Spencer Subregional Description

Landscape Plan for Eyre Peninsula - Appendix A



LANDSCAPE SOUTH AUSTRALIA EYRE PENINSULA

The Spencer subregion extends west from the Spencer Gulf just south of Blanche Harbour to the foothills of the Middleback Ranges, south to the Munyaroo Conservation Park. The subregion includes all of the Whyalla City Council's area.

QUICK STATS

Population: Approximately 22,100 (2011 Census)

Major towns (approximate population): Whyalla (21,700), Point Lowly (300)

Traditional Owners: Barngarla

Local Governments: Whyalla City Council

Land Area: 1,120 square kilometres

Main land uses (% of land area): Dryland grazing (50% of land area), Defence training area (35%), conservation (7%)

Main industries: Manufacturing, healthcare and social assistance, retail trade, fisheries, mineral and petroleum exports

Annual Rainfall: 250 - 280mm

Elevation: Sea level to 250 metres AHD

Coastline length: 180 kilometres

Number of Islands: 0



Spencer

What's valued in the Spencer subregion

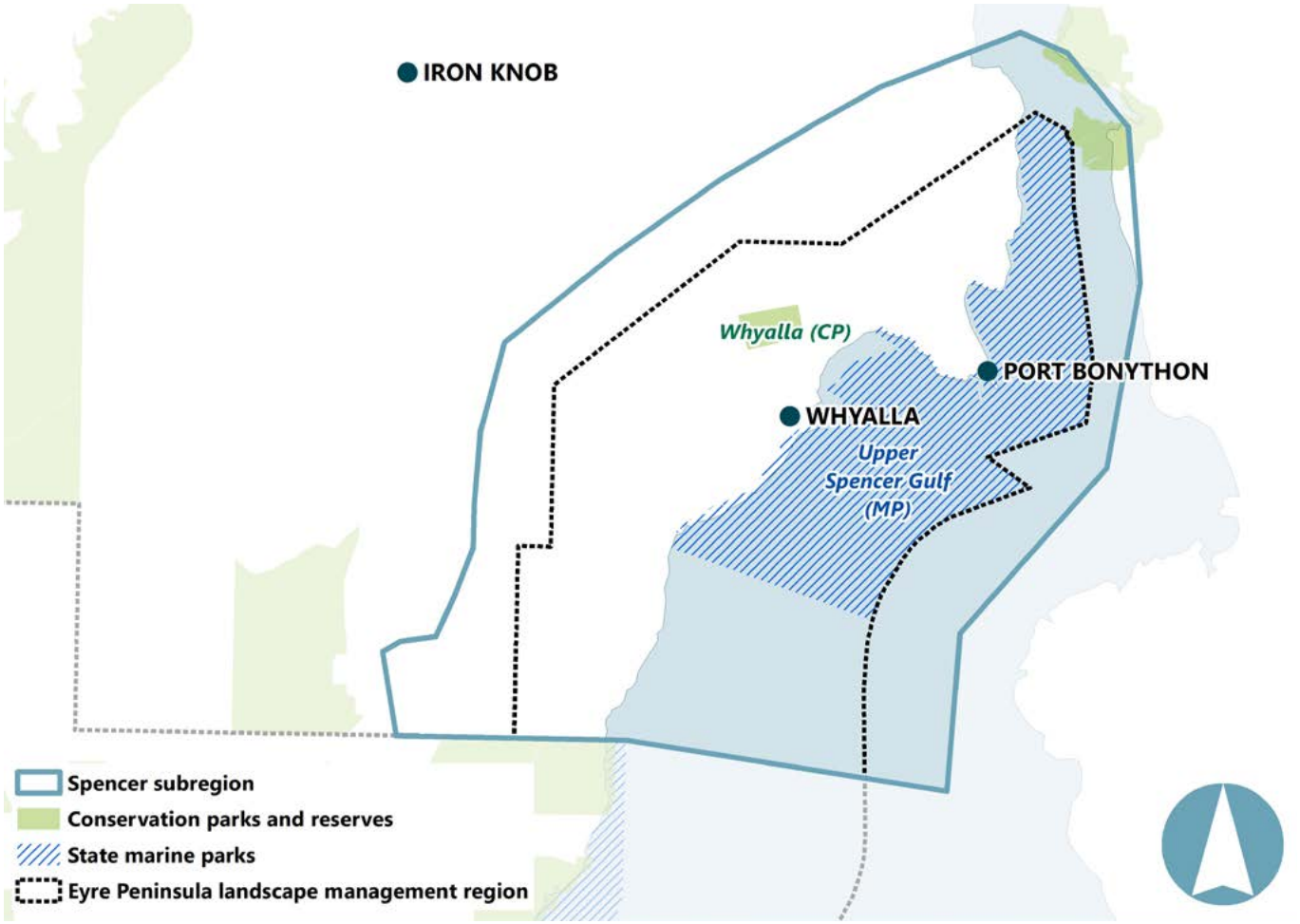
The coast and the Upper Spencer Gulf are highly valued by the community, with the northern coastline valued for "its peace and tranquillity, beautiful scenery and safe, sandy beaches". Many people remember playing and exploring the majestic coast and beaches during their childhood and now enjoy taking their holidays there. The lighthouse and cottages at Point Lowly are valued for their scenic and historic value and are popular visitor attractions. The shingle stranded beach ridges that run along Fitzgerald Bay are particularly unique and valued for its cultural and geological significance.

Many Spencer locals and visitors enjoy the waters of Spencer Gulf to fish for snapper or crabs, wind-surf, sail or swim. The rich marine biodiversity is particularly valued as many enjoy diving with the giant cuttlefish or spotting dolphins. The community is increasingly aware of the critical importance of local temperate samphire and mangrove habitats to sustain the area's unique marine biodiversity.

> *The northern coastline is something different. With the pebble beaches, mangroves, clear waters and backdrop of the Flinders Ranges, it's unique and very special.*

The biodiversity and cultural significance of the arid landscape is another important part of the Spencer subregion. In particular Wild Dog Hill has cultural significance for the Barngarla people; and is valued as an accessible and protected area with important western

Figure 1 - Map of the Spencer subregion



Myall plant communities. The scenery and peacefulness are other cherished parts of the arid landscape.

The Spencer community value their arid landscapes, and Munyaroo Conservation Park, Ironstone Hill and Middleback Ranges are all important places. Ironside Hill is valued for its physical divide between the arid bluebush landscape and the mallee landscape. The Middleback Ranges have ecological and cultural importance, as well as historical significance because of the development of the mining industry at Iron Knob, which drove the development of Whyalla's steelworks and former ship building.

> *Wild Dog Hill juts out of a fairly flat landscape. It's magical in its colour, spiritual connection and peacefulness and has fantastic panoramic views.*

The Spencer community recognise the need for and value of natural resource management. They recognise their role as custodians of the land and the sea and the need to protect them for future generations. They acknowledge the need to find a balance between economic, social and environment values and specifically recognise the reliance of urban communities on natural resources for food and water. The Spencer community values the diversity of Eyre Peninsula and particularly respects and understands the Spencer subregion's unique environment.

Landscapes and Seascapes

Spencer includes a coastline of 180 kilometres and a land area of approximately 1,120 square kilometres. Spencer experiences a semi-arid climate, with average annual rainfall between 250 and 280mm per year and average monthly rainfall similar across the year[1]. Winter rains result from cold fronts from the Southern Ocean, whereas summer rains are often associated with monsoonal low pressure systems that can bring heavy rainfalls[2]. The subregion experiences very high evaporation of around 2500mm per year, which far exceeds annual rainfall[3].

The landscape north-west of Whyalla is dominated by the stony tablelands of the Arcoona Plateau. The Douglas Hills (Douglas Uplands) run along the coast near the northern boundary within the Defence Cultana Training Area. The stony hills and plains in this area are covered with a sparse shrubland of Bluebush (*Maireana sedifolia*) with scattered areas of Western Myall (*Acacia papyrocarpa*) and Black Oak (*Casuarina pauper*) woodland. The highest points in the Spencer subregion (around 250m AHD) occur near the northern boundary of the Eyre Peninsula Landscape Board region.

Further south toward Whyalla and inland of False Bay, a large area of Yorrell (*Eucalptus gracilis*) forms a transition zone between the hills and plains. Toward Whyalla, the land is flatter and Hummock Hill although only about 30m high, provides a landmark topographic feature. South of Whyalla, the land is flatter, rising gradually from the coast with predominantly red clay soils. Across this area, shrubland dominated by Bluebush (*M. sedifolia*) and Bladder Saltbush (*Atriplex vesicaria*) and Western Myall (*Acacia papyrocarpa*) woodland are widespread[4]. The land is predominantly used for grazing on the saltbush plains.

The Whyalla Conservation Park is the only Conservation Park in the subregion and covers about 2,000ha about 7km north of Whyalla. The Park contains large areas of Western Myall (*Acacia papyrocarpa*) woodland that provides habitat for numerous bird species. The Mt Laura Conservation Reserve covers about 1,800ha directly south of the Whyalla Conservation Park.

A significant feature of the Upper Spencer coast is the large extent of mangroves, along nearly half of the coast line[5]. The mangroves (*Avicennia marina*) and seagrass meadows provide important nursery areas for commercial and recreational fish and crustaceans. Coastal wetlands exist along most of the coast south of Whyalla, vegetated with sparse samphire (*Tecticornia* sp.).

Along the northern coast and particularly near Fitzgerald Bay, Douglas Point, Stony Point and Black Point, shingle beach deposits of pebbles and cobbles have formed flat topped ridges about 3 to 5m above current sea level. This shingle stranded beach dune is an important and rare geological feature.

The Upper Spencer Gulf Marine Park extends from Cowleds Landing north to the top of the Gulf. The area is recognised as a Wetland of National Importance, containing mangroves, samphire, tidal flats and marine habitats that provide nesting and feeding sites for local and migratory shorebirds[6]. A significant feature of the Marine Park is the subtidal reef area off the coast of Point Lowly. This is the location of the annual spawning of

Giant Australian Cuttlefish (*Sepia apama*), the only known dense spawning aggregation of cuttlefish in the world[7].

There are no permanent watercourses in the Spencer subregion however there are several ephemeral creeks that drain the hills areas to the north of Port Bonython and west of Whyalla. Runoff from the Middleback Ranges west of Whyalla drains toward Whyalla. A drain has been constructed around the Whyalla township to prevent overland flow toward the town, discharging to the samphire flats south of the town[8]. Large floods were experienced in this catchment in 1921, 1946, 1974 and 1979[9]. Ephemeral creeks run off the Douglas Hills north of Port Bonython. Groundwater in Upper Spencer is generally too saline for stock water and of too low yields for extraction for other purposes[10].

Nearly 85% of the subregion's area is covered by native vegetation[11]. About 55% of this is on government land, mostly within the Defence Cultana Training Area. There is a relatively low terrestrial biodiversity, and a low number of species of conservation significance. Selected species of conservation significance are shown in Table 1.

Soil type largely influences vegetation cover in the Upper Spencer subregion. Calcareous and siliceous sandy dunes occur along most of the coast south of Whyalla. Further inland, calcareous loams are also found[12]. The subregion's calcareous soils generally have low water holding capacity and poor nutrient levels, making them only suitable for grazing.

The subregion contains a variety of habitats, Specific species and communities of conservation significance, as identified by the Australian Government, are shown in Table 1.

Cuttlefish



Table 1 – Selected fauna, flora and vegetation communities of conservation significance

Fauna	Flora	Vegetation communities
Malleefowl (*Leipoa ocellata*)		Temperate coastal saltmarsh
Eastern Curlew (*Numenius madagascariensis*)		

More information about these species can be seen below:

- The malleefowl (*Leipoa ocellata*) gets its name from the habitat it occurs in (scrubland and woodland dominated by mallee and wattle species). This ground-dwelling bird is famous for its ability to build enormous mounds. The male and female take months working together to build their nest. The eggs are incubated in sand or soil by the sun or mounds of rotting leaves. While the male maintains the nest during the incubation, the parents take no part in chick rearing, with chicks emerging from the mound completely self-sufficient. Further information about this species can be found at: Malleefowl (Bird). On Eyre Peninsula, the malleefowl is found across the whole region in appropriate habitat. The population is likely in decline.
- The eastern curlew (*Numenius madagascariensis*) is Australia's largest shorebird and a long-haul flyer. It is easily recognisable, with its long, down-curved bill. The eastern curlew takes an annual migratory flight to Russia and north-eastern China to breed, arriving back home to Australia in August to feed on crabs and molluscs in intertidal mudflats. It is extremely shy and will take flight at the first sign of danger. Further information about this species can be found at: Eastern Curlew (Bird). On Eyre Peninsula, the eastern curlew is found in coastal areas between Whyalla and Ceduna with the appropriate habitat. It is likely the population is in decline but being a migratory species it is likely the main cause is of this decline is development in its habitat in other countries.
- The subtropical and temperate coastal saltmarsh ecological community consists of organisms including and associated with saltmarsh in coastal regions of sub-tropical and temperate Australia. Further information about this species can be found at: Subtropical and Temperate Coastal Saltmarsh. The health of the vegetation community is in decline. From July 2019, the Australian Government has funded a project for five years through the Board – the Saltmarsh Threat Abatement and Recovery project - that includes actions to support the conservation of this vegetation community.

Detailed information about species listed under the *EPBC Act 1999* and the *National Parks & Wildlife Act 1972* can be found at www.environment.sa.gov.au/files/sharedassets/public/plants_and_animals/west_report_rsca_phase1.pdf

Livelihoods

Nearly half of all employment in the subregion occurs in three sectors - manufacturing (22% of residents); health care and social assistance (13%); and retail trade (11%)[13]. Much of this employment is centred in Whyalla however many Whyalla residents travel outside the Council area for employment in the mining sector.

Mining and associated manufacturing is a key contributor to the subregion's employment and economy. Mining iron ore has been an important source of employment and State revenue since the early 1900s, when BHP started mining operations at Iron Knob. There are now additional ore bodies mined at Iron Baron and Iron Duke, that although located outside the subregion provide an important contribution to the livelihood of the subregion's community. The subregion also contains two sand mines, two quarries and the Whyalla salt pans. Manufacturing has provided an important economic and employment base throughout Whyalla's history. Notably the Whyalla steelworks converts locally sourced iron ore into steel products including structural steel and railway sleepers and rails.

Outside the city, land use is predominantly under pastoral lease or used by the Department of Defence for the Cultana Training Area. Cultana is now the largest Defence

training area in Australia, with a total area of 2,300 square kilometres[14].

Commercial wild fisheries are an important industry in the subregion. Whilst not employing a large number of Spencer residents, the wild catch industries including prawns, blue crab and scalefish, contribute to the regional economy and are important contributors to the State's commercial fishing industry. The Spencer Gulf Prawn Fishery is one of the more valuable fisheries in Australia[15], and its viability relies on the nursery habitat provided by the subregion's mangroves and tidal flats.

Major transport infrastructure includes ports, road, airport and rail. The Lincoln Highway connects Whyalla to southern Eyre Peninsula, and is considered the gateway to the Eyre Peninsula. Whyalla's airport supports a range of industries and particularly the mining sector that has a fly-in-fly-out employment base. The Whyalla port is privately owned and operated, and exports steel products and iron ore mined at Iron Knob, Iron Duke and Iron Baron. The Port Bonython deep-water port is used to store, process and export liquid petroleum gas and petroleum products.

Tourism is an important contributor to the local economy, with visitors enjoying activities including recreational and charter fishing, sightseeing cruises, diving/snorkelling with cuttlefish, boating, beach walking, bird watching and water sports.

Lifestyles

The Spencer subregion is the traditional land of the Barngarla Aboriginal people. Numerous sites of cultural significance exist along the coast, including fish traps and campsites. Inland, many of the hills and major topographic features notable on the flat landscape have significance. The Barngarla people have been recognised as the Traditional owners of the region including the marine areas of the Gulf.

Whyalla is the main urban centre of the subregion and a key centre for the broader Eyre Peninsula. A small settlement is located at Point Lowly and a number of shack settlements are located at Douglas Point, Fitzgerald Bay, False Bay and Cowleds Landing.

Spencer is home to around 22,100 people, more than 98% of whom live in the Whyalla township[16]. The subregion includes all of the City of Whyalla Local Government area. The population of the City of Whyalla grew by 3% from 2006 to 2011, however this followed more than a decade of slow or negative growth. Future population changes will be largely influenced by the future viability of the steel industry.

The age distribution of the population of Spencer mirrors that of the broader Eyre region, with around one-third aged under 25 years, just over half aged between 25 and 64 years, and around 15% aged 65 years and over[17]. Around 4% of people in Spencer identify as having Aboriginal or Torres Strait Islander heritage, similar to the average across all of Eyre Peninsula.

Spencer residents enjoy a range of land and water-based sports and recreational activities including football, netball, soccer, cricket and tennis as well as fishing, boating and bushwalking. These activities provide opportunities for community connection. The accessibility of the northern beaches provide opportunities for locals and tourists to enjoy fishing, camping, 4WD adventures and walking.

Active community groups include Eyre Peninsula Whyalla Bird Group, Friends of Parks and native plant groups. Both groups provide support for the protection and enhancement of the subregion's biodiversity.

Whyalla steelworks

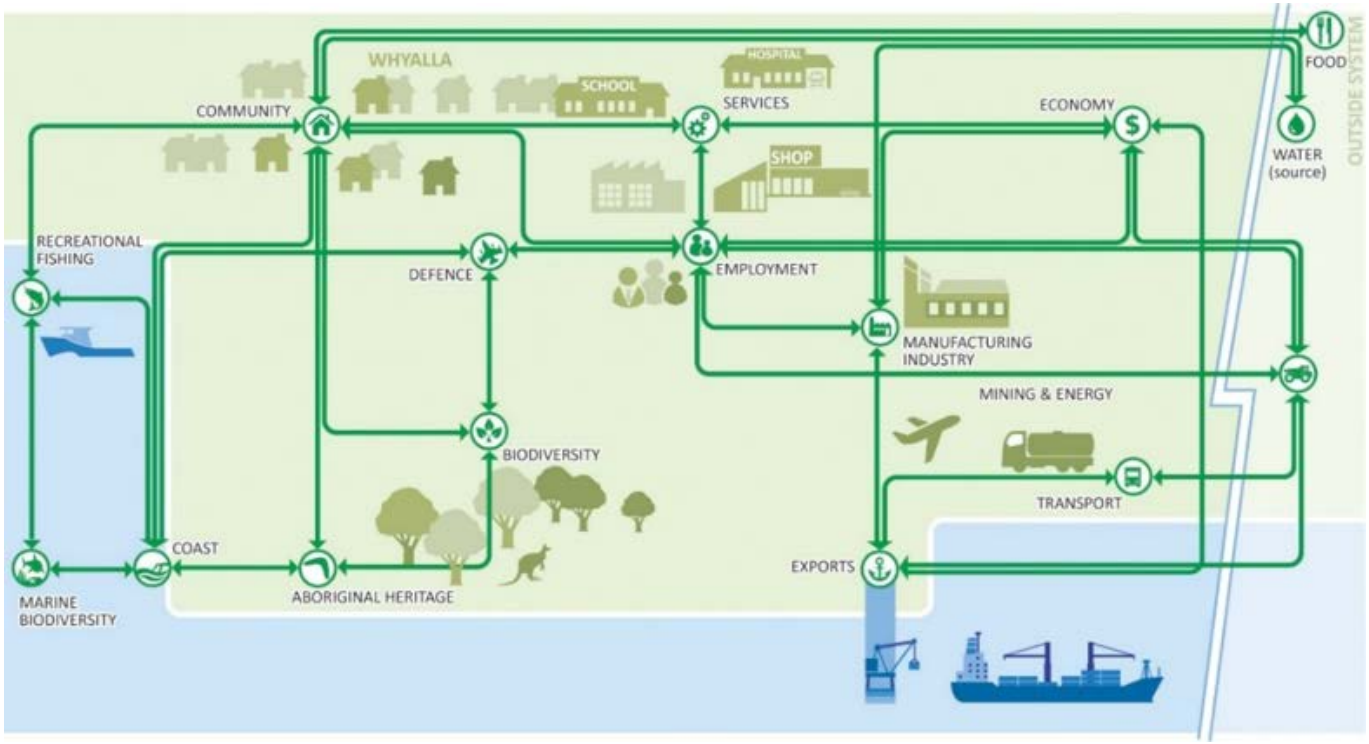


Systems Understanding

Spencer is a complex system of connections and interactions between people, industries and natural resources. These connections and interactions mean that when one feature is impacted, flow on effects will be experienced by other features in the system. Developing this understanding can help identify the factors that make the system resilient or vulnerable to change. The Spencer system is conceptually depicted in Figure 2.

Key features of the system include the manufacturing industry and the city of Whyalla which are the hubs for the subregion's services, employment, and transport and community interactions. Community's connection to the coast reflects the high recreation and amenity value of the Spencer Gulf.

Figure 2 – Interconnections of the Spencer subregion

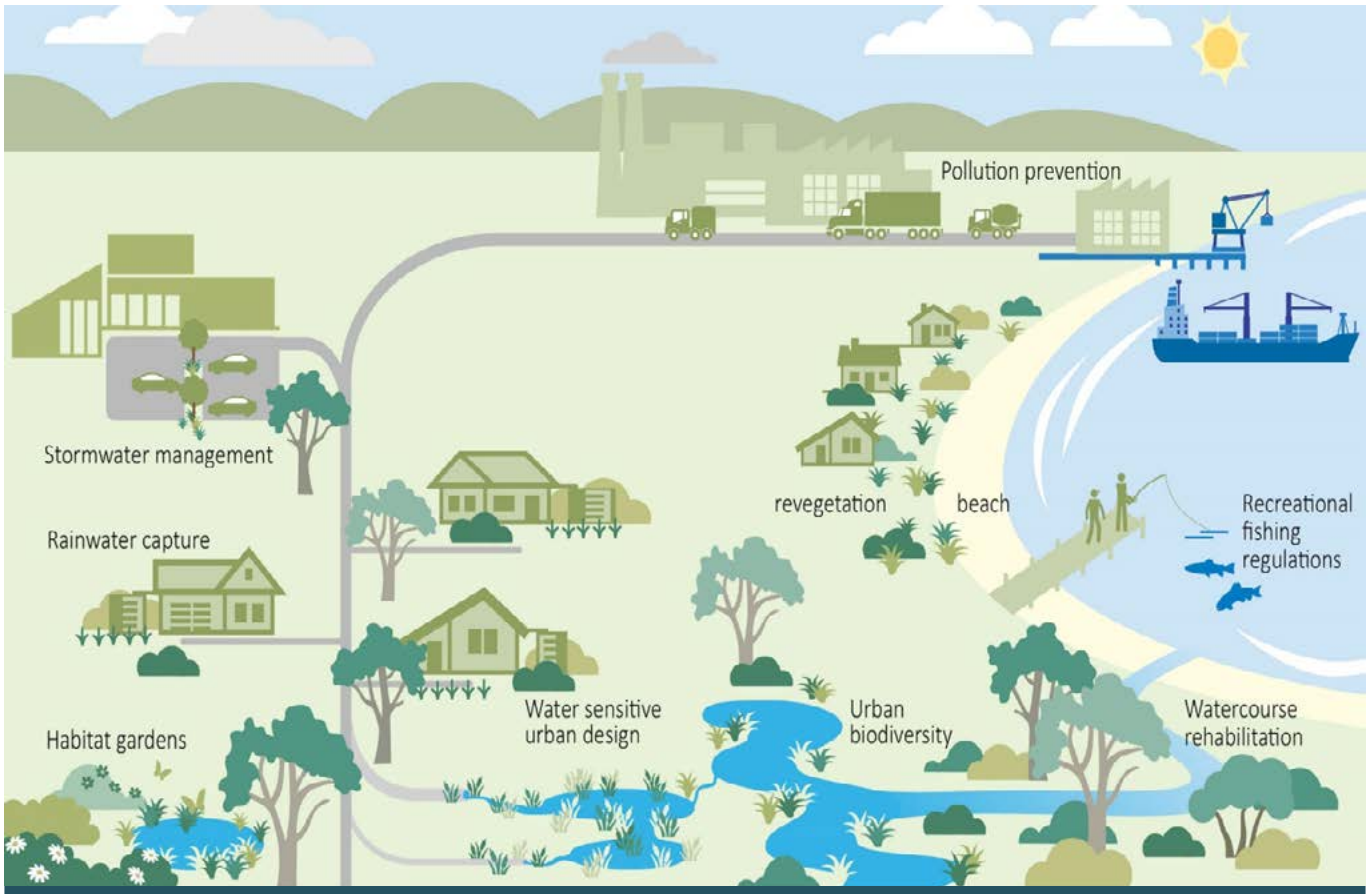


Key Challenges and Opportunities

A range of opportunities were identified by the community and stakeholders to address the key challenges facing natural resources in the Spencer subregion. Table 2 overleaf identifies key landscape challenges and opportunities to address them.

An example of key challenge is the urban liveability and the community's growing disconnect with the local environment. Opportunities to address this challenge are depicted in Figure 3.

Figure 3 – Whyalla's urban landscape



Urban Natural Resource Management in Whyalla

Urban and industrial development have highly modified the environment of Whyalla. Undertaking urban landscape management can improve the condition of the environment and wellbeing of the community. The following actions can assist contribute to a healthy Whyalla:

- creating green spaces and community gardens for community wellbeing;
- holding community events that enjoy and care for the environment;
- planting native species to create habitat;
- undertaking stormwater management including water sensitive urban design and rehabilitation of the watercourses of ephemeral creeks;
- coastal protection and access management; and
- pollution prevention programs.

Table 2 – Key challenges and opportunities for Spencer subregion

Fauna	Flora
Urban liveability and a growing social disconnect with nature	• Undertake education and networking initiatives that share learnings about environmental issues and build knowledge and relationships between community and other stakeholders • Support volunteers and community groups to undertake environmental activities • Partner with schools and/or support initiatives that encourage children to access and learn about nature • Partner with Local Government and/or schools to increase environmental sustainability of urban communities • Increase participation in citizen science initiatives that assist understanding of the trend and condition of natural resources
Coast and marine degradation	• Support local and regional partners implement the Off-Road Vehicle Strategy, including investigations for designating areas for biodiversity protection and recreational use • Support on-ground works to protect and enhance coastal condition including track rationalisation, fencing, erosion control, access tracks, revegetation and pest control • Raise awareness about coast and marine conservation including education about human impacts • Partner on mutually beneficial projects including water quality monitoring and works, and habitat protection • Support Local Government to undertake urban stormwater planning and implementation focusing on water-sensitive urban design that reduces water quality impacts
Limited economic diversity	• Through the Eyes on Eyre initiative, facilitate the development of tourism infrastructure, facilities, information and signage to enable sustainable access and use of the coast
Declining biodiversity	• Protect and restore coast and marine habitats, particularly for priority areas identified in the Coastal Action Plan and Marine Parks' plans • Protect and restore remnant terrestrial habitats and establish biodiversity corridors that link habitats • Develop and implement integrated pest management strategies that address the impacts and causes of pest persistence or incursion. Particular attention is required for overabundant herbivores, feral predators, woody weeds and new pest incursions such as buffel grass • Develop and implement strategies and plans to protect threatened species and ecological communities, includes implementing threatened species recovery plans • Monitor and evaluate landscape management actions, and their effect on natural resources' condition and trends • Increase participation in citizen science initiatives that assist understanding of trends and the condition of natural resources
Aboriginal involvement	• Support traditional owners, Recognised Aboriginal Representative Bodies, Aboriginal Regional Authorities and Aboriginal communities manage natural resources • Support awareness raising activities about Aboriginal cultural knowledge

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