Natural Resources Management Plan 2015–2025

Have Your Say

Discussion paper No 8: Vibrant Economy

This discussion paper is part of a series covering all of the ‘Big Issues’ raised by the community during meetings and workshops about the new Kangaroo Island NRM Plan. It provides a summary of the current state of knowledge about the issue, suggests courses of action and identifies who might work together with us in addressing it.

We now invite your comments, suggestions, criticisms and ideas.

Introduction

Healthy natural resources provide the basis for most of the economic activity on Kangaroo Island (KI). Wise management and stewardship of these assets is therefore essential for our social and economic wellbeing. Responsibility for this is shared between landowners, industry and agencies such as Natural Resources Kangaroo Island (NRKI), Primary Industries and Regions SA (PIRSA) and KI Council, whilst the state and federal government have a key role to play in maintaining a suitable legislative and policy framework. But we all have a role to play in ensuring that our children and grandchildren are able to prosper in a clean and healthy environment.

Kangaroo Island is able to leverage advantage from its iconic status as a natural treasure and ecotourism destination with a ‘clean and green’ environment that supports the production of premium food and wine. It is highly likely that as the demand for unpolluted food and unspoilt places grows, this advantage (if carefully tended), will grow. To protect the very thing that makes us different — ‘the goose that lays the golden egg’ — we need to think carefully about how we progress the economic development of the island, making decisions that leave us collectively better off in the future.
While global political and financial uncertainty has the potential to impact us negatively, building social and ecological resilience could help to protect us from these external forces. We should be flexible in our thinking and open to change. We can’t directly tackle or even influence many of the challenges we face regarding economic viability and the profitability of local businesses, but some issues can be addressed through local cooperation and collaboration. If we are able to agree on desired outcomes and all pull in the same direction we have a greater chance of achieving ‘success’, although we need to be clear about what success means to us, individually and as a community.

There may be innovative solutions to many of the challenges we face. Adopting new technology in fields from communications through renewable energy to robotics could also help turn challenges into opportunities. For example, we have an ageing undersea cable and power supply constraints but we have abundant wind, sun and sea for renewable energy1. ‘The water gap’ increases the cost of freight and access but ensures a level of exclusivity and remoteness that is part of our iconic island appeal. We have a low council rates base due to our small population but we have a great sense of community. Native vegetation presents various management challenges but it harbours the wildlife that tourists come to see.

The following sections consider various sectors that contribute to the KI economy. The opportunities and challenges presented are not exhaustive but have focussed on aspects related to natural resource management. In many instances the points raised are not new and initiatives are already underway to address them, though some may require renewed attention, investigation or support.

**Nature-based tourism**

Kangaroo Island is a highly sought after tourism destination for national and international visitors. The unspoilt environment, island character, access to nature, abundant wildlife and native vegetation, rural landscapes, premium food and wine, beautiful beaches and sparkling ocean, wildness, quiet and solitude are what make KI iconic. Tourism accounts for nearly 50% of the economy and has the potential for further growth, particularly over the winter months when visitor numbers usually decrease significantly, affecting the viability of local businesses.

Nature and culture based tourism continues to grow globally and has been identified by the state as a key economic priority that requires further unlocking2. Along with food, wine and cultural experiences, nature is the number one driver of international visitation to Australia3. About 40% of all international visitors to Australia travelled to a national park in 2013–14. Despite these promising figures the proportion of visitors undertaking nature-based tourism is now substantially lower than in 20054.

The South Australian Government is therefore currently exploring opportunities to work with traditional owners, industry and the community and is proposing to5:

» Support the aspirations of the tourism sector, traditional owners and the broader community for appropriate and sustainable nature-based tourism development.

» Enable South Australia’s nature-based tourism experiences to be further recognised worldwide and the state to be a leader in sustainable best practice destination management.

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1 Regional Development Australia. 2011. *Opportunities for renewable energy and demand side solutions on KI*. Wessex Consult
3 Tourism Research Australia. 2014. *International Visitor Survey*.
5 South Australian Tourism Commission and the Department of Environment, Water and Natural Resources. 2015. *South Australian nature-based tourism discussion paper*.
Protect our parks so that they can continue to be among the best in the world, drawing visitors from South Australia and across the globe.

Open the way for more innovative opportunities to improve the economic benefits of parks and remove barriers to investment. These opportunities will help us move towards new ways of delivering exceptional visitor experiences in environmentally, culturally, socially and economically sustainable nature-based tourism development6.

The Kangaroo Island Strategic Tourism Plan-(2013–2020)7 sets out a vision and strategy for the further development of tourism here and identifies DEWNR as a key role-player.

Opportunities for enhancing nature and culture based tourism on KI include:

- walking and cycling trails along the coast and criss-crossing the island (using green belts on and between private land, road reserves, crown and public land)
- adventure activities (including on crown and public lands)
- bird watching8 (some sites may benefit from the construction of bird viewing hides)
- new marine experiences and initiatives deriving greater ecotourism benefit from marine parks, e.g. Marine Centre of Excellence
- new wildlife experiences, increasing the visibility of wildlife6
- improved interpretation of the natural environment and expanded interpretation and exposition of cultural (e.g. indigenous) and heritage (e.g. maritime) aspects
- premium food and wine, artisanal food and beverage production
- retreats for wellbeing, meditation and reconnection with self or nature
- wilderness leadership school9 (building leadership capacity through various outdoor and adventure experiences and challenges) and environmental education/camps for on and off island youth
- dark sky reserves10 (no light pollution, good for viewing the night skies) accredited status
- voluntourism focused on research and habitat restoration activities
- participation in and promotion of the KI brand, ensuring shared vision and cohesion between service providers, joint and coordinated marketing
- showcasing environmental best practice in tourism, with appropriate certification where possible, also building the environmental awareness and understanding of visitors to KI
- public-private partnerships to develop commercial opportunities in parks
- promotion of higher yield (longer stay) activities and experiences to encourage off-peak visitation, promoting KI as a year round destination.

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7 Kangaroo Island National Landscape Strategic Tourism Plan. 2013.
9 http://iwls.com/
10 http://www.darksky.org/night-sky-conservation/87-international-dark-sky-reserves
Challenges that require consideration include:

- ensuring that ‘the product’ is suitably protected and effectively managed to maintain the unique selling points (unspoilt nature, wildness, abundant wildlife, pristine environment, etc.)
- avoiding over-development, inappropriate development not fitting with KI brand or image, and locating development as sensitively as possible to minimise the impacts on iconic or endangered species, breeding refuges, sensitive habitats and vistas
- monitoring, minimising, mitigating and managing the negative impact of tourism development and activities, e.g. defining visitor carrying capacity for key sites and implementation of environmental best practice
- provision and maintenance of public tourism infrastructure (toilets, roads, paths, campgrounds, boat ramps, picnic areas and signage)
- coordinated/joint marketing and the development of online tools for enhancing the KI tourism experience both pre-departure and during the visit
- external threats, such as prospecting and drilling for oil in the Great Australian Bight, which has the potential to negatively impact the marine environment with knock on impacts for tourism.

Climate change has the potential to impact on tourism in a number of ways over the coming decades:

- KI may become more attractive to visitors in the short to medium term as it will remain cooler than many mainland destinations
- increasing intensity and duration of heat waves may impact visitor comfort and health, particularly for the elderly and infirm
- increased bushfire risk will impact visitor activities on more frequent catastrophic fire risk days
- more frequent bushfires may damage infrastructure and may leave more areas of burnt bush land, devaluing the nature experience
- depending on the severity of climate change and attendant economic and social impacts, tourism may decline in the future
- with projected increased variability and overall decline in rainfall, precious water resources will need to be more carefully managed and visitor awareness raised
- rising sea level and increased storm surge will impact beaches, low lying habitat, coastal dunes and key infrastructure.

**Primary production**

Kangaroo Island has a ‘clean and green’ image and is well known for its premium food and wine products. Its image and brand value are largely derived from the unspoilt natural environment, with abundant wildlife and high retention of native vegetation, partly as a result of landholder’s landcare efforts and being GM free (including canola). Sheep (wool and prime lamb) and cattle production, broad-acre cropping, horticulture (particularly seed potatoes) and viticulture are the main agricultural activities on the island. Honey, olive oil, sheep yoghurt and cheese, and a suite of other artisanal food and beverage products are also an important part of the island’s offerings, image and economy.

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Opportunities for enhancing primary production and building on efforts to date include:

» recognising the triple bottom line benefits^{12} offered by healthy, connected native vegetation (pest suppression, improving water quality, reducing erosion, lowering water tables, providing wind breaks and shelter belts, forage for honey bees and native pollinators) and collaborating more effectively in its management to increase production and reduce costs

» regenerative landscape management^{13}, which seeks to restore landscape function and deliver sustainable production^{14}, an improved natural resource base, healthy nutrient cycling, increased biodiversity and enhanced resilience, reducing costs and increasing production^{15}

» the growing national and global demand^{16} for clean, unpolluted food and wine including organic^{17} and biodynamic products, which generally attract a premium^{18} price^{19}

» ‘paddock to plate’^{20} trend where consumers wish to know the origin of their food and the story of how it was produced, capitalising on the KI brand^{21}

» a biodiversity and wine^{22} initiative using a stewardship model to promote biodiversity conservation and best practice, building on the KI brand and providing a new marketing angle

» horticulture, aquaculture, high value medicinal plants and essentials oils, medicinal honey, niche agricultural products that capitalise on the KI brand

» emerging technologies and innovations that may reduce the environmental impacts and input costs of farming, e.g. precision agriculture, agribots, drones, biochar

» capitalising on the KI brand by establishing a farm stewardship programme that provides tangible benefits to participants and the environment, promoting farmers as custodians of the environment

» adding greater local value through processing products on island, increasing local economic benefits and employment opportunities and reducing freight costs^{23}

» cooperative models^{24} whereby local constraints can be overcome by working together to the same end

» improved access to information and advice, including latest thinking, technologies and innovations, sharing learnings.

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^{12} Glatz, RV. 2014. Native Vegetation on Kangaroo Island: landscape resilience and the triple bottom line. Draft report to Department of Environment, Water and Natural Resources, South Australia, Kingscote.

^{13} http://www.soilsforlife.org.au/regenerative-landscape-management

^{14} http://dx.doi.org/10.1098/rspb.2014.1396

^{15} http://www.soilsforlife.org.au/wifm


^{17} http://ausfoodnews.com.au/2014/12/10/australias-appetite-for-organic-foods-at-record-levels.html


^{21} http://www.authentickangarooisland.com/


^{24} http://www.resilience.org/stories/2015-04-30/steps-toward-a-new-world-four-co-ops-that-are-building-a-new-economy
Challenges that require consideration include:

» feral animal control including cats, which spread toxoplasmosis and sarcosporidiosis, having a major financial impact on the sector

» management of native vegetation\textsuperscript{25}, including single paddock trees and considerations relating to the needs of KI beekeepers

» off-target impacts of agrichemicals (runoff of sediment, pesticides, herbicides and fertilizer) especially on aquatic ecosystems and the marine environment

» weed and pest management, farm biosecurity

» increasing soil acidity, salinity, waterlogging, increasing gully erosion, soil health, topsoil conservation

» non-native pasture grasses jumping the paddock fence, e.g. kikuyu

» over-abundant native species\textsuperscript{26}

» possible trajectory to larger farms, which may not be desirable from a social\textsuperscript{27} and environmental perspective\textsuperscript{28}

» stock damage to native vegetation and the riverine zone.

Climate change holds a number of implications for primary production on KI:

» warming and drying conditions, increased variability and intensity of rainfall and increasing evapotranspiration are likely to see a shift in the type of agriculture practised on the island

» changing seasons may impact things like flowering times, nectar flows, farm activities, etc.

» new (or old and forgotten) plants and crop varieties may need to be considered

» an opportunity to combat climate change\textsuperscript{29} exists through soil carbon sequestration\textsuperscript{30} which is rapidly gaining international attention

» increased need for water conservation and innovation in water use and management.

**Fisheries and aquaculture**

Commercial (and recreational) fishing contributes significantly to the KI economy and comprises several sectors (marine finfish, rock lobster, abalone). Scale-fish species targeted include King George whiting, snapper and garfish. Fish are freighted to the mainland for sale and some are also sold locally.

In 2011–12 KI produced about 75% of the state’s\textsuperscript{31} aquaculture abalone (144 tonnes earning $4.8M), not including wild catch fisheries. Adelaide Hills and KI together earned about 90% of the value of marron and yabbies produced for the state with the majority of those produced here\textsuperscript{31}. Other local aquaculture produce includes oysters (Pacific and native), rainbow trout, barramundi and silver perch.

\textsuperscript{25} Natural Resources Kangaroo Island. 2014. Big Issues discussion paper No 7: Management of native vegetation

\textsuperscript{26} Natural Resources Kangaroo Island. 2014. Big Issues discussion paper No 1: Overabundant Native Species

\textsuperscript{27} http://www.abs.gov.au/AUSSTATS/abs@.nsf/7d12b0f6763c78caca257061001cc588$cdc7dca1f3ddb21ca2570eb00835393!OpenDocument

\textsuperscript{28} http://nature.berkeley.edu/~miguel-alt/modern_agriculture.html

\textsuperscript{29} http://www.eurekalert.org/pub_releases/2015-04/scp-ofc042915.php

\textsuperscript{30} http://rodaleinstitute.org/regenerative-organic-agriculture-and-climate-change/

\textsuperscript{31} PIRSA Fisheries and Aquaculture. 2013. Economic Impact of Aquaculture in SA, 2011-12, Econsearch
Fresh KI seafood is marketed on restaurant menus and at food festivals, attracting a premium price because of its provenance. We clearly have a vested interest in maintaining healthy, productive oceans and sustainably developing our commercial fishing and aquaculture industries.

Opportunities for enhancing fisheries and aquaculture and building on efforts to date include:

- promotion of premium seafood products emphasising the ‘clean, green’ environment
- potential to value-add to products on-island or create boutique seafood products
- availability of aquaculture leases around the coast with potential for industry expansion.

Challenges that require consideration include:

- marine park regulations
- increased marine biosecurity risks due both to climate change and to greater movement of boats and shipping
- marine pollution that may originate from afar but impacts on our shores, e.g. marine debris
- oil and gas exploration and exploitation, including possible oil spills
- cumulative impacts of all of the above
- attrition of fishermen due to generational change coupled with marine park buy-outs
- economic viability of retail and take-away outlets given small size of trade
- economic viability of wild fisheries given distance from markets and increasing costs of fuel etc.

Climate change holds a number of implications for fisheries on KI:

- changes in distribution of fish in response to altered water temperatures
- large-scale oceanic effects on larval production and recruitment
- changes to ocean currents and nutrient upwelling
- rapidly increasing ocean acidification will affect all organisms that construct shells, such as crustaceans (e.g. rock lobster and crabs) and molluscs (e.g. oysters and abalone).

**Commercial Forestry**

Kangaroo Island was first surveyed in the early part of the last century with a view to establishing a forestry industry on the island. The first pine plantations were established in the late 1970s, with Tasmanian blue gum plantations following in the late 1990s. The plantations and land on which they are grown are entirely owned and managed by a number of private individuals and companies. As of July 2012 there were 19,449 ha of plantings consisting of 4,524 ha softwood (*Pinus radiata*) and 14,925 ha hardwood (*Eucalyptus* species). There have been no significant plantings since 2008. Plantations are concentrated on the western end of the island, with the exception of a proportion of the softwood estate, which is located in the centre of the island.

KI Council has a moratorium on the conversion of any more agricultural land to forestry due to negative impacts, e.g. on water resources. Plantation forestry is now a non-compliant activity on KI and which also requires a Water Affecting Activity permit under the NRM Act.
Opportunities for enhancing forestry and building on efforts to date include:

» harvesting the timber in existing plantations and possibly undertaking a further rotation of viable stands, creating a number of direct full-time and ancillary jobs for up to 20 years and providing a local economic stimulus

» using wood for biomass-based power generation (but current limitations of the electricity distribution network would need to be resolved)

» finding other uses for wood chip and forestry waste that are able to generate benefits, e.g. syngas or using waste heat to cool a packing plant

» returning plantation forestry areas to agriculture could potentially make more water available for other users, including the environment, especially in drier years

Challenges that require consideration include:

» social and economic repercussions of plantation forestry (a lower population on the western end of the Island has impacted social networks, business viability, service provision, education and the general resilience of the community)

» impacts of plantation forestry on water resources as trees use and intercept more water than pasture due to greater levels of transpiration, interception of rainfall and groundwater extraction through roots: reductions in runoff, groundwater recharge and lowered water-tables tend to be at their greatest under dry conditions (the South Australian Government policy on management of water resources impacts of plantation forests adopts the position that plantations, regardless of species, can be assumed to reduce runoff, including groundwater recharge, by 85% leaving little or no water available for further development, e.g. horticulture. Should trees be harvested and further rotations undertaken, water will remain unavailable for other purposes in fully and over-allocated catchments and sub-catchments)

» potential impacts of agrichemicals, with some that are traditionally associated with forestry being highly toxic and persistent

» should harvesting proceed, a deep water port would be needed, requiring careful consideration of potential impacts of construction, operation, increased shipping, biosecurity and tourism

» avoiding, minimising and mitigating negative impacts of freighting timber to port, including noise and general nuisance, accidents, increased road kill, and the need for ongoing road maintenance

» management of feral animals and over-abundant species such as koalas that might live in or take refuge in the plantations

» management of weeds associated with abandoned houses on forestry properties and the significant risk of blue-gum seedlings invading native vegetation

» the fire risk that may become increasingly significant in the future

» the cost of de-stumping and rehabilitation of former plantation forests

» additional costs of renovating the farm-houses on plantation properties that have fallen into disrepair over time, creating a disincentive for purchasers who might want to reside on the land

32 https://en.wikipedia.org/wiki/Syngas
Overall costs of rehabilitation might only be able to be met by well-established off-island companies, who are unlikely to contribute to the resolution of some of the social challenges currently faced by the community, particularly on the west end.

The impacts of the sale of forestry land may affect land values: mechanisms for addressing this challenge should be explored.

Climate change holds a number of implications for forestry on KI:

- The international carbon market may provide the possibility of trading carbon credits, but over the longer term, it may create an incentive to leave the trees standing, a potential problem as the climate warms and dries and water resources decline.
- Fire risk is likely to increase as the climate warms and dries.

**Final thoughts about sustainability**

Both nationally and globally there is much mention made of the triple bottom line, that is the need for environmental, social and economic aspects to be equally considered in decision making. Unfortunately social and economic decisions are frequently made to match short-term political cycles, whereas environmental sustainability requires decisions made with the long-term consequences of developments and activities in mind.

Sustaining and enhancing human wellbeing requires a balance of all of our assets — individual people, society, the economy and the environment. Unfortunately, the full value of the environment and the services it delivers is rarely accounted for by policy and decision makers. Short-term decisions often lead to environmental degradation at great cost to society, particularly for future generations. Recent estimates show that global land use changes and economic activities between 1997 and 2011 have resulted in a loss of ecosystem services of up to US $20.2 trillion/year,

In a similar vein, the planetary boundaries approach aims to define boundaries within which human societies can develop and thrive. Four of nine planetary boundaries have now been crossed as a result of human activity: climate change, loss of biosphere integrity, land-system change, and altered biogeochemical cycles (phosphorus and nitrogen). Crossing these boundaries increases the risk that human activities could inadvertently create a much less hospitable state, damaging efforts to reduce poverty and leading to a deterioration of human wellbeing in many parts of the world, including wealthy countries.

It is apparent that the ‘business as usual’ approach is leading to environmental degradation and increasing social inequality and poverty, as the ‘trickle-down’ approach is not working. According to Kliemann, a rising number of initiatives around the globe are focusing on concepts that include:

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considering social and ecological issues together instead of playing them off against each other

replacing economic growth with a holistic idea of wellbeing and replacing GDP with more environmentally and socially meaningful measures\(^{40}\)

turning away from resource-intensive primary production and industrial agriculture\(^{41}\) (e.g. high use of inputs such as capital and agrichemicals, extensive monocultures, intensive finishing off systems such as grain-fed beef)

achieving more democratic participation (designing the future together)

preferring small and decentralized solutions (e.g. greater regional autonomy, finding local solutions, building local economies that are less dependent on distant players)

prioritizing self-sufficiency and creating resilient livelihoods instead of unstable jobs in fragile globalized supply chains.

Given that natural resources are finite, significant thinking globally is going into exploring new economic models and approaches, including:

- the **circular economy**\(^{42}\) (an alternative model built around continuous re-use of resources, dramatically reducing our dependency on sourcing new materials)

- a **sharing economy**\(^{43}\) (‘a socio-economic ecosystem built around the sharing of human and physical resources … including … the shared creation, production, distribution, trade and consumption of goods and services by different people and organisations’)

- a **steady state economy**\(^{44}\) (‘the goal of a steady state is to sustain a constant, sufficient stock of real wealth and people for a long time’)

- **degrowth**\(^{45}\) (‘a phase of planned and equitable economic contraction in the richest nations, eventually reaching a steady state that operates within Earth’s biophysical limits’ that is gaining traction\(^{46}\) in Australia)

- **post growth**\(^{47}\) (‘is about building on the existing aspects of our world that are sustainable in order to create resilient futures. This includes strengthening ecologically and socially sustainable practices, while recognizing the physical limits of the earth’).

An interesting example that incorporates some of the above thinking is the **REconomy Project**\(^{48}\) that aims to support communities to move towards something that helps build resilience rather than destroy it and demonstrate a system of trade and exchange that’s more sustainable, equitable and anchored in wellbeing, rather than economic growth at any cost.

These concepts and their relevance to and possible application on KI warrant consideration by the community as we seek to ensure the ongoing prosperity and wellbeing of the island and its inhabitants and as we look to experience and showcase more sustainable and equitable ways of living and ‘doing business’, building the social and economic resilience of the island for the future.

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\(^{42}\) [http://www.circulareconomyaustralia.com/](http://www.circulareconomyaustralia.com/)

\(^{43}\) [http://www.thepeoplewhoshare.com/blog/what-is-the-sharing-economy/](http://www.thepeoplewhoshare.com/blog/what-is-the-sharing-economy/)

\(^{44}\) Daly, H. 2010. *From a Failed-Growth Economy to a Steady-State Economy*. Solutions. Vol 1, No. 2. pp. 37-43


\(^{48}\) [http://www.reconomy.org/about-reconomy/](http://www.reconomy.org/about-reconomy/)
Strategies and priorities

It is important to note that the NRM plan is intended to guide and coordinate the efforts of all stakeholders in the region and responsibility for its implementation is a joint one.

» Work across industry sectors to realise opportunities, address challenges and minimise the environmental impacts of development and business activities, showcasing best practice wherever possible.

» Promote the use of best practice in all island business through implementing Integrated Environmental Management practices.

» Work with business, including the KI Brand partners, to improve and promote the ‘clean, green’ niche market products and experiences that the island has to offer, particularly in its tourism and primary production sectors.

» Develop and implement a strategy for building the resilience and adaptive capacity of the KI economy, taking the likely impacts of climate change into account.

» Develop and implement a strategy for KI to move towards being carbon neutral and showcase this transformation as a draw card for growing visitation to the island.

» Promote KI as a centre of excellence for scientific research and innovation.

» Continue to ensure that parks, public and crown lands are well managed and are able to act as anchors for ecotourism development and activities.

Partners

» Department of Environment, Water and Natural Resources

» Department of Planning, Transport and Infrastructure

» Tourism Kangaroo Island

» South Australian Tourism Commission

» Research agencies

» Kangaroo Island Council

» Primary Industries and Regions SA

» Industry bodies and committees

» KI Brand Alliance

» Residents and landholders
What are your thoughts?

1. Have all the key issues relating to this **big issue** been adequately captured and understood?

2. Are there any gaps or misinterpretations?

3. What is the overall trend in relation to this issue — are matters improving or deteriorating, how fast and why?

4. In order to address this challenge, will the ‘business as usual’ approach work, or is adaptation (substantial change) or transformation (complete rethink of how we do business and how we tackle this issue) needed?

5. Do you agree with the strategies and priorities listed and/or do any need adding?

6. Who are the partners that need to collaborate to address this challenge?