

# Gawler Ranges District Plan

2021 – 2023



June 2022

## Introduction

This plan provides an overview of the features of the Gawler Ranges district, the key opportunities and issues relating to landscape management, and priorities for the Gawler Ranges Landscape Group.

The Gawler Ranges is one of seven districts in the SA Arid Lands region, and is located in the central south-west of South Australia. It covers an area of over 5 million hectares, to the west of Port Augusta, and south of Woomera.

The district is characterised by calcrete plains, gypsum dune-fields and weathered rocky ranges that drain into terminal salt lakes. The primary land uses of the district are pastoralism (predominantly sheep), mining and energy, military, tourism, conservation (public and private lands), recreation and a township (Iron Knob). It is an ancient landscape, with significant cultural values.

**Linked bioregions:** A bioregion is an ecologically and geographically defined area with common characteristics such as geology, landform patterns, climate, ecological features and plant and animal communities. The Gawler Ranges district is primarily comprised of the **Gawler bioregion**, with small parts of the Stony Plains and Great Victoria Desert bioregions also present.

**Size:** 50,017 km<sup>2</sup> (10% of SAAL)

**Towns (population):** Iron Knob – 144 (2016 census)

**Aboriginal Nations:** Kokatha, Barngarla, (south-eastern), Wirangu

**Land use:** Pastoralism (predominantly sheep), mining and energy, military, tourism, conservation (public and private lands), recreation, service centres and a town.

**Catchment and key waterways:** Part Lake Torrens catchment. Minor drainage into Lake Gairdner and other salt lakes and towards Spencer Gulf. Very few waterways.

**National Parks and Reserves:** Parts of Gawler Ranges National Park – Gawler Ranges National Park Advisory Committee; part of Lake Gairdner National Park – Lake Gairdner National Park Co-management Board; part of Lake Torrens National Park, Lake Gilles Conservation Park, Pinkawillinie Conservation Park and Pureba Conservation Park.

**Key stakeholders:**

- National Parks and Reserves - Lake Gairdner National Park Co-management Board, Gawler Ranges National Park Advisory Committee, Friends of the Gawler Ranges National Park
- Landholders
- Nature Foundation SA – Hiltaba Conservation Property
- Secret Rocks
- Gawler Ranges Aboriginal Corporation; Kokatha, Wirangu and Barngarla Traditional owner groups
- Mining Companies – GFG Alliance, OZ Minerals and Peak Iron Mines
- Defence – Katunga
- Progress Associations (Gawler Ranges and Iron Knob)
- Iron Knob community
- Tourism ventures



**Figure 1:** Map of the SAAL region and Gawler Ranges district

## Role of the Board

Under the Landscape South Australia (LSA) Act 2019, the Board’s role is to undertake, promote and integrate the management of natural resources. Particular reference is given to land management, water resource management and pest animal and plant control. The Board operates as the relevant authority for a range of water, land protection and animal and plant control activities and works with the community in delivering its responsibilities under the LSA Act. Its roles include education and awareness raising aimed at practice change and adoption, encouraging and supporting legislative compliance, and enforcement when needed.

## Role of the Gawler Ranges Landscape Group

Landscape Groups are an important conduit for community input to landscape planning and design of the Board’s programs. Groups work with local communities, to support the implementation of the Regional Landscape Plan and increase community awareness of Board programs within a Group’s area.

## Landscape Planning Framework



# VISION

Leading the way to biodiverse and productive landscapes in a changing climate

## SA Arid Lands regional priorities

### Priorities

### Focus areas



#### CLIMATE RESILIENT REGION

*Resilient landscapes, communities and enterprises are mitigating and adapting to climate change*

- C1** Ensuring climate risk is embedded in all Board business
- C2** Providing land managers with the knowledge and skills they need to mitigate and adapt to climate change
- C3** Exploring adaptation pathways to ensure communities are climate resilient



#### WATER MANAGEMENT

*The region's water resources are managed judiciously*

- W1** Planning, research & leveraging infrastructure investment to support the judicious use of groundwater
- W2** Maintaining hydrogeology to protect Great Artesian Basin springs and groundwater-dependent ecosystems
- W3** Understanding and managing surface water systems including the Lake Eyre Basin



#### SUSTAINABLE LAND MANAGEMENT

*Land management practices protect soil, vegetation and biodiversity*

- L1** Effective pest plant and animal control protecting production systems
- L2** Addressing the threat of excessive total grazing pressure
- L3** Building land managers' capacity in adaptive agriculture, best practice land management and rehabilitation



#### PROTECTING AND ENHANCING BIODIVERSITY

*Intrinsic biodiversity values are protected and enhanced*

- B1** Managing key threats to protect natural values
- B2** Taking action for threatened species and ecosystem recovery
- B3** Maintaining and improving the condition of Great Artesian Basin springs and water-dependent ecosystems















#### PEOPLE AND PARTNERSHIPS

*People and community are central to looking after our landscapes.*

- P1** First Nations partnerships supporting cross-cultural knowledge sharing and landscape management outcomes
- P2** Supporting Landscape Groups to lead community action and education
- P3** Raising awareness of the region's natural values and connecting people to nature
- P4** Supporting community action to achieve land, water and coastal management outcomes

## Gawler Ranges District priorities for landscape management

Priorities <sup>1</sup>	Landscape impacts <sup>2</sup>	District Ranking <sup>2</sup>	Alignment to Regional Priorities**
<b>Adapting to a changing climate - Diversification of income streams</b>	Helps landholders manage financial risk associated with extended drought conditions and/or market changes, and provides opportunities to rest pasture and promote biodiversity values	High	
<b>Managing total grazing pressure</b>	Excessive grazing pressure leads to landscape degradation and disruption of landscape systems and processes; changes in vegetation composition, impacts on regeneration and recruitment; loss of vegetation cover, soil erosion. Impacts sustainable pastoralism and biodiversity, as well as condition of landscape features such as rock-holes. Overabundant kangaroos can lead to animal welfare impacts.	High	
<b>Soil health – Understanding and supporting water and nutrient cycles</b>	Improving carbon stocks and soil biological activity improves soil water drought resilience and pasture recovery after drought, benefitting production, biodiversity and climate mitigation	High	
<b>Nature and cultural knowledge and awareness</b>	Improved knowledge and awareness of local culture and environment in the community (especially young people)	High	
<b>Adapting to a changing climate</b>	Interpreting climate data at district scale for property management Support opportunities to adapt to the proposed changing climatic conditions Potential depletion of underground aquifers. Potential impacts on pastoral industry and ground water dependent ecosystems	Medium	 
<b>Education, capacity building and community engagement in landscape management</b>	Build community capacity and community led action through training, events and grants	Medium	
<b><u>Feral animals</u> Foxes</b>	Loss of native fauna; impact on livestock, particularly lamb mortality	Low	
<b>Cats</b>	Predation of native fauna by cats leads to biodiversity declines	Low	
<b>Wild dogs</b>	Serious issue for property management, potentially serious impacts on native fauna. Potential safety issues for public	Low	
<b><u>Weeds – other</u><sup>3</sup> (Buffel grass; Cactus Species; Fountain Grass; Innocent Weed;</b>	Buffel grass forms dense monocultures. Out-competes native species. Also considered potentially useful pasture species by some landholders	Low	



<p><b>Mesquite; Parkinsonia; Pepper Tree; African Rue; Athel Pine)</b></p>	<p>Displacing native vegetation with flow-on effects for native fauna Impacts also for stock management/pastoral production Production impacts include toxicity to stock, prickle contamination of fleece, thickets that impede stock mustering and access to water, harbour for rabbits</p>		
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<sup>1</sup> *Priorities include both threats and opportunities ranking.*



<sup>2</sup> *Priority ranking for the district considers the **magnitude** of the threat or opportunity (how **severe/influential** and how **widespread/ relevant**) it is, as well as the **reversibility** of its impacts. \*\* Some district priorities may not be regional priorities for the Board.*


<sup>3</sup> *To be reviewed with district weed strategy*

## Gawler Ranges - Current programs and opportunities

District priority	District Ranking	Current programs and opportunities	Status	Who	Regional Focus Area
 <b>Climate Resilient Region</b>					
Adapting to a changing climate - Diversification of income streams	High	<i>Building Pastoral Sustainability (BPS) Project</i> : Building pastoral sustainability and climate adaptation through workshops, property management planning, grants, sticky beak tours, and field days	<b>Current</b> /2018-2023	SAAL LB	C2, L3
		<i>Carbon Farming workshops</i>	<b>Current</b> /Ongoing	SAAL LB, PIRSA	C2, C3
		<i>Drought Hub</i> (Future Drought Fund program)	<b>Current</b> /Ongoing	PIRSA, UoA, SAAL LB	C2
		Improve information flow; Improve access to information and connect community to knowledge and capacity building opportunities presented in the region	Potential		C2, L3
		Attract/encourage more research projects and trials to the region; Develop social licence partnership with private industry (e.g. net zero carbon initiatives)	Potential		C3
		Industry networking events – field days, to tap into research and industry knowledge	Potential		C2
Adapting to a changing climate - Interpreting climate data at district scale for property management planning	Medium	<i>Property Management Planning program (one on one planning) through BPS project</i>	<b>Current</b> /2018-2023	SAAL LB	C2
		Collate district-scale, downscaled climate information (historical and climate predictions)	Potential		C2
 <b>Water Management</b>					
Access to water supply/lack of information about aquifers	Medium	<i>Water Affecting Activities Control Policy (on-going) - Monitor Water Affecting Activities and promote awareness</i>	<b>Current</b> /Ongoing	SAAL LB	W1
		<i>Water Infrastructure Rebate</i> for landholders	<b>Exhausted Funds</b>	PIRSA	W1



District priority	District Ranking	Current programs and opportunities	Status	Who	Regional Focus Area
		Exploring technologies to find potable ground water for livestock and how to manage it when you have found it	<b>Current</b>	Landholders/SAAL LB grants	W1
		New technologies to locate water	Potential	Landholders	W1
Striking a balance between landscape hydration and capture for livestock		Improve access to information and connect community to knowledge and capacity building opportunities presented in the region. Potential workshop	Potential		W1
 <b>Sustainable Land Management</b>					
Land degradation – excessive total grazing pressure, especially from goats and new livestock breeds	High	<i>Building Pastoral Sustainability Project</i>	<b>Current/2018-2023</b>	SAAL LB	L3
		Property Management Planning (expansion of program); Understand landownership in district; Set target % area of district managed under property plans.	Potential		L3
		On-ground projects to address land degradation	Potential		L3, P4
Soil health – understanding and supporting landscape rehydration and nutrient cycles	High	Demonstration sites: on-farm examples of correctional practices for soil/land degradation for 'sticky beak' days	Potential		L3
Weeds – agricultural weeds	Low	Weed control and education – cactus and boxthorn	<b>Current/Ongoing</b>	SAAL LB	L1
Over-abundant kangaroos/excessive total grazing pressure	Low	<i>Kangaroo Management Partnership</i> <i>Kangaroo Management survey</i>	<b>Current/2021-2023</b>	SAAL LB Bush Heritage and RMIT	L2
Wild dogs	Low	<i>Biteback</i> wild dog control program	<b>Current/Ongoing</b>	SAAL LB, PIRSA, landholders	L1
		<i>Dog fence re-build</i>	<b>Current/2021-2024</b>	PIRSA	L1
 <b>Protecting and enhancing biodiversity</b>					
		<i>Private conservation – habitat and threatened species recovery (e.g. Hiltaba, Secret Rocks)</i>	<b>Current/Ongoing</b>	Nature Foundation SA, private conservation	B2
		<i>Conservation/biodiversity offset opportunities</i>	<b>Current/Ongoing</b>	Mining Industry	B2

District priority	District Ranking	Current programs and opportunities	Status	Who	Regional Focus Area
		<i>Linking Landscapes</i> – Heritage Agreement Grants	<b>Current/Ongoing</b>	Nature Foundation SA	B1, B2
Feral predators – foxes	Low	<i>Bounceback and Beyond</i> – threatened species recovery, monitoring and landscape-scale pest control	<b>Current/2018-2023</b>	SAAL LB	B1
Feral predators – cats	Low	Cat control program (around Iron Knob)	Potential	Roxby Council, OCA	B1
Goats	Low	Waiting on Pastoral Board directives		Pastoral Board	B1
Weeds – Buffel Grass	Low	DIT have budget allocation to control along roadways		DIT subcontract SAAL to manage	B1
Weeds – other environmental weeds ( <i>currently being reviewed with District Weed Strategy</i> )	Low	Weed control – Athel Pine and Pepper Tree (Grassroots Grants program), cactus, Boxthorn Use of cochineal on cactus in the District Weed Strategy	<b>Current/Ongoing</b>	SAAL LB	L1, B1, P4
 <b>People and partnerships</b>					
Nature and Cultural Knowledge and Awareness	High	Education program; <i>Kids on Country</i> and School of the Air	<b>Current/Ongoing</b>	SAAL LB, Nature Foundation SA	P1, P3
Education, capacity building and community engagement in landscape management	Medium	Landscape Group meetings and local projects	<b>Current/Ongoing</b>	SAAL LB, GR LG	P4
		Grassroots Grants for local projects	<b>Current/Ongoing (annual)</b>	SAAL LB	P4
		Deliver and promote educational workshops and events in the Gawler Ranges	Potential	GR LG	P2, P4
		Explore opportunities for accreditation in key training areas	Potential	SAAL LB, PIRSA	P2
		Undertake desktop review of existing research; raise awareness of what has happened and is currently happening interstate	Potential		

## Gawler Ranges Landscape Group Actions

District priority	Opportunity	Action/s (for Group)	When	Collaborate	Status
<b>Climate Resilient Region</b>					
Diversification of income	Connect community to knowledge and capacity building opportunities	<ol style="list-style-type: none"> <li>1. Hold carbon/biodiversity/diversification workshop in GR district or Pt Augusta (Michael Eyres and new soil staff member)</li> <li>2. Host industry networking event/field day - Port Augusta Pastoral Field Day</li> <li>3. Connect community/peers to relevant Board staff for technical advice (RALF, Pest Plant and animal control, ecological team etc.)</li> <li>4. Connect community to Drought Hub, and cross-promote available services and resources (as the Hub develops)               <ol style="list-style-type: none"> <li>a) Invite Hub representative to attend next group meeting</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. Hold a workshop in the first 6 months of 2023</li> <li>2. December 2<sup>nd</sup> and 3<sup>rd</sup></li> <li>3. Ongoing – Andrea attended group meeting 3/6/22</li> <li>4. Melissa Horgan attended group meeting 9/9/22</li> </ol>	<ol style="list-style-type: none"> <li>1. Board, industry</li> <li>4. UoA, SAAL Board</li> </ol>	<ol style="list-style-type: none"> <li>2. Completed</li> <li>4. Completed</li> </ol>
Responding to a variable and changing climate	Collate climate information at district scale for property management planning	<ol style="list-style-type: none"> <li>1. Identify what climate information is needed by landholders and what format would be most useful for their property planning</li> </ol>	Share findings with group as information arises		
<b>Water Management</b>					
Access to water supply/Lack of information about aquifers	Share new technologies with the GR community on how to locate groundwater and best manage it when it has been found	<ol style="list-style-type: none"> <li>1. Hold Field Day at Buckleboo Station to showcase work done to access potable ground water for livestock</li> <li>2. Engage mining companies on the technologies they use to find groundwater and share these findings with the GR community</li> </ol>	<ol style="list-style-type: none"> <li>1. Buckleboo Workshop – May 12<sup>th</sup></li> <li>2. Chat with James about the technology he used and get a status update on drilling at Buckleboo</li> </ol>	James Kerr Board staff	<ol style="list-style-type: none"> <li>1. Completed</li> </ol>
Striking a balance between landscape rehydration and capture for livestock	Connect community to knowledge and capacity building opportunities	<ol style="list-style-type: none"> <li>1. Host workshop in GR district (presenter – Gresley Wakelin-King, Hugh Pringle, Col</li> </ol>	First half of 2023		

District priority	Opportunity	Action/s (for Group)	When	Collaborate	Status
		Stanton, Janet Walton or any landholders who are doing this well) 2. Find and share any relevant webinars with GR residents			
<b>Sustainable Land Management</b>					
Land degradation – excessive total grazing pressure	Promote and encourage people to develop property management plans for their property	1. Promote existing PMPs through: a) publications b) group networks  2. Identify potential demonstration sites: on-farm examples of correctional practices for soil/land degradation for 'sticky beak' days	1. Promoting success of program and the next intake in 21/22 ATOs, FB and word of mouth  2. Buckleboo Workshop to look at results from PMP program and new innovations – May 12 <sup>th</sup>  3. Kate G feedback to the group after kangaroo management meetings - 9/9/22	PMP participants Board staff  James Kerr Board staff  Kate Greenfield Board Staff	1.Round 1 completed, round 2 underway, promoted in 20/21 ATOs  2.Completed  3. Completed
Raising awareness about the importance of soil health and the positive effect it has on vegetation	Deliver educational workshops and events on soil health in the Gawler Ranges	1. Topic for discussion at Buckleboo Workshop 2. Share findings of soil related Grassroots Grants or landscape legacy projects (sticky beak day or landscape legacy fact sheets) 3. Collate/share any resources found about previous or current studies on soil health with the GR community 4. Promote any soil health webinars for GR and Arid Lands residents 5. Potential for a soil specific workshop where any soil specific equipment can be showcased 6. Share findings about sequestration of carbon in Rangelands soils	1.Buckleboo Workshop May 12 <sup>th</sup>  Andrea to share answers to these questions and other relevant information via newsletter or the quarterly Regenerative Grazing Group email. Findings could also be shared on the Facebook page or the quarterly ATO versions.	James Kerr Board staff  Regenerative Grazing Group - From the Ground Up	1.Completed  Seeking interested pastoralists to be involved. James Kerr keen to be involved

District priority	Opportunity	Action/s (for Group)	When	Collaborate	Status
		7. Share any dung beetle findings with the GR community 8. Promote RCS grazing clinics		RCS	
<b>Protecting and enhancing biodiversity</b>					
Goats	Share current information		Ongoing	SAAL LB	
Cats	Share current information		Ongoing	OCA	
Foxes	Share current information		Ongoing	SAAL LB	
Buffel Grass	Share current information		Ongoing	DIT, SAAL LB	
<b>People and partnerships</b>					
Education in landscape management	Deliver educational workshops and events in landscape management the Gawler Ranges	1a) Develop stakeholder engagement plan: Identify knowledge gaps, and b) Work with target audience to develop content for education/training 2. Promote visiting presenters and speakers to community 3. Host Sticky Beak Day – Secret Rocks 4. Host Neville Bonney Roadshow – Iron Knob 5. Wicking Bed Workshop – Iron Knob	October 21 <sup>st</sup> May 7 <sup>th</sup> Iron Knob Campground November 4 <sup>th</sup> Iron Knob Community Garden	Ecological Horizons IKPA IKPA	3. Completed 4. Completed 5. Completed
Understanding and preservation of cultural values	Produce educational resources and host educational workshops for youth, landholders and broader community	Kids on Country - expand involvement, working on expanding program offered  Generate fact sheet on the importance of rock holes and how to best manage them	June & September 2022	Nature Foundation SA Board Staff National Parks  Gawler Ranges Aboriginal	Ongoing

District priority	Opportunity	Action/s (for Group)	When	Collaborate	Status
		(David Turner initiative, chat with GRAC about this)		Corporation staff	

Prepared by the SA Arid Lands Landscape Board on behalf of the  
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SA Arid Lands Landscape Board