

Testing the artesian aquifers of the West Canning Basin



@DeptofWaterWA

#RoyaltiesforRegions



Watch our ground-breaking investigations
in the West Canning Basin

The discovery

The Department of Water has conducted the most comprehensive test ever of the artesian Wallal aquifer north-east of Port Hedland. Part of the \$12.5 million Royalties for Regions funded Pilbara groundwater investigation of the West Canning Basin, the test has significantly improved our understanding of this groundwater system.

We now know that the aquifer can discharge groundwater at up to 210 litres per second. Drawdown impacts and pressure reductions were measured up to 20 km from the test bore, and when we finished the aquifer test, water levels across the test area recovered almost immediately.

These results tell us that the aquifer in the area is very homogeneous and highly transmissive. This means large volumes of water can be discharged quickly and over an extended period.

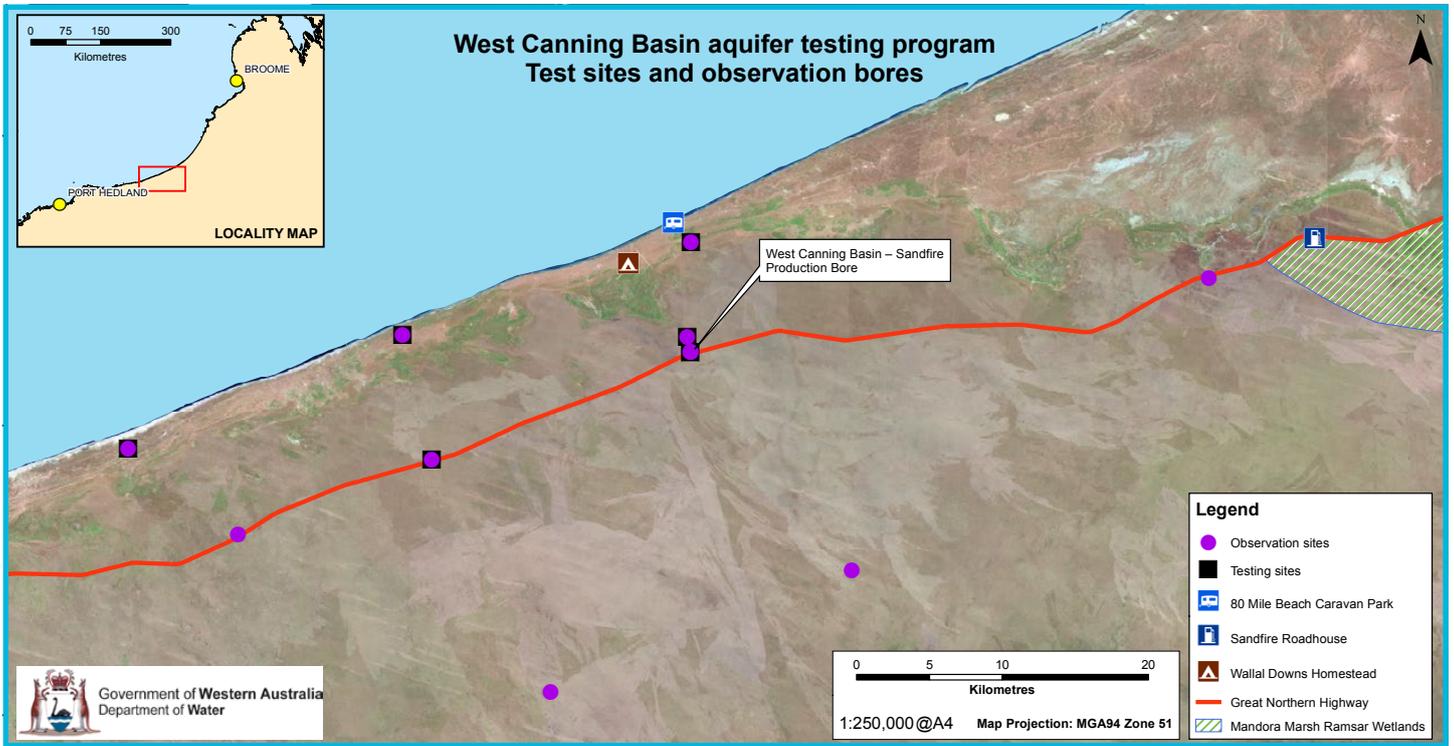
Groundwater quality remained fresh throughout the test, meaning that there is likely to be low variability of water quality in the aquifer.

These discoveries provide parameters for modelling long term usage impacts on the resource. This will help us to predict and carefully balance impacts to artesian pressure as more groundwater is taken out of the Wallal aquifer.

The test

During the 66-day program a team of our best scientists closely monitored artesian flow and pressure around the clock at ten sites across the West Canning Basin investigation area.

The test was designed to simulate long-term use of the groundwater resource and results will now be combined with data from exploratory drilling and airborne electromagnetic surveys to build a complex groundwater model of the system.



How does this discovery benefit users in the West Canning Basin?

Groundwater from the Wallal aquifer is mainly used by local pastoralists for growing stock feed and by companies for iron ore mining operations. Most of this usage relies on the naturally pressurised groundwater to minimise costs of pumping.

Groundwater also has significant cultural and environmental value as it has been linked with the culturally significant (and Ramsar listed) wetlands of Eighty Mile Beach and the Mandora Marsh.

Our discovery will help unlock the future potential of the Wallal aquifer system by determining how much more groundwater the system can provide sustainably. Early estimates suggest the Wallal aquifer could provide future water supplies for Port Hedland, local communities, increased agriculture, mining or industry in the area.

By the numbers



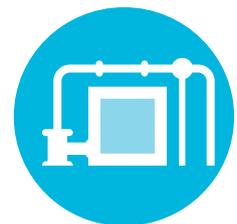
10 sites

in total were monitored throughout the testing period



66 days

of around the clock monitoring and testing



7 bores

consisting of 6 monitoring and 1 production bore tested

For further information, please contact

Department of Water
Rob Milton • Hydrogeologist
Rob.Milton@water.wa.gov.au • Phone (08) 6364 6909

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