

17 April 2017

Chief Executive

Attention: GABORA Water Plan Coordinator
Department of Natural Resources and Mines
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Subject: The RAPAD Board's Submission on the Draft Great Artesian Basin & Other Regional Aquifers (GABORA) Water Plan and the Draft GABORA Water Management Protocol.

1.0 What is RAPAD?:

The Central Western Queensland Remote Area Planning and Development Board (RAPAD) is a unified local government organisation owned by and representing the seven local governments of Central Western Qld.

RAPADs governance is through a Board of Directors, representing its member local governments of: Barcaldine Regional Council, Barcoo Shire Council, Blackall-Tambo Regional Council, Boulia Shire Council, Diamantina Shire Council, Longreach Regional Council and Winton Shire Council.

RAPADs vision is:

A united regional organisation proactively shaping and creating a prosperous future for Outback Queensland.

Our mission is:

To plan, facilitate and encourage sustainable growth for the future of the Central West and Outback Queensland

The following RAPAD core focus areas capture the essence of the regional priorities for RAPAD.

- Transport: Desired Regional Outcome - The Central West has affordable and accessible transport and transport infrastructure options for all human and freight needs, now and into the future.
- Services Retention and Expansion – emphasising Health, Education & Training, and Housing: Desired Regional Outcome - That the Central West has sufficient and equitably available services to cater for the present, and to foster future growth and development.
- Technology, Communication and the Digital Economy: Desired Regional Outcome - Metro-comparable communications technology.
- Sustainable Industries: Desired Regional Outcome - The Central West's business community is supported to grow, thrive and adapt, and that the regional economic base is diversified.
- Regional planning & Capacity Building: Desired Regional Outcome - Informed and unified Central Western local governments proactively implementing effective, local and regionally beneficial planning and capacity building processes.

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RAPAD has been in existence since 1992 and we are recognised as a cohesive and collaborative regional organisation of councils, working in partnership with numerous stakeholders including State and Commonwealth Governments.

The RAPAD Board is grateful for the opportunity to comment on the 'Draft' Great Artesian Basin & Other Regional Aquifers (GABORA) Water Plan.

Our submission addresses:

- A general statement on an issue of concern to the RAPAD Board on the management of the GAB, and,
- Comments on specific matters relating to the Draft GABORA Water Plan and the Draft GABORA Water Management Protocol.

2.0 The Key Points of the RAPAD Board's Submission:

The RAPAD Board's Submission addresses a number of matters in relation to the sustainable management of the Great Artesian Basin and other associated aquifers, however the key points of the Board's Submission on the Draft GABORA Water Plan include:

- The RAPAD Board supports the scope of the GABORA Water Plan being expanded to include the Betts Creek Beds and the Winton Mackunda Formation.
- The RAPAD Board seeks clarification from the Queensland Government on how the GABORA Water Plan can 'provide a framework for sustainably managing water and the taking of water in the GABORA plan area' when:
 - the take of water by the resources sector is managed independently of the GABORA Water Plan, and when,
 - the take of water by the CSG and mining industries is not considered in the overall water balance for the GABORA aquifers across the State.
- The RAPAD Board is concerned that a self-regulatory approach to the monitoring of water quality in the GABORA Water Plan increases the risk of chemical and heavy metals contamination or pollution of the water supplies for towns as well as primary producers, stock & domestic supplies in the Central West and surrounding regions. The Board calls for a rigorous and publicly transparent water quality monitoring and reporting program to be an integral part of the new GABORA Water Plan.
- The RAPAD Board expresses its concern at the limited volume of General Reserve unallocated water (2,365ML) that may be potentially available to primary production enterprises – either extensive or intensive in the Central Western Qld region. Given the investment made by landholders into the GABSI program and the water saving achieved from this program, the Board is firmly of the view that there is insufficient water being made available in the General Reserve of unallocated water to meet the needs of primary production. The Board requests the DNR&M to review this volume of General Reserve unallocated water.
- The RAPAD Board holds a strong view that uncontrolled flows from GAB bores do need to be addressed, and an ongoing program to cap the flow of these bores does need to continue. The huge gains achieved by the GABSI

program cannot be allowed to be compromised by the non-completion of the bore capping and piping program of works. While the RAPAD Board is very supportive of the Draft GABORA Water Plan's provisions for imposing a timeline for the capping & piping of the remaining uncontrolled flowing GAB bores to reduce water wastage, the RAPAD Board also notes, with some disappointment, that the Draft GABORA Water Plan does not reflect any additional options to encourage the continuation of the hugely successful GABSI bore capping and piping program in Queensland.

- The RAPAD Board contends that a complete understanding of the volume of water that is extracted from the GABORA aquifers in each water year, is essential for maintaining the GABORA as a secure source of water for future generations. This will require the Queensland Government to adopt a program for measuring the take of all water users accessing water from the GAB including Councils, stock & domestic users, miners and petroleum & gas operators and any other GAB water users. As a minimum, the RAPAD Board contends that the policy setting must mandate that any new GAB bore constructed after a specified date (EG 1 July 2017) has to be fitted with a water measuring device at the time of construction. This should be a mandatory requirement with no exclusions.

3.0 General Statement on the Importance of Protecting the Great Artesian Basin:

The rural townspeople, the commercial businesses and the primary producers who live in the Central Western Qld Queensland greatly depend on water from the GAB for their livelihood. Many of the region's townships, industry within these towns and primary producers are totally dependent on their ability to access GAB water for their domestic, industrial and livestock water supplies. Without access to GAB water, these communities and enterprises would no longer exist or be commercially viable. Hence the RAPAD Board recognise that 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 than it is currently experiencing and this is likely to continue. It is our understanding the Queensland Government has authorised the resources sector to access both sub-artesian water connected to the GAB and GAB artesian water in its search for unconventional gas extraction and the development of new mining projects.

The current regulatory regime of allowing petroleum & mining tenure holders to extract unlimited volumes of 'associated water' as a consequence of their operations is a major concern to the RAPAD Board. While the RAPAD Board is supportive of initiatives that create sustainable employment in our region, this should not be at the potential expense of rural townships, industries and landholders who are dependent on the future sustainability of the Great Artesian Basin for their survival.

4.0 The RAPAD Board's Response to Specific Issues in the Draft GABORA Water Plan:

4.1 Managing the Aquifers in the GABORA Water Plan:

The RAPAD Board notes that the old terminology of Management Areas, Management Units and Aquifers in the current Great Artesian Water Plans (WRP & ROP) has been replaced with the new terminology of Groundwater Units and Groundwater Sub-Areas. While this change in terminology may create some confusion with water users, the RAPAD Board understands that these changes were introduced to allow the Department of Natural Resources & Mines (DNR&M) to manage aquifer systems in totality instead of managing water within a defined geographical area. The RAPAD Board is supportive of this proposed common sense approach of managing aquifers systems in totality instead of adopting artificial geographic boundaries, which bear no relationship to the underground aquifers.

The RAPAD Board notes that the Draft GABORA Water Plan proposes to include the Betts Creek Beds and the Winton Mackunda Formation in the new Water Plan. These aquifers are both within the geographical area of RAPAD's interest and the RAPAD Board supports the position that all aquifers or formations that have a demonstrated connectivity to the GAB must be included in the new Water Plan. The RAPAD Board also takes the view that the prospect of the lower Galilee Basin aquifers which are currently being managed through 4 different WRPs, as being overly complex and highly likely to be totally ineffective. Hence, the RAPAD Board is very supportive of the inclusion of the Betts Creek Beds and the Winton Mackunda Formation in the final GABORA Water Plan.

4.2 Can the Purpose of the GABORA Water Plan be Delivered?:

The RAPAD Board notes that Section 2 of the 'draft' GABORA Water Plan outlines the Purposes of the plan as follows.

The purposes of this plan are:

- (a) to define the availability of water in the plan area, and,
- (b) to provide a framework for sustainably managing water and the taking of water in the plan area, and,
- (c) to identify priorities and mechanisms for dealing with future water requirements, and
- (d) to provide a framework for reversing, if practicable, the degradation of natural ecosystems.

At a number of GABORA Water Plan consultation meetings convened by Department of Natural Resources & Mines (DNR&M) staff, RAPADs understanding is that it was confirmed that the take of water by the resources sector through their statutory underground water rights, was managed independently by the Department of Environment and Heritage Protection (DEHP). This leads to the perverse situation where the take of water by Councils, industry and primary producers is managed by the DNR&M and the take of water by the resources sector is managed by the DEHP. The RAPAD Board is very concerned that two Queensland Government departments have the joint responsibility for managing the water resources of the GABORA Water Plan area, and this may lead to unsustainable outcomes. The RAPAD Board requests that the Queensland Government makes the necessary

administrative changes so that all take of water from the GAB is managed by a single agency.

The RAPAD Board also understands that DNR&M staff have also confirmed at a number of consultation meetings that a volume of take (60,000ML/annum) of groundwater by the CSG industry in the Surat Basin, had been factored into the Water Balance Model developed for that particular geographical area. However, the RAPAD Board also understands that the take of underground water by the resources sector exercising their statutory underground water rights in other parts of the State has not been factored into the future management of the GAB.

The RAPAD Board is concerned at the potential impacts of the current Queensland Government's policy settings where the resources sector have been given statutory underground water rights to access unlimited quantities of associated water from the GAB, while all other users of GAB water (including Councils) are required to comply with the provisions of the current GAB WRP & ROP.

The RAPAD Board notes that Queensland Government is still 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. In December 2014, the Queensland Government released the Cooper Basin Industry Development Strategy. While it is acknowledged that the fracking process for unconventional gas utilises large volumes of water, there are considerable differences of opinion as to how much water is required. Page 10 of the Cooper Basin Strategy outlines that up to 90% of total water consumption in unconventional gas operations, is used for hydraulic well stimulation (fracking). The strategy outlines that a vertical well requires up to 5ML of water, while a horizontal well could require up to 20ML. The Cooper Basin Strategy also outlines that approximately one third of this water, may be retrieved as flowback water and reutilised in further fracking operations. The Newman LNP Government also foreshadowed the development of a Cooper Basin Water Strategy to provide the resources sector with access to water for unconventional gas projects. To date this water strategy hasn't been publicly released.

Advisers to RAPAD state that in the USA where unconventional gas fracking has been undertaken for many years, the Environment America's Research & Policy Centre reports that the average gas well consumes 11.35ML of water for fracking operations. This was an average water use for the fracking of 114,438 gas wells between 2005 & 2015. (Fracking by the Numbers – page 24).

The USA's GasLand Website records that the New York State Department of Environmental Conservation estimates that each gas well will require 9.0 – 29.5ML/fracking. Furthermore each well pad can consist of up to 20 wells, so each well pad could require 190 – 590ML for fracking once.

RAPADs advisers suggest that 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. Estimates from the Australian Council of Learned Academies are that the Cooper Basin could support more than 9,000 unconventional gas wells. This potentially

equates to an estimate of water use for an unconventional gas industry in the Eromanga & Cooper Basin of 36,000 – 180,000 megalitres.

On advice received, it is our understanding that the unconventional gas industry has a preference for horizontal drilling (58% of fracked wells in the USA in 2014), and the water usage in the Eromanga & Cooper Basins could range between 36,000 & 265,500 megalitres, and is more likely to be well in excess of 100,000 megalitres. If this water is sourced from the Great Artesian Basin, and given that the authorised take from the GAB is currently around 300,000ML/annum, the potential increase in take by the unconventional gas industry of the magnitude outlined above, would place extreme pressures on the future sustainability of the GAB.

RAPAD supports social and economic growth and the resources sector, but not at the expense and integrity of the GAB.

It is understood that the proponents of unconventional gas development in Australia currently do not have the technology, with respect to the drilling of horizontal gas wells in the Eromanga & Cooper Basins. This is due to the direction of tectonic movement putting certain stresses on the rocks and the capacity to drill. While this is a fortuitous constraint on the current construction of horizontal unconventional gas wells, RAPAD understands that development work is currently being undertaken to overcome this constraint and it may only be a matter of time before we see well pads with horizontal wells. Given the potential for large extractions of water by the unconventional gas development in the Eromanga & Cooper Basins from the GAB aquifers, the RAPAD Board is extremely concerned at the potential impacts of a take of GAB water in excess of 100,000ML by the unconventional gas industry exercising its statutory underground water rights, on the secure water supplies of towns and primary producers accessing GAB water in the Cooper Basin. The RAPAD Board expects a high level of due diligence will be exercised by the Queensland Government before environmental authorities are issued for unconventional gas development in the Eromanga & Cooper Basins.

The RAPAD Board finds the statutory underground water rights granted to the resources sector to be an intensely inequitable policy position and questions how the Queensland Government can sustainably manage the GAB resource for future generations when it has provided an unlimited take of water from the Basin to both the petroleum & gas and mining sectors?

Accordingly, the RAPAD Board is seeking clarification from the Queensland Government and the DNR&M on how the GABORA Water Plan can provide a framework for sustainably managing water and the taking of water in the plan area, when:

- a) the take of water by the resources sector is managed independently of the GABORA Water Plan, and,
- b) when this take of water by the CSG and mining industries is not considered in the overall water balance for the GABORA aquifers across the State.

The RAPAD Board contends that the Purpose (2 (b)) in the Draft GABORA Water Plan cannot and will not be delivered. Accordingly it recommends that:

- a) All water take out of the GAB (including that taken by the resources sector) is managed by the one Department, or
- b) this GABORA purpose statement is amended to reflect the true situation which is the sustainable management of that GABORA water that DNR&M can exercise statutory control over.

While the RAPAD Board is strongly supportive of the sustainable development of Queensland's natural resources, the Board does not wish to see the long term vision for sustainable communities in Central Western Queensland potentially compromised by decisions to exploit resources for short term gains. The Board believes that the current policy settings for the GAB are not necessarily going to deliver a long-term vision for sustainable communities.

4.3 Are the Desired Outcomes of the GABORA Water Plan Appropriate?:

The RAPAD Board notes that the Daft GABORA Water Plan's desired outcomes include the protection of Groundwater Dependent Ecosystems (GDEs) and existing entitlements, increasing water pressure in the GABORA's aquifers, providing water for future development, the efficient use of water and the facilitation of efficient water markets.

The RAPAD Board notes the desired plan's outcomes of increasing the water pressure in the GABORA's aquifers and the efficient use of GABORA water. The RAPAD Board is strongly supportive of these outcomes. While the capping of uncontrolled GABORA bores is a key strategy in the delivery of both of these outcomes, the RAPAD Board is concerned that the unlimited take of associated groundwater from the GABORA aquifers through petroleum and gas and mining operations exercising their statutory groundwater water rights, has the potential to significantly compromise these outcomes. Further detailed comment on this matter by the RAPAD Board later in this submission.

The RAPAD Board also notes the Plan's desired outcome of providing water for future development and will provide a detailed response to this matter further on in this submission. The RAPAD Board also notes that a desired Plan's outcome is to facilitate efficient water markets and it will provide a detailed response on this matter further on in this submission.

However, of significant concern to the RAPAD Board is the absence (apart from the monitoring of Ph and electrical conductivity) of any mention of the protection of water quality as a GABORA Water Plan outcome. The Board understands that this matter was the subject of a number of Submissions on the 2015 Great Artesian Basin Statement of Proposals. It is a relevant matter in relation to the potential impacts of potential contamination of GABORA aquifers from unconventional gas fracking activities.

RAPAD understands that fracking involves the use of a fracking fluid pumped into the undeveloped gas well at high pressure to stimulate fractures in the rock layer for the release of gas, oil and other fluids. APPEA states that the fracking fluid "is typically more than 99% water and sand plus a very small amount of chemicals" to reduce friction, remove bacteria, dissolve some minerals and enhance the fluid's ability to transport sand.

The Australian National Toxics Network (NTN) Submission on Unconventional gas exploration and production outlines that there are many volatile compounds released into the air and water as an outcome of unconventional gas exploration and production. Some are a product of fracking and some are naturally occurring chemical substances released from coal seams or shale rock. Source – page 4, NTN Submission.

Contamination risks from fracking ‘flowback’ water can be attributed to the following activities:

- Leakage between aquifers from well failure or flow through natural faults along the aquifers,
- Failure of surface water waste pits,
- Inappropriate use of ‘flowback’ water for dust suppression, or
- Human error in the disposal of contaminated ‘flow back’ water.

What chemicals are used in fracking fluid in Australia? RAPADs concerns are that APPEA (the Petroleum & Gas Industry’s Peak Body) may not release details that of the chemicals used in fracking in Australia. Our advisers suggest that some companies do provide a public list of the chemicals and compounds they use for fracking, however the products listed are listed under Halliburton or Schlumberger product codes, and our communities would be none the wiser as to what specific chemicals they contain. Furthermore we would be concerned that the specific chemical composition of most commercial fracking products are protected from disclosure through various trade secret exemptions under State and Commonwealth laws.

The NTN Submission outlines that many chemicals used in hydraulic fracking have not been assessed for their long term environmental and health impacts. It is our understanding that in Australia, only 2 of 23 chemicals identified as commonly used for fracking have been assessed by the National Industrial Chemicals Notification and Assessment Scheme (NICNAS) and neither of these chemicals were assessed for their use in unconventional gas fracking. In spite of APPEA’s claims that the chemicals used in fracking are non-harming, comment in the USA indicates that some of the chemicals used may be carcinogenic. It is our understanding that currently, the Australian regulatory authorities have limited independent scientific or objective knowledge of the long-term impacts of the chemicals used by the unconventional gas industry for fracking, and hence they appear to accept the advice of APPEA.

Advice received by RAPAD is that an analysis of fracking fluids used for shale gas well development in the USA has indicated that there is mix of chemicals used, and in some cases there have been > 1000 chemicals identified in fracking fluids with at least 15% of these chemicals being toxic. Furthermore our advice is, that a 2014 study by scientists at Lawrence Berkley National Laboratory, reported that around 10% of chemicals used in fracking are known to be toxic to humans and/or aquatic life. Within the Barnett Shale Formation in Texas, there are increasing levels of 10 different metals and 19 different chemicals, which are associated with fracking – including benzene, toluene, ethylbenzene and xylene. Increasing concentrations of

arsenic, selenium & strontium have been recorded as a result of the disturbance that fracking causes to underground strata.

Given that the Queensland Government does not have any key performance indicators or requirements for the monitoring of water quality in the existing GAB Water Plans, it is assumed that it would have little knowledge of what was happening to water quality or the impacts of either the conventional or unconventional gas industry on water quality in the GAB aquifers. The RAPAD Board is aware that this matter was raised in submissions on the new GAB WRP, however the RAPAD Board is also disappointed to note that it has not been acknowledged by the Queensland Government or included in the new GABORA Water Plan. The Board holds the view that Councils and communities who rely on water supplies from the GAB have every right to know that their water supplies are being monitored and they are free of harmful chemicals.

RAPAD is concerned that Governments do not have the capacity and or will to undertake compliance monitoring or enforcement operations for resources sector activities in what are some of the remotest parts of Queensland. RAPAD understands there are currently delays in taking compliance action against a resource company to appropriately deal with exploration bore holes in our region. RAPAD does not support the Government allowing resources companies to self-monitor and report on incidents. Too much is at stake with the GAB for this approach.

It is our understanding that DEH&P's Prosecutions Reports between 2011 & 2016 indicates that there were 42 prosecutions undertaken by this Department during this period and of these 42 prosecutions, none were for breaches by oil producers, one (1) was a CSG Company breach for non-compliance with its Environmental Authority and two (2) were for Underground Coal Gasification related activities with contaminated water. While there could be multiple reasons for these numbers our concern is that the data may reinforce a view that compliance is difficult or at worst, inadequate. The RAPAD Board is concerned that a self-regulatory approach to the monitoring of water quality in the GABORA Water Plan increases the risk of chemical and heavy metals contamination or pollution of the water supplies for towns as well as primary producers, stock & domestic supplies in our region and the surrounds. The Board calls for a rigorous and publicly transparent water quality monitoring and reporting program to be an integral part of the new GABORA Water Plan.

4.4 Are the Provisions of Unallocated Water in the GABORA Plan Sufficient?:

The RAPD Board notes that Schedule 4 of the Draft GABORA Water Plan outlines the volumes of General, State & Indigenous reserves of unallocated water that are proposed to be made available in the new Plan. The Draft GABORA Water Plan provides for 35,055ML of additional unallocated water for new development. The Board notes that 28,610ML (80%) of this unallocated water is State Reserve for major projects (presumably for gas, mining & power stations), 5,615ML (16%) is General Reserve water for agriculture and 830ML (4%) is Indigenous Reserve for Indigenous community projects. The Board also notes that some 16,400ML of the State Reserve is in the Winton Mackunda Groundwater Unit.

Within the Groundwater Units/Sub-Areas associated with the RAPAD Board's area of interest - there is 2,365ML of General Reserve, 235ML of Indigenous reserve and 17,900ML of State Reserve unallocated water. Within the General and Indigenous Reserves:

- There is 455ML General reserve and 45ML of Indigenous Reserve is in the Galilee Clematis Groundwater Sub- Area of the Clematis Groundwater Unit.
- There is 1545ML shared between the Cadna-owie and Hooray Groundwater Units.
- There is no unallocated water for the Betts Creek Beds, Eromanga Huttons, Eromanga Wallumbilla Rolling Downs, Springbok Walloons (Adori/Injune Creek) Groundwater Sub –Areas or the Winton Mackunda Groundwater Unit.
- There is 190ML of Indigenous Reserve in the Winton Mackunda Groundwater Unit.

Within the State Reserve in the RAPAD Board's area of interest - there is 1,500ML in the Galilee Clematis Sub-Area and 16,400ML in the Winton Mackunda Groundwater Unit.

The Statement of Intent on the Draft GABORA Water Plan outlines that water has been set aside in those areas where there is a known demand and the aquifer has sufficient capacity to provide for that demand. For aquifers with a high volume of use relative to capacity, the amount of water made available is limited or set to zero. Major demands identified included large scale agriculture, intensive stock (feedlotting), mining and petroleum and gas, and geothermal power. There is also a close link between where unallocated water is proposed to be made available and the water licence relocation rules - for sub-areas or units where water licences are not permitted to be relocated, the same justification also applies to not making unallocated water available.

The RAPAD Board expresses its concern at the limited volume of General Reserve unallocated water (2,365ML) that may be potentially available to primary production enterprises – either extensive or intensive in the Central Western Qld Region. The Board acknowledges a significant need for making unallocated water available in the Central Western Qld Region for new intensive horticultural enterprises (based on greenhouses for example) as well as small landholder & commercial irrigation enterprises which grow fodder for drought mitigation. The Board notes that in excess of \$300mill of taxpayer's and landholder's has already been invested into the GABSI program and that in excess of 200,000ML of water savings/annum have been made from this program. Given these water savings, the Board is disappointed that primary producers in the GAB are not being afforded significant benefits from their past investment in the GABSI Program. Accordingly, the Board is firmly of the view that there is insufficient water being made available in the General Reserve of unallocated water to meet the needs of primary production. The Board requests the DNR&M to review this volume of General Reserve unallocated water.

The RAPAD Board is not supportive of GAB water being made available for large-scale irrigation projects. The use of GAB water for irrigation must utilise water use efficient technology.

The RAPAD Board is aware that the volume of General Reserve unallocated water for the Surat Region between Roma and Toowoomba will be significantly reduced and that this will constrain the development of new agricultural pursuits in this Region. It is RAPADs understanding that landholders in this area are of the view that this huge reduction (from 7,200ML down to 840ML) of unallocated General Reserve water in the Surat Basin is a direct consequence of CSG associated water extractions, the RAPAD Board are concerned that a similar outcome could result with uncontrolled extraction of GAB water by the resource sector in the Central Western Qld Region of Queensland and it requests the Department to clarify this matter.

The RAPAD Board notes with some concern that Section 15(1) of the Draft GABORA Water Plan outlines the grant of General Reserve unallocated water can be for any purpose, which means that the resources sector could potentially access this water for meeting their 'non-associated water' requirements. Section 15(2) of the Draft GABORA Water Plan outlines the grant of State Reserve unallocated water can be for Coordinated Projects, projects of regional significance, Local Government water supplies or electricity generation. The Board is of the view that the resources sector should be required to access their 'non-associated' water requirements from the State Reserve of unallocated water.

The RAPAD Board also notes that Section 16 of the Draft GABORA Water Plan places some restrictions on the grant of General, State and Indigenous Reserves of unallocated water. Specifically, unallocated water may not be granted from the General, State or Indigenous Reserves in a Zone declared under a Water Management Protocol, and as far as practicable, water granted from a State or Indigenous Reserve is to be granted from groundwater units or sub-areas:

- Where General Reserve unallocated water is being made available.
- Where the water is accessed from a deeper source (aquifer) that that being accessed for the General Reserve water.

The GABORA Water Management Protocol allows the Chief Executive of DNR&M to declare a Zone within a Groundwater Unit to protect existing entitlements, other authorities (such as petroleum tenements) and natural ecosystems. The declaration of a Zone and the provisions of Section 16 of the Draft GABORA Water Plan may limit the granting of water licences from unallocated water reserves, dealings water licences to take water, including the relocation of water licences. The Draft GABORA Water Management Protocol outlines the following Zones are proposed:

- Springbok/Walloon Zone.
- Precipice Zone, and
- Hutton Zone.

This means that there may be no unallocated water granted from either the; General, State or Indigenous Reserves, for water users within these Zones. While no Zones are currently proposed for the RAPAD Board's area of interest, and while the Board is supportive of the sustainable management of the GAB's water resources, if the Queensland Government decides to proceed with these Zone provisions, then the RAPAD Board would like to see the GABORA Water Plans contain provisions that prevent the resources sector from accessing General Reserve unallocated water in the new GABORA Water Plan. Furthermore, the Board suggests that any water required by the resources sector for "non-associated water use" should be sourced

from the State Reserve of unallocated water. The RAPAD Board contends these provisions could and should be inserted as an additional part of Section 16 of the final GABORA Water Plan.

The RAPAD Board is concerned that the Chief Executive of DNR&M may introduce a new Zone in the Central Western Region, with limited capacity for stakeholders to have their say and defend their water rights. The Board requests that appropriate checks and balances are inserted in the GABORA Water Management Protocol to protect the rights of existing GAB water users.

The RAPAD Board notes and fully supports the significant volume of State Reserve unallocated water (17,900ML) in the Central Western Qld Region that is included in the Draft GABORA Water Plan. The Board also notes that some of this water is flagged for potential geothermal power generation and is fully supportive of this provision. However, the Board is concerned that there is no specific volume of water set aside for Town Water Supply (TWS) purposes for those Councils who are required to access GAB water for their residential and industrial water supplies. The Board would like to see some of this State Reserve of unallocated water quarantined for TWS purposes.

The Board would also like to see some of this State Reserve of unallocated water being made available for a wider range renewable energy projects.

4.5 Are Provisions in the GABORA Plan for Restoring & Maintaining Groundwater Pressure Sufficient?:

The RAPAD Board notes there are a number of provisions in the Draft GABORA Water Plan to facilitate the restoration and maintenance of water pressure in the GABORA aquifers. In particular, the Board makes comments on the capping and piping of the remaining free flowing GAB bores as well as the installation of water metering to encourage more efficient usage and less wastage of GAB water.

The Board notes that Section 23 of the Draft GABORA Water Plan outlines that controlled bores are either sub-artesian bores or artesian bores fitted with permanent controlling headworks. It also defines a watertight delivery system as a bore that is controlled, water taken from the bore is distributed through a pipeline, tanks and trough network and the bore is maintained. The RAPAD Board is concerned at the specific focus of defining controlled bores and requests clarification from the DNR&M on why the focus cannot also include non-flowing artesian bores. This would allow bores that start to flow again as a result of the GABSI scheme, to be required to be also fitted with permanent controlling headworks.

Sections 25 & 26 of the Draft GABORA Water Plan outline that existing GAB bores must have a watertight delivery system fitted by 1 September, 2027 (10 years from the commencement of the GABORA Water Plan) for stock & domestic take. Existing water licences are to be amended to apply the 10 year timeline for implementation of a watertight delivery system. The RAPAD Board notes that the water licence holder is required to provide advice to the Chief Executive of DNR&M when a watertight delivery system is installed. Some members of RAPAD are concerned at the potential impact of the 'sunset clause' of requiring all GAB bores to be fitted with a watertight delivery system by 1 September, 2027, in particular for those bores/bore

drains that are supplying multiple properties. There is a scenario where the first property being supplied could implement a watertight delivery system by the required timeline (2027) and at the same time cut off supplies to other water users accessing water from the same system. The RAPAD Board believes that some consideration needs to be included in the final GABORA Water Plan to accommodate this situation.

The RAPAD Board also notes there are also a number of new rules for Notices and Actions in regard to bores that no longer have a watertight delivery system. There are also provisions in the Draft GABORA Water Plan for an extension of this timeline for special circumstances, in particular Section 32 allows the Chief Executive to give consideration after 1 September 2022, if the 1 September 2027 timeline is not considered to be reasonable by the impacted bore owner. Sections 41 & 42 allow a water licence holder to apply for an amendment of the condition for the installation of a watertight delivery system. Section 45 allows for 'people to opt out' on the installation of a watertight delivery system.

The RAPAD Board further notes that Sections 46 – 49 of the Draft GABORA Water Plan outline a process for allowing the Chief Executive to grant a Water Licence for a “% of the volume of water saved” by the installation of a watertight delivery system. The Board acknowledges this is a process aimed at encouraging the capping and piping of the remaining uncontrolled GAB bores and is supportive of initiatives that are aimed at finalising the control of the remaining free flowing GAB bores.

The RAPAD Board notes, with some disappointment, that the Draft GABORA Water Plan does not reflect any additional options to encourage the continuation of the hugely successful GABSI bore capping and piping program in Queensland. While the RAPAD Board is very supportive of the Draft GABORA Water Plan's provisions for imposing a timeline for the capping & piping of the remaining uncontrolled flowing GAB bores to reduce water wastage, given the reluctance of some owners of the remaining flowing bores to become involved in the GABSI Program, the Board does have some significant concerns about these bore owners seeking and being granted an exemption by the Chief Executive of DNR&M, to the installation of a watertight delivery system by 2027.

The RAPAD Board holds a strong view that uncontrolled flows from GAB bores do need to be addressed, and an ongoing program to cap the flow of these bores does need to continue, however the key question is what additional mechanism/s is the Queensland and Commonwealth Government going to adopt to ensure the bore capping and piping program is continued and finalised by 2027? The huge gains achieved by the GABSI program cannot be allowed to be compromised by the non-completion of the bore capping and piping program of works.

The RAPAD Board notes that Section 8 of the Draft Water Management Protocol for the Draft GABORA Water Plan, outlines that it will be a requirement to install a water meter to measure water taken under a water entitlement for those metered entitlements listed in the Water Regulation 2016. A review of the Water Regulation 2016 (Schedule 11) indicates that there are no Water Management Areas or Groundwater Units in the Central Western Qld Region listed for metering.

The RAPAD Board contends that a complete understanding of the volume of water that is extracted from the GABORA aquifers in each water year, is essential for maintaining the GABORA as a secure source of water for future generations. This will require the Queensland Government to adopt a program for measuring the take of all water users accessing water from the GAB, and this includes Councils, stock & domestic users, miners and petroleum & gas operators and any other GAB water users. While miners & CSG producers are now required to provide water production data to the Queensland Government, this presents an incomplete picture of water use from the GAB. As a minimum, the RAPAD Board contends that the policy setting must mandate that any new GAB bore constructed after a specified date (say 1 July 2017), has to be fitted with a water measuring device at the time of construction, and this should be a mandatory requirement with no exclusions.

If you require further information please contact me, the undersigned, on 46525600.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'D Arnold', written in a cursive style.

David Arnold
CEO