

The Basin Sustainability Alliance's Submission on the review of the EPBC Act's "Water Trigger" Provisions.

1. What is the Basin Sustainability Alliance :

The Basin Sustainability Alliance (BSA) was established in 2010, to represent the interests and concerns of landholders and rural communities who were being subjected to the unprecedented scale and pace of Coal Seam Gas development in South-West Queensland.

BSA's charter is to advocate for the sustainable use and management of land and water resources in the Condamine Basin for future generations – in particular highlighting the risk that the Coal Seam Gas development poses to the Great Artesian Basin.

The BSA which has over 100 members, is comprised of farmers, graziers, business people and townspeople in south- western Queensland's Condamine Basin, as well as scientists who have a strong interest in supporting the BSA's "key focus".

The BSA is grateful for the opportunity to comment on this review of the EPBC Act's "Water Trigger" provisions.

Our Submission addresses:

- General statements on the BSA's views on the need to retain the "Water Trigger" provisions of the EPBC Act.
- Some specific examples to demonstrate why the EPBC Act's "Water Trigger" provisions need to be retained, and
- Some suggested changes to the "Water trigger" provisions to enhance the level of protection it provides for resources of National interest.

2. The Need to Retain the EPBC "Water Trigger":

The farming and grazing properties, the commercial businesses and the rural townspeople who live in the Condamine Basin greatly depend on water from the GAB as their lifeblood. Many of the Basin's primary production stakeholders are totally dependent on their ability to access water from the Great Artesian Basin (GAB) for their livestock, domestic and farm water supplies. Without access to GAB water, these communities and enterprises would no longer exist or be commercially viable. Hence it is vital that appropriate regulatory mechanisms are put in place and maintained to protect the health of the GAB and ensure its sustainability.

The GAB has never been under greater pressure that it is currently experiencing. The Queensland Government has authorised the Resources Sector to access both sub-artesian water connected to the GAB and GAB artesian water in its quest for coal seam gas extraction and the development of new mining projects.

The current regulatory regime of allowing petroleum tenure holders (conventional gas and CSG operators) to extract unlimited volumes of associated and non-associated water as a

consequence of their operations, is of major concern to the BSA's stakeholders. This uncontrolled extraction of water from the GAB is in direct conflict with the management provisions of the Water Resource (Great Artesian Basin) Plan 2006 – the statutory water plan developed by the Queensland Government to ensure the sustainability of the GAB for future generations.

The BSA asserts that the Queensland Government has failed and continues to fail to appropriately regulate CSG, unconventional gas mining and conventional mining operations in Queensland. Instead, blinded by the expectations of capital investment, jobs creation and royalties for the Treasury coffers (\$33mill in 2016), successive Queensland Governments have amended legislation to facilitate development opportunities for the Resources sector at the expense of; the sustainable management of the Condamine Basin's groundwater resources, the health of the Basin's environment, the health of local people and communities, as well as landholder's basic rights to access stock and domestic water supplies – all at the long term cost to rural and regional communities.

Accordingly, the BSA asserts that the Commonwealth MUST retain the EPBC "water trigger" to maintain a robust overview over development projects and apply appropriate controls on recalcitrant State Governments who are prepared to damage resources of a National interest for short term outcomes.

3. Examples of the Need to Retain the Water Trigger Provisions:

The BSA will now outline some examples of the actions of the Queensland Government that have already compromised or will potentially compromise the groundwater resources of the Condamine Basin.

3.1 The Acland Coal Mine – Stage III approval.

The BSA notes the Coordinator-General's Evaluation Report on the Environmental Impact Statement for New Acland Mine – Stage III outlines:

- The proponent's hydrology investigations predict that the project may impact on four (4) aquifers, these being the Tertiary Basalts, the Walloon Coal Measures, the Marburg Sandstones and the Helidon Sandstones. The Walloon, Marburg and Helidon aquifers are sub-artesian aquifers within the Eastern Downs Management Area of the Great Artesian Basin (GAB) Water Resource Plan. The Marburg and Helidon aquifers are considered to be major GAB aquifers.
- The Stage III mine's water allocation from the four impacted aquifers is 1,412ML/year and its current water use is 41.2ML/year.
- The Stage III projected water use is estimated to be 8,925ML/year and 1,170ML/year is predicted to come from the dewatering of groundwater inflows into mine pits, as well as captured onsite runoff. The remaining water supply is to be recycled water sourced primarily from the Toowoomba Regional Council.
- Groundwater inflows into the mine pits are estimated to peak at 1,277ML/year.
- Projected aquifer drawdown effects are:
 - Up to 5 metres in the Tertiary Basalts with a 1 metre contour of approximately 9kms wide.
 - Up to 47 metres in the Walloons with a 1 metre contour estimated to be 21kms wide. Up to 10 metres drawdown up to 3kms west of the project site.

- Up to 12 metres in the Marburgs for a 7kms wide area and a 1 metre contour of approximately 23kms wide.
- o There are 857 registered bores within an 8kms radius of the project site and it is estimated that 357 of these bores may be impacted by the Stage III operations.
- o The Coordinator-General has approved the Environmental Authority for Stage III with conditions requiring New Hope Mine to enter into Make Good Agreements with affected landholders. There is also a requirement for New Hope to provide offsets for water lost – groundwater of sufficient quality is to be used for the environment and communities.

New Hope's Acland Mine is required to secure an Environmental Authority under the Queensland *Environmental Protection Act 2004* for this Stage III expansion – it has chosen to seek an amendment to its existing Environmental Authority. This Authority deals with, amongst other matters, the management of impacts of the mine's operations on the surface and groundwater resources of the area. The mine is required to secure *Water Act 2000* authorisations (Water Licences) to take and interfere with water inflows into the mine pits (dewatering operations). The mine is permitted to use this water to support any of its on-site mining operations.

If any of this water is being sourced from the Marburg or Helidon aquifers (which are recognised as major GAB aquifers), then New Hope should be securing an allocation of water from the State Reserve of Unallocated Water in the Great Artesian Basin (GAB) Water Resources Plan 2006. However, as the GAB water resources of the Eastern Downs, Clarence Moreton and Mulgildie GAB Management Areas, are already fully committed, any State Reserve Unallocated Water provided for in the GAB Water Plan is not available in these three Management Areas, hence access by the New Hope Acland Mine to this Reserve Water is not permitted under the present GAB Water Resource Plan.

Limits of take of water were set in these three GAB Management Areas, because of threats to the security of access to water by existing GAB water users, as well as protecting the sustainability of the resource. Those extraction limits were designed to protect the GAB from over-extraction. Amending those limits to the Eastern Downs Management Area to allow the New Hope - Stage III mine to further dewater the GAB, represents a special arrangement for the miner which will impact on the future security of the water resource for existing water users in the Eastern Downs. With the existing GAB – Water Resource Plan, which is currently under review by the Queensland Government, the BSA are extremely concerned that the new GAB Water Resource Plan may increase the State Reserve of Unallocated Water at the expense of the long term sustainability of the resource as well as for existing GAB water users.

The Queensland Coordinator-General in approving the amendment of New Hope's Environmental Authority has set a condition requiring New Hope to enter into Make Good Agreements with the bore owners of the 357 bores that may be impacted by their mining operations. The Coordinator-General also set "offsets" for water lost and New Hope are required to provide water of sufficient quality to be used for the environment and communities. The BSA are perplexed at how the New Hope Mine will be able to "make good" to impacted landholders in a GAB Management Area that is already fully allocated – there is no available water to "make good" unless additional water is extracted and the access of existing users is further compromised. BSA also questions how the Queensland Government proposes to make water available to the New Hope Stage III mine to meet any of its future "offset" obligations to the environment and the communities.

The BSA is also extremely concerned over the potential impacts of the Wilkie Creek, Kogan Creek, Cameby Downs and Wandoan coal mines on the GAB's aquifers – given the huge volumes of water

that may be extracted from these existing and potential mines through mine de-watering operations.

Due to the above actions of the Queensland Government – the EPBC “water trigger” provisions for large coal mines MUST be retained to provide a “brokering house” to ensure appropriate oversight is maintained over the development decisions that potentially impact on the Great Artesian Basin – a National and Internationally recognised iconic groundwater resource. The BSA contends that the Queensland Government must consider the cumulative impacts of existing water extraction (including water taken by petroleum & gas producers and miners) as well as the potential impacts of any additional projected water extraction through the provision of Unallocated Water Reserves for Strategic or State or General purposes from the Great Artesian Basin.

3.2 Threats to the Great Artesian Basin from the CSG and Other Associated Gas Developments.

Since 2010 the Queensland Government has allowed unprecedented development of the Coal Seam Gas (CSG) resources in the Surat Basin which is partly situated within the Condamine Basin.

The Queensland Government has projected that there could be up to 40,000 CSG wells constructed in the Surat Basin’s CSG footprint. The Surat CMA Underground Water Report (2012) indicates an average predicted water extraction by petroleum tenure holders in the order of 95 – 98,000ML/annum (this is equivalent to 2.37ML/well/annum). The petroleum industry predictions are 75,000ML/annum. However, the BSA understands that with each CSG well having a “statutory right” to extract in the order of 12.0ML/annum (noting that in 2013/14 - 1534 CSG wells averaged 11.3ML/annum water production) from the Walloon and Hutton Sandstone aquifers (which are part of the GAB) – there is potentially up to 480,000ML/annum of water to be extracted. This huge difference in potential water extraction needs to be resolved.

Regardless of whether the CSG water extraction is 95,000/annum or 75,000ML/annum, the GAB Water Resource Plan did not provide for this level of additional water extraction from aquifers connected to the GAB. The GAB Plan provided for an additional 23,400ML of General Reserve Unallocated water and 10,000ML of State Reserve Unallocated water during its life. The volume of water being extracted by the CSG operations in the Surat Basin, far exceeds the total volume of these Unallocated water reserves and brings into question the sustainable limits of extraction and the future sustainability of the GAB.

While the Queensland Office of Groundwater Impact Assessment (OGIA) have developed some hydrological modelling capacity to assess the impacts of groundwater extraction in the Surat CMA - the BSA questions whether the long term impacts of the potential level of extraction on the GAB have been adequately considered by the Queensland Government. The BSA contends that this level of water extraction will have long term impacts on the future sustainability of the GAB and robust hydrological modelling of these impacts MUST be undertaken before any further expansion of the CSG industry is contemplated in the Surat Basin. in the development of the new GAB WRP.

The BSA are also aware that some experienced hydrologists are not confident of the UWIR’s modelling capacity to accurately predict to long term impact of the CSG Industry on the GAB aquifers that underpin the viability of much of Queensland’s agricultural and pastoral production, as well as the water supplies of a number of western towns. To ensure there is an appropriate degree of scientific rigor built into the UWIR’s groundwater modelling, the BSA contends that the Commonwealth’s Independent Expert Scientific Committee (IESC) should “peer review” the conceptual framework of UWIR’s model as well as its modelling outputs.

The BSA has become aware that existing CSG tenure holders in the Surat Basin are applying to the Queensland Government to amend their existing Environmental Authorities to allow for the development of “tight gas” resources. The impacts of tight gas development have not been assessed or considered in the grant of the original CSG Environmental Authorities.

The BSA are concerned that the CSG companies will attempt to “do a deal” with the Queensland Government to have their Environmental Authorities expanded without due stakeholder or public oversight of the potential long term impacts on the Basin’s underground water resources. As an example – QGC recently sought and received an approval for an amendment to their Environmental Authority to increase the number of petroleum wells in the Wandoan area by 400 wells. In seeking this amendment - QGC contended that the Queensland Department of Environment & Heritage Protection (DEHP) has no proper authority under Queensland environmental legislation to distinguish between the type of petroleum wells to be drilled (including tight gas wells), or to even limit the number of such wells. Furthermore – it should be noted that QCLNG’s EIS and SEIS made no mention of tight or shale gas development and the conditional approvals given by Queensland’s Coordinator-General and the Commonwealth Government, were for CSG extraction only.

The BSA is concerned that continued pressure on the Queensland Government by the CSG Industry, may result in its capitulation to the P&G Industry - this will result in some serious consequences for the GAB’s water resources and its water users. The BSA acknowledges that it is not within the current province of the EPBC “water trigger” provisions to review the potential impacts of an expansion of the unconventional gas industry (including tight gas) in the Surat Basin. However, based on the above example the BSA contends that the EPBC “water trigger” provisions should be expanded to include unconventional gas developments.

The Queensland Government is actively promoting the expansion of unconventional gas exploration (deep gas, tight gas and shale gas) in South West Queensland – in particular in the Eromanga and Cooper Basins. The fracking process for unconventional gas utilises large volumes of water. Each shale gas well may have up to 16 shafts and each shaft may be fracked up to 20 times with 2 – 4 ML of water used for each fracking (Reference – Shine Lawyers – personal communication).

Each time an unconventional gas well is developed, it could potentially use between 640 and 1,280ML of GAB water. The scale of water required to develop the unconventional gas industry in the Eromanga and Cooper Basins will potentially be huge as thousands of wells will be needed to extract the gas of just one deposit.

The BSA submits that the high potential for over-use of water from the GAB through an expansion of the unconventional gas industry in South West Queensland, is an issue that should be addressed through an expansion of the EPBC “water trigger” provisions to include the impacts of unconventional gas (deep gas, tight gas and shale gas) developments.

Another area of concern to the BSA is the protection of the water quality in the GAB. Contamination of the GAB can occur through a number of causes. The construction of unlined bore-holes are a major threat, as is catastrophic well failure during oil and gas production, longer-term well failures linked to corrosion of lined bore-holes, migration of polluted material through faults, or through surface water pollution migrating into aquifers. An oil or gas well failure during critical points of production also has the potential to do permanent, possibly irreversible damage to aquifers in the GAB.

The BSA has noted a report in Qld Country Life (29 October, 2015) on a failed GAB bore in the Quilpie District which had been capped as part of the GABSI Program. The BSA understands that this bore reconstruction was under the nominal supervision of DNR&M and it failed due to alleged substandard bore construction by the driller. The BSA is concerned that either; aging and poorly maintained infrastructure or poor construction of petroleum & gas and water infrastructure into the GAB - has the potential to compromise the water quality of the GAB.

While the Qld Country Life article doesn't canvas the question of whether the sealing of the failed GAB bore (Plugging & Abandonment – (P&A)) was heavily supervised, the BSA expects it probably was. However, this incident begs the question that if the original driller couldn't be trusted to comply with the GAB drilling standards, how easy would it be for a petroleum & gas contractor to "bury his own shortcuts" in the P&A of oil and gas wells. This failed GABSI bore and the subsequent P&A is just as much at risk of creating inter-aquifer connectivity, or worse still aquifer contamination, as are any of the gas wells drilled the CSG Industry or the P&A of their failures. The BSA holds the view that appropriate compliance audits and supervision of drillers needs to be an integral part of the future management of the GAB.

The BSA also understands that the quality of water extracted from the fracking of unconventional gas wells, is very toxic and presents a significant risk to surface and groundwater resources if it is not appropriately constrained and managed. The BSA submits that any new gas developments must have conditions applied to them that protects the water quality of the GAB by requiring that all wells - bores that interact with the GAB, are fully lined with approved casings, and that all wells at the end of their working life are properly rehabilitated by filling with concrete from the bottom up to avoid inter-bed leakage over time. These development conditions must also stipulate that the full disclosure of the chemical composition of all chemicals used in fracking and the composition of fracked waters extracted from Unconventional gas wells that could or will interact with the GAB, is provided to the government and is made available to the public. As, on past performance, the Queensland Government is unlikely to apply these stringent conditions, the BSA contends that the EPBC "water trigger" provisions MUST be retained and expanded to include controls to manage these potential impacts.

3.3 Threats to GAB Fed Springs and Ecological Assets.

The BSA notes that in the current GAB Water Resource Plan, **the granting of a water licence to take water in the plan area must be consistent with the provisions to protect the flow of water to springs and baseflows to watercourses.** The BSA strongly supports the implementation of this provision to protect GAB fed spring complexes and significant ecological assets.

However, the BSA does not believe that the current spring protection rules in Queensland's GAB Water Resource Plan provides adequate protection to GAB fed springs. In taking this position, the BSA notes the predicted impacts of petroleum operations on the GAB springs vents and springs complexes in the Surat CMA – reference Surat 2012 Underground Water Impact Report (UWIR). The 2012 UWIR outlines that 71 springs complexes comprising of 330 individual springs vents have been identified in the Surat CMA. There are also 43 "watercourse springs" contributing to the baseflows of watercourses in the CMA. The predicted maximum impacts in the source aquifers of these springs is 1.3m with 5 spring sites predicted to be impacted > 0.2m in the long term. The BSA notes that petroleum tenure holders are required to assess mitigation options at these 5 sites and report these outcomes to the Queensland Government. The BSA is yet to see any reports on the petroleum tenures holder's compliance with these mitigation measures.

Furthermore, the BSA notes that the Surat UWIR is silent on the potential impacts of mining operations on GAB fed springs. In this regard, the BSA notes the recently approved Adani Mine in the Galilee Basin is predicted to have significant impacts on the local GAB springs and the baseflow of the Carmichael River.

The Doongmabulla and Mellaluka Springs complexes are predicted to experience significant drawdowns with the entire complexes, ceasing to flow and drying up. These springs support a large range of flora and fauna, some listed as threatened and vulnerable under EPBC & Nature

Conservation Acts. They also have the highest conservation ranking under the GAB Springs National Recovery Plan. Another predicted outcome of the Adani Mine is the GAB fed baseflows in the Carmichael River are expected to reduce by 1000 cumecs/day – a 33% reduction of predevelopment flows.

The BSA have not been able to ascertain what potential impacts the Wandoan, Cameby Downs, Wilkie Creek or Kogan Creek coal mines might have on the GAB springs complexes in the Surat CMA. The EISs/SEISs for these mines are silent on these potential impacts and the BSA contends that they need to be established and considered in any further expansion of the CSG industry in the Surat CMA.

The predicted GAB spring impacts of the Adani Mine are quite alarming and will have a significant effect on the local ecology and ecological health of that part of the Galilee Basin. While the BSA understands that Adani will be required to do more work to identify all of the water sources for these springs, and will also be required to implement a monitoring and reporting program on the Carmichael River riparian impacts, the issue still remains that the mine has received approval to proceed without full knowledge of or strategies in place to manage its impacts on GAB fed springs and assets of National cultural and ecological significance.

The BSA are aware that the Commonwealth's Independent Expert Scientific Committee (IESC) has reviewed the documentation associated with the proposed Galilee Basin coal mines and provided advice on gaps in knowledge and discrepancies in the interpretation of available information being considered by the Queensland Coordinator General and the Federal Minister for the Environment. In some cases the IESC's advice formed the basis for conditions to be applied to the conditional approval of environmental authorities and in other cases the IESC's advice was either discounted or ignored – particularly by the Queensland Government.

The BSA contends that best available scientific knowledge MUST be used in making decisions that potentially impact on the long term sustainability of Australia's water resources. The BSA also supports the principles of Ecologically Sustainable Development (ESD) and the application of the "precautionary principle" where there is scientific uncertainty. Accordingly, the BSA is a strong supporter of the continued functioning of the IESC and even suggests that its powers be enhanced. The BSA believes more weight should be given by the Federal Minister to the advice of the IESC and the IESC should have the statutory capacity to apply binding guidelines and standards – such as enforcing ANZECC water quality guidelines for surface water discharges. There is a clearly demonstrated need for the IESC having statutory powers to set enforceable standards.

While the Queensland Government has stated in the GAB Water Resource Plan that it intends to protect the flows to GAB springs complexes – all indications are that this will not be enforced if the springs get in the way of a State Treasury royalty cheque.

The CSG development in the Surat CMA and the Adani Mine in the Galilee Basin are just two examples of the current policy settings of the Queensland Government and its lack of "real political will" for the protection of significant environmental and cultural assets.

The BSA contends that protection of GAB-fed springs means exactly that and if any springs are compromised by mining or petroleum & gas projects, then the proponent MUST be required to provide for offset arrangements, such as an annual and significant financial contribution to the GABSI Program.

Where listed threatened species are concerned, it is the BSA's view that "offsets fail to protect those species identified under threat from the activity because *like cannot be replaced by like*". Extinction is not a reversible process; activities that lead to it are not only unacceptable but also completely undermine the State's and Australia's environmental protection laws and Australia's commitments under the Convention on Biological Diversity.

Furthermore, the Queensland Government undertook to update the UWIR every 3 years. The BSA understands that the next UWIR, which was due in December 2015, has been prepared and is awaiting release by the Queensland Government – current indications are that this may not occur until March or April 2016.

The BSA understands that the 2015 UWIR has identified a significant increase in the number of landholder bores that are "directly impacted" by CSG operations and the Queensland Government is very reluctant to release information that highlights the adverse impacts of the CSG industry on landholders. This lack of transparency and manipulative behaviour by the Queensland Government is a further reason why the EPBC "water trigger" provisions MUST be retained and expanded. Someone has to keep a level of integrity and honesty in the assessment, monitoring and reporting processes of government.

3.4 Additional Impacts of the CSG Industry.

The BSA would like to highlight some further impacts of the CSG industry's operations in the Surat Basin. These include direct impacts on landholder's access to groundwater for stock and domestic supplies as well as health impacts.

The impacts of CSG operations on the bore yields of landholders bores are yet to be assessed – particularly as the volume of water delivered by a bore is significantly more important to groundwater users, than the standing water levels (SWLs) in their bores. In addition, under Queensland's P&G Act, where a drop in SWL is a trigger for a Make-Good response, a perverse situation has come to light. Landholder's experiences in the Wandoan area with Walloons aquifer bores with increasing gas liberation rates, shows either a static SWL or a rise in SWL, in conjunction with decreasing volumes (bore yields) of water able to be pumped. This change in gas liberation renders conventional windmill driven pumps inoperable, without triggering a Make-Good response. Even in bores equipped with helical rotor pumps, the point is reached where they are unable to operate, rendering the water inaccessible, in spite of the rise in SWL. In the longer term, landholders and communities which depend upon the continuing viability of these primary producers, are concerned at the bore yield impacts of the CSG development in the Surat Basin, as these will potentially extend well beyond the life of the CSG industries and any obligations for the CSG operators to "Make Good" on direct water impacts.

In addition, one landholder has installed a datalogger on a bore into the Huttons aquifer which is already showing some 40 metres of groundwater depression - even though the level of extraction from the Walloons aquifer, which it intersects, has only really just started.

The BSA notes Queensland Government's CSG Net has also installed a datalogger on this landholder bore but it has yet to release the output on-line, except that it has provided the landholder with sufficient data to confirm the above degree of depression. This landholder is ready to proceed with development of a regional model as soon as his technical advisers can access the CSG well bore logs and water production data (including measures of salinity). Unfortunately this information is not forthcoming from either, the Queensland Government or the CSG Companies. Landholders and their technical advisers are being hampered by the refusal of the gas companies to

release the technical information required to make any research into a regional groundwater model meaningful.

Recently, the BSA has become aware that a number of landholder's bores associated with ORIGIN Energy and Arrow Energy tenures in the Hopelands area near Chinchilla, have experienced "blow outs" with unplanned releases of substantial volumes of gas and water. These bores are now non-operational for the landholders impacted and they are facing protracted legal wrangles with the CSG Companies to secure effective "make-good" arrangements under Queensland's Petroleum & Gas Act. The late George Bender was engaged in protracted negotiations with ORIGIN Energy when he took his own life. These are the unspoken impacts of the CSG industry in the Surat Basin CMA.

The BSA notes that there is also strong anecdotal evidence in the Surat Basin CMA on the "health impacts" of CSG operations. There are too many occurrences of entire families suffering debilitating health conditions since the commencement of CSG operations in the Basin for it to be a coincidence. While the BSA understands that "health impacts" does not come within the province of the EPBC "water trigger" provisions – the BSA wishes to highlight that this is an important issue of significant concern to the Condamine Basin communities that needs to be investigated by an independent and technically competent organisation.

3.5 Impacts of Recent Legislative Changes in Queensland:

The BSA has been monitoring the impacts of successive legislative changes by the Queensland Government on the management of the Condamine Basin's water resources.

In late 2014, the then Newman LNP Government passed the Water Reform and Other Legislative Amendments Act 2014 (WROLA Act). Amongst other things, the WROLA Act changed the purpose of Queensland's Water Act, removed any reference to Ecologically Sustainable Development principles in managing Queensland's water resources and also removed the requirement for miners to obtain water licences to take or interfere with water during mine dewatering operations.

The WROLA grants miners "a statutory right to take associated groundwater". Miners can take as much "associated water" as they like. Through these legislative amendments, landholders lost their right to object and appeal to the Land Court to groundwater being extracted from under their land. Fortunately, many of the provisions of the WROLA Act have not been proclaimed and they are currently on hold while the Palaszczuk ALP Government considers what its position is on making further amendments to the WROLA Act.

To counter landholder's anger towards miners being given "a statutory right to take associated groundwater", the Queensland Government also amended the Water Act to include "statutory make good obligations" (MGOs) for those landholders who may be affected by a miner exercising their "statutory right to take associated water". History has shown that existing "make good provisions", that already apply to coal seam gas and some mining operations, are in many cases totally ineffective. Legal and technical arguments over whether a gas well or mine operation has impacted a landholder's water bore, lengthy delays in resolving these disputes and high costs to landholders for securing legal and technical support in fighting the resources sector, have generated a high level of dis-satisfaction over the effectiveness of MGOs. Efforts by stakeholders impacted by ineffective MGOs, to have the Queensland Government undertake legislative amendments to address the current defects of Queensland's MGO framework have been rejected by both the Newman and Palaszczuk Governments.

The use of “statutory make good obligations” to address landholder’ complaints or concerns over the impacts of a CSG or mining operation on the long term health of their water supply aquifers, is not an acceptable strategy for sustainably managing Queensland’s underground water resources. The BSA contends that the EPBC’s “water trigger” provisions MUST be retained and expanded to allow a more independent, complete and transparent assessment of the full impacts of large coal mines and gas developments on the Nation’s water resources.

3.6 Release of GAB Water for Irrigation.

Recently the Queensland Government made available up to 18,200ML of GAB Unallocated water reserve “to support rural industries, communities and jobs in Queensland’s Great Artesian Basin”. The Queensland Minister for Natural Resources & Mines – Minister Lynham stated “the release of unallocated water will provide targeted support to rural and agricultural industries including irrigated stock feed, hay production and sorghum cropping”. Furthermore, he stated - “There is demand for new water to be made available in the Basin and we will deliver on that demand through the *Great Artesian Basin Water Resource Plan 2006*”.

The BSA contends that to encourage GAB water users to tender for additional water for irrigation stock feed, hay production and sorghum cropping, is an unwise policy decision as it is not based on a detailed understanding of the available resource in the context of sustainably managing the GAB. This Ministerial statement has also raised water user’s expectations that there is a huge volume of water available from the GAB for irrigation purposes – this is not the case.

The use of GAB water for irrigation purposes is fraught with risk. Firstly - there is a huge diversity in the quality of GAB water and some of it is so high in salts and minerals that its application for irrigation is likely to result in poor plant growth and a deterioration of the soils used for cropping. Secondly - the high capital cost to tool up for the land preparation, growing and harvesting of irrigated stock feed, hay production and sorghum, demands a large economy of scale - probably greater than 40 ha. With the evaporation rates experienced in Inland Queensland, a 40 ha irrigation block would require some 10 – 12ML/ha of GAB water or 400 – 500ML/year. The BSA submits that irrespective of the drought conditions being faced by primary producers in Inland Queensland, GAB water is far too valuable a resource to be utilised as a source of water for broad scale irrigation of fodder crops, hay production or the growing of sorghum.

Furthermore, the BSA contends that GAB water should only be made available for stock & domestic use for primary producers, for Council’s to supply residential & industrial/commercial water supplies, for cultural purposes and for the resources sector under very strict licensing conditions.

What amounts of water that are made available to water users should be determined through a robust hydrological assessment (and subsequent verification) that determines the sustainable limit of take and then sets the upper limit of sustainable extraction for each of the 25 GAB Management Areas and 95 associated Management Units within those Management Areas. The hydrological model used in such an assessment must have the capability of assessing the cumulative impacts of water extraction at both the macro and micro scales. If the current level of extraction of GAB water has already hit the modelled ceiling of sustainable extraction for a particular Management Area, then further extraction should be capped at that limit. If there is still some capacity for extraction between the current extraction volume and the modelled ceiling volume of sustainable extraction, then this water could be held in a General or State Reserve for that particular Management Area. To prevent inappropriate political decisions such as this, the BSA contends that the EPBC “water trigger” provisions MUST be retained and that State Governments must be required to refer such decisions to the Commonwealth in the National interest.

4. What Changes Need to be Made to the EPBC “Water Trigger”:

It is quite apparent to the BSA that the Queensland Government’s dealings with the CSG Industry in the Surat Basin and the Galilee Basin mine proposals, have exposed ineffective assessment and approval processes for the sustainable management of Queensland’s water resources. It is also apparent that in many cases, the application of the EPBC’s “water trigger” provisions has not resulted in adequate protection for Queensland’s water resources. Apart from retaining the “water trigger” provisions, it is important that they are improved and strengthened.

Suggested areas for improvement include:

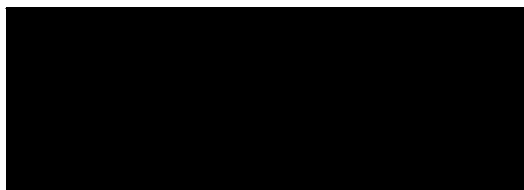
- *There needs to be a greater recognition by policy makers that the robust and consistent management of water resources in geographic Regions such as the Murray/Darling Basin, the Great Artesian Basin, the Lake Eyre Basin and other like geographical areas, needs to be undertaken in the National Interest. The retention of the EPBC “water trigger” with an expanded focus is an appropriate mechanism to deliver this consistent framework of management.*
- *The consideration of the “cumulative impacts” of a CSG (or gas related operation) or a Mine operation on a Region’s groundwater resources, is an essential component of the assessment process of “controlled action” proposals.*
- *There should be clear boundaries and thresholds, such as exclusion zones for important water resources like the GAB and other Nationally significant water resources, as well as mandatory standards for matters like set-backs, monitoring, water quality and access to cultural water.*
- *It is recommended that the IESC or some other appropriate body be tasked with undertaking a review of State and Territory legislation as well as statutory assessment and planning arrangements for the management of CSG & mining impacts on water resources, and whether those measures are fit for purpose.*
- *It is recommended that the EPBC “water trigger” provisions be expanded to include all unconventional gas mining, shale and tight gas, as well as CSG,*

along with any other related fossil fuel developments, such as shale oil and underground coal gasification.

- *There should be more weight given by the Minister to the advice of the IESC and the IESC should have the statutory capacity to apply binding guidelines and standards – such as enforcing ANZECC water quality guidelines for surface water discharges. Unfortunately the IESC advice is often ignored and it shouldn't be. There is a clearly demonstrated need for the IESC having statutory powers to set enforceable standards.*
- *It is essential that the potential water impacts of a CSG (plus all associated gas operations) or a mine operation are dealt with in collaboration with other environmental impact assessments and approvals, are not dealt with separately. This avoids the divide and rule approach of the Resources sector.*

It is also quite apparent that it would be totally inappropriate for the Federal Minister for the Environment to delegate his approval powers to the Queensland Government under the EPBC Act 1999. The potential impacts and associated risks of such action on the future security and sustainability of Queensland's water resources are far too high to contemplate such an action. The Queensland Government has clearly demonstrated that it cannot be trusted to do the right thing by the State's water resources and hence the retention of the Commonwealth's EPBC "checks and balance" is essential.

Signed:

A large black rectangular box redacting the signature of Lee McNicholl.

Lee McNicholl.
Chair – Basin Sustainability Alliance