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## **Property Rights Australia Submission to revised CSG water management policy**

Property Rights Australia was formed in 2003 to provide a strong voice for landowners with regard to property rights issues. It aims to promote fair treatment of landowners in their dealings with government, other businesses and the community. Our philosophy is that if the community (or other business) wants our resource for any other purpose such as environmental protection then the community must pay fair and unsterilised value for it.

### **Overriding Fundamental principles**

Landowners are limited by license in their water use but CSG companies are unfettered.

The drawdown of aquifers in CSG areas is a primary concern of Property Rights Australia. Any substitute for clean, reliable underground water is a second grade option and should be recognised as such.

Depletion of aquifers which service premium agricultural land sterilises that land and makes it unavailable as a reliable resource for an indispensable commodity, namely food, to future generations.

“Make good” provisions are littered with uncertainty and unfairness

The store set in the “make good” provisions by government and public officials is alarming. Government and public officials seem unconcerned at water drawdown and depressurisation as a result of this confidence when these provisions are untested. Too much weight is being given to the inferior action of “make good” provisions when the EPA will only stop local extraction for catastrophic effects if companies are unable to “make good” or provide substitution.

This is not good enough!

“Make good” is a poor substitute for a reliable clean underground water source.

“Best efforts to make good” is not good enough.

Well drafted, detailed, step by step “make good” agreements seem to be essential in contracts between landowners and CSG companies operating on landowner’s lands. It remains to be tested how difficult it will be to have the implications implemented and what steps are necessary should a dispute arise.

How much money will a landowner need to spend and how far down the court track will the landowner need to go to gain resolution.

It is a concern that landowner’s bores experiencing impacts of who do not have a company operating on their property may have to jump through extra hoops to access “make good”.

“Make good” provisions need to apply to water quality as well as quantity.

It is of concern that Government and public officials have not recognised that water quality is just as important as quantity of water available for landowners. Both crops and livestock can experience reduced performance from lower quality water and if this has been caused by CSG activity it must be recognised as an equally severe impact.

Also any substitution of water in “make good” provisions must not be of inferior quality water and must not contain “contaminants” above recognised safe levels. Landowners and landowners’ solicitors do not believe that these provisions have been provided for in the legislation.

All actions for “make good” needs to be specifically permitted by legislation.

The differing opinions between landowners and their legal representatives and government personnel are reminiscent of advice given under the Vegetation Management Act which later proved to be erroneous.

When one goes to court all that is relevant is what is in the Act. Water quality being relevant to “make good” MUST be clarified in the Act.

There is some concern that CSG companies drilling new bores for “make good” may not be lawful as it is outside the purpose of their access to water as granted by legislation.

Who will ensure that “Make good” is carried out until the full recharge of the bore? Will the arrangements be adequate? I suspect in many cases they will not.

How these provisions will be accessed by landowners is still not clear. Already CSG companies seem to be attempting to contract out of the obligations.

“Make good” applies to water impairment resulting from water extraction. What about gas movement as a result of depressurisation? Landowners want the legislation to leave no doubt that “make good” provisions apply to impairment from any event.

Government personnel giving advice outside their qualifications.

If legal questions are to be asked at landowner meetings, government representatives need to be fully briefed by government solicitors and written advice given. A better option would be for a government solicitor to be present to answer questions as very many are legal questions.

The current situation is unfair on both the Government personnel and the landowners.

### **Concerns specific to the draft policy.**

The draft policy correctly states that CSG water should not be treated as a waste product. Underground water is a very important resource and should be treated as such.

A major failing of the draft policy is that it does not recognise any other contaminant present in CSG water other than salt. The policy does recognise that the quality of CSG water varies greatly. The amount and composition of remaining chemical elements and compounds needs to be known on a consignment by consignment basis. Once treated the CSG water should be put to a suitable beneficial use. However it needs to be recognised that brine is not the only contaminant present in CSG water. Farmlands, farm aquifers and stock watering facilities should not be put at risk of contamination by any chemical elements and compounds that can cause impairment including substances such as heavy metals.

The draft policy in Section 1.1, Priority 1 states that, “Appropriate plans are in place for mitigating short and long term impacts”

It would be a far more satisfactory approach if proactive research is carried out to learn of possible impacts before they occur rather than continuing with the flawed “adaptive management” approach inherited from the previous Government.

Baseline data needs to be ascertained; priority given to a comprehensive network of monitoring bores including bores to different aquifers at the same geographic location; the level of connectivity between aquifers needs careful research and the work of the Queensland Water Commission soon to be carried out by the new statutory body. Office of Underground Water Assessment should be independent & transparent.

There are emerging new technologies of water treatment that when used as a replacement of or in tandem to the existing reverse osmosis water treatment plants will provide a far superior result in quality of water available to beneficial water uses and for the less volume of waste produced.

Although evaporation ponds are being phased out and there are performance requirements for bottom and sides they are still allowed in some circumstances. Some measures need to be in place to prevent overtopping during and after rain.

There is no substitute for a clean, reliable underground water supply. All other options are vastly inferior.

## Supporting document

The remaining pages of this submission are a summary of a briefing by the Queensland Water Commission to the Basin Sustainability Alliance on the 7<sup>th</sup> November 2012. Property Rights Australia believes that the work of the QWC is highly relevant to this draft policy.

### 2012 November 7<sup>th</sup>, QWC Underground Water Impact Report

The cumulative impacts on underground water by coal seam gas activity have been acknowledged for some localised areas in the Surat basin to be severe. As we try to understand the complexities of the underground aquifers there have been revealed many known, unknowns which gives rise to the question of what is the extent of the unknown, unknowns.

Underground water is an essential natural resource and in the light of what is becoming known about connectivity between the different aquifers, explored in more detail near the end of this article, the activity of the coal seam gas industry is of concern not only for those living in the Surat basin, Qld but also for the entire Great Artesian Basin.

The Queensland Water Commission was given the task of collating the data, developing a computer model, making predictions and the writing of a report about underground water impacts. The draft report was open for public consultation earlier this year and now having recently handed out the final report the QWC was invited to Dalby, Qld on Wednesday 7<sup>th</sup> November at the invitation of the [Basin Sustainability Alliance](#) to present a briefing of the report.

In the aid to better understand the remainder of this article and to gain some appreciation of just how complex are the geological layers in the Surat and Bowen basins please view [this 3-D video](#) prepared by QWC. But keep in mind QWC simplified the numbers of layers so as to not to make the development of their model too difficult to set up.

The report is available online, to view please [\[click here\]](#)

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Firstly some background information of changes from the draft report, the structure and how it is supposed to work in the future.

After 50 submissions to the draft there has been no changes made to the model or its predictions. Further information was added about data use as can be found on [page 52](#). Other additions such as a water monitoring strategy, but the biggest addition was Spring Impact Management Strategy. Look for [Section 8](#) and [Appendices H](#).

I believe that this addition is thanks to some knowledgeable questioning QWC received at the Wandoan seminar at the time of the release of the draft report. It became apparent that there was a large gap in the report in regards to springs. Also it is highly likely that groundwater impacts by CSG activity on springs could be a sensitive issue and one that may have greater legal redress under environmental law. It was also picked up at the Dalby briefing that the word “surrender” has appeared in the final report as in a landowner surrendering their licence for a bore. There may be a connection between this addition to that of springs.

The report has been approved by the Department of Environment and Heritage Protection (EHP) and will take effect on the 1<sup>st</sup> December. Conditions were also placed on the report by EHP and these are available at the QWC web site. [\[click here\] PDF \(1.7 MB\)](#)

The computer model however has not been independently peer reviewed.

The Qld government has a bill before parliament at this point of time to abolish the commission at the end of the year and replace it with the Office of Underground Water Assessment which will sit within the Department of Natural Resources and Mines but will be set up as a statutory body and supposedly be immune to interference. Some cynicism would have to be applied to this last point I would think.

This new body has a reporting requirement every three years and will structure its program on a three year cycle. The first 18 months will be spent on research, collection of data, field-proofing data & correcting inaccurate records, looking for new techniques and new modelling technology. Research projects are to include, springs, hydrology, modelling, field investigations, pump testing, geochemistry fingerprints, down hole geophysics & geological logging, pressure tests, installing monitoring bores and water level measurements.

The second 18 months of the 3 year cycle will be spent on recalibrating the model, running the model to obtain predictions and lastly to prepare the report.

Underground water systems are incredibly complex therefore a model capable of making worthwhile predications is no small feat in computing. Respected hydro-geologist John Hillier will be on the technical advisory panel.

[Regulatory oversight](#) for the QWC report and for the Office of Underground Water Assessment which will take over its future functions has been set out. EHP is responsible for [monitoring compliance of the obligations of the UWIR](#) and the [GasFields Commission](#) has powers and responsibilities to be implemented into the legislation.

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I must commend BSA for inviting the QWC to Dalby, for a well-run meeting by David Hamilton and to witness well informed questioning by key BSA members such as Ann Bridle, Ruth Armstrong and Peter Shannon.

There is no doubt that there will be significant impacts upon underground water. The report makes this clear and a visual understanding of these impacts can be found at [Figure 6-4](#) on page 54 for the extent of immediately affected areas and [Figure 6-5](#) on page 56 for the extent of the long term affected areas.

The majority of the questions to the QWC at the Dalby briefing were about these impacts and the [make good obligations](#). How in practical terms can a CSG company “make good” and how to nail down on landowners behalf greater undertakings than the likes of the company will undertake “its best efforts to make good.”

It is now blatantly obvious that well drafted make good agreements are essential and a detail step by step make good provisions to different scenarios are needed in contracts. Landowners should refuse to sign anything with generalisations such as, ‘we will undertake our best efforts to make good’. In the case of dispute between a landowner and a CSG company about make good obligations according to Randal Cox of QWC “the land court is the ultimate port of call” and that the “CSG enforcement unit not here to determine commercial arrangements”. In my opinion that is hardly a situation to inspire confidence with landowners.

Randal Cox told the briefing that coal seam gas companies under the legislation have an obligation to approach the landowners if impacts are beyond defined acceptable levels in the affected areas as mapped by QWC. This does not stop any landowner including those outside the defined affected areas to seek make good arrangements from a CSG company if they believe they have been impacted by their activity. It was interesting that also mentioned as a possible impact was reduced water supply; a bore level falls, because of increased gas migration.

Solicitor Peter Shannon made the statement that make good should be equally applied to quality as well as quantity of water available from CSG impacts. Randal Cox believed that it already does while both Peter Shannon & Ruth Armstrong stated that at their reading of the legislation, it doesn't.

Randal Cox during questioning made the statement that, “If QWC research & modelling shows a catastrophic impact, EHP has the power to put a stop to localised CSG activity”. To which Ruth Armstrong replied, “Irrigators in my area have taken a 50% reduction in entitlement; would not any additional water taken by CSG be catastrophic?” Randall Cox qualified his statement by saying, “CSG activity will be only stopped if companies are unable to make good or provide substitution.”

Again the use of poorly defined generalisations; hardly good enough when the report shows that in localised areas there will be serious underground water impacts. Landowners need far greater assurances and certainties than such as these. CSG

companies when it suits their purpose will use this report to their advantage. Can you imagine being out of water, in the land court and a highly paid, experienced barrister quoting to what appears to be a ready-made disclaimer at the bottom on page 46,

*“It should be noted that the model is designed for regional water pressure impact assessment and is not designed to be used to directly predict water pressure or water level variations at a local scale. Therefore, predicted impacts on individual bores or specific locations are of a generalised nature only.”*

The report shows the existence of connectivity between aquifers for example the Condamine River Alluvium is showing an extra 1,100 ML per annum extra leakage into the Walloon Coal Measures and is likely to do so for 100 years. The indicators are that there is far more connectivity than first thought. The level of the lack of current knowledge was highlighted by BSA member, engineer Max Winders statement that “We haven’t even calibrated the pressure between the aquifers to know the effect of drawdown by CSG companies.”

It’s my understanding from those at the briefing and from further conversation that I assume that what Max Winders is referring to is that because of a high level of connectivity, that if you draw water out of a higher coal seam measure such as the Walloons you are also drawing water out of the lower aquifers. This is yet to be acknowledged by QWC, the Qld government or any of the CSG companies. The implications are that serious that priority research needs to be devoted to the level of connectivity between aquifers.

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It has been said many times that in the unseemly haste to develop a CSG industry that in many aspects the cart got put before the horse. The work of the QWC may well prove to be a horse that should have been prepared ten years ago. If this report and the work outlined for the future are to realise some of its potential and for landowners to have confidence in its outcomes, it needs to be an independent and transparent process. That the new body, the Office of Underground Water Assessment, doesn’t become a useless window dressing and it has a beneficial role for the entire community now and for the long term future.

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## UPDATE

Max Winders who was present at briefing, having read the summary above asked that the following be added

*I also made the point that monitoring bores into the three most important aquifers concerning vertical transfer up and down from the Walloons have not been established at the same geographical point.*

*The information I showed, which my company had developed from the spreadsheet information given me by QWC , allowed the initial development model to be assessed against my one bore monitoring data as well as the one, single aquifer (Kumbarilla Beds) recently constructed by Arrow quite close to a bore into the top of the Walloons. The implications of the differences cast doubt on the validity of the QWC model at least in this important area (on the edge of the Daandine gas field – the Arrow model of which is supposed to provide the basis for the modelling by QWC of vertical connectivity in and from the Walloons over the whole model.*

*I pointed out to QWC at the meeting that the cost to a landholder of providing such information when requesting a make good requirement is quite prohibitive.*

*I note from Section 6.2 of the final UWIR (p.46), the authors of the report finally acknowledge:*

*“It should be noted that the model is designed for regional water pressure impact assessment and is not designed to directly predict water pressure or water level variations at a local scale. Therefore predicted impacts on individual bores or specific locations are of a generalised nature only”.*

*Unless we get an immediate start on constructing multi-aquifer monitoring bores in the Immediately Affected Areas and validate the model locally then landholders will be denied access to a model that has been validated to the extent that they have access to independent information to support their calls for make good agreements.*

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Tom Marland of Creevy Russell Lawyers after reading this summary made these observations of his recent experiences negotiating on landowner's behalf,

*“Some companies are not even bothering with the 'if' immediately affected bores are going to be impacted - they are simply proposing to cap and abandon those impacted water bores. The rationale? So those bores don't leak gas.*

*The next option is 'alternative arrangements or infrastructure'. However I find it difficult to replace an underground water resource. You can build the biggest dam you like but during drought, when those dams are dry, underground water resources are the only option.*

*Valuing the loss of that resource to the value of the property is also a difficult process.*

*I have previously raised concerns with the accuracy of base line bore assessments. I am concerned with the quality and accuracy of the information being put into the modeling. I am already hearing reports of bores outside of the 'affected area' predicted by the QWC showing dropped water levels, diminishing recharge rates and capacity.*

*It is concerning that the companies are calling affected bores 'back up' bores only used during drought as some justification that they won't be missed.”*