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# MCLAREN VALE PWA

## MASLIN SANDS AQUIFER

Groundwater Level and Salinity Status Report

2012

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Government of South Australia  
Department of Environment,  
Water and Natural Resources

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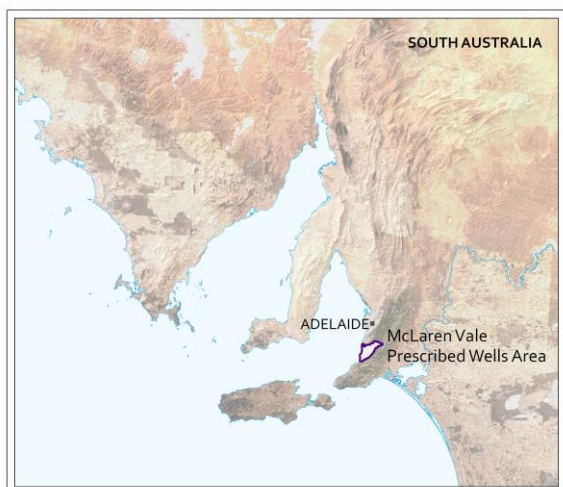
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# 2012 SUMMARY

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The McLaren Vale Prescribed Wells Area is located approximately 35 km south of Adelaide. It is a regional-scale resource for which groundwater has been prescribed under South Australia's *Natural Resources Management Act 2004*. A Water Allocation Plan provides for sustainable management of the water resources.

The Maslin Sands aquifer within the McLaren Vale Prescribed Wells Area is comprised of fine to coarse sands and clays which is confined and separated from the Port Willunga Formation aquifer in some areas of the Prescribed Wells Area, by the overlying Blanche Point Formation aquitard which consists of low-permeability marine mudstones and limestones. The potentiometric surface indicates that groundwater flows from recharge areas in the north-east towards the south-west.

Groundwater extractions (excluding stock and domestic use) for the Maslin Sand aquifer in the McLaren Vale Prescribed Wells Area for 2011-12 totalled 555 ML which represents an increase of 110 ML from the previous year (Fig. 1). Groundwater extraction from the Maslin Sand aquifer accounts for 15% of the total groundwater used within the McLaren Vale Prescribed Wells Area. Groundwater in the region is primarily used for viticulture which is also supplemented with treated effluent as an additional water resource. This water is sourced from the Christies Beach Wastewater Treatment Plant via the Willunga Basin Water Company reticulation scheme.

The climate of the McLaren Vale Prescribed Wells Area is characterised as Mediterranean with hot, dry summers and mild, wet winters. Rainfall is the primary source of recharge as the aquifer is replenished by infiltration through the soil or by percolation as a result of streamflow in drainage lines. Data from the Willunga rainfall station (23753) was chosen for the analysis of rainfall trends (Fig. 2). In Figure 2 the long-term monthly average rainfall is graphed in orange with the total monthly rainfall graphed in blue. In 2012, the total annual rainfall was 688 mm, slightly above the long-term (1889-2012) annual average of 643 mm. The stand-out feature of Figure 2 is the exceptionally wet June when rainfall was double the monthly average.

Groundwater levels in the Maslin Sands aquifer have generally been stable or slowly declining during the monitoring record period since 1987. There were water level declines of up to 1.5 m following the 2006 drought; however higher rainfall in recent years has produced a recovery in groundwater levels at some sites. The Maslin Sands groundwater response is strongly linked to the winter/spring rainfall. In 2012, the maximum recovered water level has risen in 12 out of 20 wells monitored when compared to the maximum recovered water level in 2011 and is likely due to the above average winter rainfall.

The groundwater salinity observation network for Maslin Sands aquifer in McLaren Vale Prescribed Wells Area is shown in Figure 4. During the past 10 years from 2002 to 2012, many of the monitoring wells show an increasing trend. However, in 2012 higher winter recharge contributed to a slight lowering of salinity at several sites. Groundwater salinity is generally fresh with all wells monitored in 2012 having a salinity value of <1500 mg/L.

The Maslin Sands aquifer in the McLaren Vale Prescribed Wells Area has been assigned a green status for 2012:

## 2012 STATUS



“No adverse trends, indicating negligible risk to the resource”

This means that the groundwater status was observed to be stable (i.e. no significant change) or improving during the reporting period. Continuation of these trends favours a very low likelihood of negative impacts on the beneficial use (i.e. drinking water, irrigation or stock watering) of the resource. The 2012 status for Maslin Sands aquifer is supported by:

- 59% of monitoring wells displayed a rise in water level ranging from 0.01 to 0.41 m when compared to 2011 water levels
- 100% of wells monitored recording a salinity value of <1500 mg/L in addition to a slight lowering of salinity in several wells in 2012 when compared to that previously recorded, however, many wells were not sampled and therefore it is not possible to make broad conclusions regarding changes in aquifer salinity

To view the *McLaren Vale Prescribed Wells Area Groundwater Level and Salinity Status Report 2011* which includes background information on hydrogeology, location of rainfall stations and relevant groundwater dependent ecosystems, visit [WaterConnect](#).

To view descriptions of all status symbols, [click here](#).

For further details about the relevant prescribed resource please see the Water Allocation Plan for the [McLaren Vale Prescribed Wells Area](#).

### McLaren Vale PWA: Maslin Sands aquifer annual groundwater extraction

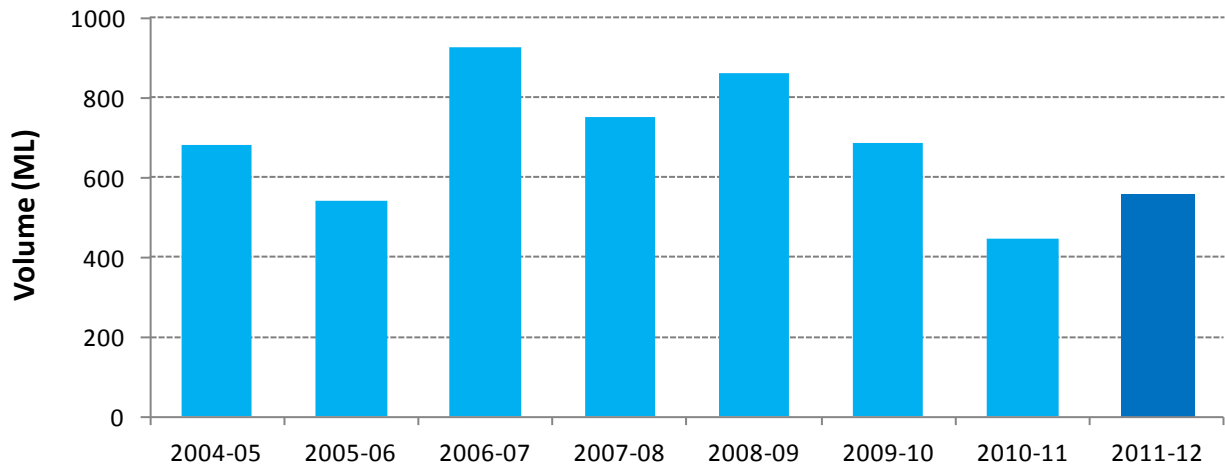


Figure 1. Historical licensed groundwater use for the Maslin Sands aquifer in the McLaren Vale Prescribed Wells Area

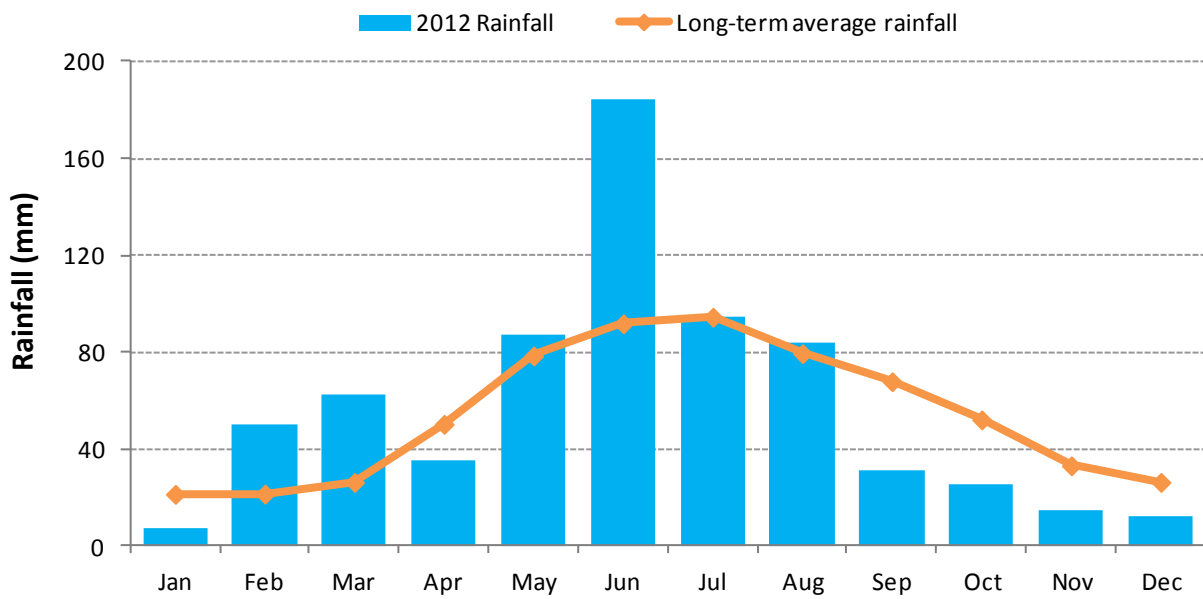


Figure 2. Monthly rainfall (mm) for 2012 and the long-term average monthly rainfall (mm) at the Willunga rainfall station (23753) in the McLaren Vale Prescribed Wells Area

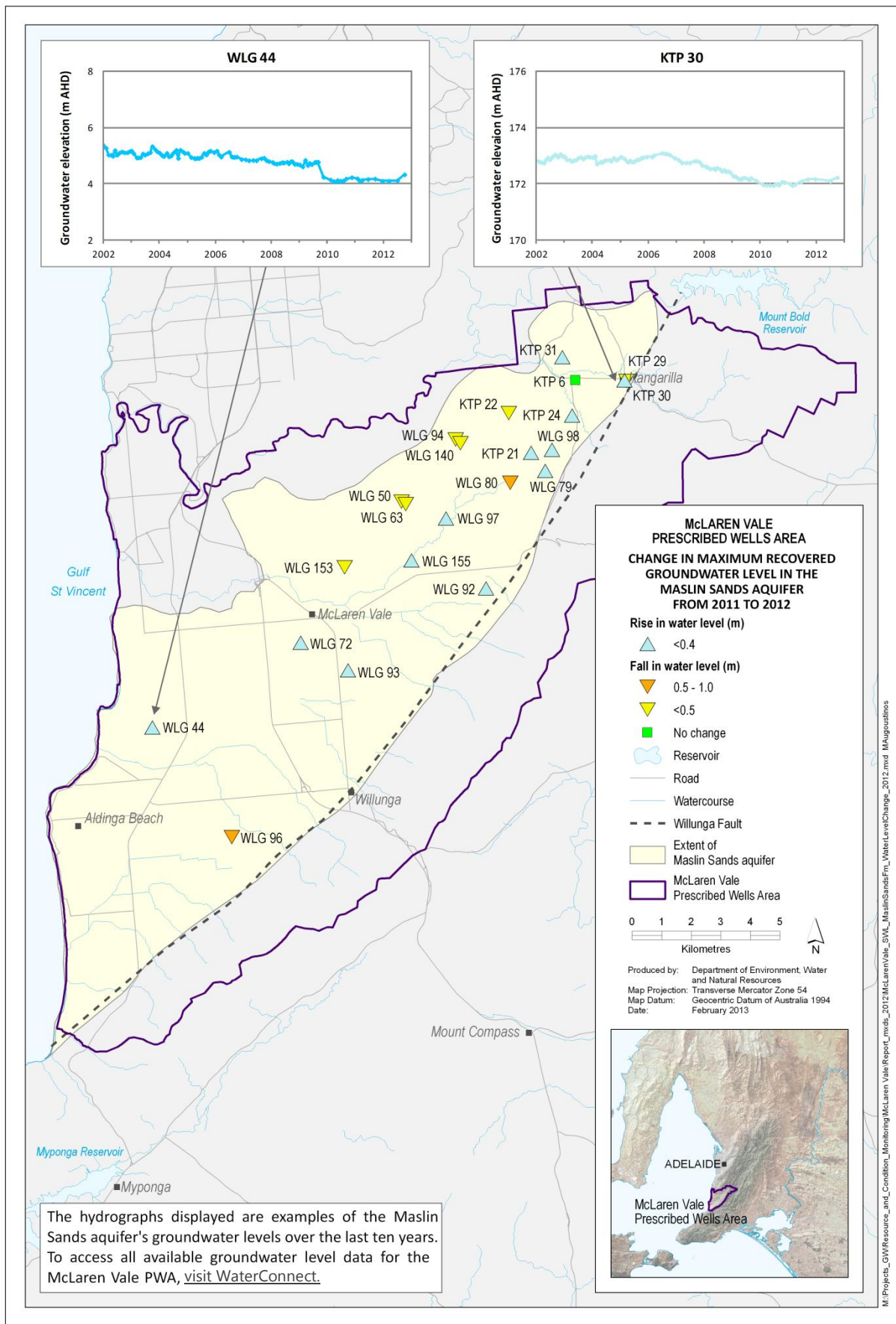


Figure 3. Overall changes in maximum groundwater levels in Maslin Sands aquifer in the McLaren Vale Prescribed Wells Area from 2011 to 2012

McLaren Vale Prescribed Wells Area

Maslin Sands aquifer Groundwater Status Report 2012

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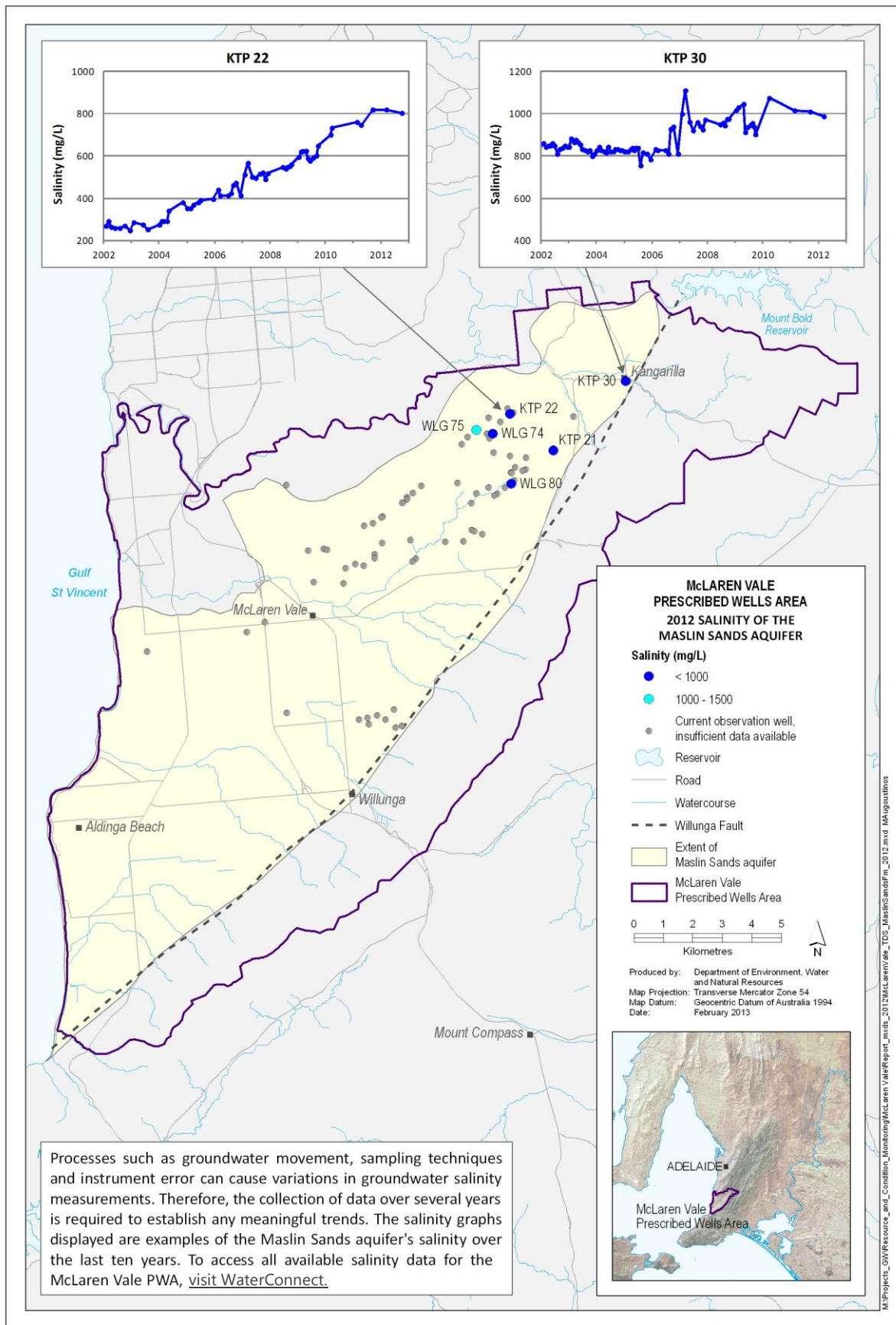


Figure 4. Groundwater salinity of the Maslin Sands aquifer in the McLaren Vale Prescribed Wells Area for 2012