

Biosecurity Strategy for Kangaroo Island 2017–2027



Natural Resources
Kangaroo Island



**AUTHENTIC
KANGAROO
ISLAND**



Government
of South Australia



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Australian Government


National Landcare Program

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Foreword

Kangaroo Island's relative pest and disease free status is significant to its environment, industries and social amenity and is an advantage that the Kangaroo Island Natural Resources Management Board (the Board) is determined to protect.

Kangaroo Island's relative isolation and unique environment is well recognised and its 'clean and green' image is key to its economic and social well-being. The Kangaroo Island Natural Resources Management Plan 2017–2027 identifies that 'locals and visitors alike appreciate Kangaroo Island's rugged, undeveloped landscapes, relatively high levels of remnant vegetation, wildlife and clean environment'. It is obvious that we must all work together to maintain these wonderful characteristics.

The Biosecurity Strategy for Kangaroo Island 2017–2027 seeks to protect the Island and its community from the adverse impacts of pests, weeds and diseases. The strategy builds on the comprehensive foundation provided by the Kangaroo Island Quarantine Policy 2007, the development of which was overseen by the Board. The Biosecurity Strategy for Kangaroo Island 2017–2027 is a key milestone of the Board's federally funded project Too Good to Spoil, Too Precious to Lose: A Better Biosecurity Future for Kangaroo Island. This comes at a time when there are increasing pressures from issues such as climate change, increasing movement of people and goods to and from the Island, new and different types of biosecurity threats, and changing community expectations.

This strategy seeks to ensure that funding for biosecurity, including traditional border protection activities, is used as efficiently and effectively as possible. It builds on the existing biosecurity policies and governance arrangements that protect South Australia and Australia from the adverse impacts of pests, weeds and diseases.



In doing so, it reinforces the federal government's commitment to support and protect Australia's environment and industries through appropriate biosecurity measures.

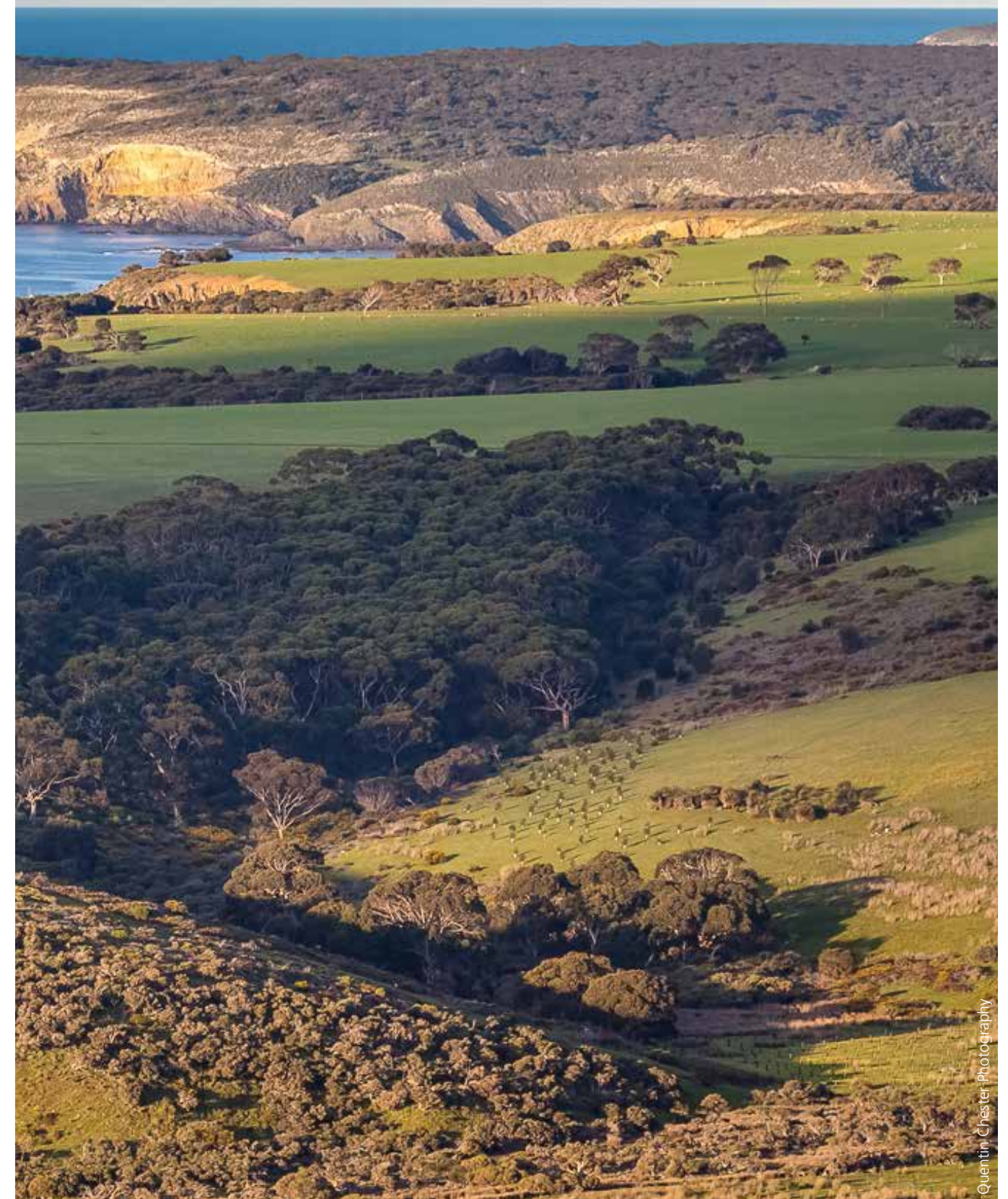
Protecting Kangaroo Island's unique and diverse environment is vitally important to those that live here and also those that come here to enjoy it. I look forward to seeing the strategies outlined in this document implemented and government and community working together to ensure the success of the strategy.

Mr Richard Trethewey

Presiding Member of the Kangaroo Island Natural Resources Management Board

Chair of the Kangaroo Island Biosecurity Advisory Committee

Biosecurity is the **protection** of **terrestrial** and **marine environments, agricultural industries** and **human health** from the adverse impacts of **pest, diseases and weeds**.



Quentin Chester Photography

Introduction

Background

Biosecurity is the protection of terrestrial and marine environments, agricultural industries and human health from the adverse impacts of biological threats, usually referred to as pests, weeds and diseases. Biosecurity encompasses introduced and invasive vertebrates and invertebrates, introduced and invasive plants of agricultural and natural environments, plus diseases that may impact on human health and on a diverse range of agricultural industries and natural environments. The Biosecurity Strategy for Kangaroo Island 2017–2027 (the strategy) articulates a framework that will support a robust biosecurity system for Kangaroo Island. It includes guiding principles and foundations, sets high level objectives with supporting strategies, guides governance arrangements, outlines a transparent risk assessment approach, explains the resourcing of operational activities, and seeks to engage the whole community (including in its development, as outlined in Appendix A).

The strategy builds on the Kangaroo Island Quarantine Policy 2007, released by the South Australian Department for Environment and Heritage as its policy framework for reducing the risks to Kangaroo Island posed by the introduction and spread of disease and new pest species with invasive potential.

The Kangaroo Island Quarantine Policy 2007 supported the identification of strategies and long-term plans to guide decision making, focus resourcing and support engagement activities. It highlighted the geographical advantage that Kangaroo Island has in respect of biosecurity and emphasised that benefits could be maximised by establishing a suitable biosecurity system involving all stakeholders. The effective implementation of this strategy relies on a widespread understanding and awareness of the importance of biosecurity to the Island's future. Constructive working partnerships between all stakeholders are essential as everyone has a role to play and a vested interest in biosecurity.

Rationale

Kangaroo Island's clean green image is highly valued. The Island is recognised as one of the world's great nature-based tourism destinations and it is one of Australia's iconic national landscapes marketed by Tourism Australia. It is often referred to as the 'jewel in the crown' of South Australia due to its natural environment, authentic wildlife experiences, food and wine produced in balance with nature, and its laid back lifestyle.

Effective biosecurity arrangements are crucial to protecting Kangaroo Island from the impacts that pests, weeds and diseases may impose on biodiversity, primary production and social amenity values. The financial impact on primary production and tourism could be significant if particular pests were to establish on Kangaroo Island, with the success of niche agricultural enterprises such as the apiary industry relying heavily on freedom from pests and disease. Kangaroo Island's biosecurity system supports the export of higher quality primary products, which may provide a competitive advantage in some markets and allow entry into others.

The biosecurity system for Kangaroo Island is based on informed, voluntary compliance with an emphasis on providing visitors and the community with information about quarantine risks and requirements through tourism websites, brochures, media and strategically placed signage.

The local community is encouraged to share the responsibility for protecting Kangaroo Island through awareness of the requirements, reporting of potential risks, and doing the right thing themselves. Biosecurity measures on Kangaroo Island will be more cost effective and efficient if biosecurity risks are kept offshore, i.e. on the mainland. The adage 'prevention is better than cure' is highly applicable to all biosecurity efforts. If the risk is kept offshore then the impacts and outcomes on Kangaroo Island are negligible.



For pest species that do gain access to the Island, the earlier a potential risk is identified and dealt with, the more effective biosecurity will be.

Agency involvement

Various agencies are responsible for biosecurity in South Australia. Primary Industries and Regions SA (PIRSA) is a key economic development agency, responsible for the prosperity of SA's primary industries and regions.

Biosecurity SA is a division of PIRSA that provides state-level leadership in biosecurity policy development and emergency response. It plays a lead role in maintaining South Australia's strong and effective biosecurity system through the development and implementation of policies, legislation, regulatory frameworks, surveillance, preparedness and response programs that protect the economy, environment, communities and human health from the negative impacts associated with the entry, establishment or spread of pests, diseases and contaminants.

The NRM Biosecurity program applies specialist technical, policy and scientific expertise for the coordinated control of declared plants and animals under the *Natural Resources Management Act 2004*. The program works closely with NRM Boards and other state and national stakeholders to implement policies for the prevention, eradication, containment and/or impact reduction of weeds and vertebrate pests.

The Department of Environment, Water and Natural Resources (DEWNR) takes the lead in managing SA's natural resources. DEWNR's purpose is 'To help South Australians conserve, sustain and prosper'.

Natural Resources Kangaroo Island is the overarching organisation responsible for the work of DEWNR and the KI NRM Board on Kangaroo Island, including biosecurity activities to protect KI's terrestrial and marine environments. All agencies work closely together to deliver programs and projects for the biosecurity protection of the Island.

Legislative framework

The Biosecurity Strategy for Kangaroo Island 2017–2027 is grounded in the overarching legislative and governance framework that is in place for biosecurity at the state, national and international levels for Australia.

The Biosecurity Strategy for Kangaroo Island 2017–2027 aims to support state, national and international biosecurity commitments through the implementation of this strategy.

Australia's international biosecurity requirements are met through the work of the federal Department of Agriculture and Water Resources and enshrined in the *Biosecurity Act 2015*.

Australia’s approach to risk assessment is consistent with its obligations under the World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), the International Plant Protection Convention (IPPC), the World Organization for Animal Health (OIE) and the World Health Organization (WHO). The actions outlined in this Biosecurity Strategy for Kangaroo Island 2017–2027 honour and support these international agreements and responsibilities.

South Australia is a signatory to the Intergovernmental Agreement on Biosecurity (IGAB), which outlines cost-sharing arrangements in the event of animal, plant and marine pest incursions and other environmental biosecurity threats. IGAB established a platform for the biosecurity system through collaboration between the Commonwealth and state and territory governments. This strategy outlines actions that support IGAB initiatives, in particular those that relate to biosecurity risk prioritisation, monitoring and response.

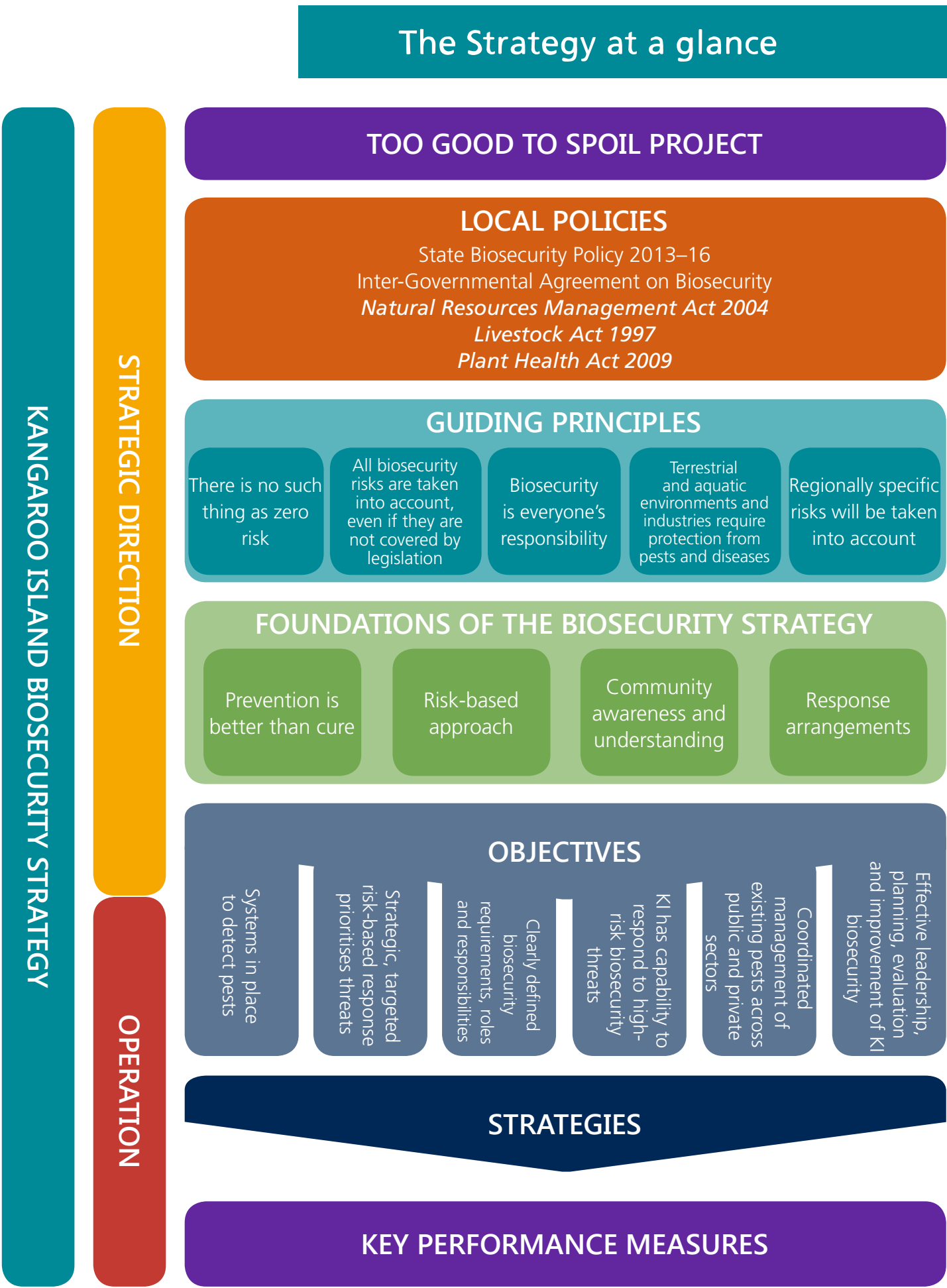
The Kangaroo Island region operates under the South Australian Government’s State Biosecurity Policy 2013–16. This policy establishes the purpose and approach of the state government to biosecurity matters in South Australia and its priorities are reflected in this strategy.

The South Australian Government has shown commitment to the biosecurity protection of Kangaroo Island through specific legislation to protect the island from animal and plant pests, weeds and diseases, including both agricultural enterprises and the environmental impacts of biosecurity threats.

The *Natural Resources Management Act (2004)* manages natural resources in respect of pest plant and animal species and Kangaroo Island, outlining the responsibilities relating to the ownership, movement, sale or control of specific animals and plants.

The *Livestock Act 1997* is important in respect of the honey industry on Kangaroo Island as it affords the island ‘sanctuary’ status and provides particular protections. The Act outlines the requirements for movements of used bee equipment and bee products onto Kangaroo Island with the express purpose of protecting the highly favourable pest and disease free status of the bee population.

The protection of another major agricultural industry on Kangaroo Island is dealt with by the *Plant Health Act 2009*. The relatively pest and disease free seed potato industry has biosecurity safeguards through regulations covering used potato machinery, seed potatoes and those for consumption that are not clean or commercially packaged.



Guiding principles



The Biosecurity Strategy for Kangaroo Island 2017–2027 is guided by five principles:

1. There is no such thing as zero risk:

Everything that arrives on Kangaroo Island poses some level of biosecurity risk and to reduce the risk to zero is not possible.

2. All biosecurity risks are taken into account, even if they are not covered by legislation:

If goods being brought to Kangaroo Island are not bound by any legislative or policy requirements then there is no provision for preventing their importation. Where such gaps occur, other steps will be taken to manage the risk, including building awareness, promoting best practice, developing memorandums of understanding (MOUs), and other regional arrangements.

3. Biosecurity is everyone's responsibility:

The protection of Kangaroo Island lies in the hands of those who live, travel to or do business on the Island.

It is crucial that people are aware of and understand the risk unwanted pests, weeds and diseases pose to the Island's environmental, social and economic well-being and that they understand their role in minimising this risk.

4. Terrestrial and aquatic environments and industries require protection from pests and diseases:

All terrestrial and aquatic environments require consideration to ensure the protection of terrestrial, freshwater and marine ecosystems and the protection of the Island's primary industries.

5. Regionally specific risks will be taken into account:

As a region, and as an island, there are significant differences in biosecurity status and risk on Kangaroo Island compared to mainland Australia. Certain pests, weeds and diseases currently absent could impact significantly if they were to be introduced and become established on the Island. For this reason, some pests, weeds and diseases may be assessed as a higher risk for the Island than they are on the mainland.

Foundations for implementation

The Biosecurity Strategy for Kangaroo Island is built on a number of foundations as outlined below. These determine and define how biosecurity risks will be responded to.

Prevention is better than cure

Biosecurity risks need to be managed in a way that maximises value for money and ensures the most effective use of resources while reducing or eliminating risks where possible.

The biosecurity continuum is a concept that underpins successful biosecurity strategies recognising that exposure to risk and management implications are different at different locations, for example, prior to entry, at entry point, and on island. These factors have a bearing on the most efficient use of resources.

The impacts and associated costs of introduced pests, weeds and diseases are well documented

and it is clear that once a species has become established, containment and/or asset-based protection may be the only suitable response due to the difficulty and costs associated with eradication.

In the case of Kangaroo Island, prevention is assisted by the geographical barrier of the 'water gap' but still requires investment in monitoring activities by relevant agencies and the community.

The Australian Government has recently used the generalised invasion curve concept developed by the Victorian Government Department of Environment, Land, Water and Planning (Figure 2) to explain the key categories of actions appropriate to the stage of a pest incursion.

It is important to note the dwindling returns on investment as one moves from the prevention end of the curve to the asset-based protection end of the curve.

Biosecurity continuum



Figure 1. A simplified representation of the biosecurity continuum that forms the basis of the Kangaroo Island Biosecurity Strategy.

Generalised invasion curve

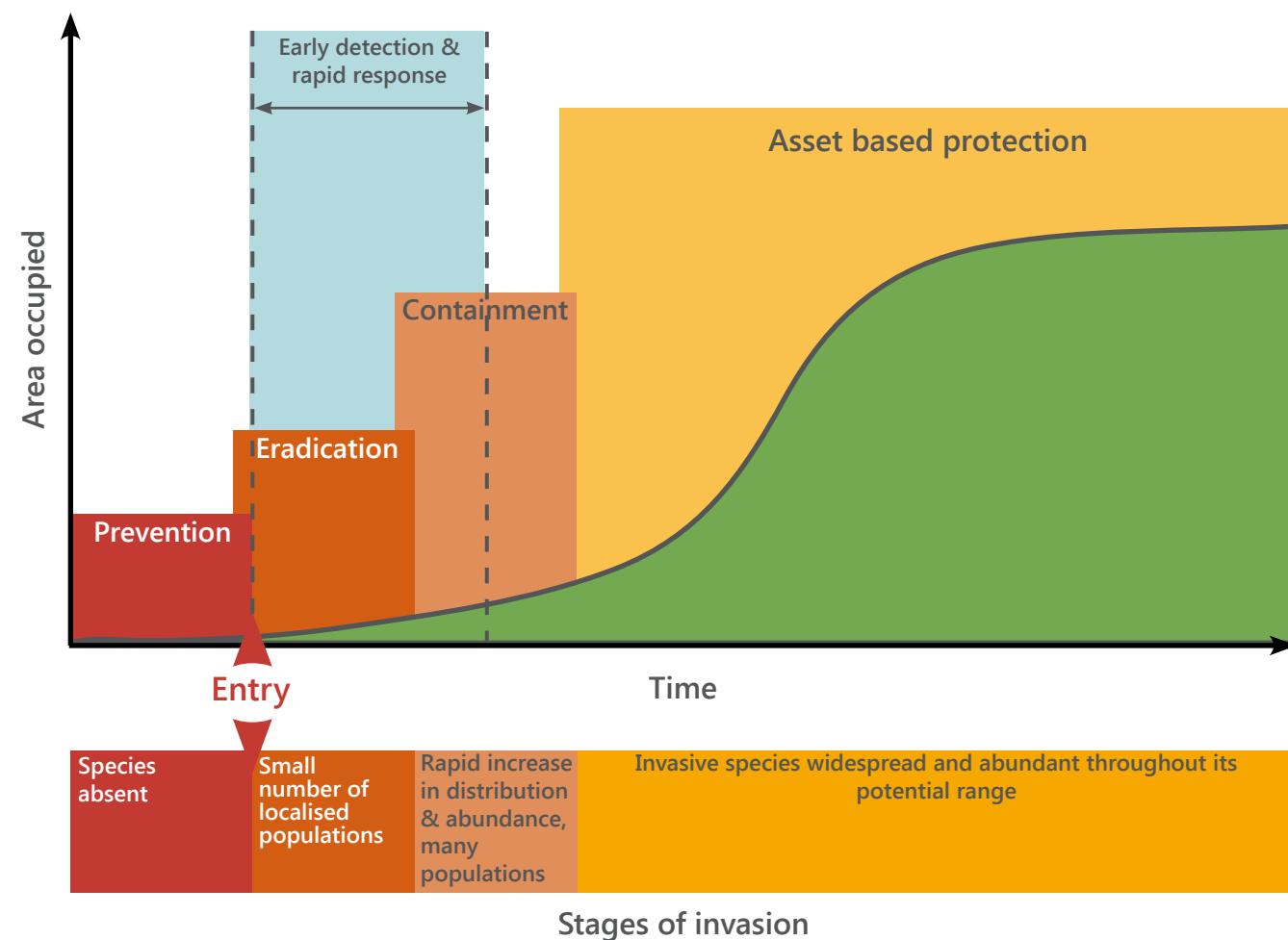


Figure 2. Generalised invasion curve showing actions linked to each stage of invasion (adapted from Victorian Government Department of Agriculture — Invasive Plants and Animals Policy Framework 2017).



Prevention is better than cure

Local KI NRM Board Policy on revegetation using plants of Kangaroo Island provenance

As part of the revegetation programs on Kangaroo Island, Natural Resources Kangaroo Island (NRKI) manages various programs that are funded through grants to undertake revegetation for conservation and biodiversity outcomes. A policy decision was made by the Kangaroo Island Natural Resources Management (KI NRM) Board to support the program with the use of native plants of Kangaroo Island provenance and grown on Kangaroo Island to eliminate the risk of plant diseases, weeds and insects arriving from the mainland. This preventative measure ensures that this program can continue while posing minimal biosecurity risk to the Island.



European wasps monitoring program

European wasps are not known to be present on Kangaroo Island but cause significant problems where they are established on the mainland. This includes being a pest of social amenity where they can be a nuisance around outside eating areas and barbeques, as they are attracted to sweet foods and meats.

High-risk entry points for the European wasp include the Penneshaw SeaLink Terminal and transport depots for general imported goods.

Early warning monitoring traps have been set up around Penneshaw, in transport depots at American River and Kingscote, at the airport and adjacent areas. Public awareness has also been raised and suspected incursion reports are quickly responded to so that rapid eradication can take place if an incursion is confirmed.



Risk-based approach

A risk-based approach will be used to determine the appropriate investment into different biosecurity activities and ensure that the highest biosecurity risks are focussed on while still being responsive to emerging and lower order risks. The evaluation of any biosecurity risk requires an assessment of the likelihood and consequence of a pest or disease incursion. See Table 1.

Likelihood is based on the probability of a pest or disease arriving. This includes consideration of environmental factors that may support the establishment of a particular biosecurity risk, for example, how climate change is making it possible for weeds that were previously unable to establish on the Island to now get a foothold.

Risk assessment

Likelihood of consequences	Maximum reasonable severity of consequences				
	(1) Insignificant	(2) Minor	(3) Moderate	(4) Major	(5) Severe
(A) Almost certain	Low	Medium	High	Extreme	Extreme
(B) Likely	Low	Medium	High	High	Extreme
(C) Possible	Low	Medium	Medium	High	Extreme
(D) Unlikely	Low	Low	Medium	Medium	High
(E) Rare	Low	Low	Low	Medium	Medium

Table 1. Risk assessment table used to assess biosecurity risks to Kangaroo Island. (adapted from Department of Environment, Water and Natural Resources).



Consequence considers the severity of the potential biosecurity risk, including the potential impact on the environment, industry and human well-being.

The ability to respond to, control or contain a new pest is also factored into the risk assessment. Some environments are more challenging to work in with respect to managing incursions, for example, the marine environment where containment can be very difficult.

Risk based approach

Forestry industry and an emerging plant pest from the mainland

A Kangaroo Island forestry company requested a risk assessment following the detection of giant pine scale (*Marchalina hellenica*) in Adelaide. This pest lives by sucking the sap of pine, fir and spruce trees. The risk assessment considered the specific pathways and commodities that could introduce the pest to Kangaroo Island, including items such as pine bark for garden use and forestry harvesting equipment. In the case of pine bark, the frequency of the import of the product, the life cycle of the insect, processing and end use were all considered. The likelihood of pathways was considered 'unlikely' while the consequence was considered 'major', giving an overall risk assessment of 'medium'. After this assessment, the forestry company looked at further mitigation options to reduce the likelihood that the pest could be introduced, such as producing pine bark locally so the product did not need to be brought in from the mainland.



Risk based approach

Hay and fodder brought to KI from mainland

Fodder brought to Kangaroo Island for livestock or a horse-racing event could potentially introduce a new weed species through seed. The likelihood would depend on an assessment of a range of factors including the origin of the fodder, processing of the product, transportation mode, how it is fed, and arrangements for cleaning up unconsumed fodder.

The consequence would again depend on the assessment of a number of factors including climatic suitability, invasive potential, ease of control, and toxicity.

NRKI has produced Fodder Management Guidelines to assist in assessing and managing this potential risk.



Community awareness and understanding

The importance of the protection of Kangaroo Island from biosecurity threats needs to be fully understood by the resident community and visitors. It is also essential that stakeholders with a vested interest in biosecurity, for example the Department of Primary Industries and Regions South Australia (PIRSA) and local landholders, support the biosecurity strategy and have a clear understanding of their role. Some biosecurity risks will have greater bearing on some sectors than others while other risks will be more general in nature.

Broad awareness and knowledge of what individuals can do to assist in the prevention, detection and management of biosecurity risks will ensure a more effective biosecurity system.

Community awareness and the sharing of responsibility for biosecurity protection for both environmental and agricultural outcomes requires ongoing engagement and capacity building.

Community awareness and understanding

Biosecurity checks at Cape Jervis SeaLink Terminal

One of the highest risk pathways for potential biosecurity pests to Kangaroo Island is through visitors, vehicles and freight arriving on the ferry services from Cape Jervis. The biosecurity risks include honey products, used beekeeping equipment, unwashed potatoes or potatoes for planting, and declared animals such as rabbits and ferrets.

In December 2015, an initial trial of biosecurity vehicle checks at Cape Jervis was conducted with Biosecurity SA. The trial proved successful and since then, 200 ferry service checks have been performed on over 7,000 vehicles and 21,000 travellers. The main focus of the checks is to increase awareness, find out how visitors are obtaining information about the Island's biosecurity requirements, and to provide advice to KI residents as to how they can assist in protecting the Island.



Community awareness and understanding

Building awareness about marine pests

Kangaroo Island has no known established colonies of marine pests such as European fan worms or European sea squirts. These pests are now well established in marinas on the mainland and NRKI staff have undertaken surveys, engaged with marina operators and boat owners to gauge awareness and to educate them on how to reduce the risk of introducing marine pests to Kangaroo Island. On Kangaroo Island, boat users, visiting yachts, recreational snorkellers and divers are made aware of these unwanted species through signage, presentation at field days, and engagement with groups such as 'Friends of the Sea'.



Community awareness and understanding

Used machinery imports to Kangaroo Island

The import of used agricultural or earth moving machinery to Kangaroo Island poses numerous potential biosecurity risks. Soil and plant contamination can harbour pathogens for plant and animal diseases, weed seeds and even insects.

During biosecurity checks of vehicles and passengers at Cape Jervis, a used ride-on mower bought from a mainland winery was inspected. The mower had been thoroughly cleaned of plant and soil matter thus reducing the biosecurity risk significantly. When the owner was questioned, he indicated he didn't want any 'nasties brought to Kangaroo Island' and so had insisted on the machine being thoroughly cleaned before transportation. This is a great example of doing the right thing and sharing the responsibility.



Response arrangements

Maintaining the desired biosecurity status of Kangaroo Island requires structured surveillance, monitoring and reporting programs, as well as the capability to rapidly respond to impending and new incursions. The processes for early detection, identification, reporting, assessment and subsequent allocation of resources to necessary activities need to be in place and understood by relevant stakeholders.

Rapid response to a potential or identified biosecurity risk is important as early action can increase the effectiveness of successful eradication, containment or in the case of a false alarm, provide timely information to reduce the cost of an operational response.

Appropriate planning and documentation of response arrangements needs to be in place and should include the training of relevant personnel, equipment acquisition, and the development of clear processes to assist in the investigation and implementation of actions to limit the risk as safely and practically as possible.

A means of evaluating the veracity of biosecurity reports is needed as the community may provide information with limited physical evidence. Strong networks with other agencies, regulatory officials and sources of technical knowledge are essential.

Response arrangements

Fox reported on Kangaroo Island

The credible report of a fox calling at Island Beach in early 2015 required a systematic approach to determine whether or not a fox had arrived on Kangaroo Island. This included engagement with a wide network of experts to assist in the investigation. Activities such as track identification, sensor camera installation, trap setting, spotlighting and DNA testing of scats was coordinated in an effort to establish the presence or otherwise of a feral fox. Fortunately the investigation concluded that there was no evidence to support the report but the established response arrangements were verified through the incident.

Foxes pose a significant biosecurity risk to Kangaroo Island. If they were to become established on the Island they would prey on native species as well as impacting on agriculture, particularly the free range egg industry.



White Wolf Pack



Response arrangements

Marine pests discovered on returning yacht

The detection of European sea squirt and European fan worms on a yacht in the Bay of Shoals that had visited the mainland, highlights how easily pests can be imported. Once detected, the focus turned to options to treat and remove the pests without dispersing them into the marine environment. Careful planning and expert advice ensured an effective response was mounted. Previous trials of the Introduced Marine Pest Protector meant that the incursion could be successfully contained and the infected vessel hull cleaned.

Marine pests may threaten aquaculture, foul infrastructure and vessels, and impact detrimentally on marine ecosystems.



Brand Kangaroo Island



How will climate change impact biosecurity?



Climate change will place additional stresses on our native and agricultural plants and animals and conditions will begin to favour new pests, weeds and diseases. We need to identify the most likely and/or the most potentially damaging pest species that might reach our shores so we can take steps to prevent them getting here or control them if they arrive.

Climate change will cause higher temperatures, changed rainfall patterns, increased atmospheric CO₂, more extreme weather, changes in the seasonal cycles of plants and animals and changes to land use. Introduced pests may respond to these changes faster than many native and agricultural plants and animals. Extensive modelling by CSIRO indicates that species distributions in southern Australia will probably move southwards. Kangaroo Island is thus likely to become climatically suitable for a whole new set of invasive species, but may also become unsuitable for some current ones. 'Sleepers' weeds' that are already present on the island but have not yet become highly prevalent or dispersed may become a more significant problem.

As the climate changes, the resilience and persistence of our native species and ecosystems will be greatly helped by the exclusion of introduced species. This is particularly important for an island environment such as Kangaroo Island, as there is limited capacity for our native plants and animals to move to more favourable climates as conditions change.

Climate change will bring an increased risk of bushfire, which may contribute to the spread of weeds through disturbance to natural vegetation. Of particular concern are fire-adapted weeds such as gorse, which currently has a very limited distribution on the Island. Elsewhere it is a serious weed of natural systems and reduces the value of agricultural land. Fuel reduction burns may have unfortunate side effects in future if they encourage the growth and spread of weeds such as gorse.

Oceanic warming is causing range shifts in marine species, including invasive pests. European fan worm, which has been detected around Kangaroo Island at several sites since 2008 and persists at one, is currently limited in its southward spread by low water temperatures. As oceanic temperatures increase so too does the risk of successful establishment of this and other marine pests in our coastal waters.

Novel ecosystems are new combinations of plants and animals, including both introduced species and native species — sometimes beyond their usual distribution, which may provide ecosystem functions (e.g. clean water, soil stabilisation, aesthetic values) similar to those provided by natural ecosystems. Novel ecosystems are generally associated with the consequences of human activity, but climate change is set to accelerate their occurrence. What we currently consider to be pests may require some rethinking in future as species arrive or depart in response to changing conditions.

Objectives, strategies and key performance measures



The Kangaroo Island Quarantine Policy 2007 states that ‘Kangaroo Island has effective procedures and systems in place, which reduce the risk of introduction and increased distribution of new pest species with invasive potential’.

To achieve this policy aim, the Biosecurity Strategy for Kangaroo Island 2017–2027 is based on six objectives that have been developed through consultation with a range of stakeholders and the community and a review of similar regional and national strategies.

The objectives are unpacked into a series of strategies presented in the following tables that outline the types of activities that are required to achieve the objectives. These are supported and defined by key performance measures (KPMs) to track outputs and outcomes. Roles and responsibilities are also defined, and in many instances these are a shared responsibility — a reflection of the high degree of coordination and cooperation that is required to implement an effective biosecurity system for the Island.

Objectives

- 1. Systems are in place for the early detection of biosecurity threats to Kangaroo Island.
- 2. A strategic, targeted risk-based response prioritises current and emerging biosecurity threats to Kangaroo Island.
- 3. Biosecurity requirements, roles and responsibilities are clearly defined for all agencies, industries and the Kangaroo Island community.
- 4. Kangaroo Island has the capability to respond to high-risk biosecurity threats to Kangaroo Island.
- 5. Management of existing pests, weeds and diseases is coordinated across the public and private sectors to limit their spread and impact.
- 6. Effective leadership, planning, evaluation and improvement of Kangaroo Island’s biosecurity system.



Stakeholder abbreviations as listed in tables for objectives 1–6 overleaf:

AgKI	Agriculture Kangaroo Island	Klem	Kangaroo Island earthmovers
BAC	Biosecurity Advisory Committee (reports to the KI NRM Board)	KIlh	Kangaroo Island landholders
BKI	Brand Kangaroo Island	KINRM	Kangaroo Island Natural Resources Management Board
BSA	Biosecurity SA (PIRSA)	Klpp	Kangaroo Island primary producers
DAWR	Department of Agriculture and Water Resources (Federal)	Klto	Kangaroo Island tourism
DEWNR	Department of Environment, Water and Natural Resources	NRKI	Natural Resources Kangaroo Island
KIac	Kangaroo Island agricultural contractors	PIRSA	Primary Industries and Regions South Australia
KIBA	KI Beekeepers Association	Q	Qantas
KIC	Kangaroo Island Council	REX	Regional Express
KICE	Kangaroo Island Community Education	Sag	Stock agents
KIcom	Kangaroo Island community	SL	Sealink
		TKI	Tourism Kangaroo Island

Objective 1. Systems are in place for the early detection of biosecurity threats to Kangaroo Island.

STRATEGIES	Information sources are regularly checked and intelligence-sharing arrangements are in place with other agencies.	Subscription to and checking of relevant information sources such as news alerts, websites, R&D and industry reports. Regular and impromptu meetings occur in order to ensure co-ordination of activities, intelligence sharing and maintaining effective working relationships.	NRKI BAC PIRSA KIC
	Key entry points, suitable and sensitive locations are prioritised for ongoing monitoring and surveillance.	Surveillance system established and maintained (ferry checks, camera traps, wasp traps, marine surveys, etc.); electronic records and maps are used to document surveillance activities and results; data capture and recording is consistent with survey and surveillance activities used by other agencies.	NRKI PIRSA
	Diagnostic capabilities are developed and technical partnerships or service arrangements are established for identifying pests, weeds and diseases.	Identification mechanisms determined, reference materials sought and key technical experts identified.	NRKI PIRSA BAC KIBA
	Mechanisms are established to enable all stakeholders to report potential risks or concerns and these mechanisms are promoted to the community and reviewed and improved as needed.	Contact details for community sighting reports are widely available and readily accessible, along with the Biosecurity SA hotline and the National See, Secure, Report hotline.	NRKI PIRSA
	All stakeholders are aware of their role in biosecurity monitoring activities and are familiar with incursion reporting mechanisms.	Reports investigated, recorded and feedback provided to initiator; regular promotion of need for community reporting through media and other means.	NRKI PIRSA
	Mechanisms are in place to report any legislated pests and diseases to Biosecurity SA.	Pest and disease incursions are reported to Biosecurity SA immediately they are detected. Local support provided where requested.	NRKI PIRSA

Objective 2. A strategic, targeted risk-based response prioritises current and emerging biosecurity threats to Kangaroo Island.

STRATEGIES	Regular risk assessments are conducted to prioritise action and suitably allocate resources to address biosecurity risks.	Risk assessments conducted/updated and documented when new threats arise and new information is received; resource allocation reviewed.	NRKI BAC
	The implications of climate change and any extenuating circumstances are factored into risk assessment and decision making.	Risk assessments consider the future environment and the impacts that climate change will have on the biosecurity risk.	NRKI PIRSA
	Research is conducted and/or analysed to predict and plan for possible future threats.	Research undertaken, reports reviewed and monitoring data assessed.	NRKI



Objective 3. Biosecurity requirements, roles and responsibilities are clearly defined for all agencies, industries and the Kangaroo Island community.

STRATEGIES	KEY PERFORMANCE MEASURES	RESPONSIBILITY
	Engagement with relevant federal and state agencies and local government to ensure Kangaroo Island's biosecurity status is recognised and supported, effective working relationships are maintained, and suitable response to and management of biosecurity incursions are clearly defined, understood and agreed by all parties.	DAWR PIRSA KIC
	Awareness building materials including signage, flyers, pocket cards, media releases, website notices, etc., are produced and installed/distributed in the tourism sector as widely as appropriate and possible.	NRKI SL REX Q TKI
	Informal conversations, presentations to and meetings with all stakeholders and KI community.	NRKI PIRSA Klcom
	Stakeholders are supported to identify and review the biosecurity risks relating to their own business and personal activities and are assisted with developing an appropriate response arrangement.	Klto Klpp KIlh Klem Klac KIC
	All stakeholders are kept informed of the status of current, emerging and potential biosecurity risks on and to the Island.	NRKI PIRSA
	KEY PERFORMANCE MEASURES	RESPONSIBILITY
	Key industry groups are actively promoting the importance of biosecurity to their customers and in all their dealings.	KINRM TKI, KIC SL, REX AgKI KIlh KIBA KICE Klcom

Objective 4. Kangaroo Island has the capability to respond to high-risk biosecurity threats to Kangaroo Island.

STRATEGIES	KEY PERFORMANCE MEASURES	RESPONSIBILITY
	Response arrangements for biosecurity incursions or outbreaks on Kangaroo Island are documented and formalised.	NRKI PIRSA
	Preparedness program is put in place to ensure capabilities and resources are identified and allocated.	NRKI
	KEY PERFORMANCE MEASURES	RESPONSIBILITY
	Resources and equipment required to respond to high-risk biosecurity threats to Kangaroo Island are acquired.	NRKI



SA Office of the Public Sector

Objective 5. Management of existing pests, weeds and diseases is coordinated across the public and private sectors to limit their spread and impact.

STRATEGIES	Existing pests are contained, controlled or eradicated in accordance with a risk-based approach to the allocation of available resources.	Prioritised operational plan; outliers eradicated, main infestations controlled if eradication not feasible.	NRKI KIC
	Permitting systems and management plans are in place for high-risk agricultural and domestic species.	Risk assessments, management plans and policies are in place for relevant species, including goats, deer, pigs, ferrets and cats.	NRKI KIC
	The community understand and accept their obligations and responsibilities in supporting the management of introduced pests, weeds and diseases on Kangaroo Island.	Timely, relevant and factual information provided to all stakeholders; specific engagement and capacity building activities supported where possible.	NRKI PIRSA KIC AgKI TKI BKI KIBA KIsa KIlh Klpp Klcom
	Compliance by landholders, land managers, residents and visitors is ensured through legislative requirements and regulations relating to the control of species that impact Kangaroo Island.	Compliance checks conducted as soon as possible and appropriate; systems in place to support the community in managing introduced species; provision of technical advice and support; opportunities developed for self-regulation and compliance with biosecurity requirements.	NRKI AgKI KIlh Klpp Klcom KINRM
	DEWNR and other agency land managers show leadership and best practice in managing pest species on the land they are responsible for managing.	Awareness is demonstrated and promoted to the island community. Compliance monitored and recorded. Leadership demonstrated.	NRKI AgKI
	Maintain a suitable monitoring program and knowledge/records management system.	Maps; records of work undertaken; records of reports/sightings; monitoring at key locations.	NRKI

Objective 6. Effective leadership, planning, evaluation and improvement of Kangaroo Island’s biosecurity system.

STRATEGIES	An adaptive governance approach is used to guide all decision making in relation to biosecurity matters and the implementation of this strategy.	Suitable process in place for adaptive decision making and triple loop learning.	KINRM
	Stakeholders participate in formal biosecurity planning and decision making.	Biosecurity Advisory Committee active and effective, meetings are held and recommendations are made to the Board; public consultation undertaken as needed.	KINRM NRKI BAC Klcom
	Effective relationships with key state government agencies and local government representatives are maintained.	Regular meetings, correspondence and discussion on key issues; information sharing; joint planning and review as needed; joint operations as needed.	NRKI BAC PIRSA KIC KINRM
	Progress made with the implementation of this strategy and the extent to which its implementation is achieving the desired outcomes is reported to the KI NRM Board and other stakeholders.	Verbal and written reports; media releases; letters to stakeholders; presentations.	NRKI BSA KINRM
	This strategy and related instruments for managing biosecurity risks are reviewed and improved as needed to ensure they are effective, consistent and contemporary.	Progress and outcomes monitored, regular reviews conducted.	KINRM BAC



Quentin Chester Photography

Monitoring, evaluation, learning and improvement



We will demonstrate the results of investment in biosecurity and improving our management approach through a commitment to structured monitoring, evaluation, learning and improvement.

This Biosecurity Strategy for Kangaroo Island 2017–2027 will guide the development of annual operational and work plans for structured implementation. These operational and work plans will include key performance measures (as indicated in the previous section) to track implementation progress on an ongoing basis.

An annual evaluation and review will be conducted by the Biosecurity Officer and other relevant staff and stakeholders to clarify lessons learned and to make any necessary adjustments or improvements to this strategy and the annual operational and work plans.

Key evaluation questions will include:

Learning from actions:

- » Were the proposed actions implemented as planned?
- » Are we achieving the desired outcomes?
- » Are we doing things correctly?

- » Are there ways to do things more efficiently or effectively?

Learning for reframing:

- » Are we asking the right questions?
- » Are our strategies and priorities appropriate?
- » Are our assumptions sound?
- » Did the actions lead to the desired change or outcomes?

Learning for transformation:

- » Do we have the right value systems/processes in place to achieve our visions and objectives?
- » Are our governance structures appropriate?
- » The Biosecurity Advisory Committee will drive the review in the first instance, reporting to the Kangaroo Island Natural Resources Management Board for final endorsement.

References and further information

Kangaroo Island Quarantine Policy 2007

PIRSA State Biosecurity Policy 2013–16

Victorian Government Department of Agriculture — Invasive Plants and Animals Policy Framework 2017

Tasmanian Biosecurity Strategy 2013–2017 (Tasmanian Biosecurity Committee 2012)

Managing Biosecurity Risks in the Mineral and Energy Resources Sector (MESA Journal 2013)

New South Wales Invasive Species Plan 2008–2015 (New South Wales Department of Primary Industries 2008)

Biodiversity – A summary of Australia’s Biodiversity Conservation Strategy 2010–2030 (Commonwealth of Australia 2010)

Invasive Plants and Animals Policy Framework (Victorian Government 2015)

NRM Biosecurity Business Plan 2015–16 (PIRSA 2015)

For more information on the likely impacts of climate change on Kangaroo Island please visit www.adaptNRM.org.

Novel Ecosystems: Intervening in the New Ecological World Order Richard J. Hobbs, Eric S. Higgs, Carol Hall 2013

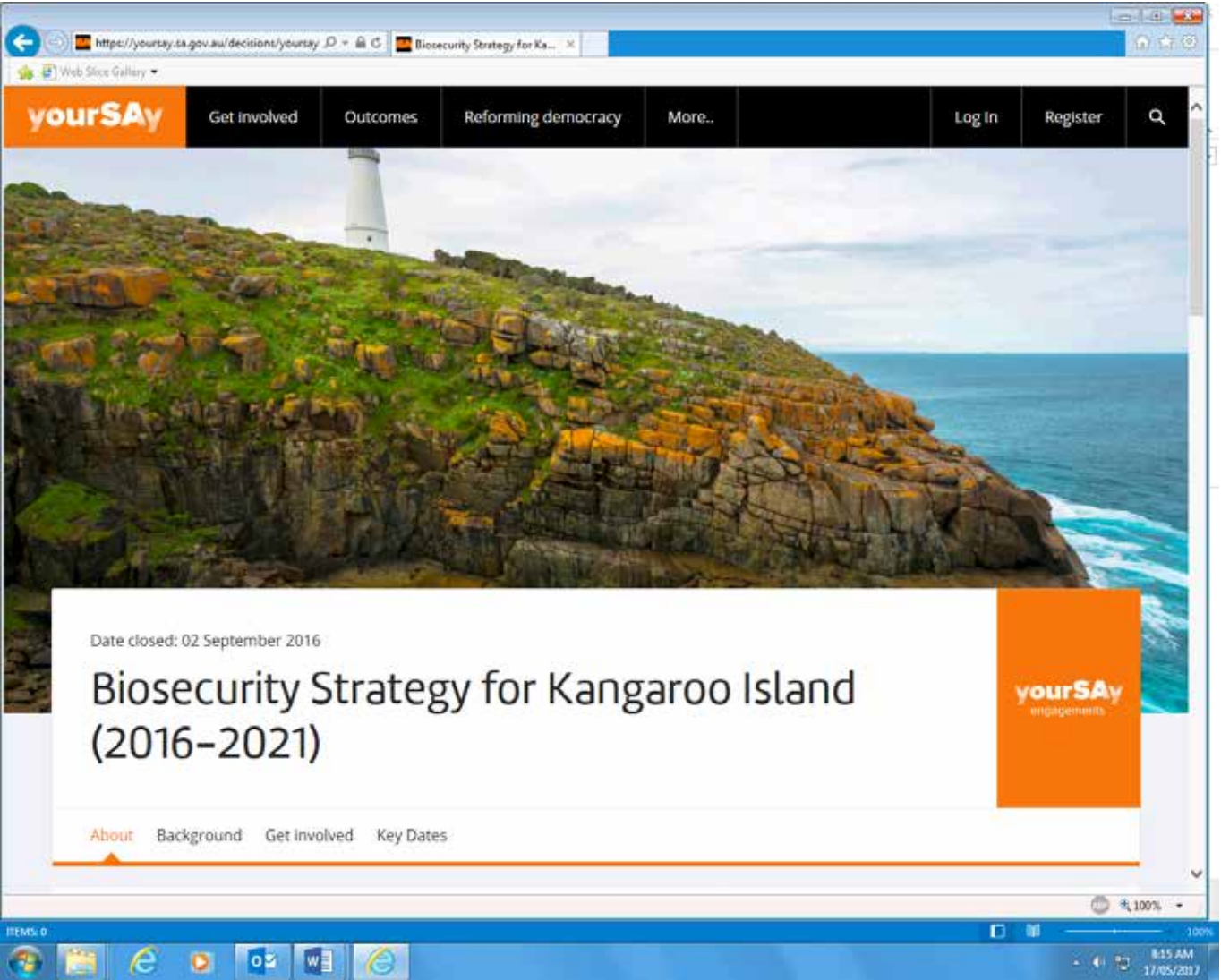
Authentic KI website:
<https://authentickangarooisland.com.au>

Weeds of National Significance website:
<http://www.environment.gov.au/biodiversity/invasive/weeds/weeds/lists/wons.html>

Department of Agriculture and Water Resources Biosecurity website:
<http://www.agriculture.gov.au/biosecurity>



Appendix 1: Development of this strategy



The Biosecurity Strategy for Kangaroo Island 2017–2027 is modelled on similar documents produced to manage quarantine, biosecurity and conservation functions by other agencies and groups. This includes the Tasmanian Biosecurity Strategy 2013–2017 (Tasmanian Biosecurity Committee 2012), Managing Biosecurity Risks in the Mineral and Energy Resources Sector (MESA Journal 2013), the New South Wales Invasive Species Plan 2008–2015 (New South Wales Department of Primary Industries 2008), Biodiversity—A summary of Australia’s Biodiversity Conservation Strategy 2010–2030 (Commonwealth of Australia 2010), Invasive Plants and Animals Policy Framework (Victorian Government 2015) and the NRM Biosecurity Business Plan 2015–16 (PIRSA 2015).

These documents provided the basis of the structure and presentation of this document as well as validating the objectives outlined in the strategy.

The development of the Biosecurity Strategy for Kangaroo Island 2017–2027 involved extensive consultation with key stakeholders on and off the Island as well as open forums for input by the community and interested parties. The South Australian Government’s Have Your SAy web-based forum was open for public consultation from 9 May 2016 to 2 September 2016. This was advertised through local media, the NRKI website, social media and at meetings with the community. Sixteen submissions were made to this forum.

Public workshops were advertised through local media and on the Natural Resources Kangaroo Island website. These workshops were held in Parndana (15 August 2016), Penneshaw (16 August 2016) and Kingscote (17 August 2016) with a total of 31 attendees at these events. The Parndana attendees were all farmers from the local community, the Penneshaw event had many representatives from the tourism sector and the Kingscote group was mainly made up of long-term residents working in local and state government and those with an interest in conservation and environmental activities. Each event provided an excellent opportunity to obtain feedback about the current state of play with biosecurity and what should be the focus for future delivery of this important activity.

Specific meetings with key stakeholders have included the Biosecurity Advisory Committee, PIRSA/ Biosecurity SA, Kangaroo Island Council, Kangaroo Island Beekeepers Association, AgKI and Tourism KI.

Each of these meetings provided an opportunity to ensure both the biosecurity risks that they identified with or were concerned about were addressed by the proposed strategy as well as ensuring they understood the role of their organisation in the delivery of an effective biosecurity system for Kangaroo Island.

Other submissions have been received from NRKI/DEWNR staff, members of Biosecurity Advisory Committee, various community members, Kangaroo Island Plantation Timbers, Nature Conservation Council and representatives of the aquaculture and beekeeping industries on Kangaroo Island. Each submission was documented and a record of how concerns or comments were incorporated into the strategy was maintained.

The Kangaroo Island Natural Resources Management Board reviewed the final draft document and in the endorsement agreed to the timeline for the strategy to operate in line with Kangaroo Island Natural Resources Management Plan 2017–2027.





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