

# Is Great Artesian Basin In Danger?

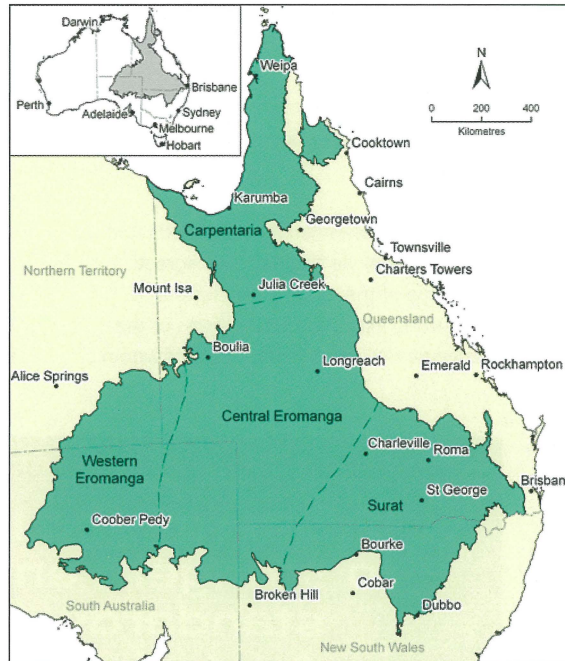
The Queensland Government's general manager of coal and CSG operations said that "scaremonger sorts" who claim that gas extraction will completely drain the Great Artesian Basin are "simply not true".

His comments to *PESA News Resources* came just before APPEA released on 3 August the findings of an independent study by the University of Southern Queensland that the CSG industry "will have little impact on either the Great Artesian Basin or aquifers relied on by agriculture".

Andrew Brier of the Department of Environment and Resource Management said that some of the "scare-monger sorts" are saying that the Great Artesian Basin will be completely drained through CSG activity, and that's simply not true. There is legislation in place to ensure landholders get a continued water supply but it is expected that there will be an effect on pressure in overlying and underlying aquifers.

He said the Queensland Government has declared a cumulative management area across the Surat Basin, in which the Queensland Water Commission is doing groundwater modelling and preparing underground water impact reports which are due early next year. "These reports will identify areas where bores in an aquifer are likely to experience a change in water level and trigger the requirement for companies to assess these bores and 'make good' any potential impacts", he said.

"For example, the report may predict that the Standing Water Level in some aquifers may reduce by up to 5 m over the next three years. For a bore in the Gubberamunda sandstones – like the bore that was at my old property (in Roma), that was 250 m deep and where the water rose 50 m to the surface, this would mean that the water level may now be 55 m from the surface due to the forecast 5 m reduction in the water level. If my pump was close to the water surface then the 5 m reduction in water level may mean I can no longer get the required water from my bore. In this case a CSG company would need to assess my bore and enter into a 'make good' agreement whereby the company agrees to take action necessary to restore my water supply, such as lowering the pump", he said.



The Great Artesian Basin. Image courtesy of CSIRO.

APPEA's Director – CSG, Ross Dunn, said the study, conducted "at arm's length from industry, backs up what we have consistently said: that the CSG industry will not compromise the future of extensive agriculture".

The *Australian* newspaper reported, however, that the USQ academic who managed the study, Steven Raine, disputed APPEA's conclusion.

"While there was little difference in the drawdown of the high and low water scenarios, it would be incorrect to suggest that this could be interpreted as there being little impact on the Great Artesian Basin," Professor Raine, who specialises in irrigation and soil science at USQ, told *The Australian*.

"For a conclusion to be made, further studies would be needed."

USQ subcontracted consultants RPS Aquaterra to do the study. Its author, Peter Dundon, then a senior principal hydrogeologist at RPS Aquaterra, also told *The Australian*: "I don't have a problem with what's been stated in the APPEA press release."

The study looked at combined groundwater impacts of four planned LNG plants that will export Surat Basin CSG through Gladstone.

Though *The Australian* said that Dundon found the word "little" too undefined to agree with,

he said the combined impact of the four projects would be less than they had stated because those estimates, already not of great magnitude, had been based on stand-alone projects.

The study was initiated in 2010 by the four major CSG companies operating in the Surat Basin to provide a greater understanding of the industry's cumulative groundwater impacts in the area. USQ was commissioned in September 2010 to manage this study, with RPS Aquaterra engaged to undertake the independent assessment of cumulative impacts, based on information from published impact assessment reports and other information made available to USQ and RPS Aquaterra by the four CSG companies to undertake the study.

The overarching aim was to collate and present the existing groundwater modelling data to provide both the government and the public with a greater level of understanding and confidence regarding the cumulative groundwater impacts from the development of CSG projects within the Surat Basin (the report does not cover the Condamine Alluvium). The study assessed a "high impact" and "low impact" case and found very little difference in the extent or magnitude of impact between these except in the deep underlying aquifers, which are not major aquifers for agriculture.

"The study shows previous estimates of cumulative water extraction by the industry have significantly overstated the volume of water to be extracted", Dunn said.

"Water is extracted to de-pressurise the coal seam and enable gas to flow but the major projects in Queensland are all positioned next to one another, so the drawdown of water by one project will also reduce the pressure in adjacent projects meaning the adjacent project will not need to extract as much water for gas to flow. Previous estimates of cumulative water extraction have merely been the sum of project groundwater extractions that made no allowance for the impact of adjacent projects.

"This study is further evidence of the CSG industry's commitment to add to the already extensive body of science on groundwater and take every step necessary to ensure the industry develops sustainably." ■