Overview of:

Great Southern regional water supply strategy
A long-term outlook of water demand and supply
A message from the Minister

We all count on having reliable and good quality water in our homes and businesses. Securing sustainable water supplies takes careful planning and a long-term view of our economy and environment.

It may look like the Great Southern gets a lot of rain but we know that average rainfall has been decreasing and this could affect the reliability of the current water supplies. This long-term trend and the dry winter experienced in Albany and Denmark in 2014 is a reminder that we need to plan ahead.

The Great Southern regional water supply strategy forecasts the next 30 years of water demand by all water users against the backdrop of increasing population, economic growth and changing rainfall. It combines this with the latest knowledge of water resources to provide a range of water supply options and actions that will continue to support our towns and regional development well into the future.

The strategy also highlights the importance of investing in understanding the limits and extent of new water resources. The Royalties for Regions funded groundwater investigations now underway, show that more water is available to supply the lower Great Southern towns and to support agricultural and industrial development in the region.

The State Government is committed to providing opportunities for the growth of regional Western Australia. Our planning and investment in securing the water supplies of the Great Southern region is a vital part of developing our regional towns and industry.

Water supply planning for the Great Southern

Water demand in the Great Southern region is projected to increase by more than 20 GL/year by 2043. This will be driven by population growth, new mining developments, industry expansion and irrigated agriculture. At the same time, surface and groundwater availability is expected to decline as the region’s climate continues to become drier.

The Department of Water has developed the Great Southern regional water supply strategy to ensure timely planning for new water supplies to support long-term regional development. The strategy projects water demand for all sectors up to 2043, identifies water supply options to meet new demand and provides actions to guide further planning, investigations and water source development.

The Department of Water is also currently investigating groundwater resources in the Albany hinterland and Albany groundwater area. The investigations are funded by Royalties for Regions and will be completed in 2016. To date, aerial electro-magnetic surveys have identified several potential sources of fresh water. Targeted drilling investigations are planned to confirm their potential yield and quality.
Water demand-supply outlook for the Great Southern

Urban

- Urban water demand is forecast to increase from 6 GL/year to 8 GL/year by 2043 under a medium growth scenario.
- Water supply options to meet future demand in the coastal towns include expanding existing sources, new groundwater sources, small surface water dams, desalination and aquifer storage and recovery.
- Options to improve the security of water supply for inland towns that are not connected to a regional scheme include water efficiency measures, developing alternative supplies for non-potable demands and connecting to regional schemes where cost-effective.

Agriculture

- Agricultural water demand is forecast to increase from 24 GL/year to 31 GL/year under a medium growth scenario.
- Water supply options for irrigated agriculture include local fresh groundwater, brackish groundwater desalination and water efficiency measures such as improved design and maintenance of roaded catchments.
- Emergency water supplies are available to provide stock water on broad acre farms during dry years.

Industry

- Water demand for industry could increase from 1 GL/year to 3 GL/year if growth of the tree plantation industry recovers to previous levels of production.
- Special industry precincts have been established at Mirambeena (Albany) and Yerrimup (Mount Barker).
- Potential water supply options for industry precincts include the Marbellup Brook, wastewater recycling, local groundwater or scheme supply.

Mining

- Potential iron ore and gold mining projects in the region could increase water demand from 0.06 GL/year to 14 GL/year.
- Local groundwater and seawater desalination are options for meeting this demand.
Projected water demand in 2043 for the Great Southern region

The Great Southern region
Current water use in the Great Southern

In 2013, a total of 31 GL of water was used by all four sectors:

- 24 GL was used for agriculture, including irrigated agriculture and stock watering.
- 6 GL was used for urban purposes, including households, commercial businesses and irrigating public open space.
- 1 GL was used for industry, including the Albany port, food, timber and grape processing.
- 0.06 GL was used for mining.

Town water supply schemes supply around 20 per cent of water used. Approximately 80 per cent of water is self-supplied.
Strategies for securing water supplies for the Great Southern

Strategy 1 | Plan and develop new water sources for the Lower Great Southern towns

- Investigations show potential to expand existing groundwater supplies for the Lower Great Southern towns water supply scheme and delay the need for a new source until well beyond 2030. Other potential longer-term options include desalination and aquifer storage and recovery of water from the Marbellup Brook.
- Short-term water deficits affecting Denmark will be resolved through infrastructure and treatment upgrades to the Denmark River pipehead dam. Other potential longer-term options include increasing the Quickup Dam storage, a small dam on the upper Denmark River or connection to the Lower Great Southern towns water supply scheme.
- The Water Corporation is investigating pumping water from the Walpole River into an off-stream storage dam for Walpole. A further option is to develop a pipehead dam on Samuels Brook.

Strategy 2 | Where practical, maximise use of climate-resilient and cost-effective water sources for independent town water supplies

- Options include using water more efficiently, recycling, connecting to regional schemes, carting water, improving run-off to and reducing evaporation from dams and the desalination of brackish groundwater.

Strategy 3 | Promote alternative water sources and efficient use of water to reduce use of potable town water supplies

- The Department of Water assists local governments and communities to identify and develop fit-for-purpose water supplies through the Rural Water Planning program.
- Local government planning policies are used to encourage the use of rainwater tanks, greywater recycling and water efficiency measures for new urban developments.
- Local governments, including the shires of Woodanilling, Broomehill-Tambellup, Cranbrook, Kojonup and Plantagenet, are establishing wastewater recycling and stormwater harvesting schemes.

Strategy 4 | Investigate groundwater and surface water resources to support regional development

- Investigations of the Albany hinterland and Albany groundwater area will identify prospective new groundwater sources and the potential for increased use from existing sources.

Strategy 5 | Ensure emergency livestock water sources are available for areas with less than 600 mm rainfall

- Emergency farmland response plans will be developed for high priority areas.
- Farm water supply planning and rebate schemes administered by the Department of Water help farmers to improve on-farm water supplies.
- The Department of Water provides seasonal updates from May to October to help plan for emergency supplies.

Strategy 6 | Promote community and inter-agency involvement in water planning and management

- The water demand and supply balance will be regularly reviewed with stakeholders in the region.