

Upper Spencer Gulf and Outback

The Upper Spencer Gulf region supports minerals processing, manufacturing, energy generation and transport logistics. The Outback region is renowned for a number of Australia's outback icons and for its diversity of industry and landscapes, ranging from deserts to arid wetlands and mound springs to dry salt lakes. The drivers for major infrastructure developments in the region are likely to result from private-sector investment, particularly in mining and minerals processing and tourism. The region's tourism and environmental values have been protected by the State Government in its recent victory to prevent the Australian Government plan for a nuclear waste dump.



At a glance

Area	834,801 km ² (84.95% of SA)
Population	70,476 (4.8% of SA)
Aged < 15	21.92% against SA average 19.57%
Aged > 65	11.27% against SA average 14.4%
Demographic trends	Overall population decline of 2.1% since 1996 despite increases in population of specific areas such as Roxby Downs and Coober Pedy 2016 projection: 60,190 people (3.79% of SA), a 14.17% decrease
Natural Resources	Coastal and marine resources of Upper Spencer Gulf – range of waterways, mound springs and wetlands, Great Artesian Basin, diversity of native vegetation, mineral reserves and vast areas dedicated to national/conservation parks or reserves
Key Industries	Steel, mining, minerals processing, manufacturing, agriculture, aquaculture, tourism, defence, transport logistics, energy generation
Sea ports	Export ports at Port Pirie, Whyalla and Port Bonython
Commercial Airports	Whyalla, Port Augusta, Coober Pedy, Roxby Downs

Principal Industries

Agriculture

Wheat, barley, wool, sheep, pigs, cattle and grain legumes have provided a strong economic base, but new industries (such as canola, viticulture and horticulture) are emerging.

Port Pirie has a thriving export abattoir, specialising in mutton, lamb and goat, as well as manufactured dairy products and other food value-adding in nearby areas.

Aquaculture and Fishing

Commercial fisheries continue in the Spencer Gulf, although catch tonnage is decreasing.

There have been new aquaculture developments in the Gulf over the last 10 years, largely around Port Augusta and Fitzgerald Bay (near Whyalla), with yellow tail kingfish being a major focus.

Mining/Minerals Processing

The value of resources processed in the region was \$2.7 billion in 2000/01. Principal mineral deposits are at Olympic Dam (copper, uranium, gold and silver), Prominent Hill (copper, uranium and gold), Challenger (gold), Beverley and Honeymoon (uranium), Middleback Ranges (iron ore), Leigh Creek (coal) and Coober Pedy, Andamooka, Mintabie and Lambina (opals). The Gawler Craton and Musgrave Block areas are prospective for minerals, while the Officer Basin in the far west is prospective for oil and gas.

Significant oil and gas is produced in the Cooper Basin in the north-east of the state. The world's largest integrated lead, silver and zinc smelter, owned by Zinifex, is based in Port Pirie. Mining developments, such as further expansion at Olympic Dam, will have implications for power, water, transport and other infrastructure provision in the wider region.

OneSteel is proposing to convert its steel-making process to use magnetite ore, which will be supplied from a new mine in the southern Middleback Ranges. The currently mined haematite ore will be exported via upgraded facilities at Whyalla.

Port Bonython has a major liquids processing plant and shipping facility for oil and gas company Santos, which produces energy products from the Cooper/Eromanga basins.

Tourism

The Upper Spencer Gulf is the gateway and service centre to the Eyre Peninsula, Outback and Flinders Ranges.

The Flinders Ranges and Outback tourism region attracted 614,000 overnight visitors in 2000/01, including 75,000 international visitors. Spending by domestic overnight visitors to the Flinders area in 2000 was estimated to be \$116 million and domestic day-trip visitors spent \$31 million.

Major tourism themes include adventure four-wheel driving, cycle tourism, trails, outback experience, and heritage and Aboriginal culture. A number of Australia's outback icons are situated in the area.

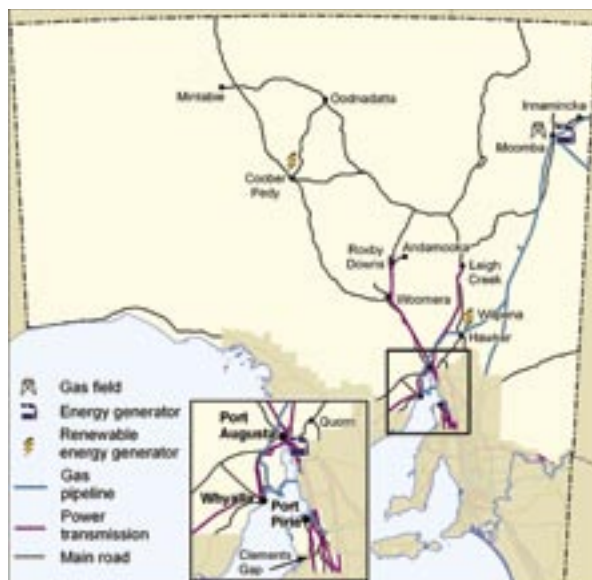
Defence

Significant army training facilities are located at Cultana, extending from Fitzgerald Bay to Port Augusta. Woomera and Cultana provide the region with a solid footprint in defence industry training and research facilities.

The new Adelaide–Darwin rail line opens up opportunities for movement of defence personnel and equipment between Port Augusta and Darwin.

Infrastructure

Energy



The two NRG Flinders coal-fired power stations at Port Augusta produce more than 40% of the state's power. ETSU Utilities and ElectraNet are undertaking upgrades to sub-stations at Bungama and Port Pirie to improve network stability. The ElectraNet sub-station at Playford is also due for replacement. Additional transformer capacity is proposed for installation at the ElectraNet sub-station at Baroota in November 2008. There is a proposal to extend the single wire earth return (SWER) line from Nundroo to the new grid at Fowlers Bay.

The natural gas pipeline (Moomba to Adelaide) links to Port Pirie and Whyalla via a lateral. Its capacity within these areas is at present fully committed, constraining any major increase in gas consumption by industry at either Port Pirie or Whyalla. Planned changes to Whyalla's OneSteel operations could decrease gas usage, potentially providing future opportunities for other industries.

There is potential for development of a gas-fired power station in the north of the state as part of any expansion of the Olympic Dam operations.

Most Outback communities rely on diesel generators to provide power. The potential for small-scale hybrid plants using diesel or gas, solar or wind in areas remote from the distribution network is being explored, particularly for small remote communities or businesses.

Hot rock geothermal power is being investigated in the far north of the state near Moomba, with further proposals emerging near Olympic Dam.

Water



The major water supply to the Upper Spencer Gulf region is via the Morgan–Whyalla pipeline, with a pipeline owned by the Australian Government distributing the water to Woomera.

SA Water has responsibility for water and wastewater systems at Port Pirie, Port Augusta and Whyalla, and for water systems at Marree, Parachilna, Blinman, Hawker, Quorn, Oodnadatta and Marla.

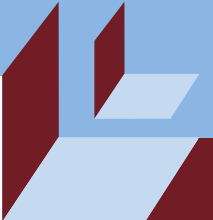
Coober Pedy and Roxby Downs have their own water supplies via reverse osmosis desalination drawn from the Great Artesian Basin.

The Beetaloo and Baroota reservoirs are located to the east of Port Pirie just outside the region. They have a total capacity of 9,000 ML, are currently isolated from the SA Water system and retained for emergency use only. There is some use of Baroota water for irrigation with limited potential for expansion.

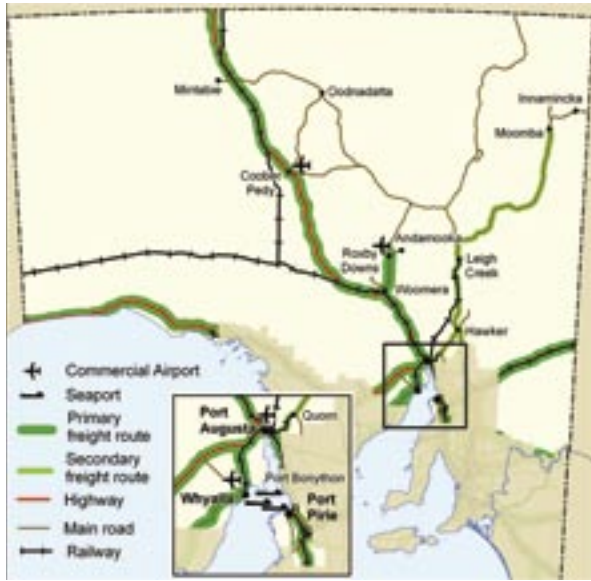
In the Outback, sporadic rainfall and high evaporation rates limit the quantity of surface water. Much of the surface water and local underground water is saline and has limited use.

Quantity and quality of water is an issue in most Outback and Aboriginal communities.

A working group partnered by the Arid Areas Catchment Water Management Board and SA Water is investigating issues associated with quality and quantity of water supplies in the Outback.



Transport



Roads

The Stuart Highway is the major road route to the Northern Territory and the Eyre Highway connects eastern and western Australia. The Lincoln Highway connects Whyalla to the rest of the Eyre Peninsula.

Highway One is the primary connection between Adelaide and Upper Spencer Gulf, while Main North Road is an important tourism route, connecting the region via the Clare Valley and southern Flinders Ranges.

The Birdsville and Strzelecki tracks are major interstate tourist and road train routes. Numerous other roads in the Outback serve mining operations, pastoralists, the community and tourists.

The Adelaide to Port Augusta corridor forms part of the major road and rail freight network carrying freight between the Eyre Peninsula, Far North, eastern and western states and the Northern Territory. It is estimated that 15.3 million tonnes of freight are carried on this route each year.

Mining at Olympic Dam and in the Gawler Craton could see production more than double in five to 10 years, which may result in an additional 2.8 million tonnes per annum of gold, copper and associated products being transported through the region.

Intersection treatments for the major access roads into Port Pirie need to be improved, as well as the access to the port area for heavy commercial vehicles.

Yorkeys Crossing is important for the freight industry in the region.

Rail

The standard-gauge rail line servicing the region is part of the national network. The region is at the intersection of the Sydney–Perth and Adelaide–Darwin transcontinental rail lines. The extension of the standard-gauge railway from Alice Springs to Darwin has created new opportunities linked to trade through the Port of Darwin.

Approximately 80 rail services per week move through Upper Spencer Gulf. Increases in freight haulage of 50% could be accommodated. Major rail maintenance facilities located in Port Augusta create opportunities for further investment in rail servicing and freight enterprises.

A separate standard-gauge rail line links the Leigh Creek coal mines with the Northern and Playford power stations at Port Augusta. OneSteel owns (and Australian Southern Railway, ASR, operates) a private narrow-gauge rail system from its iron ore mines in the Iron Knob area to its steelmaking facility in Whyalla. In addition, the steel works is connected to Port Augusta by a public railway.

Sea Ports

The port at Whyalla is an indentured port giving OneSteel exclusive use. Port Bonython handles the export of petroleum products. The State Government has contributed to the construction of the new commercial fishing harbour at Fitzgerald Bay.

The Port Pirie harbour handles grain, fertiliser, metal ores and concentrates, and has some capacity to handle containerised cargo. Indications from the grain industry are that grain storage will be reduced at Port Pirie due to the limitations of the port for handling larger vessels.

A major challenge for the aquaculture industry will be to meet the burgeoning demand for new facilities.

Airports

Airports receiving scheduled airline services are located at Port Augusta, Whyalla, Roxby Downs and Coober Pedy. Flights between Coober Pedy and Alice Springs/Uluru are being investigated to bolster tourism to both regions.

Port Augusta is a smaller regional airport with a sealed runway and is the operational base for the Royal Flying Doctor Service (RFDS). The upgrade of the Port Augusta airport is being considered by local government. Port Pirie has a sealed runway and is a base for recreational and charter services. Port Pirie does not support a regular commercial service.

With the potential for expanded defence activity in the region, consideration may need to be given to upgrade local airport facilities (at either Whyalla or Port Augusta) to accommodate the larger defence aircraft. This will be dependent upon decisions of the Australian Government.

The Outback has numerous airstrips that are suitable for tourism and charter services as well as emergency strips used by the RFDS.

Land

Whyalla, Port Pirie and Port Augusta have all identified a need for serviced industrial parks and intermodal sites, situated away from residential development and where infrastructure can be easily and cost-effectively augmented for future industrial development.

Whyalla, Port Pirie and Port Augusta have also identified a need to develop waterfront areas for both community and economic development purposes.

Information and Communications Technology (ICT)



Mobile coverage is available in major towns and there is spot coverage along the highways. Most outback users rely on satellite communications for television, telephone and data transmission or radio concentrator systems.

All towns in the region currently have dial-up access to the internet but ADSL broadband is only available in a few of the larger towns and provincial cities. The approach taken by Coober Pedy Council to run an internet service provider (ISP) service on behalf of the town is a possible model for other Outback towns.

The Outback Areas Community Development Trust (OACDT) assists with the erection and maintenance of a network of UHF radio repeater towers in the region.

The ICT infrastructure at Woomera does not adequately cater for current and proposed research and defence activities.

Health

Port Pirie has a Regional Hospital, serving Port Pirie and the Mid North of South Australia. Port Augusta Hospital and Whyalla Hospital service their communities and the northern and far western regions of the state. There are also health services at Coober Pedy, Oodnadatta, Mintabie/Marla, Andamooka, Marree, Roxby Downs, Woomera, Leigh Creek and Hawker, with Nganampa Health Council being the major provider of health services in the APY Lands. The RFDS is located in Port Augusta and services South Australia and the Northern Territory.

The region's population overall is declining, although growing in some clusters, and consists of an ageing population, a high proportion of Aboriginal people, people with low socio-economic status and remote from services. Facilities need to

be refurbished in response to changing local demographic profiles to deliver more primary health care services that are focused on early intervention and prevention, health promotion and chronic disease management.

Investment is required in transport services and mobile health facilities to improve access by patients and their families to both primary and acute health care services, and meet the needs of Aboriginal people moving between communities.

There is a need to support the development of increased telemedicine supporting rural clinical networks, and to provide improved communications with and between tertiary health sites in Adelaide, both for clinical decision-making and professional development and support.

A substance abuse rehabilitation facility is to be established in the APY Lands. Australian and State Government funding has been secured for development of this facility (and associated housing) and two swimming pools in the APY Lands.

Housing

Low income and disadvantaged groups, including Aboriginal communities, have specific housing requirements. Providing appropriate housing for Aboriginal people is a priority issue in the region. Increased housing is required to support expansion of industrial development in Whyalla, Port Pirie and Port Augusta.

Housing for health professionals in rural and remote areas impacts on recruitment and retention and is an emerging issue in country areas.

Strategies to determine the future type and level of housing required are being developed for Whyalla, Port Augusta and Port Pirie, in conjunction with the respective local government authorities.

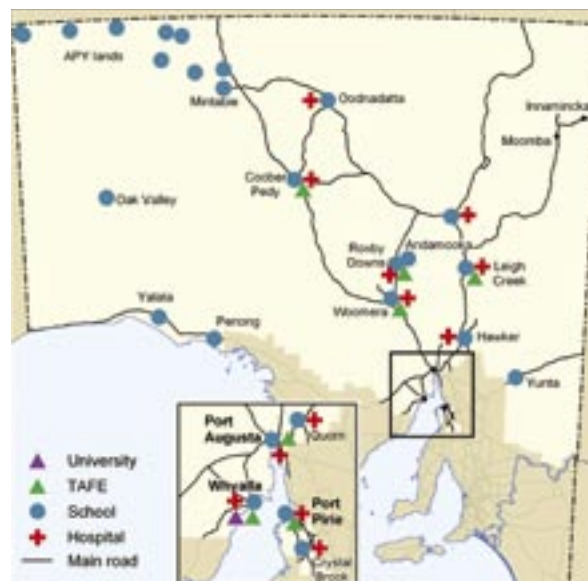
There is a lack of suitable rental accommodation in remote communities, inhibiting the ability to attract quality staff to expand economic and tourist interests in the region. This is becoming a major issue in small communities like Marla, Penong, Marree, Innamincka and Glendambo, which all play a significant role in the burgeoning tourism industry but are finding it very difficult to attract quality staff.

Justice and Emergency Services

The Port Pirie and Port Augusta courthouses are being upgraded because they no longer provide the functionality now expected from courts by the general public. They no longer have the capacity to hear the volume of cases being generated and are deficient in terms of security and safety.

There is a need to upgrade police infrastructure on the APY Lands. The police stations at Fregon, Pukatja, Mimili, Pipalyatjara, Amata and Indulkana are to be upgraded.

Education and Training



The Upper Spencer Gulf region is served by tertiary education facilities incorporating a University of South Australia Whyalla campus as well as a range of TAFE campuses. There are plans to extend these services using new telecommunications and information technology.

Vast distances in the Outback mean that it is not always possible to deliver education and training face-to-face. Distance learning options are provided through TAFE and through information technology.

The Arid Lands Botanic Gardens at Port Augusta is a principal centre for research, education and display of biodiversity from the southern arid zone of Australia, with potential for further development of arid land management research.

Young families with children, attracted to the good salaries at the mine operation, are stretching resources in the education and childcare facilities at Roxby Downs.

Arts, Culture and Heritage

Country Arts SA is upgrading the existing regional theatres including Whyalla and Port Pirie. The theatres are important venues for recreational and cultural activities for young people and families in these regions; they provide venues for live touring performances and create opportunities to develop community-based cultural activities. The existing infrastructure was constructed about 20 years ago which is why the current upgrades are important.

Natural Assets

The Outback incorporates a significant portion of the Lake Eyre Basin. This is one of the world's largest internally draining systems and has a number of high conservation value creek and river systems including the Cooper and Warburton creeks, and Diamantina, Macumba, Peak, Neales and Alberga rivers.

Cooper Creek/Coongie Lakes is recognised as a wetland of international importance.

Dalhousie Springs in Witjira National Park, Blanch Cup and Bubbler Mound Spring in Wabma Kjarbaru Conservation Park, and springs of the Great Artesian Basin are recognised as threatened ecological communities under Australian Government legislation.

The Upper Spencer Gulf Common Purpose Group has a draft management plan that will cover coastal land use and industrial development.

Some 500,000 ha of the Yellabinna Regional Reserve will be declared as the Yellabinna Wilderness Protection Area.

The environmental value of the area has been protected by the South Australian Government preventing the establishment by the Australian Government of the national nuclear waste dump at Woomera.

Projects

Project	Priority #	2005/6– 2009/10	2010/11– 2014/15	SASP Targets
Energy				
Reliability of electricity supply in the southern Flinders Ranges				
<ul style="list-style-type: none"> ■ Redevelop Bungama power sub-station to improve electricity supply to southern Flinders region 	U/way	*		5.11
<ul style="list-style-type: none"> ■ Install two new transformers at Davenport sub-station 	U/way	*		5.11
<ul style="list-style-type: none"> ■ Install additional transformer capacity at Baroota sub-station 	2	*		5.11
* Lead – private sector				
Increased energy supply to support industry expansion				
<ul style="list-style-type: none"> ■ Evaluate options for augmentation of energy supplies for expanded operations at Olympic Dam and other mining developments 	1	*	*	1.12
<ul style="list-style-type: none"> ■ If sufficient demand can be identified, increase the capacity of the gas supplies to Port Pirie and Whyalla 	2	*	*	1.6
Lead – private sector				
Water				
Improved environmental outcomes and water supplies at Whyalla				
<ul style="list-style-type: none"> ■ Improve the quality of water from the Whyalla wastewater treatment plant so that it can be used beneficially in the vicinity 	U/way	*		5.11
Lead – State Government, local government				
Water for Olympic Dam and other mineral developments				
<ul style="list-style-type: none"> ■ Evaluate options to augment the water supply to support expanded mining developments and implement preferred options 	1	*	*	1.12
Lead – private sector				
Quality and quantity of outback water supplies				
<ul style="list-style-type: none"> ■ Identify and implement cost-effective improvements to the water supply for Andamooka, Hawker, Glendambo, Yunta and Mintabie 	1	*	*	5.11
Lead – State Government				
Capacity of Oodnadatta and Hawker STEDS				
<ul style="list-style-type: none"> ■ Upgrade the STED scheme servicing the Oodnadatta and Hawker townships 	2	*	*	5.11
Lead – State Government, local government				

* Lead – lead responsibility for promoting, developing and evaluating the project.

Priority – preliminary rankings. Priority numbers do not represent a final commitment by the State Government or other lead entities. See the Delivering the Plan section for further details.

Project	Priority	2005/6– 2009/10	2010/11– 2014/15	SASP Targets
Transport				
Capacity of Fitzgerald Bay fishing harbour <ul style="list-style-type: none"> Construct new commercial fishing harbour at Fitzgerald Bay Lead – private sector, local government	U/way	*		1.5
Transport services to support Olympic Dam expansion <ul style="list-style-type: none"> Evaluate options to augment transport services for expanded operations at Olympic Dam Lead – private sector, State Government	1	*	*	1.12
Export facilities to support OneSteel's Project Magnet <ul style="list-style-type: none"> Facilitate the upgrading of the export facilities at Whyalla to enable the shipping of haematite Lead – private sector	1	*		1.12
Upgrade of Yorkeys Crossing <ul style="list-style-type: none"> Consider the upgrade of Yorkeys Crossing bypass Lead – State Government	2	*	*	5.11
Airport capacity to service needs in the Upper Spencer Gulf <ul style="list-style-type: none"> Assess the need for an upgrade to the airport facilities at Whyalla and Port Augusta Lead – Upper Spencer Gulf Common Purpose Group	2	*		5.11
Growth in freight movement through Port Augusta <ul style="list-style-type: none"> Consider an intermodal facility as part of a state-wide intermodal strategy to improve efficiency of freight movement Lead – private sector	2	*		1.6
Expansion of transport infrastructure to support mining developments in the Gawler Craton <ul style="list-style-type: none"> Facilitate provision of infrastructure to support mining developments in the region on a case-by-case basis Lead – private sector	2	*	*	1.12
Land				
Residential land regeneration <ul style="list-style-type: none"> Continue investment in residential land regeneration at Risdon Grove (Port Pirie) and Myall Place (Whyalla) Lead – State Government	U/way	*		6.4 6.5 6.7
Industrial land <ul style="list-style-type: none"> Develop industrial estates at Whyalla, Port Pirie and Port Augusta Lead – private sector, local government	2	*		1.6 5.11

Project	Priority	2005/6– 2009/10	2010/11– 2014/15	SASP Targets
Information and Communications Technology (ICT)				
Access to broadband				
<ul style="list-style-type: none"> Develop a business case that identifies and aggregates sufficient broadband demand to support expanded services in larger towns and provincial cities, particularly Whyalla, Port Augusta, Port Pirie, Roxby Downs and towns in the Flinders Ranges 	2	*		4.7
Lead – private sector				
Capacity of data links into Woomera				
<ul style="list-style-type: none"> Upgrade the ICT capacity around and to Woomera including connecting to the SABRENet system at Edinburgh 	2	*	*	1.5
Lead – Australian Government, private sector				
Health				
Provision of aged care facilities				
<ul style="list-style-type: none"> Redevelop the aged care facility at Port Pirie Hospital 	U/way	*		2.2
Lead – Australian and State Governments				
Primary health care centres				
<ul style="list-style-type: none"> Continue to upgrade hospital facilities to support the co-located delivery of primary health care services including general practice, allied health, mental health and Aboriginal health programs 	2	*	*	2.2
Lead – State Government, private sector				
Health network connectivity				
<ul style="list-style-type: none"> Expand the capacity of the wide area network 	2	*	*	2.2
<ul style="list-style-type: none"> Increase use of telemedicine facilities 	2	*	*	2.2
Lead – State Government				
Justice and Emergency Services				
Standard of courthouse facilities				
<ul style="list-style-type: none"> Develop courthouses at Port Pirie and Port Augusta 	U/way	*		2.8
Lead – State Government				
Correctional facilities				
<ul style="list-style-type: none"> Establish a low-security correctional facility for Aboriginal offenders from the APY lands 	2	*	*	5.10 6.1
Lead – State Government				

Project	Priority	2005/6– 2009/10	2010/11– 2014/15	SASP Targets
Education and Training				
Utilisation of school assets				
■ Rejuvenate local schools to support improved utilisation and integration of services	U/way	*	*	6.14
■ Undertake planned capital works at Whyalla school	U/way	*		6.14
Lead – State Government				
Arts, Culture and Heritage				
Facilities for performing arts productions				
■ Upgrade the regional theatres at Whyalla and Port Pirie	U/way	*		4.1
Lead – State Government				
Natural Assets				
Biodiversity protection				
■ Develop and implement works to improve biodiversity and land and water management	U/way	*		3.6
Lead – State Government				
Outback tourism facilities				
■ Redevelop a range of facilities to support increased tourism in Innamincka, Oodnadatta, Woomera, Port Augusta and other outback communities	U/way	*		1.13
Lead – State Government				