KI NRM Board is working with the community to ensure the equitable management of water quality and quantity to sustain natural ecosystems, industry, agriculture, human consumption and other urban and domestic uses on the Island.

Case Study: Water quality monitoring

A monthly water quality monitoring program has been conducted for 18 months at flow gauging stations on Rocky River, Stun'sail Boom River, Timber Creek and Cygnet River (at two sites Huxtable Forest and Koala Lodge). Salinity, temperature, turbidity, dissolved oxygen, pH, total nitrogen and total phosphorous are all being measured. The data shows water quality often varies greatly between the different rivers and also seasonally at each site. Data also shows that, in general, the further west a river is located, the better the water quality.

In 2011–12 water quality was best during winter when rivers were flowing. Water quality deteriorated during summer when flows significantly reduced or ceased altogether. Most monitoring sites then became isolated pools which slowly evaporated throughout summer and early autumn. This is a tough time for the fish and other aquatic animals that live in our waterways, as when flows cease the pools become their places of refuge. If the creatures taking refuge are to survive to the following autumn/winter when flows resume and water quality begins to improve, it is critical that water quality in these refuge pools continues to sustain life. Timber Creek and Harriet River were the only monitored rivers where flows continued throughout the summer of 2011–12.

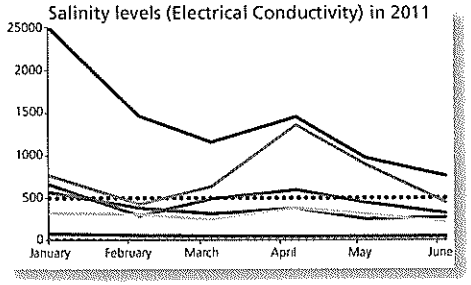
14 water affecting activities assessed

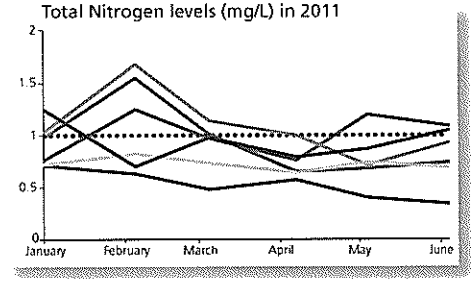
6 development applications assessed

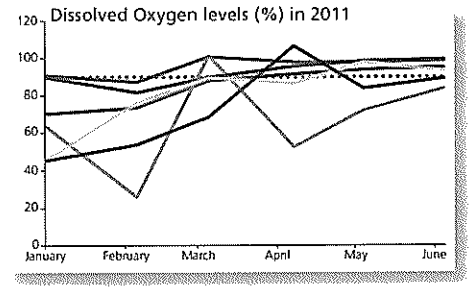
1 aerial imagery of KI captured

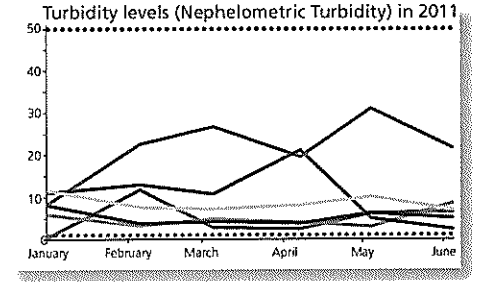
~800 new dams built across KI since 2001

2 talks to KICE students given









Water quality across Kangaroo Island in 2011

- National Water Quality Management Strategy trigger upper limit
- Cygnet River (Koala Lodge)
- Harriet River
- Stun'sail Boom River
- National Water Quality Management Strategy trigger lower limit
- Cygnet River (Huxtable Forest)
- Timber Creek
- Rocky River

Image facing page: Jo Sullivan, Board Water Officer, measuring water quality in the lower Cygnet River.

The National Water Quality Management Strategy (NWQMS) contains default trigger values for South Australian lowland rivers (<150 m altitude). Exceeding the trigger value of a particular water quality parameter indicates a risk of adverse environmental effects. Trigger values are shown as black and orange dotted lines on the graphs presented here. It needs to be noted that these trigger values are for all South Australian lowland rivers and as such, variations can be expected to occur in individual river systems and regions.

- All rivers, except Rocky River, exceeded the Salinity trigger value at some stage in 2011-12.
- All rivers exceeded the Dissolved Oxygen trigger value at some stage in 2011–12.
- All rivers exceeded the Total Nitrogen, Total Phosphorous and pH trigger values at some stage in 2011–12.
- Only the Cygnet River exceeded the Turbidity trigger value in 2011–12.

As our understanding of water quality in Kangaroo Island's rivers increases, data collected from the monthly water monitoring program will be used to develop region-specific water quality targets using the methods contained in the NWQMS.

managing land condition

Clean water and healthy soils contribute fundamentally to the environmental, economic and social prosperity of the Island. Natural Resources staff work in partnership with new landowners to effectively manage these assets, achieving great natural resource management outcomes.

Case Study: Planning works for long-term benefits

In recent years, Kangaroo Island has seen an influx of new residents buying smaller holdings for lifestyle reasons and to supplement their incomes from their primary occupations.

Natural Resources staff were approached by four of these new families seeking advice and requesting assistance to put in place programs to maintain and/or enhance the natural resource assets of their properties.

1047 hectares perennial pastures established

443 hectares native vegetation protected

2710 hectares clay and lime spread

8 stock watering points relocated

25 stock crossings established

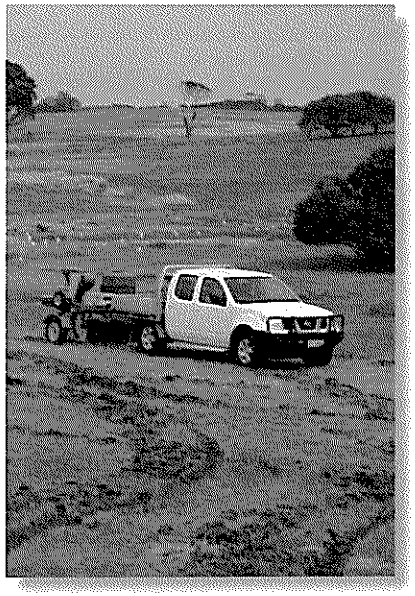


Image facing page: Mark Morris, Regional Landcare Facilitator, and Andrew and Sue Bigwood inspecting the direct seeder. Above left: Direct seeding to connect existing remnant vegetation. Above right: Heavily guarded one year old tubestock. Below right: A recently installed stock crossing to protect a MacGillivray creek.

These properties are spread across the Island and range from 83 ha to 380 ha in size. Rainfall varies from 450 to 700 mm and remnant native vegetation cover ranges from 15 to 70%. The condition of the pastures, fencing and stock water supplies also varies quite significantly between the properties. All have watercourses traversing them.

Staff worked together with these landowners to produce plans that over periods of two to four years will see them undertake a range of works that will have production, water management and biodiversity benefits. Planned works include revegetation, stock exclusion fencing around watercourses and remnant vegetation, installation of creek crossings and pasture renovation with perennial grasses.

Funding is based on cost-shared incentives with the incentive level based on the private versus public benefit of the given activity. Management agreements will commit the landowners to ongoing maintenance of the works.

In the future, these new Island residents will have small but productive agricultural businesses and enjoy a rural lifestyle set within a landscape where environmental values are being protected and enhanced.

managing biodiversity

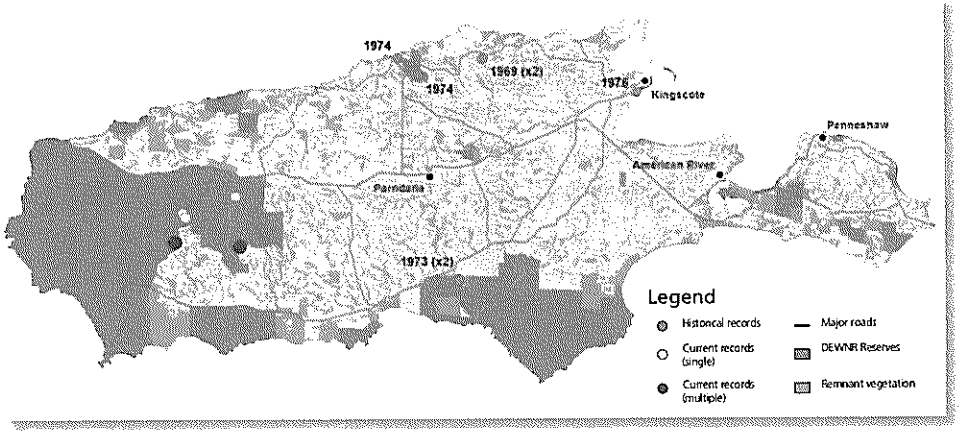
The Bush Management Adviser addresses threats to the Island's abundant biodiversity using a three-pronged approach. Firstly, undertaking works targeting high-risk environmental weeds and phytophthora. Secondly, engaging school students, landholders and volunteers to monitor and restore habitat for nationally threatened species. Thirdly, offering an incentive scheme, along with technical assistance, to support landholder habitat restoration projects for biodiversity benefit.

Case Study: Detecting endangered dunnarts

The Kangaroo Island dunnart (*Sminthopsis aitkeni*) is a small, insectivorous marsupial found only on Kangaroo Island. Also known as the sooty dunnart, it is listed as endangered both nationally and in South Australia. Prior to commencement of the nest box trial it was known from only 34 records.

As all sightings of dunnarts over the last 30 years have been from parks and reserves on western Kangaroo Island, it was feared the extensive 2007 wildfires may have had a significant negative impact on their survival.

Kangaroo Island dunnart sightings on KI



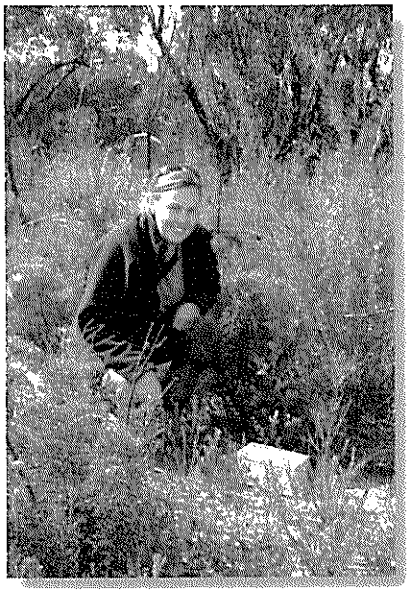
158 school students engaged

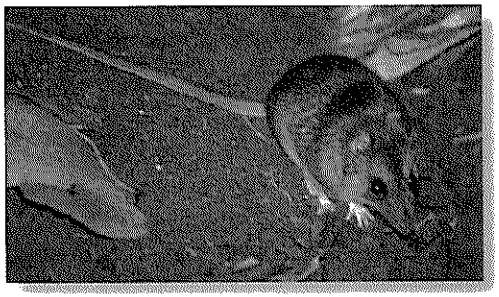
6 landholders assisted to manage biodiversity

6 landholders helped with Heritage Agreements

67.6 hectares priority weeds controlled

4 community groups assisted





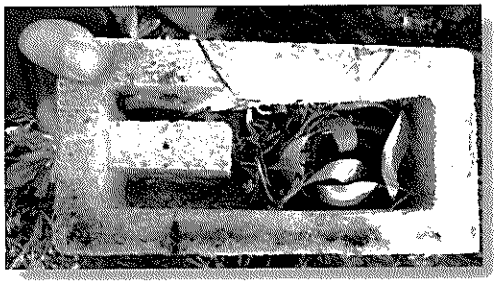


Image above left: Bush Management Adviser Venetia Bolwell inspects a KI dunnart nest box in Flinders Chase National Park. Above right: Kangaroo Island dunnart. Below right: A possible KI dunnart nest inside an artificial nesting box.

In 2009 a concentrated monitoring campaign using pitfall traps yielded only three dunnarts from a total of 987 trapping nights. With such poor returns for effort, it was hoped that nest boxes would provide an artificial hollow that might be utilised by dunnarts for breeding and shelter, and provide an alternative and more efficient detection method.

Commencing in 2009, 99 nest boxes were distributed at locations where dunnarts had previously been recorded. The nest boxes are designed to provide favourable nesting habitat for small mammals such as the dunnart or feral house mouse. The nest boxes are inspected annually for signs of use and any hairs or droppings are collected for analysis. Fortunately the differing physiology and dietary habits of these two mammals makes it possible to identify the owner of any little deposits (hairs or droppings) left in the box.

Two positive dunnart results were recorded in 2009 but 2010 yielded only evidence of the house mouse. In 2011 there were three positive dunnart records and for the first time there were signs that some nest boxes were actually being used for nesting! 2012 has been the best year so far, with 10 positive dunnart results recorded.

With positive outcomes both for dunnarts and biodiversity research, the nest box trial will be continued.

managing threatened plants

Two complementary approaches are being used to halt the decline of our rarest plant life. The health of remnant bushland is being improved by restoring more appropriate fire and grazing regimes and competing weeds are being reduced. The limited and fragmented nature of remnant bushland in eastern KI is being addressed by re-establishing threatened plant populations, communities and habitat in a way that buffers, enlarges and connects with existing bushland.

Case Study: From the seed up — restoring habitat

Growing enough seedlings of some of our native plant species for habitat restoration projects can be quite a challenge. Many are notoriously difficult to grow from seed, as triggers that break seed dormancy are often poorly understood. Others don't produce many seeds, or their seeds may have poor viability.

The Kangaroo Island Nationally Threatened Plant Project (KINTPP) has taken on the challenge of cracking the code: how do we break seed dormancy in these difficult species? To reinstate the habitat for Kangaroo Island's rarest plants the KINTPP grows 145 native plant

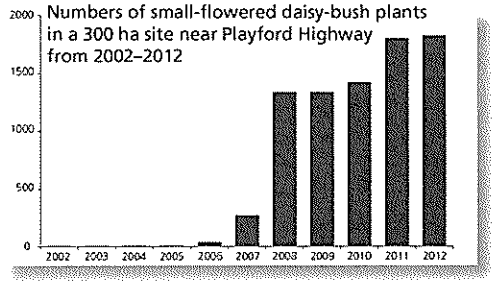
59,000 seedlings planted

25 hectares planted

339 people helped plant over three days

145 plant species planted

2 prescribed burns over **86** hectares



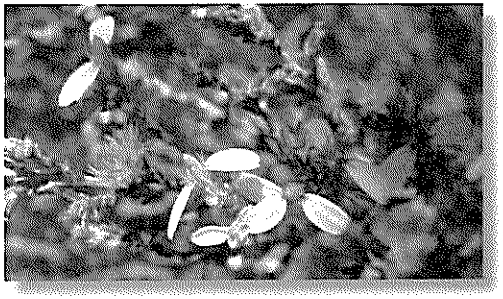


Image facing page: Volunteers participating in the 2011 KI Planting Festival. Above left: Small-flowered daisy-bush (Olearia microdisca) growing in its natural habitat. Below right: Small-flowered daisy-bush flowers.

species at its Cygnet River nursery, the majority of which require one or several different seed treatments for successful germination. The project works with more than a dozen different seed treatment techniques, from smoking and boiling seed to applying various chemicals such as acids and alkaline solutions. Endless tinkering combined with great patience over a number of years has resulted in many breakthroughs. As a result, staff have now discovered the secrets of how to induce germination in seeds of some of the more difficult species to propagate, including some of our nationally threatened species such as *Olearia microdisca* (small-flowered daisy-bush), which is found only on Kangaroo Island.

Recent revegetation efforts have doubled the previously known population of *Olearia microdisca* plants. Through prescribed burns undertaken by the Eastern Plains Fire Trial thousands more have established spontaneously in the landscape. A recently developed direct-seeding method for *Olearia microdisca* now offers the potential of re-establishing this threatened species in vast numbers across a wide area.

In partnership with a number of landholders, including farmers, hobby farmers and lifestyle property owners, the project has restored a total of 211 ha and planted more than 400,000 tubestock since 2004. More than 2,400 volunteers have contributed their valuable time to the project and helped achieve great results, restoring sufficient high quality habitat to ensure the continued survival of some of our most threatened plant species.

managing glossy black-cockatoos

Kangaroo Island's endangered sub-species of glossy black-cockatoo continues to recover. The 2011 census estimated a population of about 360 birds, the highest since counts began in 1995. During the 2012 season there were 73 breeding attempts, 14 using new nests. Two new artificial nests installed in December 2011 were in use by February 2012. This quick uptake suggests nest availability may still be limiting glossy black-cockatoo breeding. The local community assists in searching for and protecting nests, monitoring breeding success and population size, and planting food trees.

Case Study: Restoring glossy feeding habitat

The South Australian subspecies of glossy black-cockatoo feeds exclusively on seeds of drooping sheoak (*Allocasuarina verticillata*). The population of these trees has been significantly reduced since European settlement due to extensive clearance of sheoak-grassy-woodland communities. As a result, glossy black-cockatoos have lost much of their former feeding grounds and are now found only on Kangaroo Island.

Restoration of drooping sheoak communities to provide food for a viable glossy black-cockatoo breeding population has been a vital component of the recovery program since 1995. Revegetation sites are chosen to reconnect surviving patches of habitat and to ensure sufficient food trees occur close to known breeding areas. The focus for revegetation is on cleared sites where drooping sheoak woodlands previously occurred. Plants are mainly propagated from seeds of trees known to have been fed upon by the birds.

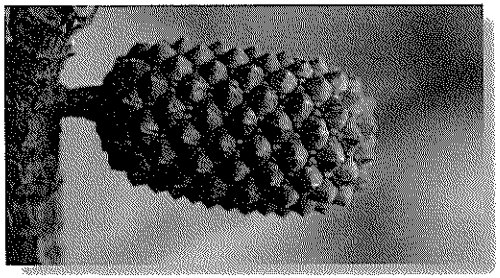
22 volunteers contributed **290** hours

118 nest hollows maintained

14 new nest trees found and protected

20 nestlings banded

700 drooping sheoaks planted



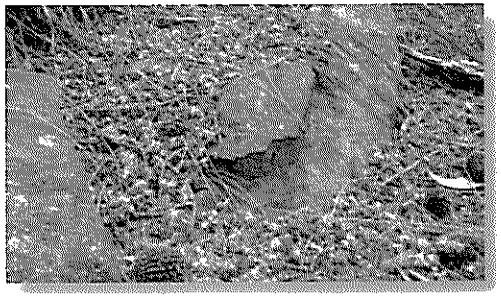


Image facing page: Volunteers revegetating hillsides with drooping sheoak seedlings at Western River Cove. Above left: A female glossy black-cockatoo. Above right: A drooping sheoak cone. Below right: 'Chewings' – the remains of drooping sheoak cones after being eaten by glossy black-cockatoos.

The Glossy black-cockatoo Planting Festival was held at Western River over two days in June 2012. Twenty one volunteers contributed 115 hours and planted 500 drooping sheoak seedlings. The revegetation site was adjacent to previous plantings and the spacing between plants was chosen for optimum growth and future production of cones. These sheoaks will take about six years to produce cones for the glossy black-cockatoo breeding pairs that occupy about 20 nearby nests.

Glossy black-cockatoos are perfectly adapted to feed on tiny drooping sheoak seeds:

- They twist the hard cone from the sheoak with their sturdy bill, transfer it to (usually) their left foot and chew it, extracting the protein-rich kernels from the seeds with their tongue.
- It takes about 3 minutes to chew all the seeds from a sheoak cone.
- Non-breeding birds feed on 60-80 sheoak cones/day and spend 30-40% of the day feeding.
- A male feeding a nesting female may eat nearly double this amount (120+ cones) and feed for over 50% of daylight hours.
- Fresh red-brown cones are preferred to older grey cones which have lower food value.
- The percentage of seeds with kernels (seed fill) varies from tree to tree and those with over 70% seed fill are preferred.

managing feral animals

Feral animals devastate natural ecosystems and primary production and impact on water quality. The Feral Animal Management Program works with government agencies, research groups, industry, stakeholders and the local community to determine the distribution, impact, management and control techniques for feral animals on the Island. The program is currently focused on feral goats, deer, pigs and cats.

Case Study: Eradicating fallow deer from KI

An unknown number of fallow deer escaped from a deer farm on the western end of Kangaroo Island in 1999 and over the following five years individuals were sighted across a broad distribution west of Parndana. A feral deer eradication program began in 2005 and 2011–12 was the sixth year of control operations.

The program has so far destroyed 218 feral deer and monitoring indicates that there has been a substantial decline in both population size and geographic distribution.

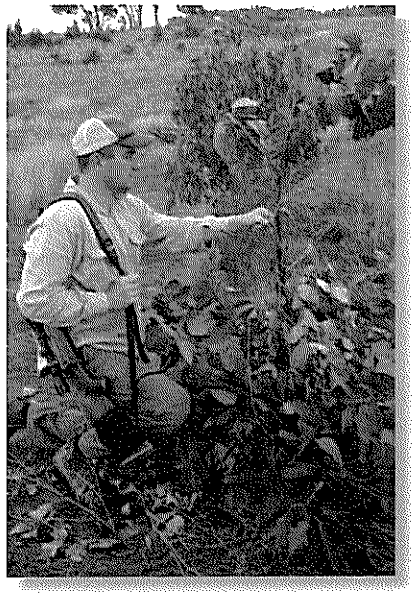
695 hours taken to destroy **14** deer

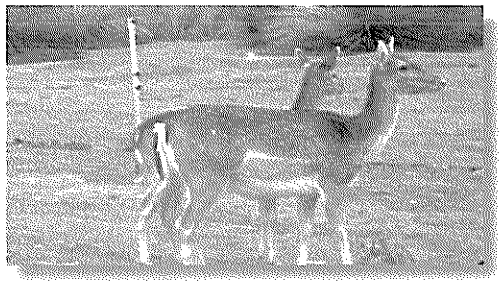
247 dams searched for deer signs

26 cats caught in little penguin colonies

51 feral goats destroyed

2 catchments assisted to control feral pigs





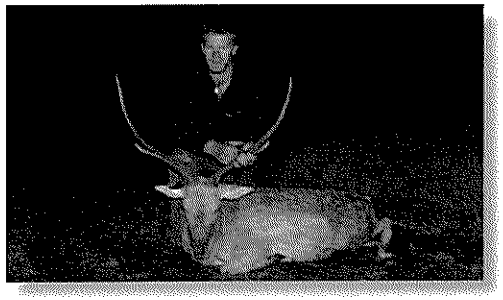


Image facing page: Feral Animal Control Officer Brenton Florance and Feral Animal Project Officer Nick Markopoulos spotlighting feral deer in a forested area. Above left: Nick Markopoulos examining damage to seedlings caused by feral deer. Above right: Feral deer photographed with remote cameras. Below right: Brenton Florance with a feral stag.

In 695 hours of hunting during 2011–12 there were only 14 feral deer killed. The time taken to locate and destroy each deer has increased substantially over the six years of the program, from 17 hours per deer in 2006–07 to almost 50 hours per deer in 2011–12. This is because there are less deer to find and those remaining have become very flighty.

A monitoring program which uses the presence of deer tracks at farm dams to measure population trends has provided the evidence to support this conclusion. In 2011–12 there were 247 dams searched for indications of deer but tracks were found on only 12 of them. Analysis of the data suggests that the feral deer population is declining by around 40% each year. It is thought that fewer than 20 adult deer remain at large in the wild and it is hoped that they will soon be eradicated.

Domestic deer have also come under the spotlight following a change in legislation which now requires landowners to have a permit to hold deer in captivity. This is an interim measure and only those people who currently own deer will be issued with a permit. The ultimate objective is to eliminate all deer from Kangaroo Island so that they will never become feral here again.

managing weeds

Weeds are plants growing where they are not wanted outside of their native range. They often originate from regions with similar climates and thrive on Kangaroo Island, out-competing local native plants. The KI NRM Board works closely with the community, land managers, stakeholders and industry groups to implement proven and innovative strategies that monitor, manage, control and eradicate weeds invading Kangaroo Island.

Case Study: Managing nationally significant weeds

Weeds of National Significance (or WoNS) are some of Australia's worst invasive plants. They have degraded large areas of productive land and damaged the biodiversity value of natural landscapes. Kangaroo Island is fortunate to only have six WoNS affecting the region: bridal creeper (*Asparagus asparagoides*), blackberry (*Rubus fruticosus l. Agg*), gorse (*Ulex europaeus*), African boxthorn (*Lycium ferocissimum*), bridal veil (*Asparagus declinatus*) and Montpellier broom (*Genista monspessulana*). The latter three were added to the national list this year and have not been a part of this project. Athel pine (*Tamarix aphylla*) is a WoNS also present, but it is not climatically suited to the region and presents a low weed risk. The Board has been able to increase its focus on WoNS over the last six years through funding received from federal and state governments. This has allowed staff to survey and then manage WoNS infestations on both public and private land.

950 hectares weeds controlled

16 weed species targeted

150 landholders assisted with weed control

7 community workshops held

6 community weed programs supported

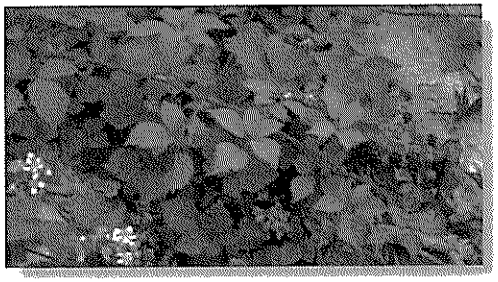


Image facing page: Control Officer Veronica Bates removing gorse. Above left: Volunteer Rick Andrews (Friends of Parks KI Western Districts) removing bridal creeper from Kelly Hill Conservation Park (C Wilson). Above right: Flowering gorse. Below right: Invasive blackberry (C Wilson).

Bridal creeper is widespread on eastern Kangaroo Island and it is no longer an option to eradicate it from the vast areas of native vegetation it smothers. Instead the focus has been on preventing it from establishing west of Parndana by managing outlier infestations. Herbicides and physical removal have been used as control methods, along with introducing bridal creeper rust (*Puccinia myrsiphylli*) as a biological control agent to outliers. The rust has also been introduced to areas of core infestation where it was not already present.

Gorse is established at eight sites on farmland surrounding Parndana. All known infestations have been treated with herbicide or physically removed. Gorse seeds can survive for 25 years so monitoring will require long-term commitment. The intention is to eradicate gorse from the region.

Blackberry has a wide distribution across the island with infestations closely linked to where parent plants were grown in gardens. Twelve infestations have been managed by project staff. Control methods include spraying foliage or cut-and-painting stems with herbicide. This has been highly effective but new infestations are still occasionally detected because blackberry often grows in inconspicuous places. The region is now in a good position to prevent blackberry becoming widespread. Lovers of home-made blackberry jam needn't be concerned as many other bramble berries are available for gardeners to grow, although loganberry is also troublesome and should be avoided.

managing coasts and seas

The Coast and Marine Program assists with the protection and management of Kangaroo Island's coastal and marine environments through a diverse range of projects that encompass environmental assessment, resource monitoring, on-ground works, education and community engagement.

Case Study: Restoring seagrass meadows

Seagrasses are actually flowering plants that grow in shallow marine environments where they depend upon sunlight for growth. Seagrass meadows are ecologically important ecosystems for a variety of reasons: they provide nursery habitat for fish, act as a refuge for many marine species, protect coastlines from storm damage and erosion and are a highly effective carbon sink.

Results of a seagrass monitoring program around Kangaroo Island have revealed that some of our seagrass meadows are in poor condition and several areas are experiencing seagrass loss. To assist in counteracting this problem, a series of seagrass restoration trials were conducted within Western Cove. Two different methods of re-establishing seagrass were

2694 hectares seagrass monitored

16 seagrass restoration plots established

6.2 hectares searched for marine pests

18 divers removed

75 marine pests

141 volunteers counted penguins island-wide

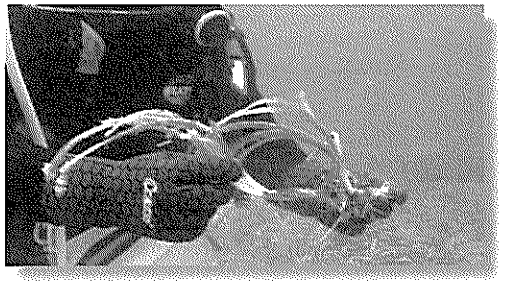


Image facing page: Flathead (Platycephalus laevigatus) are dependant on seagrass for shelter, food and to breed. Above left: Smooth tapeweed fruit (Posidonia sinuosa). Above right: Harvesting seedlings for transplanting. Below right: Amphibolis antarctica seedling growing on a disintegrating hessian bag.

used. Hessian bags were filled with sand to trap seagrass seeds and provide a stable substrate for seedling growth, and seagrass sprigs were directly planted by hand into bare areas of sand. Hessian bags were deployed in winter 2010 and monitored throughout spring and summer for seagrass recruitment and growth. Although seedlings of three species of seagrass were initially found growing on the sand-filled bags, the hessian broke down more rapidly than anticipated, some sites became covered in macroalgae (seaweeds) and others were covered by sand after six months. As a result most seagrass seedlings were lost before they could establish a proper root structure in the hessian bags.

The second trial involved direct transplantation of two species of tapeweed seagrass (*Posidonia* species) at four locations in Western Cove. At each of these sites, permanent quadrats were established in bare sand adjacent to existing seagrass beds, with runner sprigs of seagrass planted in each quadrat, and seagrass growth monitored every few months.

Although the direct transplantation trial is in its early stages, preliminary results are promising with over 75% of the transplanted seedlings surviving after six months. In the upcoming months we will assess these transplanted seedlings for survival and growth and determine the potential of direct transplantation as a method for helping restore seagrass beds.

working with the community

Managing natural resources is largely about people – it's people who supply the vision, drive and commitment. People also benefit socially and economically from well-managed natural resources that support industries and communities. The Board is working together with the community to successfully manage the Island's natural resources in the face of future challenges.

Case Study: Growing waterwise coastal gardens

Most Kangaroo Islanders live in coastal communities where it is difficult to establish gardens for all sorts of reasons including poor or sandy soils, salt-laden or strong winds, browsing native animals and the limited availability of suitable plants to grow.

In 2011 Eco-Action obtained funding to produce a *Coastal Gardens* booklet for the Kangaroo Island NRM Region. The aim was to provide information on attractive local native plants suitable for use by people gardening in harsh environments near the coast. Similar booklets were already available for the Adelaide and Mount Lofty Ranges, South East and Northern and Yorke NRM Regions.

The Adelaide and Mount Lofty Ranges NRM Board allowed their coastal planting booklet to be adapted for Kangaroo Island. The local version was developed by Rural Solutions SA, with input from several Kangaroo Island NRM Board staff. Although the focus is on coastal gardens, many of these plants will grow very well inland.

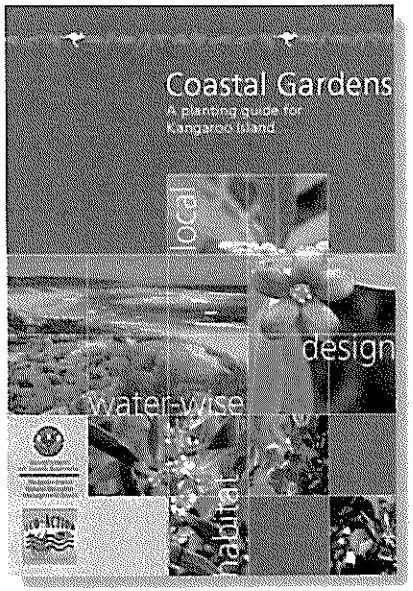
35 kilograms of native seed collected

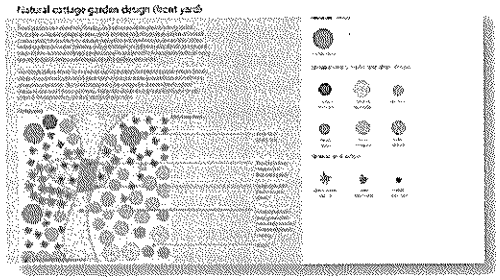
35,000 plants grown in KI NRM Nursery

4247 people visited the Board's website

20 school classes assisted

13 community groups assisted





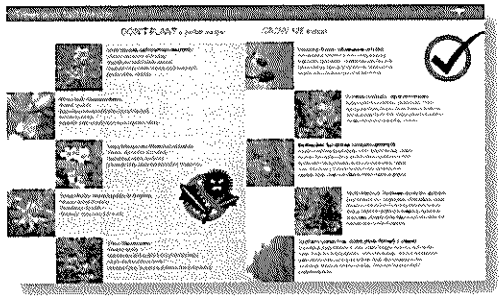


Image facing page: Nursery and Seedbank Coordinator Veronica Bates presents a workshop about growing waterwise, weed-free coastal gardens. Above left: The KI Coastal Gardens booklet. Above right: Garden designs from the booklet. Below right: Alternative native garden plants to potential weeds from the booklet.

Following publication, community workshops were held at Penneshaw, American River, Vivonne Bay and Kingscote. These were very well received by the 81 island residents who attended.

Interesting conversations were held discussing weed control and the difficulty of growing plants in gardens when possums and wallabies think a plant smorgasbord has been laid before them. To overcome this many people resort to planting hardier species of succulents, arctotis daisies and gazanias. Although these species grow easily in coastal gardens, they readily escape to become environmental weeds, displacing native vegetation and destroying sensitive natural ecosystems.

With the advent of the NRM Board Native Plant Nursery in Kohinoor Road, Kingscote, obtaining locally sourced species is no longer a problem. Seeds collected from many locations across the island grow into strong, resilient plants able to withstand our climatic and soil variations. These plants are sold as tubestock but they grow quickly and should survive their first summer with minimal water provided they are planted in late autumn or early winter.

So when planning your garden, consider growing local native plants. They are available at low cost and come with the advice needed to establish them successfully from the NRM Board Native Plant Nursery.

Contact

Natural Resources Centre

Kangaroo Island Natural Resources Management Board

37 Dauncey Street Kingscote SA 5223

T (08) 8553 4444

F (08) 8553 2531

E KI.Referrals@sa.gov.au

W www.kinrm.sa.gov.au