Government of South Australia
Department for Infrastructure and Transport

In reply please quote: 2021/08859
Enquiries to
Telephone

OFFICE OF THE CHIEF EXECUTIVE

50 Flinders Street
Adelaide SA 5000

GPO Box 1533
Adelaide SA 5001

ABN 92 366 288 135

Mr Ben Bruce
A/Chief Executive
Department for Environment and Water
Ben.Bruce@sa.gov.au

Dear Mr Bruce

DRAFT WATER SECURITY STATEMENT 2021

I write in response to your recent email inviting State Water Policy Forum members to review and provide feedback on the *Draft Water Security Statement 2021.*

We have reviewed the draft Water Security Statement and the proposed actions against our business activities and commitments as part of the Government Climate Change Action Plan 2021 2025, and can confirm that I support it.

The attached table includes comments highlighting projects and initiatives which align with specific actions, and additional opportunities for consideration. Most relate to Action 8, towards developing an Urban Water Directions Statement.

If you wish to clarify items raised in the table further, please contact Matthew Waltho on 7109 7501 or Martin Fidge on 8343 2292.

I look forward to receiving the final statement in due course.

Yours sincerely,

[redacted]

Tony Braxton-Smith
Chief Executive

21 May 2021

cc. Ashley.Kingsborough@sa.gov.au

Draft Water Security Statement 2021 – DIT Review Comments	
Page Number/ Reference	**DIT Comments**
Page 32, State Growth Fund – Water and Infrastructure Corridors	• DIT support and are progressing Stage 2 of this project.
Page 46, Proposed action 5 SA Water's investment in remote communities	• Water security is important for many of the Department for Infrastructure and Transport's (the Department) activities, particularly unsealed road maintenance. Frequent access to water reduces the cost of maintenance activities. There are potential synergies across Government with remote community water supply investigations where water is found and is unfit for potable supplies, but suitable for road building. The Department request that SA Water liaise with Mark Elms, Manager Delivery Zone 3 and 4, on 8343 2421, before any wells are backfilled.
Page 46, Proposed action 8 - Develop an Urban Water Directions Statement	• The Urban Water Directions Statement could assess and identify whether current measures, such as WSUD and rainwater tank policy, provide optimal outcomes for urban water sources or whether additional measures including through the Planning and Design code are desirable. It could also explore what other mechanisms should be considered e.g. an offset fund. These would be consistent with action 5.10 (Increase implementation of green infrastructure through capacity building and incentives) in the SA Government Climate Change Action Plan which the Department and other agencies have committed to, including consideration of opportunities to implement WSUD and green corridors on government land. • The Department's Master Specification *Part PC-ST2 'Sustainability in Construction'* requires investigation of alternative water sources for construction and irrigation, however the barrier is the availability of recycled water in proximity to the projects. It is suggested a commitment to expand the recycled water network be included as an action in the Urban Water Directions Statement. Note: Minimum requirements for rainwater capture and reuse on government buildings will be considered in the Climate Smart Government Buildings requirements currently under preparation Note: The department is currently drafting a Green Infrastructure commitment which will establish targets around increasing canopy cover, amenity and liveability, biodiversity and WSUD. This will formalise the department's commitment to achieving the State Government targets in these areas.
Page 46, Proposed action 10	• The Department supports increasing the capacity of the water sector, in particular the engineering consulting industry, to improve the ability to deliver Water Sensitive Urban Design that improve storm water quality outcomes for infrastructure projects and hence improve the yield of downstream storm water reuse schemes.

Other Opportunities	• The Department can place controls on transport of dangerous goods on roads. These controls have been used to improve water security. Examples are around the Blue Lake in Mount Gambier, and Lonsdale Highway adjacent the desalination plant. Road Network Services manage this function and will collaborate with SA Water and DEW should they wish to review current controls to further improve water security.

Government of South Australia
Alinytjara Wilurara Landscape Board

LANDSCAPE SOUTH AUSTRALIA ALINYTJARA WILURARA

Alinytjara Wilurara Landscape Board
Level 9 81-95 Waymouth Street
Adelaide SA 5000
GPO Box 1047
Adelaide SA 5001
Tel 08 8463 4860
aw.landscapeboard@sa.gov.au
landscape.sa.gov.au

21EW0013194

31 May, 2021

The Hon. David Speirs MLC
GPO Box 1047
ADELAIDE SA 5001

Re: Draft Water Security Statement

Dear Minister,

I write to thank you for your correspondence dated 14 May 2021 to the Alinytjara Wilurara Landscape Board (the board) regarding the draft Water Security Statement.

Water management is one of the board's priorities and we appreciate this opportunity to provide feedback on the draft document.

- Water security has been identified as a very high priority in the Alinytjara Wilurara Landscape Plan particularly around the effects of climate change/extreme weather and the potential impact from mining on the water resources.
- It is pleasing to note $7.9 million has been allocated to support water services in Aboriginal communities and specific mention is made about water security for some of the Aboriginal communities of the Alinytjara Wilurara region.
- To support this investment in the communities it is pleasing to see strategic priority number 6 has a continued focus on SA Water's planned investment in remote communities out to 2024.

Remote communities in the Alinytjara Wilurara region and throughout the desert region of South Australia are very dependent on water security, particularly as climate change threatens to increase heat waves in the deserts of South Australia.

If your office would like to provide any further information, or wish to discuss this matter with me, please make contact through the Alinytjara Wilurara Landscape Board's General Manager, Mr Damian Miley on 8463 4807 or via email damian.miley@sa.gov.au

On behalf of the Alinytjara Wilurara Landscape Board, I thank you for this opportunity to provide feedback on a very important matter.

Yours sincerely,

[redacted]

Parry Agius
Chair
Alinytjara Wilurara Landscape Board

Government of South Australia
Department for Trade and Investment

Ref: DTIGC-20214-55812

Mr Ben Bruce
Acting Chief Executive
Department for Environment and Water
81-95 Waymouth Street
ADELAIDE SA 5000

Email: ben.bruce@sa.gov.au

Dear Mr Bruce

Thank you for your email dated 28 April 2021 regarding the Department for Environment and Water's (DEW) revised draft of the Water Security Statement 2021.

The Department for Trade and Investment (DTI) recognises the importance of South Australia's water assets which underpin many of the state's key growth sectors including food, wine and agribusiness, as well as minerals and energy.

I commend DEW on the work it has undertaken to date to engage with stakeholders and develop the draft Statement.

Following DTI's review of the revised draft Statement, I advise DTI has no additional feedback.

I understand Cabinet will review the final version of the Water Security Statement 2021. DTI will brief the Minister for Trade and Investment on the review process in the lead up to the Statement's consideration by Cabinet.

Yours sincerely

Leonie Muldoon
CHIEF EXECUTIVE

02 / 06 / 2021

From:
Sent: Friday, 11 June 2021 11:16 AM
To: DEW:Water
Subject: Re Water Security Strategy feedback

Hi, I have been reading your article on proposed Water Security Strategy for South Australia and wish to raise a few points for consideration.

1. We need to ensure that we are not allocating licences to agri/horticulture production that is unrealistic for the hot and dry climate of South Australia. i.e. not wasting water trying to grow crops that are high water consumption and not able to withstand dry conditions.
2. We need to call a limit on the amount of grape vine plantings we allow. The industry is facing a glut of wine with loss of Chinese markets and there is time to look at how much more wine we need to produce. Is producing better quality more practical than just mass production that drains our water resources. The wine industry needs to look at developing vines that can produce good wine with less water. More R&D needed.
3. We need to rethink building housing developments on the best and most naturally productive farming land. Example Virginia, Two Wells area and Freeling where houses are being built on the most productive land from natural rainfall in the state. As we lose this land our food production is forced further and further out into areas that are then going to require irrigation to be able to produce the same crops.
4. We need to ensure that down stream ecosystems are not being further impacted by the development of large scale horticulture infrastructure. I live on the River Wakefield near Port Wakefield and the ongoing dam construction by viticulture enterprises in the catchment area around the Clare Valley region and beyond is severely impacting river flows with water never reaching the sea at Port Wakefield anymore. This is impacting the local river gums which for centuries have relied on seasonal flows to survive and with no flow of nutrients into the gulf fish breeding is also being affected. Whole ecosystems are being lost due to over harvesting of natural water flows at the head of the system. This is happening not only in my area but in many areas of the state where large scale dams are allowed to be constructed in catchment areas.
5. Ensure that new housing blocks provide enough room for each home to install a rainwater tank. Even if not used for drinking (due to pollution concerns – though this can be overcome with proper filters) then it can be used for garden, lawn or car washing etc. Years ago there was a tax deduction allowed to individuals who installed a rainwater tank. Let the PAYG employees who own a home claim a one off deduction if they can produce a receipt for the tank in the year they purchased it and also any costs associated with connecting it by pump to the house or a dedicated external tap. At present all the runoff from rooves of houses in these dense estates goes into the stormwater which creates issues in itself and is wasted. We should have larger house blocks (at a reasonable price) so that green space can be developed for each home. Time to stop greedy developers from trying to maximise their income by producing smaller and smaller blocks of land. Larger house blocks would also allow for areas for children to play, pets to roam and help reduce the social impact of kids roaming the streets and the need for dog exercising parks. Home owners would benefit from the physical activity of mowing grass and gardening as well. Health improvements for all. The cost to the Government in lost tax would be minimal as the tank tax deduction would only be a percentage of the cost. (depending on their tax rate).
   I live in a 300mm or less rainfall area, have over 60,000 litres of rainwater storage and run my whole house on rainwater which is also used on the garden in the lead up to winter. People living in the Thompson Beach (Dublin) area have no reticulated water and rely solely on rainwater. They manage so others in high rainfall areas should be able to.
6. The Federal Government needs to look at developing a reservoir and pipeline system from Queensland and Northern NSW and/or Northern Territory where they have these massive floods so that some of this water can be channeled back to South Australia. If we can cut tunnels through mountains for roads then we can do the same for a pipeline to bring it through the Great Dividing range. The pipeline would only need to go to the Medindee lakes and then the water could flow down the Murray/Darling system and into the River Murray.

Lets be more proactive and think long term as previous governments did with the Snowy Mountain Scheme and the Morgan/Whyalla pipeline system. Most governments these days only think 3 years and there is no long term vision for the future of the Nation and future generations.

Regards,
Wendy Deinum
Port Wakefield

Eyre Peninsula Landscape Board

86 Tasman Terrace
Port Lincoln SA 5606

PO Box 2916
Port Lincoln

Tel 08 8688 3200

ABN 76 642 201 841

ep.landscapeboard@sa.gov.au
www.landscape.sa.gov.au/ep

Ref: 21EW0013343

17th June 2021

Department for Environment & Water
David Speirs MP
Minister for Environment and Water
GPO Box 1047
Adelaide SA 5001

Dear Minister,

RE: Feedback on the Draft Water Security Statement 2021

On behalf of the Eyre Peninsula Natural Resources Management Board, thank you for the opportunity to provide feedback on the on the draft Water Security Statement for South Australia.

Overall we can see that the statement has been well prepared and will provide a renewed focus on water security, contributing to the government's growth agenda, under a changing climate. In reviewing the document there were a few comments that our Board raised, that may be worthy of your consideration.

On Page 42, the document states "*To address water security issues across the Eyre Peninsula and protect the long-term viability of groundwater resources in the Uley Basin, SA Water will construct a 4 GL per year seawater desalination plant*." Consideration should be given to providing a similar comment as above regarding intention of how water security issues will be addressed for the Musgrave Prescribed Water Area. Groundwater levels in this PWA are approaching historic lows (last seen in 2009) and under the new water allocation plan, allocations are likely to be reduced to just 12% for the 2021/22 period, with SA Water planning to access additional unallocated water to secure town water supply for Elliston in the 2021/22 season.

Unless there is significant recharge over this winter, which is looking unlikely, it is probable that there will be zero allocations in 2022/23 for the Musgrave PWA. Given this, and the fact that SA Water are looking to move away from climate dependent water supplies, SA Water have indicated that they will be constructing a pipeline from Polda to Elliston to link it up with the rest of the system. A statement in relation to the condition of this resource and SA Water future plans should be included to provide some certainty for both licensees and communities.

On Page 29, the document indicates Sleaford Bay as the location for the new desalination plant on Eyre Peninsula, however this is no longer the case, and a variety of site options are still being explored by SA Water. For accuracy we suggest that this should be reworded, simply advising that a number of sites are currently being investigated.

As a general comment, in relation to the statements aim of delivering affordable water to SA, we think this contradicts a comment made in the section Water Security Collaboration with Israel (page 3). The statement talks about partnerships and learning from Israel however their pricing reflects the actual cost of water to ensure effective water use. Currently this contradicts the pricing structure of water in SA and the commitment this security statement makes to improving water affordability.

If you would like to discuss any of the comments made in this letter, or need further clarification on any of the points raised please feel free to contact me.

Yours sincerely

[redacted]

MARK WHITFIELD
Presiding Member, Eyre Peninsula Landscape Board

A1870319
ESCOSA17/0151

17 June 2021

Level 1
151 Pirie Street Adelaide
South Australia 5000

GPO Box 2605 Adelaide
South Australia 5001

Telephone (08) 8463 4444
Freecall 1800 633 592

www.escosa.sa.gov.au
escosa@escosa.sa.gov.au

The Hon. David Speirs MP
Minister for Environment and Water
Level 10
81-95 Waymouth Street
ADELAIDE SA 5000

Letter sent via email to: minister.speirs@sa.gov.au

Dear Minister

Draft Water Security Statement 2021

Thank you for your letter of 14 May 2021 regarding the Water Security Statement 2021 and providing the Commission with the opportunity to comment upon it.

Commission officers have recently met with officers of the Department for Environment and Water (**DEW**) to discuss the draft Statement and how the Commission and the Department might work together in the future. I understand that the officer-level discussion covered a number of the issues outlined below.

The Commission supports the objective expressed within the Executive Summary that in the context of South Australian water security:

> *The key challenge now is to build on the state's strong legacy of water investment and reform to grow the South Australian economy in a sustainable way. This Water Security Statement includes ten strategic actions to further enhance water security and meet the state's growth targets, while adapting to a changing climate.*
>
> *Central to this will be a renewed focus on water security planning, as well as on driving innovation and competition in the water sector and water-dependent industries.*
>
> *The state government is proposing to work with stakeholders to develop highly targeted water security strategies for those industries or regions where potential water demands are at risk of exceeding available supplies. These strategies will build on traditional water allocation planning processes and link fit-for-purpose water supplies with existing and emerging water demands to support economic growth. In the first instance, this more targeted approach will be trialled in the Barossa Valley and McLaren Vale, where discussions have begun with stakeholders about pathways for adopting new or augmented supplies to meet emerging demands and address climate risk.*

The Commission also agrees there is benefit in the next review and update of the Water Security Statement coinciding with the consideration of SA Water's draft Regulatory Business Proposal for the 2024-28 regulatory period. It also notes that strategic priorities/actions in the draft Water Security Statement 2021 are characterised as the government's overarching water security priorities for the current four year regulatory period, out to 1 July 2024.

Against this background, the Commission has focused its comments on the role and implications of the economic regulatory framework it administers, that framework's interaction with the water security statement process, and the relevance of regional water pricing for driving competition, innovation and managing climate risk. The Commission does not provide comment on the derived water supply-demand balances within the document, nor on the detail of the ten strategic priorities, which, in the Commission's view, represent reasonable actions in the context of water security.

The interaction of the Commission's regulatory regime and water security

The outcomes of the water security statement strategic priorities and the subsequent practical implementation are of relevance to the economic regulatory regime administered by the Commission. If this results in proposals requiring SA Water to undertake capital expenditure or change its activities, this becomes relevant to the Commission's consideration of SA Water's regulatory business proposals.

For each regulatory period, the Commission defines a maximum allowable revenue that SA Water can earn. This is based upon the lowest long-term sustainable cost of operating the regulatory business for the customers of today and tomorrow. The maximum allowable revenue is based upon an understood set of proposals that includes capital expenditure on well-defined projects, as well as SA Water undertaking particular activities. The process of developing these proposals for both the current regulatory period and the forthcoming one involves the following:

- considerable collaboration across various stakeholder groups
- full project specifications, including specific outputs/outcomes and when they are achieved
- justification as to why the associated costs represent prudent and efficient costs, and
- an understanding of customers' willingness to pay for any given project or activity.

An understanding of these factors allows appropriate cost-benefit assessments to be made regarding the proposals put forward by SA Water. This can be undertaken in a transparent manner that has accounted for the input of interested stakeholder groups. As with any such process, it requires a significant investment in time and knowledge acquisition for all the parties involved. Further, the outcome of this process may result in various proposed projects not being taken forward within a particular regulatory period, or at all. Detailed information on the approach taken by the Commission can be found in the most recent SA Water regulatory determination 2020,[1] or I would be happy to meet with you or your Departmental officers to discuss further.

There are two key points to note in the context of the Water Security Statement 2021 and any subsequent water security statements. These are:

- Any water security statement may suggest the need for capital expenditure or a change in SA Water's activities. These would be subject to the above scrutiny and the possibility of not being included within the maximum allowable revenue cap. The exception to this will be if there is a requirement placed upon SA Water to undertake a specific project or activity, such as by Ministerial Direction under the *Public Corporations Act* or within a Pricing Order under the *Water Industry Act*.

- The maximum allowable revenue for SA Water has already been set for the current regulatory period ending 1 July 2024. So, as the strategic priorities identified in the Water Security Statement

[1] Commission, *SA Water Regulatory Determination 2020*, available at https://www.escosa.sa.gov.au/projects-and-publications/projects/water/sa-water-regulatory-determination-2020.

2021 develop, this may identify projects or activities that are not included within this maximum allowable revenue. While this can be amended, the process undertaken when considering such changes is akin to that described above - with the potential for any specific project identified not meeting the relevant requirements, so being excluded. The exception would be an amendment to the existing Pricing Order, or a Ministerial Direction, requiring a specific project or activity to be undertaken by SA Water.

Overall, this suggests that the existing and subsequent water security statements will be significant inputs into economic regulatory framework. Given this, the Commission considers there is merit in the role of water security being more integrated with the economic regulatory framework. This is because it reduces the potential for unanticipated conflicts between their aims, noting that the water security statement process and Commission's primary objective under the *Essential Services Commission Act 2002* share the same overarching objective: they are both to protect consumers' long-term interests, in terms of the price, quality and reliability of supply.

Given this, the Commission would welcome the opportunity to explore how this integration might be undertaken in practice. The Commission also notes that there may be benefits in water security being considered over a longer-term planning horizon, but with specific goals and objectives identified within each regulatory period and across regulatory periods. This would assist in developing a set of common outcomes over the longer term that are measurable and based upon the lowest sustainable cost concept.

Regional water pricing, competition, innovation and climate risk

The Commission notes that draft priority 9 supports driving innovation and competition in the water industry sector. Going forward, how regional water pricing evolves will have an impact upon the extent to which the objective of regional water security is achieved while encouraging competition, innovation and managing climate risk. In this context the Commission notes the public policy of state-wide pricing currently in place and the benefits arising from this, while also noting certain implications relevant to the aims of the water security statement process.

Of particular relevance in this context are the following two factors:

- Factor 1: Subsidized regional water pricing throughout South Australia.
- Factor 2: Tariff structures where supply and usage (volumetric) charges do not accurately reflect fixed and marginal costs respectively.

In order to meet the public policy position of state-wide pricing across SA Water's network, the South Australian Government is contributing $269.66 million over the four year regulatory period ending 1 July 2024 (as per the Ministerial Direction gazetted on 11 June 2020[2]). This subsidizes regional water prices. Further, while tariff structures across South Australia include both fixed and usage (volumetric) charges, a proportion of the fixed costs associated with supplying water is included within the usage (volumetric) charges. As such, usage (volumetric) charges do not reflect the marginal cost of the supplying water, with the supply charges not reflecting the fixed costs of SA Water's network, either in its entirety or on a locational basis.

The outcome of these two factors is that throughout South Australia, regional water prices need not reflect the actual efficient costs of providing water to each separate region. This can result in weak pricing signals. This can potentially hinder competition, innovation, investment and demand management. It may also result in sub-optimal choices regarding water consumption that do not align with managing climate risk. For example, if water prices within a region are lower than the costs of supplying that region, this might result in over consumption in areas where water is already scarce.

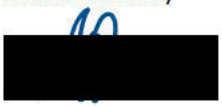
[2] South Australian Government Gazette, 11 June 2020, p. 3380, available at https://governmentgazette.sa.gov.au/sites/default/files/public/documents/gazette/2020/June/2020_050.pdf

Also, state-wide pricing through South Australia may reduce the potential for third party access provision of water supplies. This was identified in the Commission's 2019 review of the third party access regime that applies to the South Australian water industry. [3] Third party access relates to water suppliers, other than SA Water, interconnecting to SA Water's network to supply water to customers. This can provide the opportunity for regional suppliers to create water supply businesses through focusing on the collecting of water resources closer to the customer base in a manner that is more environmentally friendly. It can also promote water trading. However, this opportunity only exists to the extent that such suppliers can provide such a service at a competitive rate to SA Water. The chances of this reduce in the presence of the two factors identified, so the development of such opportunities can be hindered.

Further, the two factors identified might distort the choices between using greywater and drinking water for particular activities, such as agriculture. In particular, it may result in the cost differential between greywater and drinking water being unduly low or completely eroded. In such circumstances this can encourage the use of drinking water, when the use of greywater is more applicable from an economic and climate risk management perspective. The overall outcome being greywater business activity, innovation and investment potentially being hindered.

Should you wish to discuss these matters further, please contact me on 0439 814 257 or via email on adam.wilson@escosa.sa.gov.au.

Yours sincerely



Adam Wilson

Chief Executive Officer

Letter will only be sent electronically

[3] Commission, *2019 Review of Water Third Party Access Regime*, Final Report, May 2019, available at https://www.escosa.sa.gov.au/projects-and-publications/projects/water/2019-review-of-the-water-third-party-access-regime/sa-water-third-party-access-regime-review-2019.

17 June 2021

RNTBC ARABANA ABORIGINAL CORPORATION
ICN 7729
C/- Level 1, 345 King William Street
ADELAIDE SA 5000

BY EMAIL: dewwater@sa.gov.au

Department for Environment and Water
Water Security Policy and Planning
GPO Box 1047
ADELAIDE SA 5001

Dear Sir/Madam

DEW WATER SECURITY STATEMENT

I refer to the draft water security statement and wish to provide the following feedback on behalf of the Arabana People.

I firstly note the intent of upgrading the water resources in Marree and Oodnadatta, two places important to the Arabana People. The need for such an upgrade is plainly obvious and the Arabana Aboriginal Corporation (AAC) welcomes those upgrades. I believe however, there is a far greater problem in that the draft statement contains only a half a page directly to the Far North and I am concerned it does not adequately examine the water usage from the Great Artesian Basin.

In recent months, the AAC on behalf of the Arabana People has been in negotiations with BHP about its water use from the Great Artesian Basin. As part of our research relating to the Basin, we have examined other water usage and the state of the Basin.

It has become apparent to us that the Basin is, and has been over the last 200 years, losing pressure, and this is having a significant impact on the Great Artesian Basin Mound Springs, and in particular the Mound Springs which are within the Arabana area.

These springs are as significant as any of the wetlands that are mentioned in the document and are of particular significance to the Arabana. They contain unique flora and fauna found nowhere else in the world, and despite being largely unpopularized, they are of great significance to the Arabana people, both physically and spiritually and they are in grave danger.

I am particularly concerned about the fact that at page 42 of your draft statement you say that stock use currently uses 9.78 GL per year. The information that we have been given is that the water from the pastoral bores, including free-flowing water, exceeds the amount of the petroleum co-produced water as you identify as 92.2 GL per year.

We appreciate that there has been a long running attempt to repair and restore uncontrolled wells, but we are well aware that many continue to run and there is very little or no enforcement or closure of those wells.

Your comments "*excessive ground water use may have unacceptable impacts on water pressure and levels and affect other users' ability to access the water or reduce natural discharge to sites of cultural or ecological significance*" at page 43 is noted, but it is wrong in the fact that it is not just that it "may" have an unacceptable impact, it is clearly already having an impact that is unacceptable to the Arabana People.

Many people do not currently know of the natural beauty of those springs or of their cultural significance to the Arabana. This however, is no excuse for your lack of attention to one of South Australia's greatest water resources which is being badly abused, not just in South Australia but throughout the entire basin.

I would urge you, on behalf of the Arabana, to reconsider the minimal amount of regulation and commentary you have had on one of South Australia's greatest resources. In my view it seriously undermines the credibility of your report.

For your information, I **attach** several photos of the mound springs to show you some of their natural beauty.

Kind regards,
ARABANA ABORIGINAL CORPORATION RNTBC
Per

BRENDA UNDERWOOD
CHAIRPERSON

Image 1 - Beatrice Springs, Finniss Springs Station

Image 2 - Boopechie Springs, Finniss Springs Station

Image 3 - Hergott Spring, Marree

Image 4 - Now Extinct Spring, near Beatrice Spring, Finniss Springs Station

Water Security Statement 2021
Water for Sustainable Growth[1]
June 2021

Submission from
Professor David Shearman AM MB, ChB, PhD, FRACP, FRCPE. Emeritus Professor of Medicine, University of Adelaide, Co-founder of Doctors for the Environment Australia

About the Author
David Shearman is Emeritus Professor of Medicine at Adelaide University and previously held senior positions at Edinburgh and Yale Universities. He is author of many books relating to climate change, its science, consequences, and democratic and other solutions; he served on the IPCC for two terms on health and scientific sections. He has been President of the Conservation Council of South Australia and with the late Professor Tony McMichael he founded Doctors for the Environment Australia in 2001 and was the Hon Secretary 2001-2017. He is author and co-author of several hundred scientific and medical papers and writes frequently for the media. He was awarded an AM for service to medicine and climate change.

[1] https://yoursay.sa.gov.au/draft-water-security-statement

Preamble

Water for Sustainable Growth is a diligently prepared Statement but one which leaves many needs unanswered if South Australia is to have an environmentally sustainable future. The emphasis is on economic growth and it is noted that “Sustained economic growth can only be realised if the necessary water is available.”

The present submission places emphasis on **human health and environmental sustainability.** It is, in effect, a critique of the Water Security Statement based on its lack of health and sustainability concerns and therefore upon secure foundations of water policy. The author considers he may best serve the state of South Australia in this way.

It is noted that “Building on past success in water management, there is the opportunity for South Australia to further establish itself as a world leader in new water innovation”. However, this aim is irrelevant without environmental sustainability.

Index

Abbreviations used in the text;-

Productivity Commission National Water Reform Draft Report (PCWRR)

Great Artesian Basin Strategic Management Plan (GABSMP)

Water Security Statement 2021 Water for Sustainable Growth (the Statement)

I. Comments about Process

The Statement does not indicate the names and credentials of the author(s). This is clearly of relevance to the standing of the Statement and its future impact.

The “have your say” process fails to give a clear indication of the online publication of submitted material. Publication is essential if scientists, technologists, administrators, and economists are to spend time placing their expertise into the public arena to improve the wellbeing of this state. This contrasts poorly with the Commonwealth procedures which have transparency for such information. For example, let us contrast the Statement with the recent Productivity Commission National Water Reform Draft Report[2] (PCWRR) which has a range of submissions from scientific water experts which will be of enduring value to the nation. Furthermore, the submissions to the PCWRR provide important information to which I will refer in this submission.

II. Sustainability

The state government is responsible for sustainable management of South Australia’s water resources and is committed to ensuring that water availability supports economic growth.

Whether South Australia survives for human habitation by the end of this century can be summed up in one word “water” and this is embraced in the concept of ‘sustainability’, a word not mentioned in the Statement. The word ‘sustainable’ is used several times in relation to economic growth and the management of some individual water sources but overall the Statement engenders a sense of unreality and even denial in relation to awareness of this fundamental issue.

The concept of sustainable development is described by the 1987 Bruntland Commission Report as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The concepts of economic and social sustainability both depend on environmental sustainability.

Environmental sustainability[3] is the responsibility to conserve natural resources and protect global ecosystems to support health and wellbeing, now and in the future. Because so many decisions that impact the environment are not felt immediately, a key element of environmental sustainability is its forward-looking nature. In fact, the U.S. Environmental Protection Agency defines it as “meeting today’s needs without compromising the ability of future generations to meet their needs.”[4]

This issue will be discussed in detail in Section V. Climate Change and Environmental Water.

[2] https://www.pc.gov.au/inquiries/completed/water-reform-2020/draft/water-reform-2020-draft.pdf

[3] https://sphera.com/glossary/what-is-environmental-sustainability/

[4] https://www.epa.gov/report-environment/sustainability-and-roe

III. Aboriginal Rights and Water Security

This issue is discussed first because it is absent from the Statement. The word Aboriginal is included twice, once to indicate the expenditure of $7.9m with no further detail. There are no references to Aboriginal needs on water, and it is not possible to glean information from other online government documents.

This omission will be regarded as breathtaking in a Closing the Gap year. Not only is it relevant to several of the Closing the Gap's aims on health, wellbeing, and cultural identity but it also has an economic relevance in the virtual exclusion of Aboriginal people from water markets.

This omission is in stark contrast to its coverage in the Productivity Commission National Water Reform Draft Report (PCWRR) and the Great Artesian Basin Strategic Management Plan (GABSMP).

In this submission we feel compelled to remind the authors of the Statement that water is a human right for all Australians and yet this right is not being applied to many Aboriginal people. Nor is this recognised in the PCWRR as pointed out in this submission.[5]

The legal opinion expressed by the Environmental Defenders Office in their Submission to the Productivity Commission on the PCWRR 21 August 2020 is[6]

"Objectives" and "Key Elements" of the NWI do not explicitly mention water quality, and more generally that it tends to be separated out from other water planning and land use legislation. However, water quality is often linked to water quantity and/or development (of different stripes) and accordingly ought to be dealt with in a more integrated fashion. Similarly, binding water quality objectives for rivers and aquifers need to be built into jurisdictional legislation. In making this comment, we note that Tasmania, for example, does not have published (or binding) water quality objectives".

*Furthermore, water quality is linked to fundamental human rights (notably the Right to Life) ** and is an element of Sustainable Development Goal 6 (SDG 6). Regrettably, the EDO has many Aboriginal and non-Aboriginal clients across numerous jurisdictions who are unable to routinely access water that is safe to drink or bathe in and who are consequently unable to fully exercise their Right to Life. This is a function of a range of factors, including poor water management (for example ongoing over-extraction, which can increase salinity and the likelihood of algal blooms) and systemic racism (which results in the de-prioritisation of clean water supply to Aboriginal communities*).

***The Right to Life is an established human right and is notably recognised in Article 6 of the International Covenant on Economic, Social and Cultural Rights (which is binding under international law)*

[5] https://www.pc.gov.au/__data/assets/pdf_file/0011/273989/subdr126-water-reform-2020.pdf

[6] https://www.pc.gov.au/__data/assets/pdf_file/0011/255773/sub054-water-reform-2020.pdf

It is therefore necessary to point out that the Statement should include recognition that inadequate availability of water for some Aboriginal communities is a fundamental cause of poor health outcomes, particularly in children and also for a 10 year decrease in life expectancy as pointed out in the Close the Gap Report.[7]

In these communities, a lack of access to clean and secure drinking water has been linked to significant health impacts, including hygiene-related, ear, eye, skin, respiratory infections, and diarrhoeal diseases. Such repeated infections have also been linked with increased risk for long-term diseases including chronic kidney disease, rheumatic heart disease and renal failure.[8]

The eye disease Trachoma, a hygiene/water related disease, is a measure of our failures on the prevention of an infection present only in the world's most undeveloped countries. The picture is made clear by the Fred Hollows Foundation[9] and whilst most cases are in the northern parts of Australia, it is a national issue with Aboriginal peoples moving across state borders and it is one which hallmarks the poor endeavours of Australia over many years. Furthermore, the water sources available to Aboriginal people are frequently contaminated with heavy metals and radioactivity for mining wastes.

There are many other aspects of Aboriginal needs which should be included in the Statement which are relevant to the shamefully wide gap on the provision of water as a determinant of good health. The needs described in many submissions to the PCWRR from Aboriginal groups should be noted in the Statement, for example the impacts described in the words of the Northern Basin Aboriginal Nations (NBAN)[10]:

We have been the Traditional owners of the Basin for over 30,000 years. Whilst our involvement in the management of water is essential for our physical, spiritual, cultural, environmental, social and economic health, our potential to do this has been hindered in recent decades by our relative lack of water license holdings. Nearly 10 percent of the population of the Murray Darling Basin area in NSW are First Nations people; however, our Nations and organisations legally only hold 0.2 percent of the available surface water.

The principles of this statement from New South Wales apply to all states and territories.

IV. Water Quality

This is a further issue of importance as a health issue to all Australians but also to those in remote communities and particularly to Aboriginal people.

[7] https://ctgreport.niaa.gov.au/sites/default/files/pdf/closing-the-gap-report-2020.pdf

[8] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4007027/

[9] https://www.hollows.org/au/what-we-do/indigenous-australia/aboriginal-and-torres-strait-islander-eye-health/trachoma

[10] https://www.pc.gov.au/__data/assets/pdf_file/0010/255655/sub017-water-reform-2020.pdf

In a submission from the National Health and Medical Research Council (NHMRC), to the PCDR the following the following is stated in the covering letter[11]

NHMRC would like to see water quality and human health feature more prominently in a renewed National Water Initiative. While the recommendations in the Draft Report (PCWRR) go some way to addressing this issue, explicit mention of public health as a desired outcome in addition to other public benefits in a renewed National Water Initiative will highlight the importance of this issue.

These thoughts are relevant to the Statement which notes

International standards for water quality and management are also a major driving force in the development of the water industry. Work continues to refine and upgrade regulations and standards to ensure they are based on strong policies underpinned by sound scientific knowledge.

Yes, this is true for urban areas and many regional areas, but it remains a major issue for remote areas and adequate plans for management are not described. In these remote areas there is also concern about contamination from fracking and from mine tailings. The Statement does not detail any sense of urgency and planning for the delivery of clean and safe water to communities.

V. Climate Change and Environmental Water

The Statement notes in the section ”Changes in South Australia’s Climate” the need to recognise climate change as a factor in all water considerations. It is vital that the current projections referred to, detail the scenarios used, for example 1.5., 2.0., or 3 degrees temperature rise before the end of this century,[12,13] for a 3 degree rise is increasingly likely under current international progress on mitigation and related issues.[14] Clearly under a precautionary principle, planning must cover the most severe outcomes.

Page 12 of the Statement states
Increasing demand and climate change will put pressure on the environment and it is important to monitor, plan for and respond to future changes. Water planning will remain important to strike the right balance between utilising water for economic benefit and ensuring the health of our ecosystem.

[11] https://www.pc.gov.au/__data/assets/pdf_file/0010/273988/subdr125-water-reform-2020.pdf

[12] https://52a87f3e-7945-4bb1-abbf-9aa66cd4e93e.filesusr.com/ugd/148cb0_c65caa20ecb342568a99a6b179995027.pdf

[13] https://www.science.org.au/files/userfiles/support/reports-and-plans/2021/risks-australia-three-deg-warmer-world-report.pdf

[14] https://www.reuters.com/business/environment/un-chief-urges-substantial-g7-climate-aid-pledges-2021-05-06/

This needs further explanation of the meaning of the word **balance**, taking into account in the words of the UN World Water report 2020[15] on increasing water security;-

Around one million animal and plant species are facing extinction. Freshwater species have suffered the greatest decline, falling by 84% since 1970. Humans are also affected: around four billion people currently experience severe physical water scarcity for at least one month per year, a situation that has been exacerbated by the climate crisis

Australia is part of this crisis with the ANUs Environment Explorer Report for 2019[16] revealing the worst environmental conditions in many decades, perhaps centuries, and confirms the devastating damage global warming and mismanagement are wreaking on our natural resources.

Without our biodiversity and ecological services there is no economy.

The Statement's page 12 on "Water for the Environment" is supported with reservations on "Water planning will remain important to strike the right balance between utilising water for economic benefit and ensuring the health of our ecosystems." But the word **balance** is again used.

In the interest of environmental sustainability, this needs water resource management based upon a simple understanding of priorities. As the first priority, water must be provided for the basic needs of people, particularly considering the physiological requirement for water in high temperatures. Secondly, water is vital for the sustainability of the biodiversity and ecological services and for some food production. As the third priority, the remaining water is needed for economic activity but will require its own list of priorities based on usage and its economic importance to the nation.

However, the Statement does contrast favourably with the PCWRR which frequently mentions "maintaining a balance" between water users. As climate change bites, the environment and its services need more water to survive. Their necessary share of the total water available will need to increase. The PCWR unfortunately states "the environment will have to adapt to lower water."

It is suggested therefore that the Statement recognises that Environmental water must be prioritised; otherwise, we will reach a tipping point where whole regional environmental systems can collapse.[17]

It is surprising that the National Water Initiative (NWI) fails to provide a statement of understanding on this vital issue.

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[15] https://www.unwater.org/publications/world-water-development-report-2020/

[16] https://wenfo.org/ausenv/#/2020/Environmental_Condition%20Score/Region/Actual/Local_Government%20Areas/bar,options/-28.96/135.00/3/none/Roadmap/Opaque

[17] https://www.nature.com/articles/s41467-020-15029-x

However there seems to be one important exception to the prudent use of water in all states and territories including South Australia. This emanates from the National Water Initiative in 2012 as "Full incorporation of water use by mineral and petroleum industries".[18]

The NWI includes a special provision for mineral and petroleum industries. It states that 'factors specific to resource development projects, such as isolation, relatively short project duration, water quality issues, and obligations to remediate and offset impacts, may require specific management arrangements' that are outside the scope of the agreement.

This provision was intended to provide flexibility, given the nature of mineral and petroleum industries' water extraction requirements, such as the use of saline or hyper-saline water.

This might be termed most politely as a cop out, a provision for plunder of water resources framed in obscure words.

Most jurisdictions have incorporated mineral and petroleum industries into their entitlements and planning frameworks to some extent. In Queensland, however, alternative arrangements remain where resource tenure holders may be granted rights to take 'associated water' (Groundwater taken or interfered with in the course of mining activity), with the amount of water take permitted not determined by water plans and allocations.

In their submission to the PCWRR the National Farmers' Federation noted that the current approach has "two sets of rules" —one for farmers and the other for the resources industry'.

VI. The Murray-Darling River

As indicated in the Statement, South Australia has significant dependence on the river for water supply to Adelaide and regional towns and for irrigated agriculture. South Australia is therefore in significant danger for much current scientific opinion is that the demise of the MDB is now likely due to mismanagement. A fundamental problem has been detailed by Richard Beasley, former senior counsel assisting the Murray-Darling Royal Commission in his book 'Dead in the water: a very angry book about our greatest environmental catastrophe – the death of the Murray Darling Basin' (Allen & Unwin, Feb 2021). Essentially, maladministration by the Authority commenced with a recommendation of 4-7 thousand billion litres of water for environmental needs to sustain the integrity of the river system on the basis of CSIRO modelling for the impacts of climate change. This was reduced to 2.7 and this action was claimed to be by threatening the CSIRO with reduced funding. Over the years the situation has been compounded by further political disruption, state conflicts over water, and frequent state and Federal political decisions such as ad hoc announcement of dams.[19]

[18] https://reneweconomy.com.au/a-fossil-fuel-frenzy-is-drinking-australias-finite-water-resources/

[19] https://www.smh.com.au/environment/sustainability/most-expensive-water-in-history-minister-to-push-ahead-with-new-murray-darling-basin-dams-20210609-p57zgn.html

The current state of the Murray-Darling and its management has been described recently by Margaret Simons.[20]

Essentially the suppression of climate modelling data could be seen to negate much of current policy and the report of the ACCC Murray-Darling Basin water markets inquiry.[21]

The Murray-Darling Basin Agreement defines the rules for how water in the River Murray is shared between New South Wales, Victoria, the Australian Capital Territory and South Australia. It is naïve to believe that decreasing river flows, which are likely to lead to the demise of some River Murray towns and enterprises, can be managed under the current Murray Plan and short-term political decisions, which override science. This must have been in the minds of a previous South Australian government when a desalination capability was established. Consequently, it is essential that a statutory independent Sustainability-type Commission be established to replace current Murray management and South Australian government policy should be working for this outcome.

VII. The Great Artesian Basin

This is also a vital supply for South Australia but best used with care because with 3 or 4 degree climate scenarios it might become the main supply for human use, a case presented in this submission to the PCWRR.[22]

The Great Artesian Basin Strategic Management Plan (GABSMP)[23] states Basin governments and community and industry representatives have agreed to seven guiding principles for managing the Great Artesian Basin to achieve economic, environmental, cultural and social outcomes.

These are

1. coordinated governance
2. a healthy resource
3. Aboriginal and Torres Strait Islander values, cultural heritage and other community values
4. secure and managed access
5. judicious use of groundwater
6. information, knowledge and understanding for management
7. communicate and educate

None of the seven principles directly address human health needs or sustainability.

[20] https://www.thesaturdaypaper.com.au/news/politics/2021/06/12/conciliation-murray-darling/162342000011853

[21] https://www.accc.gov.au/focus-areas/inquiries-finalised/murray-darling-basin-water-markets-inquiry-0

[22] https://www.pc.gov.au/__data/assets/pdf_file/0011/273989/subdr126-water-reform-2020.pdf

[23] https://www.agriculture.gov.au/water/national/great-artesian-basin/strategic-management-plan

However it is noted that “Groundwater in the Basin, although substantial, is finite. In most parts of the Basin, recharge rates have declined over geological time, so the resource is in natural decline.”[24]

This means that, even if humans were not extracting water, the volume of water and water pressure in the Basin would continue falling. As the extraction of water has significantly increased the speed of this decline, the Plan seeks to encourage actions which ensure judicious use of water by all water users.

Section 3 of the GABSMP “Aboriginal and Torres Strait Islander values, cultural heritage and other community values” states

Water from the Basin is crucial to the maintenance of numerous natural and cultural resources and assets that are considered by the community to have high value. Basin water sustains natural biodiversity and ecosystems as well as settings and assets that are recognised as having important local, national and international values.

The Statement has no such message, which leads to the question whether South Australia agrees with Section 3, and if so, why is no reference made to it?

In the Statement section ‘Far North’ on page 42, the questions of usage is dealt with briefly but leaves many questions unanswered, and particularly the following requires clarification.

In nearly all cases, petroleum wells produce a mixture of petroleum and water. This water, mixed with the petroleum, is commonly known as co-produced water and a volume of 29.2 GLper year is currently authorised to be taken from the GAB, with 20.8 GL extracted in 2018-19. A total of 26.2 GLper year is authorised to be taken by the mining industry. This includes water used for product processing and mine dewatering, and includes the water currently authorised for taking by Olympic Dam Mine (15.3 GLper year) under the Roxby Downs (Indenture Ratification) Act 198.

For example, the disposal of coproduced water and water from the expanding industry is a potential source of contamination.

Section 3 of the GABSMP continues

The rights of all authorised users must have a clear, secure statutory basis, and responsibilities must be clearly defined and understood by all water users regardless of access arrangements. Secure and managed access increases the certainty of water supply over the long term, an outcome beneficial to all Basin water users.

Safe and reliable water supplies are critical to people who live and operate businesses in the Basin. Governments, industries, water users and others need to protect and maintain the resource, preserve cultural values and ensure environmental water requirements are understood and met. This means that impacts resulting from water extraction need to be clearly identified,

[24] https://publications.csiro.au/rpr/download?pid=csiro:EP132686&dsid=DS5

accounted for and adequately managed to maintain the health of the resource and the greatest long-term benefits to the community.

Does the South Australian government agree? If so, it is not made clear if the Aboriginal people have secure rights.

In the GABSMP, it is noted in Appendix D that the monitoring wells situated in the northern region are stable with some declining. These cannot be taken to reflect those in other regions further south. However, the case for a declining water resource is evidenced by the decline of the Mound Springs.[25]

The following is evidence given in Supplementary Submission No.73.1 (30th Oct 2020)[26] to the Federal Juukan Caves Inquiry.

I commend the strong heart-felt Arabana Aboriginal Corporation Submission No.92[27] (11 August) to this Inquiry. You must act on the Arabana Chairperson's call for protection of GAB Springs:

> *Unfortunately, our springs are disappearing.... The cause of the disappearance of our springs, is water that is being taken from the Great Artesian Basin by BHP's mine at Roxby Downs.... Unless something is done by the Commonwealth, our springs will disappear... It is unsustainable, destructive of nature, and destructive of our culture to allow the springs to die. Will you please enact laws that ensure our mound springs and culture are recognised, respected and protected?*

This Inquiry must recognise BHP's ongoing threat to the integrity of the Springs. Through excessive BHP operations in extraction of approx. 34-35 million litres of GAB waters a day, regulated under the outdated 1982 Indenture – set to apply out to 2036, and in proposed application in the 2020's of 'rights' under an Indenture Act License from the 1990's to take up to 42 million litres a day.

These matters are in no way lessened by BHP recently abandoning a proposed Olympic Dam mine expansion, announced just after BHP's AGM, and despite the PM's 'fast track' of Approvals to BHP.

Submission No.73[28] has set out evidence[29] of BHP retaining outdated legal privileges since taking over Olympic Dam in 2005 and of unheeded civil society calls[30] for BHP to surrender such anachronisms. It is a travesty that BHP has deliberately retained 1982 era over-rides of

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[25] https://www.theage.com.au/environment/sustainability/south-australia-s-disappearing-springs-raise-questions-for-miner-bhp-20201117-p56f6m.html

[26] https://nuclear.foe.org.au/wp-content/uploads/Noonan-Supp-Sub-JSCNA-BHP-Olympic-Dam-Oct2020.pdf

[27] https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Northern_Australia/CavesatJuukanGorge/Submissions

[28] https://www.aph.gov.au/DocumentStore.ashx?id=618a6907-0fe7-441e-91f2-1268aca34d1b&subId=691112

[29] https://nuclear.foe.org.au/wp-content/uploads/ODM-BHP-legal-privileges-Indenture-Act.pdf

[30] https://nuclear.foe.org.au/wp-content/uploads/2019-Dec-final-submission-joint-ENGOs-BHP-Olympic-Dam-EPBC-Referral-2019-8570.pdf

Aboriginal Heritage across the 12,000 km^2 "Stuart Shelf Area" around the Olympic Dam mine, and retains outdated legal rights to take excessive volumes of GAB waters affecting the integrity and very survival of GAB Springs. These matters affect the rights and interests of a number of Aboriginal groups, including Arabana, Kokatha, Kuyani and Barngarla, and are ongoing issues for SA Native Title Services (SANTS).

This Inquiry should make Findings for action to repeal Clauses of the "Roxby Downs (Indenture Ratification) Act 1982",[31] a dated 'State Agreement', that impose over-rides of Aboriginal Heritage protection and legislation, despite successive State Governments having inexplicably failed to do so.

For this reason, it was recommended in a submission to the PCWRR[32] that in Australia, basin water should be quarantined for human needs and food production. The identification of the appropriate resources, for example the GAB and other Basins, would be by water experts from the IESC and independent scientific organisations such as the AAS.

Quarantining is a formidable task. To take the example of the GAB, its current management is the responsibility of the four jurisdictions acting under their NRM/water legislation. Each jurisdiction has in place some form of management plan which guides extraction of water from the Basin - and which are not observed in many cases. These would probably need to be radically and uniformly revised to limit future extraction to human and food priorities. Unfortunately the resource is owned ultimately by the Crown in the right of each State/Territory and the Commonwealth has no clear constitutional authority to constrain extraction directly.

The reality is that the current work of the GAB Coordinating Committee and the overlying Ministerial Council appears to be in abeyance, as a result of a review of inter-governmental arrangements more generally following the establishment of the new National Cabinet to deal with the COVID crisis. So there is not even a forum at present to discuss any possible collaborative approach to tightening the extractive regime for the GAB. The Coalition government has no interest in any such arrangements – likewise, for the Lake Eyre Basin, and it's Community Advisory Committee.

In summary we are presented with a confluence of threats to water supply ranging from accelerating climate change, deteriorating natural springs and consequential natural vegetation loss; an indenture act which allows huge usage of water till 2036, contamination threats from tailing dams and from gas mining and most importantly political indifference to these threats either because of ignorance or because of the primacy of development.

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31 https://www.legislation.sa.gov.au/LZ/C/A/ROXBY%20DOWNS%20(INDENTURE%20RATIFICATION)%20ACT%201982/CURRENT/1982.52.AUTH.PDF

32 https://www.pc.gov.au/__data/assets/pdf_file/0011/273989/subdr126-water-reform-2020.pdf

VIII. Summary

Comments about process

It is important that the names and credentials of the authors of the Water Security Statement be listed and submissions be published on-line promptly in the interests of transparency of government decisions.

Sustainability

The Statement is focussed on sustainable management of South Australia's water resources to ensure that water availability supports economic growth. It fails to demonstrate an understanding that economic activity depends upon environmental sustainability. In turn this requires greater understanding of the current trajectories of climate change progression and an environmental demise this century.

Aboriginal Rights and Water Security

This issue is discussed first because it is absent from the Statement. The word Aboriginal is included twice, once to indicate the expenditure of $7.9m with no further detail. There are no references to Aboriginal issues on water and it is not possible to glean information from other online government documents. This issue is one of human rights. It is relevant to several of the Closing the Gap's aims on health, wellbeing and cultural identity but it also has an economic relevance to the virtual de facto exclusion of Aboriginal people from water markets in the Murray Darling Basin.

Water Quality

The Statement says, "Work continues to refine and upgrade regulations and standards to ensure they are based on strong policies underpinned by sound scientific knowledge." Yet this remains a major issue for remote areas and adequate plans for management are not described. This is an important human health issue and the Statement should recognise this. It should also recognise the importance of avoiding contamination of water basins likely to be vital to sustainability.

Climate Change and Environmental Water

The Statement fails to grasp the prime importance of environmental water in the range of climate change scenarios and environmental demise occurring in Australia and particularly South Australia. This failure is implicit in the following statement "Increasing demand and climate change will put pressure on the environment and it is important to monitor, plan for and respond to future changes. Water planning will remain important to strike the right balance between utilising water for economic benefit and ensuring the health of our ecosystem." The use of the word "balance" indicates a profound misunderstanding of the scenarios in a drying climate. Planning must prioritise human and environmental water.

The Murray-Darling River

South Australia is significantly dependant on the Murray-Darling for the water supply to Adelaide and regional towns and for irrigated agriculture. The current state of the river is precarious, will

undoubtedly deteriorate further and its current management is inappropriate for its survival. South Australia has recognised its insecurity with the provision of desalination, but the Statement fails to indicate any options for necessary change in future policy.

The Great Artesian Basin

This resource is owned ultimately by the Crown in the right of each State/Territory and the Commonwealth has no clear constitutional authority to constrain extraction directly. Neither the Commonwealth in the GABSMP, nor the state of South Australia in the Statement, recognises the human health and sustainability role of the Basin as Australia, and particularly South Australia, becomes drier.

Currently the NWI has regulations which allow plunder (unlimited take for some resource projects). There is no prioritisation for the use of Basin water and little consideration of Aboriginal cultural health or spiritual needs for water access.

IX. Some Recommendations

1. Consideration of revision of the document to address omissions identified in this submission.

2. Identify authors and publish submissions.

3. Introduce vital and urgent water delivery to Aboriginal people to take account of their health and cultural needs.

4. Institute a full scientific review of the Great Artesian Basin water taking into account current uses and problems; set priorities for future use based upon scientific predictions. For example, taking into account proposals for expansion of the gas industry, seek input from the IESC to provide a comprehensive assessment of the South Australian portion of the Basin.

5. Consider current SA policy on the availability and use of Murray Darling River water with a view to establishing a national independent Statutory Sustainability Commission which would best protect South Australian interests by basing decisions on science.

LANDSCAPE SOUTH AUSTRALIA LIMESTONE COAST

Limestone Coast Landscape Board

11 Helen St
Mount Gambier SA
5290

PO Box 1046
Mount Gambier SA
5290

Tel 08 8735 1204
Fax 08 8735 1135

lc.landscapeboard@sa.gov.au
landscape.sa.gov.au/lc

Thursday 17th June 2021

Dr Ashley Kingsborough
Team Leader, Water Security
Dept. Environment & Water
Email: ashley.kingsborough@sa.gov.au
Cc: LandscapesSA.LCLandscapesBoard@sa.gov.au

Dear Ashley,

Re: Feedback on Water Security Statement

Thank you for the opportunity for the Limestone Coast Landscape Board (LC Landscape Board) to provide feedback on the draft Water Security Statement 2021. As you are well aware, water is a critical issue in the Limestone Coast and the new LC Landscape Board has a keen interest in water security and working in a balanced way in the management of our water resources.

The LC Landscape Board is strongly supportive of a high level strategy around water security to which it can align, and commends the Department for Environment and Water (DEW) on this work. The LC Landscape Board also looks forward to working closely with DEW in this space over the coming years.

Below we have outlined some general and specific feedback, which we would appreciate being considered as the statement is finalised.

General Feedback

Balance

In the recent development of the Regional Landscape Plan, the LC Landscape Board carefully considered how to frame its water priority. Moving forward the LC Landscape Board will have a priority of *Protecting and balancing our region's water resources*. Achieving balance in water resource management is a critical aspect to this priority and a critical challenge. Driving a balanced water agenda, not driven unequally by industry, will not be easy. There are elements of this water security statement where the LC Landscape Board would question whether that balance has been achieved. The environment must underpin sustainable growth, otherwise growth cannot be considered sustainable; often the environment is considered separately. In the section 'Water for the Environment' the environment is not referenced in relation to sustainable growth yet protection of the environment is needed for sustainable growth. The LC Landscape Board would like to better understand how water security is viewed from the perspective of the environment in this statement. While it clearly forms part of the definition of water security, much of the remainder of the statement appears to have an industry and growth agenda, rather than a sustainable growth agenda. This can be interpreted as if the statement is to achieve security for industry and communities with remaining water available for the environment. The practical reality is that water security for different purposes

may ultimately conflict, requiring trade-offs to be considered. However, if a balanced approach is not taken initially this conflict cannot be revealed and tackled.

Water Allocation Planning vs Water Resource Management

Water Allocation Plans play a key role in managing water resources as outlined in the statement. How these plans, which are a traditional tool for managing water resources, intersect with a broader water resource management policy and approaches, is not clear to the LC Landscape Board in this statement. In many places the statement refers to allocations, which is the domain of water allocation plans, and some strategies are very water allocation plan focused. As the Department and more regions start to work in water security, how these new approaches intersect with existing tools may become clearer.

Rural/Regional Water Efficiency

This statement seems to provide sufficient clarity around improving efficiency of water use in urban areas but does not seem to bring the same clarity or focus on rural or regional water efficiency. The LC Landscape Board would view rural or regional water efficiency as just as critical and believes that the best approach to balance our water resource is one where "we're all in this together". Perhaps this area of the statement could be strengthened.

LC Landscape Board Role

The new LC Landscape Board sees itself having a broad role in water security, beyond the discrete and traditional role of water allocation planning. The Water Security Statement seems to place Landscape Boards squarely with water allocation planning and the LC Landscape Board would like to understand how it can broaden the scope of that role. As the statutory body located and actively working in the region, the LC Landscape Board is looking to work beyond water allocation planning to create a secure and sustainable water future.

First Nations Representation

It was disappointing to see that the rights and aspirations of First Nations were not more strongly considered in the context of water security. While First Nations can be included in the definition of water security through the umbrella of people, we believe First Nations rights and aspirations are significantly different than the context of people and community water and are better recognised explicitly. We recognise First Nations may not be in a position to fully communicate what water security means to them but they are a critical part of the discussion.

Groundwater and Surface water

While this is a high level strategy that cannot speak to the peculiarities of each region, the delineation between groundwater and surface water is, and will continue to be, a significant challenge to the management of water resources in the Limestone Coast. The Limestone Coast has very little surface water and predominately surface water is in fact the surface expression of groundwater – yet policy dictates we manage them separately. To achieve water security in the Limestone Coast region this policy must be reconsidered. The LC Landscape Board would support this complexity being acknowledged within the Water Security Statement.

Water Allocation and Use Data

The LC Landscape Board is acutely aware of how political, emotive and contentious water allocation planning is. Therefore, we place a significant importance on how data is presented to prevent inappropriate uses of data in the future. We would strongly recommend the Department reconsider how data is displayed in this statement in relation to the Prescribed Wells Area in the Limestone Coast. The data presented does not align to our understanding of allocation data. We understand

that it may include carryover and we would question whether that is an appropriate methodology and representation of the allocation of the resource. The allocation and use table also appears to show that Forestry do not use any water. Given the challenges that have been met around the inclusion of Forestry into the Lower Limestone Coast Water Allocation Plan, we would question why this would be represented as zero. It is also inconsistent with other parts of the statement where it speaks to usage by Forestry. The LC Landscape Board would appreciate an understanding of the methodology that has produced this data and would welcome the opportunity to discuss more appropriate data for representation in the table.

Specific Feedback:

- Page 34 – Improved Water Security for Farmers in the South East – The box refers to one new area of concern being identified in the 2019 risk assessment. There were 2 new areas of concern identified, the statement refers to MacDonnell but excludes Joanna, which also moved to high risk, though with low confidence.

- Strategic Priorities:

  1) For key water resources or priority growth industries where there is the potential for water demand to exceed available supply, work with stakeholders, including SA Water and local communities to develop highly targeted water security strategies. Consistent with the state's Climate Change Action Plan, these strategies will consider projected future water demand and pathways for the adoption of new or augmented supplies from all viable water sources and the use of new water technologies.

  - The LC Landscape Board would be interested to understand its role in this strategic priority. Are we a stakeholder or a partner? In other priorities we are specifically listed but not in this priority even though it involves working with local communities which landscape boards already work with on water allocation planning.

  2) As part of a new Climate Change Science and Knowledge Plan, improve the understanding of resource managers, water users and communities of the impacts of climate change on water resources and the reliability of water entitlements, to better inform decisions around current and future water use.

  - The LC Landscape Board would be interested to understand its role in this strategic priority.

  3) Building on the Landscape South Australia Act 2019 reforms and the $15 million upgrade to the state's water licensing system, work with Landscape Boards and key stakeholders to ensure water planning processes operate efficiently, meet the information and other requirements of water users and maximise the productive use of available water resources.

  - Strategic priorities such as this do not adequately capture where the environment sits in water security, unless the environment just receives what is surplus to other needs.

  4) In reviewing and updating individual water allocation plans, work proactively with water retailers and other stakeholders to ensure critical human water needs continue to be prioritised appropriately and that water planning processes support the setting of objective water security standards where required.

- The LC Landscape Board would be interested to understand its role in this strategic priority.

1) Develop an Urban Water Directions Statement that sets a state framework for optimising the use of all urban water sources – in a way that supports growth, greening and liveable towns and cities, more efficient and cost effective water use, as well as the release of water for productive use outside of urban areas.

- A similar strategy could be considered for rural or regional water sources.

Thank you once again for the opportunity to provide feedback on the draft Water Security Statement and please do not hesitate to contact me or the LC Landscape Board Water Planning Team for further discussions or feedback on this important Statement.

Yours sincerely,

Penny Schulz

Chair, Limestone Coast Landscape Board

Summerfruit SA

PO Box 881
Renmark SA 5341

Ph: 0409 099 122
Fax: (08) 8586 3205
Email: saffga@riverland.net.au

Dr Ashley Kingsborough
Team Leader, Water Security

Department for Environment and Water

Adelaide SA 5000

ashley.kingsborough@sa.gov.au

18 June 2021

Dear Ashley

Draft Water Security Statement 2021

Thank you for the opportunity to provide comment on the draft Water Security Statement. Water Security is upper most in irrigators minds and is of significant concern. It is therefore appropriate to place a strong focus on ensuring water security for the whole of South Australia (SA); and we commend the Government in addressing this important issue at this time.

It is acknowledged that, since the millennium drought, adoption of the Murray-Darling Basin Plan and updates to SA's 'Water Allocation Plan for the River Murray Prescribed Watercourse' (the WAP) have improved the water security for Class 3 Water Entitlement holders. However, SA irrigators with permanent crops need high water security. Given the increasing MDB wide risks and the inevitable low inflow years from drought and climate change, some issues still need to be addressed to improve river communities water security. This would avoid a repeat of the severe trauma experienced by those communities during the millennium drought.

Summerfruit SA considers the following key issues must be addressed to improve water security for river communities:

1) Improve reliability of SA Murray Water Access Entitlements by reducing the historic gap between the SA Water Access Entitlements on issue and the "Cap", now referred to as the Sustainable Diversion Limit (SDL). SA Murray urban water released from the proposed water security strategies could contribute to this as could strategic water entitlement buybacks. Another strategy to close the gap would be for SA Government to have this outcome in mind during the negotiations between the States on the inevitable MDB Plan timetable delay. Irrigators with Class 3 Water Access Entitlements have returned significant volumes of high reliability water to the environment and no longer have access to that water which in the past provided them with water security. Closing the SDL gap would improve river communities long-term water security.
2) Mitigate the risk of the inevitable low inflow – low allocation years from drought and climate change by establishing a fit-for-purpose private carryover arrangement for Class 3 Water Entitlement holders. Irrigators who conserve and defer water allocation under the current private carryover arrangement have a high risk of permanently losing access to that water. This creates a "use it or lose it" attitude and does not encourage conservation of water allocation for the inevitable low allocation years.

Summerfruit SA

PO Box 881
Renmark SA 5341
Ph: 0409 099 122
Fax: (08) 8586 3205
Email: saffga@riverland.net.au

3) Maintain SA's legally available private carryover storage capacity and ensure adequate water is deferred to keep it at capacity. The volume of SA's private carryover water in storage has reduced in recent years even though it is understood around 30GL of private carryover water has been *legally taken* from the Class 3 Water Entitlement holders who conserved and deferred that water. There is a risk that other states may argue this storage space is not needed by SA if our State does not have a fit-for-purpose private carryover arrangement and is actively managing that private carryover storage.
4) Drive MDB strategies to avoid and/or mitigate the deliverability risk for SA Murray water entitlements.

Good water stewardship is the use of water that is socially and culturally equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that includes both site and catchment-based actions. Summerfruit SA seeks that the test of good water stewardship is applied to the SA Government's water security strategies.

Thank you for the opportunity to provide comment.

Kind Regards

[redacted]

Tim Grieger
Executive Officer

RENMARK IRRIGATION TRUST
Constituted by a Statute of the Parliament of South Australia 1893

ABN: 38 139 833 773

149 Murray Avenue
PO Box 15
RENMARK SA 5341

Dr Ashley Kingsborough
Team Leader, Water Security
Department for Environment and Water
Adelaide SA 5000

ashley.kingsborough@sa.gov.au

16 June 2021

Dear Ashley

Draft Water Security Statement 2021

Renmark Irrigation Trust (the Trust) appreciates the opportunity to provide our views on the draft Water Security Statement as sought by the Minister in his letter to the Trust dated 14 May 2021. Increasing global water scarcity is a challenge, yet it is also an opportunity for South Australia, provided we apply innovative thinking. We believe it is most timely to place a strong focus on ensuring water security for the whole of South Australia (SA).

As for the State, the Trust has a long history of innovation and adaptation in water management that continues to underpin the economic, social and environmental sustainability of the Renmark community. Our irrigators have taken the opportunity to participate in the Murray-Darling Basin Plan reform programs that returned water for the health of the riverine ecosystem. They have adapted to the reduced productive water and use highly efficient water delivery systems for high-value crops. The Trust's good water stewardship has been globally recognised with the Trust receiving platinum certification from the Alliance for Water Stewardship.

The Trust's major water security concern is that inflows to the River Murray are trending lower yet pressures on the system are increasing. Growth in population and industry, including the strategy to increase irrigated agriculture production, all contribute to this increasing pressure. The publication of the economic value of water through the maturing water markets has also increased the utilisation of water entitlement allocations that previously were left to "go down the river" and gave our State water accounting flexibility that could help manage annual usage variations.

When these factors are combined with significant changes to irrigated agriculture in the Murray-Darling Basin, in both land use patterns and the increased proportion of permanent crops to annual plantings, there is definitely an increased water security risk to SA Murray irrigated agriculture.

Within this context, the Trust strongly supports any SA Government strategies that improve SA's water security and contribute to growth without placing further pressure and reliance on the River Murray. For example:

- Water capture and recycling technology and infrastructure in new developments, whether it be industrial or residential.

- Access to recycled urban water for irrigated horticulture, including to the Barossa and Clare.
- Stormwater management that increases the current level of stormwater recapture and supports green streetscapes and green urban spaces. While retrofitting in the urban environment, in both city and regional towns, can be difficult, there would be many benefits including reducing the risk of flooding and waterway pollution whilst increasing water supply.

It is acknowledged that, since the millennium drought, adoption of the Murray-Darling Basin Plan and updates to SA's 'Water Allocation Plan for the River Murray Prescribed Watercourse' (the WAP) have improved the water security for Class 3 Water Entitlement holders. However, SA irrigators with permanent crops need high water security. Given the increasing MDB wide risks and the inevitable low inflow years from drought and climate change, some issues still need to be addressed to improve river communities water security. This would avoid a repeat of the severe trauma experienced by those communities during the millennium drought.

The Trust considers the following key issues must be addressed to improve water security for river communities:

1) Improve reliability of SA Murray Water Access Entitlements by reducing the historic gap between the SA Water Access Entitlements on issue and the "Cap", now referred to as the Sustainable Diversion Limit (SDL). SA Murray urban water released from the proposed water security strategies could contribute to this as could strategic water entitlement buybacks. Another strategy to close the gap would be for SA Government to have this outcome in mind during the negotiations between the States on the inevitable delay in the MDB Plan timetable. Irrigators with Class 3 Water Access Entitlements have returned significant volumes of high reliability water to the environment and no longer have access to that water which in the past provided them with water security. Closing the SDL gap would improve river communities long-term water security.
2) Mitigate the risk of the inevitable low inflow – low allocation years from drought and climate change by establishing a fit-for-purpose private carryover arrangement for Class 3 Water Entitlement holders. Irrigators who conserve and defer water allocation under the current private carryover arrangement have a high risk of permanently losing access to that water. This creates a "use it or lose it" attitude and does not encourage conservation of SA water allocation for the inevitable low allocation years.
3) Maintain SA's legally available private carryover storage capacity and ensure adequate water is deferred to keep it at capacity. The volume of SA's private carryover water in storage has reduced in recent years even though it is understood around 30GL of private carryover water has been *legally taken* from Class 3 Water Entitlement holders who conserved and deferred that water. There is a risk that other states may argue this storage space is not needed by SA if our State does not have a fit-for-purpose private carryover arrangement and is actively managing that private carryover storage.
4) Drive MDB strategies to avoid and/or mitigate the deliverability risk for SA Murray water entitlements.

Comments on specific "South Australian Government strategic priorities for water security" are attached.

Good water stewardship is the use of water that is socially and culturally equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that includes both site and catchment-based actions. The Trust seeks that the test of good water stewardship is applied to the SA Government's water security strategies.

We are available to discuss any aspect of this submission through our General Manager, Rosalie Auricht (08 8586 6911 or 0408 301 916).

Kind Regards

R Humphrey Howie
Presiding Member

Attachment 1 - Trust view and observations on specific "South Australian Government strategic priorities for water security"

Trust view and observations on specific

"South Australian Government strategic priorities for water security "

Water Security Action 2 - …… improve the understanding of resource managers, water users and communities of the impacts of climate change on water resources and the reliability of water entitlements, to better inform decisions around current and future water use.

Climate change is already making south eastern Australia warmer and drier as well demonstrated by the CSIRO. This trend is reflected in lower median inflows to the Murray Darling Basin. The Trust's view it that the SA Government strategy "to improve the understanding" should be extended to adaptation to climate change in SA communities.

Water Security Action 4 - ….. to ensure that water resource management continues to be informed by science, that water resources are managed within sustainable limits and that water allocation plans are updated within timeframes that reflect risks to users and water resources.

Science, including behavioural science, should inform all water allocation plans. It is the Trust view that water allocation plans need to be pro-active and effective in minimising and mitigating risks of water scarcity to users, not just reflect the risks. This is particularly so in the SA Murray water allocation plan, which relies on surface water captured and stored outside of the State. It is acknowledged that, since the millennium drought, updates to that water allocation plan have improved the security for Class 3 Water Entitlement holders, however, more can be done. An example is to include a fit-for-purpose private carry over policy that utilises the SA available private carryover storage. Genuine access to conserved and deferred private carryover water would mitigate the risk of low inflows and thus low annual allocations. This improves the water security for irrigators and further protects the economic activity they create for the State.

It is highlighted that the SA Murray water allocation plan, and the MDB water agreements, automatically adjust to differing levels of water availability.

Water Security Action 7 - Continue to drive full implementation of the Murray-Darling Basin Plan for a healthy River Murray ……

The Trust strongly supports that the SA Government holds firm on the need for full implementation of the Murray-Darling Basin Plan and that in doing so, no further concessions are made that may negatively impact the State's entitlement. SA has delivered and continues to deliver its targets in the Plan in a timely manner. This places SA in a strong position. The best form of water security for all SA Murray communities is for the MDB, our national asset, to be managed sustainably and as was envisaged by the Water Act 2007.

Water Security Action 8 - Develop an Urban Water Directions Statement that sets a state framework for optimising the use of all urban water sources……

The Trust strongly supports the implementation of best practise efficient water management at a wholistic level in all urban and residential areas. This will provide for expected growth and cooling, as temperatures rise, and could also release water for productive use. With respect to the release of any SA Murray water, priority should be given to increasing the reliability of existing Class 3 Water Access Entitlements by addressing the historic SDL gap. This would increase water security for the SA Murray horticultural communities.

From: Kingsborough, Ashley (DEW)
Sent: Friday, 18 June 2021 11:41 AM
To:
Subject: Fwd: Feedback Water Security Statement 2021 [DLM=For-Official-Use-Only]
Attachments: Water Security Statement_Comments_SAAL_Jun2021.pdf

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From: Smith, Aaron (LandscapeSA)
Sent: Friday, June 18, 2021 11:38:56 AM
To:
Cc:
Subject: Feedback Water Security Statement 2021 [DLM=For-Official-Use-Only]

For Official Use Only

Dear Ashley,

The SAAL Landscape Board appreciates the opportunity to provide comment on the Water Security Statement 2021.

Please find attached copy of the Water Security Statement with comments by SAAL Landscape Board water officers contained within. In-general the comments relate to suggested text edits and are not major changes. We have noted numbers or statistics that do not align with those quoted in the Water Allocation Plan for the Far North Prescribed Wells Area. Ideally the documents should be consistent given the reference to WAP's and the documents landing close together. No comments or changes have been made against the Statement's Strategic Priorities which appear reasonable and appropriate.

Please don't hesitate to make contact if you have any questions regarding the comments provided.

Regards

Aaron Smith
Senior Water Resource Officer

South Australian Arid Lands Landscape Board
Railway Station, Stirling Rd Port Augusta SA 5700
PO Box 78 Port Augusta SA 5700
landscape.sa.gov.au/saal/

Government of South Australia
South Australian Arid Lands Landscape Board

LANDSCAPE SOUTH AUSTRALIA SA ARID LANDS

The submission received from the South Australian Arid Lands Landscape Board was tracked changes throughout the entirety of the consultation document. A summation of each comment made is listed below including, where relevant, the page number.

- Not sure if appendix B is referenced in the document
- The definition for water security does not elaborate further on the quality of water - ie water that is fit for purpose
- Page 2 - the word "areas" at the end of the first paragraph under "Why we need to consider water security" should be replaced with "communities".
- Page 4 - Growth in a changing climate should indicate that we are experiencing hotter and drier conditions "and greater variability" as a result of a changing climate.
- Page 4 - in the second to last paragraph, include consultation in development of WAP for all users and stakeholders, ie while government develop the community has a voice, further in the document there is reference to community so need to indicate where community can be involved
- Page 8 - The Diamantina River should be referred to as the Georgina-Diamantina when encompassing QLD or Diamantina-Warburton for SA.
- Page 8 footnote - Could this be based on total volume of licensed allocation rather than metered use?
- Page 9 - Is there any value in mentioning the western side of the basin?
- Page 9 - recommended amendment to wording. "River flows in the Lake Eyre Basin are highly variable; characterised by the "boom and bust" dynamics of arid and semi-arid environments and these variable, largely unregulated flows, are vital for the health and ecology of the system."
- Page 9 - Clarify statement that the water sharing arrangements have been in place for the last 100 years? Include reference to ground water as this is also important to for the system.
- Detail in Figures 3 and 4 are not legible.
- Page 10 - Desalination pop out box - Is it worth nothing that these has been investment in smaller desal within the farming/pastoral sectors in recent years?
- Both AW and SAAL use Section 104(2) of the LSA Act, this is a person must not take water from a watercourse, lake or well that is not prescribed or take surface water from land that is not in a surface water prescribed area in contravention of a WAA control policy. SAAL to address water take from the LEB rivers and other critical water resources where some level of management/monitoring is required. (note mechanism to support discussions with QLD on water management- ie QLD releasing water licences for surface water take from LEB (irrigation inc. cotton). AW - issue with ownership of water, ie prescription gives existing users an ongoing right, therefore mechanism to manage water take with out prescription (how this approach may change in the future)
- Figure 5 - Specific reference to the Far North 50GL figure - It's not clear how this number has been determined in Appendix A. 50 GL is less than the total authorised take quoted in the 2021 WAP (see Table 5.1, pg 41). The WAP has a figure of 64.5 GL for Annual volumes of water authorised for taking from all aquifers in the Far North PWA as at May 2019
- Page 12 - While some of the sites mentioned in this section include a groundwater component it would be useful to have a couple of lines on providing for Groundwater Dependent Ecosystems such as the GAB Mound Springs. Water for GDE's is out-of-sight and therefore often overlooked or not recognised.

- Page 12 - Surface Water focused statement - expressions of ground water also provide important critical refugia and are culturally and socially important (inc amenity, recreational, heritage)
- If "assumed use" has been used for other areas could Far Nth be included in chart below [figure 20] based on total authorised water take?
- Is there consideration of improving stormwater harvesting and management and treatment of water for these towns? [Whyalla, Port Augusta and Port Pirie]
- Page 30 - Port Lincoln - mining/industry improvement in water recycling stormwater management and reuse for the Iron Knob area.
- Page 31 - Glendambo and water quality - comment under self-supplied and subsidy for emergency water carting.
- Page 31 - Supportive of the DEW water security audit and risk assessment for self-supplied remote communities.
- Suggest also improved water quality or water that is fit for purpose. Note the section reads as crop focused maybe include examples for improved water use efficiency for livestock enterprises.
- Page 31, second paragraph under water for energy and mining - dewatered water?
- Page 32 - There may be requirement for water affecting activity permits - does this include water take approvals? AW/SAAL
- Mining approvals may also contain conditions requiring monitoring of not only the groundwater resource but also include surface water or just water resources.
- Suggested to not use the term "fresh" when referring to "Groundwater is the only reliable source of freshwater for central Australia…"
- The WAP for the Far North is no longer being amended and was adopted in February 2021.
- May need to explain the term leasehold
- In the sentence that begins "The GAB Springs" remove the word essentially at the beginning and include social/heritage value at the end of the sentence.
- Provide context of the Coongie Lakes Ramsar as part of the LEB system
- The far north systems, when wet, provide habitat for not only birds but other species including fish, frogs, invertebrates etc and should be listed.
- Include "across the GAB states" at the end of "Historically, water for pastoral use has been through the uncontrolled flow of artesian wells…"
- The sentence between page 42 and 43 reads as though in the far north, consider context by GAB across QLD, NT, NSW.
- Last sentence in the first paragraph on page 43. Start the sentence "In SA the Water Allocation Plan for the Far North…"
- Page 43, paragraph 2 - Start paragraph with context regarding mining and petroleum - what is the percentage of use given the water for stock included percentage.
- The number in this Far North section align reasonably with the WAP. Need to check the co-produce authorised take of 29.2 GL as this appears high. Currently 60 ML/day or 21.9 GL yr authorised plus the Sec 105 (128) authorisation for Beach Petroleum (Aug 2019).
- Please provide a reference and context to the statement that "Tourism is also likely to increase in the region."
- That statement that the improvements in town water supplies…may encourage population growth" is a long bow to draw not sure population growth will be linked to increasing use of secure groundwater supplies, the remoteness is an issue unlike other regional areas, more likely mining and energy ventures will lead to increases in populations, although FIFO DIDO is

common, note that workforce for pastoral stations is decreasing. Water quality is the issue for town water supplies as need to supplement with rainwater or more fit for purpose water

- Water resources must be managed carefully to minimise the impact on the environment not only for GAB springs as not all ground water in the Far North is GAB water.
- The revised three-year forward work plan will be available for consultation by mid-2021 but aren't we currently in mid 2021?
- Please update Far North WAP information as it was adopted in February 2021.

Nature Foundation

18 June 2021

Dr Ashley Kingsborough
Team Leader, Water Security
Department for Environment and Water
GPO Box 572

mailto:ashley.kingsborough@sa.gov.au

Dear Dr Kinsborough,

I write in response to a letter from the Minister for Environment and Water in regard to the draft Water Security Statement.

Nature Foundation is an apolitical not-for profit foundation that invests in conserving, restoring, and protecting South Australian landscapes, flora and fauna to ensure their survival. Together with South Australian communities, we deliver community driven projects to improve the health of River Murray wetlands and floodplains and the landscapes of South Australia more generally. As well as providing habitat for flora and fauna, healthy wetland environments provide better water quality for human consumption, agricultural use and opportunities for recreation and tourism. As such we have a vested interest in the Water Security Statement.

From our initial look at the Statement, it is missing or significantly deficient in regard to water for the environment and its importance in supporting healthy, working landscapes. This is both surface water and groundwater.

The chapter on Priority water-dependent regional industries makes no mention of the importance of water for the environment and how this supports growth in the tourism sector e.g. River Murray and South East, as well as potentially growth in regional population. The socio-economic benefits for communities in this regard cannot be understated and must be considered as a priority.

Well managed water resources also defend against threatening processes, such as salinisation, soil chemistry, degradation of near-shore marine environments and seawater incursion into fresh groundwater resources. A key strategy in this regard is strong and clear limits on diversions and extractions and a review of these upon a base of science-based monitoring of resource conditions and climate change outlook. Each water resource needs to have a minimum entitlement for environmental watering, wetland health and environmental flows. Without this prudent approach, poorly managed water resources can result in loss of productive land, irreparable environmental damage, and rapid deterioration of infrastructure.

The discussion in places regarding a drying environment/climate change also makes no mention of the trade-offs or tensions between water security for people/production and for the environment.

It is imperative that evidence-based decisions are made in the finalisation of the Water Security Plan especially in the context of climate change.

Your consideration of this request would be much appreciated.

Yours sincerely,

Hugo Hopton
Chief Executive Officer

naturefoundation.org.au

Level 2, Payinthi, 128 Prospect Road, Prospect SA 5082 Australia
PO Box 34, Prospect SA 5082 Australia

P. +61 (08) 8340 2880
info@naturefoundation.org.au

Northern and Yorke Landscape Board

Natural Resources Centre

155 Main North Road
CLARE SA 5453

Tel 08 8841 3444

ABN 83 450 552 896

NY.landscapeboard@sa.gov.au
www.landscape.sa.gov.au/ny

18 June 2021

Dr Ashely Kingsborough
Department for Environment and Water
GPO Box 1047
ADELAIDE SA 5001

Dear Dr Kingsborough

I would like to respond on behalf of the Northern and Yorke Landscape Board to the Ministers correspondence dated 14 May 2021 regarding the draft Water Security Statement. The following points have been collated based on comments from N&Y Landscape staff and Barossa WAPAG members.

Key points for t[redacted]and Yorke region:

- SA Water Corporation Act is still current from 1994, is there a need to review and update due to the large increase in imported water use since that time?
- Commonwealth Water Act is from 2007 (MDB Agreement 2008), these relate to SA's share of River Murray water, is there a need to review and update due to the increased demand across the MDB?
- Groundwater use for the state is based on licensed use only, much of NYs use is not licensed
- Annual volumes of water use in NY PWRAs: Adelaide Plains 49GL; Barossa 14GL; Clare Valley 5GL
- $14.7M investment to reform water licensing and trade in SA
- Agreement between State and Commonwealth Governments increased Adelaide's Desalination Plant output to 40GL enabling the Commonwealth to make the same amount of water available to drought affected farmers in the southern MDB, similar projects are currently underway for EP and KI, could the same partnership develop another plant in central SA to increase water security during drought for NY farmers?
- Stormwater Managed Aquifer Recharge programs that include features such as wetlands are increasing in Adelaide, many of the NY Council Stormwater Management Plans include these types of works in the identified options, State Government support for regional Councils for these types of programs would be beneficial for regional water security
- As part of the Adelaide Plains WAP review Managed Aquifer Recharge is being included to allow storage of groundwater for future use
- In Adelaide approx. 1/3 of sewerage is treated and used on green space and for horticultural/viticultural use, these types of projects could be supported in the regions for increased water security
- Port Pirie uses approx. 3.5GL of mains water annually, mostly for industrial and residential use
- State Government's 'Growth State' Plan has identified food, wine and agribusiness as one of the nine key growth sectors

- Barossa has doubled use of imported water for irrigation use over the last decade due to increased irrigation use necessary with higher temperatures and less rainfall
- 14GL of recycled Bolivar water estimated to produce $292M for state's economy and 1000 jobs
- Many 'permanent pools' in the Clare Valley area are currently dry, and it would be unlikely that the Skillogallee Creek would have permanent flow currently
- The Northern Adelaide Irrigation Scheme projects are looking to increase water security to support the $300M the area provides to the state's economy, whilst the review of the Water Allocation Plan that is underway will support the sustainable use of the area's groundwater resources. Expansion of the NAIS to the Barossa would be good for water security, but should be done with care to ensure that water use is prioritised to sustainably supporting existing water needs over expansion of needs.

Comments specific to the strategies:

- Strategy 1 – Barossa Water Security Strategy underway, but is already needed for Clare Valley as per the criteria described in this strategy.
- Strategy 2 – Impacts of climate are already occurring in all areas, need to ensure that WAP reviews are clear about sustainable use levels and build in a high level of annual flexibility for allocations
- Strategy 3 – would be good for Water Licensing to provide the regions with detail about how the upgrades will deliver regional benefits, and for Boards how the water planning levy is being used to enhance these benefits and other deliverables to the regions
- Strategy 4 – there is a need to establish a Science Partnership SLA between NY and DEW with regards to the science support that is to be provided to the region. I am working with DEW Water Planning to ensure that NY WAPs are included in the 3 year work plan
- Strategy 5 – it seemed earlier in the Statement doc that 'Critical Human Needs' were something that SA Water were undertaking outside of the Water Allocation Plan space? So this would seem to be more of a state level issue than regional
- Strategy 6 – SA Water current investments appear to be targeting regions other than NY, it would be good to engage with them to firm up projects for this region, both for use by people for production but also for environment such as flow releases from the reservoirs
- Strategy 7 – this is an opportunity for collaboration with SA Water on providing for cultural water values and flows, especially as they now have an internal team working to achieve their Reconciliation Action Plan. N&Y Aboriginal Partnerships Officer and Planning Officer have started working with SA Water in the Aboriginal engagement space
- Strategy 8 – this is an opportunity to collaborate with Local Government to achieve some of the Stormwater Management Plan outcomes referred to above
- Strategy 9 – no comment until report is provided
- Strategy 10 – this is an opportunity for the State Government to collaborate with the Australian Government to seek international assistance with technology and innovation to increase regional water security.

Appendix A comment:

- It would be useful to include some type of explanation with the table that the difference between 'allocation' and 'use' in most cases is likely to be driven by the current status and availability of the resource relating to climatic conditions, particularly as the included years have mostly had below average rainfall.

Appendix B comments:

- Barossa WAP – corrections, review has been underway 2016-20 and public consultation is likely to start in 2022 following completion of the Water Security Strategy project
- Baroota WAP – corrections, drafting of the WAP is due to commence in 2021 with public consultation likely to start in 2022.

Should you require further details, please contact Jennifer Munro, Planning Officer of the Northern and Yorke region on [redacted].

Thank you for providing the opportunity to comment on the draft Water Security Statement.

Yours sincerely

Caroline Schaefer
Presiding Member
Northern and Yorke Region

Ph +61 (0) 433 877 110
info@aquaterrex.com.au
www.aquaterrex.com.au

Water Security Statement 2021 – Water for Sustainable Growth

Comments by Darryl Bothe from AquaterreX.

AquaterreX is a water supply company that specialises in Deep Seated Water. We find water where others can't, particularly in Arid and Semi-Arid regions.

The Water Security Statement covers the large and important subject of water supply for all South Australians. When the search for sustainable water is combined with the SA Govt 23 billion by 2030 Plan and the Growth State plan, water becomes the key element for the state's survival and in particular, its growth over the next few decades.

As is highlighted in the Draft Plan, South Australia is the driest state on the driest inhabited continent and keeping up with demand for high quality drinking water and fit-for-purpose water for industry has been a challenge since day one. In fact, Port Lincoln was originally slated to be the site for Adelaide by Matthew Flinders and it was eventually passed over in favour of the current site due to the lack of fresh drinking water available at the time.

I commend the vision and commitment of all progressive South Australian governments and statutory bodies over the last 185 years since proclamation for confronting the very real shortage of clean drinking water in South Australia.

My response to the Water Security Statement 2021 Draft Plan is to take up a few points and make comments about what I already know of these areas and how my company can help in the near future.

Why we need to consider water security

Water for growth: Growth State is the South Australian Government's plan for economic growth.

Comment – I agree that water is a critical element in South Australia's growth. As part of the AquaterreX plan for South Australia's future, we will be focussing on areas within the state that have little or no water currently and delivering high quality and high volumes of water discovered using our state-of-the-art digital mapping and algorithm technology and our scientific electronic analyses technologies. The main purpose behind focussing on these areas is to increase economic feasibility for people to live in these areas, to decentralise the production of food, create jobs in remote areas and to create an isolated multi-food-bowl approach to agriculture, viticulture and horticulture throughout South Australia.

The purpose of a multi-food-bowl approach is to isolate each food-bowl sector and reduce the risk of cross contamination should an outbreak of a disease find its way into one or more areas. Diseases or pests can have huge impacts on agricultural industries such as Fruit Fly. Our plan then is to isolate such areas from each other as much as possible and as much as is feasible and economical.

Ph +61 (0) 433 877 110
info@aquaterrex.com.au
www.aquaterrex.com.au

How are water resources managed in South Australia?

Prescribed water resources

"South Australia has a well-developed system for the management of water resources where there is a high demand for water and there is a need to sustainably manage the resource. "

Comment – It might be prudent to consider making the entire state a prescribed water resource area. I see three advantages to this.

1. As the Growth State plan begins to have a positive impact on the State's economy, there will be many opportunities for entrepreneurial minds to take advantage of the water available in Non-Prescribed resource areas. I realise that current the understanding of the availability of the water resources in arid and semi-arid regions shows that there is little or no fresh water available. However, based on the research my company has done and is doing continuously, we believe there is a plentiful supply of water available in these regions. It is therefore, my opinion that we need to monitor all water taken from these areas in order to maintain a sustainable approach. To do otherwise could potentially indicate a lack of understanding of the resource and open the resource to abuse.
2. The second advantage is that by making the entire state a prescribed area, the government could allocate wholesale ground water resource distributors for specific limited areas. These distributors could be private enterprises and would be authorised to trade water similar to other areas of the state that can do this. Thus, not only creating the water resource to consume to contribute to the Growth State plan and the 23 Billion by 2030 Plan, but those private enterprises so authorised could manage those resources privately. Thus, reducing the cost burden for the SA Government to manage and ultimately shifting the cost to manage the resource to the industry consuming the resource. Of course, the private enterprise wholesalers would need to have a watchdog to oversee their operations, but the majority of the responsibility of compliance would be borne by the wholesalers and thus they would inevitably pass on the costs to the consumers.
3. The third advantage is that the costs of managing compliance could easily be passed onto the wholesalers and in addition could very easily be a positive cash flow proposition for the government. What I mean is that the government could charge for the water extracted with profitability in mind when setting prices. Any price paid by the grower will naturally be passed on to the consumer who will inevitably have better affordability due to the increase prosperity of the state through this plan.

Water Markets

Comment – As mentioned above, to make the entire state a prescribed resource area, the SA Government would create a state-wide water market. While the current resource is not fully realised, it would seem counter-productive to spend the money to set up and administer. However, as mentioned above, based on the research that my company has done, there are significant supplies of sustainable groundwater to build this state-wide market around.
An additional advantage is that this model could be duplicated in other states of Australia and form the basis of a national water initiative and could very well form the basis of a model to export the system to other arid countries such as Israel with whom South Ausralia has a close agreement with.

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The prosperity from state-wide water trading itself would increase the SA economy by millions per year. It would encourage research in the private sector and investment into research which will have a major flow-on effect for the consultancy and engineering industries around Australia and particularly South Australia.
With the advent of smart water metres, the market could be monitored quite easily.

Water for the Environment

Comment – As part of the new prescribed wholesale system mentioned above, the SA Government could essentially tax the water extracted and give the taxed water to many local environmental ecosystems. A tax of say 5% of water pumped from the Deep Seated Water well could be drawn off and put back into an environmental system.

Water available to meet urban Adelaide's requirements

Comment – The Prescribed Resource wholesale plan mentioned above would be a further source of water security for the Urban Adelaide area. The concept would be that private enterprise could drill for Deep Seated Water relatively close to supply lines coming into Adelaide such as the Mannum to Adelaide pipeline. They could inject the water extracted to these lines and by doing so, this would act as a further back up to Adelaide's requirements.

Using this system could potentially reduce Adelaide's reliance on the River Murray water and thus either take less from the river or contribute further to the water available for irrigation to growers in that area, and thus, increasing the prosperity of the growers and also contribute to the growth targets set for the state.

Additional sources of water

Comment – Fractured Rock Aquifers are the main source of Deep Seated Water. Deep Seated Water could be an additional source of water for Adelaide and the state as mentioned above.

Regional water security

Regional drinking water

Comment – It would be my objective to reduce the reliance on the River Murray for drinking water across the various regional areas and thus reduce the cost to supply fresh drinking water to these areas. By tapping into the Deep Seated Water closer to those areas, the cost to produce drinking water would significantly reduce, but also concurrently, it would bolster the security of water supplies to regional areas.

Again, by injecting Deep Seated Water into the existing pipelines, the burden of water supply will be spread to a diversified field. This would also give the advantage of being able to repair major pipelines without interrupting the supply to various areas.

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Regional urban centres

Whyalla, Port Augusta and Port Pirie

Comment – Our research has shown really good indicators of plentiful Deep Seated Water just south of Whyalla. We believe that there is enough Deep Seated Water to be a reliable backup supply of water for Whyalla. While we haven't performed the research for Port Augusta or Port Pirie as yet, we have done some preliminary mapping around these areas and there are some very good indicators of supplies of fresh water.

Port Lincoln

Comment – My company has done some preliminary mapping of the area just north of Port Lincoln and around the Todd Reservoir. There and some very good indicators of abundant supplies of fresh water in this area.

I realise there is an approved plan to install a desalination plant into the Port Lincoln area. However, I also understand that the Sleaford Mere area that was originally selected has been deemed unsuitable. Apart from the high cost to run a desalination plant which can be offset by using solar power, there are still high costs of consumables and the additional problem of disposing of the waste. Thus, plants need to be located close to the coast, but there is still an environmental risk when disposing of the highly saline brine and other filtered elements.

I am confident that if a suitable and reliable alternative was presented, then the alternative would be investigated as much as feasible as the preferred option to desalination. I understand that desalination is required under certain circumstances. For example, Deep Seated Water is not always available in an area and desalination is a reliable source. It is predictable and reliable, but the costs to run and the environmental cost is too great in my opinion unless there is no other viable alternative.

Remote communities

"Water is essential to the existence of remote communities. Some remote communities have a high degree of water insecurity, largely due to their remote location and reliance on rainfall (which is often very low and sporadic) for water supply. Water supply is challenging - there is often limited existing infrastructure and new infrastructure costs are particularly high due to the lack of suitable local sources of potable quality."

Comment – Our research so far has been around northern Eyre Peninsula and Mid North SA. In particular, we have a successful project on Buckleboo Station on Eyre Peninsula and have done some preliminary mapping which shows some very good indicators of good volumes of Deep Seated Water in the Terowie, Yunta and Manna Hill areas.

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Priority water-dependent regional industries

Water for primary industries

"Sustainable access to water enables primary industries to make a significant contribution to the state's economy. Primary production is the largest consumptive user of water in the State and the sector supports thousands of small and medium businesses. The largest agricultural water users in South Australia are the horticulture, viticulture, dairy, forestry and livestock sectors. South Australia's food and wine industries are a vital part of the state's economy and there are major opportunities for growth locally, nationally and overseas."

Comment – I agree, there are major opportunities for growth locally, nationally and overseas. In particular, it is my understanding that the area north of Port Lincoln is prime viticulture land, but there is just not enough water available to create a sustainable viticulture industry in the area. I realise there are a few vineyards already, but if there was much more water available, then a whole viticulture industry could be created in the area, and this would boost the local Port Lincoln economy significantly. My company can show where and how to access more water in this area. Our research shows good indicators of water in this area.

Likewise, having a plentiful supply of good quality fit-for-purpose water in the mid north region could potentially allow not only more viticulture, but also allow the creation of a horticulture industry.

The net result of creating these industries in areas not extant is an obvious increase in prosperity in regional areas. The flow-on effect would be quite large and beneficial to the entire state. It would likely be prudent to also locate new industries along existing transport and freight corridors such as the national interstate roads and railway freight lines Sydney to Perth and Adelaide to Darwin.

Water for energy and mining

Comment – I agree, increasing the water availability to the mining and energy sector will help create more jobs and attract large increases in investment into the state.

Regional water security status

Barossa Valley

Comment – An increased flow of Deep Seated Water into the region would be advantageous to the Barossa Valley. A series of Deep Seated Water wells could be drilled along the pipeline and the water could be injected along this line. A network of un-treated water lines could be constructed to bypass the local treatment plants and be sold to growers along this path. Thus, utilising SA Water infrastructure to transport water to other areas and potentially relieving the Murray. If there was a wholesale water sales and distribution system in place as mentioned above, water trading would form the basis of growers buying the water.

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Clare Valley

Comment – Similarly for the Clare Valley, an increase of water availability would grow the industry considerably. After speaking to the CEO of the Clare Valley Grape Growers association, it was clear that the growers in the Clare Valley are already looking for as much water as they can get, and considering that a pipeline from Bolivar treatment works is being touted as an alternative increase in water, placing strategically located Deep Seated Bores outside the current allocated water areas and piped in via SA Water infrastructure would be a feasible alternative.

Kangaroo Island

Comment – While we haven't conducted any preliminary surveys of Kangaroo Island, I believe that there would be some indicators of Deep Seated Water there also. However, without performing the surveys and mapping, I am unable to speculate any further.

However, if there are good indicators, then it would likely be prudent to investigate this option as a priority alternative to building and running a new desalination plant.

Eyre Peninsula

Comment – Likewise for Eyre Peninsula. As mentioned above, we have done some preliminary surveys just north of Port Lincoln and have done some extensive research and projects in the north of Eyre Peninsula and all indicators show a good supply of Deep Seated Water across Eyre Peninsula.

Far North

Comment – Far North of South Australia is arid or semi-arid. As such, I understand that there are limited supplies of water. However, at a recent forum in Coober Pedy, it was discussed to use our Deep Seated Water location technology to locate higher volumes of water for some remote communities as well as many of the Stations in the region. As a result, we are in talks with several entities to use our technology to locate suitable supplies of water for them.

Our technology is great for drier regions, but it has its forte as arid and semi-arid regions. "We find water where others can't." is our main slogan.

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Closing Comments

In closing, I'd like to discuss what Deep Seated Water is and how we access it.

Deep Seated Water

There are generally four sources of good quality drinking or irrigation water. Surface water (Rivers, Lakes, Dams, Rainwater from roofs), shallow groundwater, desalinated water and Deep-Seated Water.

Surface water resources are the main source of our quality drinking water, but these resources are largely committed and, in some regions, have negative growth potential due to the vulnerability to droughts and contamination from rainwater runoff.

Shallow groundwater has been a great source of water for stock and gardens over the many years since Australia was settled and sometimes it's even a source of drinking water for populations but is less common.

Desalination has come a long way as a technology over the last 30 years, and it's a great resource for water supply, but the initial capital costs and overall running costs and waste disposal has been a hurdle that still requires overcoming. With a reported average running cost of between $1 and $4 per kilolitre (1,000 litres), it's expensive, but when viewed against the alternative of no water, the cost is irrelevant.

http://www.awa.asn.au/AWA_MBRR/Publications/Fact_Sheets/Desalination_Fact_Sheet.aspx

However, there is an alternative.

Deep Seated Water (DSW) is a new source of water discovered relatively recently due to the significant research by many Geologists around the world. And with advancements in digital GIS mapping and data availability, particularly in Australia, this water can now be located with an extremely high degree of accuracy.

The graphic below gives a good description of what DSW is and how it manifests independently of the Hydrological Cycle. Deep Seated Water is not dependant on rain to recharge and is isolated from contamination from chemical runoff when it does rain. And of course, Deep Seated Water is not affected by drought.

Broadly, surface water is associated with lakes or streams where each has its own characteristics. Lakes represent reservoirs where the water issues relate to rates of supply and loss through evaporation, seepage, and water quality. With streams, the main issue is the flow rate which is largely determined by the catchment characteristics and rainfall.

Groundwater can be similarly classified to surface water. Underground basins or aquifers are similar to lakes where layers of porous material contain water that can be extracted by pumping. Drilling records provide information on the depth, extent and water quality of such aquifers so that the key development issue is the sustainable rate of extraction.

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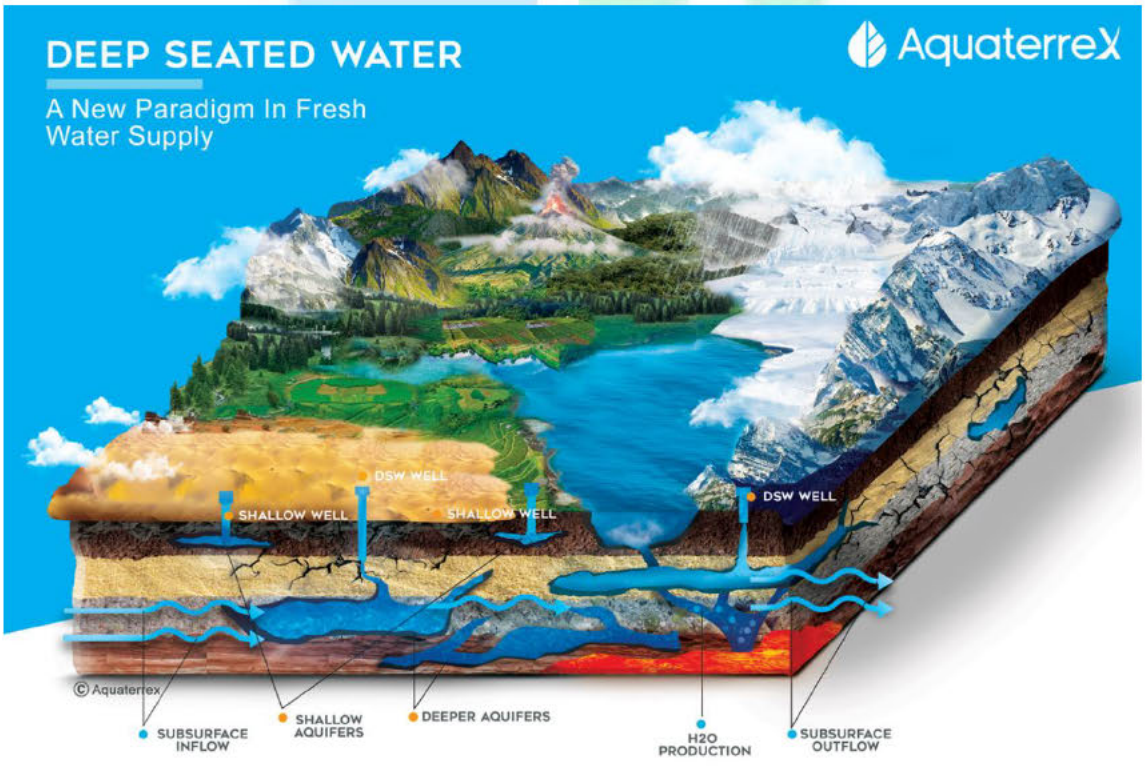
Locating a bore is simple where the basins are known. However, the water in basins can have low quality because of the infiltration of salt or chemicals applied to the land and the mineral characteristics of the geology.

Geology determines the existence of basins with their occurrence limited to particular structural formations. However, extractable groundwater also exists in other subsurface structures such as fractures and fault lines, and these have more general occurrence. Such structural features represent preferred pathways for the subsurface flow of water and so can be regarded as being equivalent to streams.

Deep Seated Water is discovered in fractures and fault lines. These are difficult to locate due to their sub-surface occurrence and localised nature. Historically their identification has depended on visual interpretation of the terrain (surface topography). Several methods now exist that provide information on their location and nature where most respond to small variations in the earth's magnetic field caused by structural anomalies. The occurrence of water in fractures accentuates the magnitude of alteration to the magnetic field. These magnetic fields can be mapped and subsequently analysed.

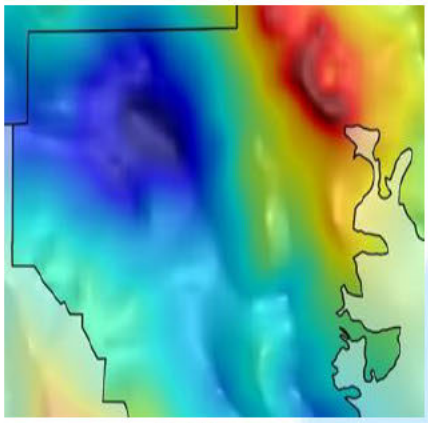


Our unique approach

The approach we take for groundwater bore location is based on traditional mineral exploration methods of combining interpretation of imagery that provides information on subsurface structure.

The unique method recently developed relates to the range of imagery and image processing techniques used to obtain information relevant to groundwater location.

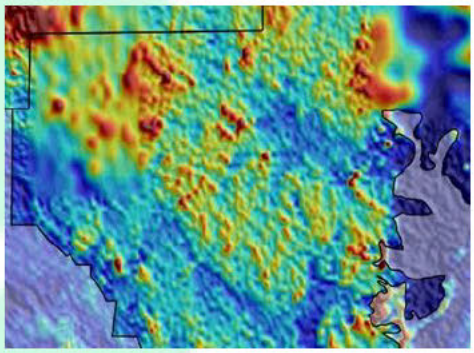
Geological fracturing and faulting often have surface expression, particularly as linear features (lineaments). While aerial photography only images the very surface of the earth, it contains information on subsurface structure. This surface expression of subsurface structure also occurs in detailed topographic data such as provided by radar imagery. Airborne and satellite radar is particularly sensitive to surface structure and can be interpreted to identify subsurface structures.



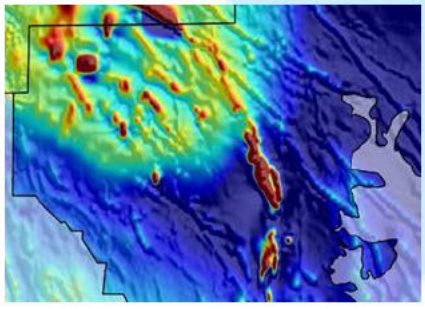
Gravity Map

Airborne geophysical imagery responds to conditions under the surface and so provides information on subsurface structure. A number of different measurements can be obtained from these Airborne geophysical data, Radiometrics, Magnetics and Gravity. Airborne gamma radiation data (radiometrics) which reflect the mineralogical nature of the material surficial conditions to around 0.5 m depth, magnetics which measures the deformation in the earth's magnetic field by materials down to around 150 m depth, and gravity which measures gravity at specific points, registers the variances and these are indicated as varying colours on the maps.

The radiometrics measurement is surficial but, as with aerial photography, it provides information on the occurrence of much deeper structures. As the radiometric measurement responds to the mineralogy it provides information not contained in optical imagery.



Radiometrics Map



Magnetic Map

Airborne magnetics effectively provides deep structural information, particularly it is most suitable for groundwater exploration in highly resistive geologies.

When these maps are overlaid over each other and run through our special algorithms, we can determine to-a-close-degree of accuracy where to begin the on-ground assessment to mark X where to drill.

While there are no methods that absolutely guarantee success in drilling for groundwater; by obtaining the data, mapping the relevant areas and by the subsequent analyses of all relevant factors, the risk is reduced significantly, and the information can be used to increase the chances of success.

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info@aquaterrex.com.au
www.aquaterrex.com.au

I appreciate the opportunity to have some input to the Water Security Statement 2021 for South Australia and hope that as my response is read, my points are seriously considered and/ or forwarded to whomever they would be relevant to.

I look forward to seeing the final draft and the statement completed.

Kind Regards,

Darryl Bothe
Managing Director
AquaterreX Pty Ltd
E –
W – www.aquaterrex.com.au
P -

SOURCE

18 June 2021

Water Security Policy and Planning
Department for Environment and Water
GPO Box 1047
ADELAIDE SA 5001

Sent via email: DEWWater@sa.gov.au

Dear Sir/Madam

SUBJECT: SOURCE GLOBAL SUBMISSION TO THE SOUTH AUSTRALIAN GOVERNMENT CONSULTATION ON THE DRAFT WATER SECURITY STATEMENT 2021

Thank you for the opportunity to make a submission to the South Australian Government's consultation on the draft Water Security Statement 2021 (the draft Statement). SOURCE Global (SOURCE) supports the objectives and focus of the Statement, which mirrors our own mission of providing clean, pure drinking water to everyone.

We also wish to highlight the role that new innovative drinking water solutions, such as SOURCE Hydropanels, are currently playing in enhancing the health and wellbeing of communities around Australia by providing them with clean, high quality, reliable, fit-for-purpose drinking water. Our completely off-the-grid drinking water solution is particularly suited to improving the quality and accessibility of drinking water in regional and remote communities that are not served by existing water infrastructure, or where the water is not of suitable quality for drinking.

We wish to offer our support to the South Australian Government in addressing the provision of safe drinking water to South Australians, particularly those residing in remote communities, whose access to safe and plentiful drinking water is often strained and does not meet the expectation of people residing in cities or large towns. As noted in the draft Statement, there are 64 remote communities in South Australia that at various times face significant water security issues, including self-managed communities that rely on State Government support for water carting for drinking purposes.

We believe that through collaboration and sensible management of existing water treatment facilities and natural water sources, new innovative technologies that deliver drinking water solutions can contribute to greater water security for all South Australians.

Thank you again for the opportunity to provide this submission. Should you have any questions or require further information, I can be contacted at alex.polson@source.co or on 0405 367 020. We would also welcome the opportunity to show you our Hydropanel sites in action and sample our drinking water.

Yours faithfully

Alex Polson
Director, Market Development Australia

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DRINKING WATER IN SOUTH AUSTRALIA AND THE UNIQUE CHALLENGE OF PROVISIONING REMOTE COMMUNITIES

The water strategies, technologies and policies of the 20th century have yielded remarkable success in providing reliable services to high density urban areas, however the same benefits have not been experienced in regional and remote areas, and small communities. These communities face two primary issues: some areas are prone to drought, with the potential to run completely dry; and existing water sources such as bore or rain tank can often be contaminated by bacteria, particles, and toxic substances.[1]

As the draft Statement identifies, Adelaide has a high level of water security and there are a diverse range of water supply options available for the city, including climate-independent solutions such as the Adelaide Desalination Plant. It is likely that current water sources will be sufficient to enable growth to 2050, however the draft Statement also notes there is likely to be an increase in the use of climate independent and less variable water sources in the coming years. One of the challenges for Adelaide will be balancing the future needs of a green Adelaide, and investment in effective adaptation of new technologies to reduce the impact of increased temperatures and decreased rainfall.[2]

Rural homes and small remote communities in South Australia face different challenges. They often have a high degree of water insecurity, largely due to their remote location and reliance on rainfall for water supply. Governments in non-urban areas face challenges providing water services to lower density rural and regional areas, which often lack the requisite scale to fund, build and service centralised water infrastructure. Some of these challenges include a reliance on bore water that has issues with water quality, taste and aesthetics, a reliance on bottled water delivery for drinking water which is costly and unproductive, as well as contributing to plastic waste and carbon miles.[3] Further, remote communities are often over reliant on a single water source which is unsustainable and further reduces water security.

The draft Statement has identified 64 individual remote communities of variable size across the northern regions of South Australia, with a total population of approximately 9,440. Faced with challenges of limited existing infrastructure and high costs for installation of new infrastructure, most of these communities experience water insecurity and are challenged by drinking water quality and scarcity.[4]

SOURCE HYDROPANELS

Source is the manufacturer of SOURCE Hydropanels, an advanced, innovative and sustainable water technology that provides clean, safe, high quality, renewable drinking water in a variety of applications. SOURCE Hydropanels provide communities with a drought-proof drinking water solution to supplement their other water supplies. Unlike traditional water infrastructure, which can take months or years to be built, SOURCE Hydropanels require no existing infrastructure and can be installed and delivering drinking water in a matter of days.

Source uses a combination of solar energy and materials science, to extract pure water vapour from the air and convert it into the highest-quality liquid water, ready for immediate consumption. The water then flows

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[1] Guidance on use of rainwater tanks, Department of Health (Online ISBN: 978-1-74241-326-6)
[2] SA DEW, Guide to climate projections for risk assessment and planning in South Australia, November 2020
[3] Each SOURCE Hydropanel offsets up to 54,750 (500 ml) water bottles over its 15-year lifespan. SOURCE dramatically reduces CO2 emissions compared to other drinking water alternatives. Every two Hydropanels is the equivalent of removing one car off the road.
[4] SA draft Statement on Water Security, pg30

into a reservoir where it is mineralised before being delivered to a tap or dispenser. A standard array - two Hydropanels - has a storage capacity of 60 litres or 120 standard water bottles. Arrays can be scaled to community size, with larger installations providing millions of litres each year to a centralised storage tank and dispenser. ***Attachment A*** explains how the individual Hydropanels work.

The scalability of SOURCE enables the Hydropanels to be deployed on the roofs of residential homes, in schools or community halls and in 'water farms' (Source Fields) adjacent to entire communities. SOURCE complements existing water supplies such as bores and rainwater tanks (which can easily become contaminated or are often not suitable for drinking water) offering a faster and more cost-effective path to improving the health and quality of life in communities, in particular for regional and remote communities without infrastructure access. Feedback from consumers across Australia is consistent: the quality, taste, and look of the water that is produced by their SOURCE Hydropanels is a vast improvement compared to traditional solutions.

INVESTING IN NEW TECHNOLOGIES

Water supply to remote communities under traditional water provisioning and treatment technologies has always presented a challenge. Running water piping over long distances for dispersed communities is not always feasible, and installing filtration systems that rely on heavy electricity consumption and existing grid infrastructure can be expensive, and can cause environmental damage through brine waste as a by-product of desalination. Additionally, reliance on bore water, surface water, or tank facilities can be problematic – these sources are liable to contamination or unreliability due to climate.

As part of the South Australian Government's approach to guaranteeing water security in remote communities, any investment in remote community water supply upgrades should consider a broad set of innovative water provisioning technologies. It is important that these technologies are both cost effective and sustainable, ensuring minimal impact on the local environment, so that technology can be provided across all in-need areas. Additionally, a focus on scalable technology that can be expanded as the population and water needs of towns change would allow for greater flexibility.

As the draft Statement notes, self-supplied communities will continue to receive state government subsidies for emergency water carting, where a community has identified that its existing potable supply is at risk.[5] Instead of responding only when a water crisis occurs, consideration should be given to preventative cost-effective infrastructure that can be installed before or as a crisis is occurring. Towns that require water carting could require that service for multiple years to come, resulting in considerable expense and environmental impact from plastic and trucking.

DRINKING WATER AS A DISTINCT CONSIDERATION TO POTABLE AND NON-POTABLE WATER

By far, the greatest risk to populations living in water stressed rural and regional towns is that access to safe drinking water will be reduced. Non-potable water solutions can often be found, and even untreated bore water can sometimes be used for household purposes, however solutions for the supply of drinking water should be considered as a distinct and urgent priority. Remote communities experience situations where

[5] SA draft Statement on Water Security, pg31

both the supply and safety of drinking water are at risk including drought and contamination, during which residents may not have access to life-sustaining drinking water, or could be exposed to water sources that are dangerous.

The adoption of innovative, decentralised drinking water solutions that do not rely on existing infrastructure has the ability to empower individuals, families and communities to enjoy long term high-quality drinking water security at a fraction of the cost and environmental impact of alternative solutions. With rainfall predicted to continuously decline across the state and the availability of water from both surface and groundwater resources in South Australia likely to decline,[6] the Government should look to invest in a more integrated approach to water management that supports growth, greening and liveable towns and cities, including in regional and remote areas of South Australia. In particular, the Government should consider fit-for-purpose, decentralised water supply technologies that are climate independent as part of a forward-facing approach to managing water resources and supply in the state.

GREEN TECHNOLOGY AND CLIMATE RESILIENCE AND MITIGATION FOR REGIONS

The Department for Environment and Water has highlighted that building climate resilience in South Australian communities will be a key priority of their Climate Change Action Plan 2021-2025 (the Action Plan). Noting that the impacts of climate change have already been felt across regional and remote communities in relation to water supply and scarcity, consideration of alternative technologies and pre-emptive mitigation strategies are essential.

Water security matters should be considered alongside climate security initiatives such as Action 6.4 of the Action Plan which aims to "Support Regional Climate Partnerships to deliver local adaptation and mitigation projects" in partnership with local government and other regional organisations.[7]

Investment in innovative, off-grid, green-powered water solutions also supports the Action Plan's ambition of using the state's abundance of natural power resources and building a reputation for green innovation.[8] South Australia is already well positioned to capture the green market and achieve its 100% net renewable energy generation by 2030 targets – energy neutral, totally renewable drinking water solutions will help South Australia reach this goal.

SOURCE OPERATIONS IN AUSTRALIA

SOURCE provides water resilience in over 53 countries around the world through a range of Government, corporate and NGO partners. In Australia, a 2018 demonstration grant from the Australian Renewable Energy Agency (ARENA) allowed the technology to be tested and proven in a variety of climates across the country, from Lady Elliot Island in Queensland to the Pilbara in Western Australia. SOURCE Hydropanels have now been installed at schools, community facilities, farms, and council venues in over 900 locations around Australia, see ***Attachment B.***

[6] SA DEW, Guide to climate projections for risk assessment and planning in South Australia, November 2020
[7] SA Climate Change Action Plan 2021-2025, pg 42
[8] SA Climate Change Action Plan 2021-2025, pg 8

In Murrurundi, a town in the Upper Hunter region of NSW, residents have traditionally relied on rainwater, bottled water, bore water, and the Murrurundi Dam for their water supplies, however these sources are regularly depleted during periods of drought. In the summer of 2018-19, millions of litres of water were carted weekly to the pre-treatment lagoon to meet shortfalls, and locals relied heavily on donated plastic bottled water to meet taste, quality, and aesthetic expectations. In 2018, Source installed Hydropanels at the local school to give students access to reliable, safe and great-tasting drinking water and to ease the burden on families providing bottled water to children each day. Members of the wider community also continue to access the school out-of-hours to replenish their drinking water supplies. *(A video sponsored by Hyundai provides more context to this story: Hyundai and SOURCE).*

In 2019, over 200 schools in rural NSW were classified by the Department of Education as "critically drought-affected".[9] The Department partnered with SOURCE to install Hydropanels in ten of these schools to ensure drinking water resilience for students and staff. The Hydropanels also provide an educational tool, enabling school children to be taught about technical innovation, renewable energy, and water sustainability and management.

In mid-2019, SOURCE Hydropanels were installed in remote Aboriginal communities in Queensland, New South Wales, South Australia, Western Australia, and the Northern Territory to address residents' concerns about diminishing and poor-quality water supplies. Residents in these towns where Hydropanels were installed now have an alternative to river and bore water, which is often poor tasting, discoloured, and contaminated by lead, sodium, uranium, and nitrates. Having access to high quality drinking water reduces community reliance on expensive bottled water and improves health outcomes by reducing the consumption of sugary beverages driven by poor water access. These installations, and those at the Oonandata School[10] were made possible through a donation from the U.S. National Basketball Association (NBA) and Australian Indigenous basketballer Patty Mills. ***Attachment C*** provides additional information on these case studies and other installations.

SOURCE RECOMMENDATIONS

SOURCE Hyrdopanels can provide an independent source of reliable, sustainable, high-quality drinking water that operates independently of infrastructure and in the most arid of climates. The Hydropanels are a high value, high impact drinking water solution to complement existing bulk water supplies, particularly in regional and remote areas where there is insufficient drinking water infrastructure. We recommend that the South Australian Government explore the following options:

1. Alternative water sources should be incorporated into climate change planning. There is currently a **need for climate-proof solutions that can provide reliable quantities of drinking water** close to the point of demand (i.e. without reliance on rainfall or infrastructure to deliver water).

[9] NSW Department of Education / Water Generation Devices for Drought Affected School - CW2229664

[10] The Hydropanels were installed in response to the concerns of local school teachers and parents about the poor-quality of the water supplies, and an over-reliance on bottled water and sugary drinks. The Hydropanels have provided the students at the local school with a reliable, high-quality water supply, giving peace of mind to parents. Community and Local Council members have expressed a desire for the technology to be expanded to service the entire Oodnadatta community at a central location due to concerns about continuing sickness caused by the bore water, and the potential presence of parasitic water infections.

2. Consider pathways for **innovative non-traditional technologies**, including alternate sources of water (i.e. atmospheric harvesting) and alternate delivery models (i.e. direct to tap, behind the meter), to better achieve policy outcomes for rural and remote communities.

3. Government programs tend to focus on traditional drought resilience measures e.g. pipelines and dams – often to the exclusion of innovative, low cost and decentralised solutions like Hydropanels which can provide immediate water supplies to communities. We argue that water security in remote and regional communities would be further enhanced by enabling communities to seek public funding for new and innovative technologies like Hydropanels, and recommend that consideration be given to **ensuring new solutions like Hydropanels are not 'crowded out' by traditional projects** and activities. In our view, such an approach will maximise opportunities for rural communities to enhance their drought resilience and wellbeing.

4. We further urge the South Australian Government to consider **fitness-for-purpose for water methodologies** in water stressed and drought affected areas. Traditional water suppliers treat all household water to the same level regardless of use, a process that is energy-intensive, expensive and often means that drinking water is only treated to the minimum level of safety and potability. What this strategy ignores is that the expectations and preferences of the Australian public go far beyond minimum standards of safety and potability where drinking water is concerned. As evidence, less than one percent of household water use in Australia is consumed directly for drinking, and yet Australians elect to spend over $1 billion dollars annually on bottled water that meets consumer expectations for taste, quality and health[11].

5. Water service providers should be encouraged to assess water needs on a segregated basis, incorporating **a fitness-for-purpose approach that optimises use-specific solutions**. Drinking water consumed directly by Australians is the most valuable, impactful and essential for health and should be regarded as a separate class of water within the broader category of treated water.

6. As a pre-emptive action, the **installation of alternative climate-proof sustainable technologies in towns where water carting is currently occurring, likely to occur, or at high risk of occurring**. Alternative technologies and sources for drinking water will provide security to remote communities and reduce the environmental impacts of carting.

[11] IBIS World Bottled Water Manufacturing in Australia - Market Research Report 2021.

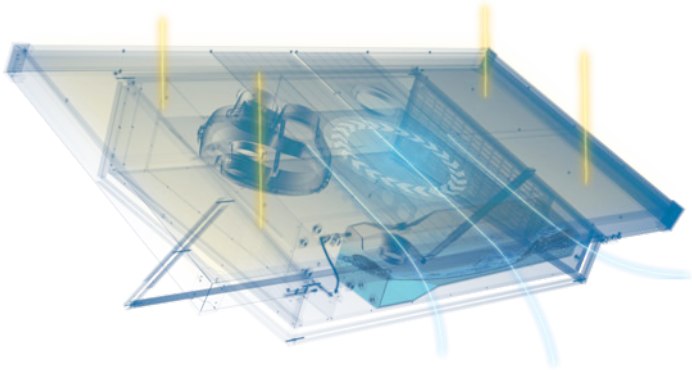
HOW DOES SOURCE WORK?

1 Using solar PV, SOURCE takes in ambient air via fans & collects water vapor from that air onto a hygroscopic material

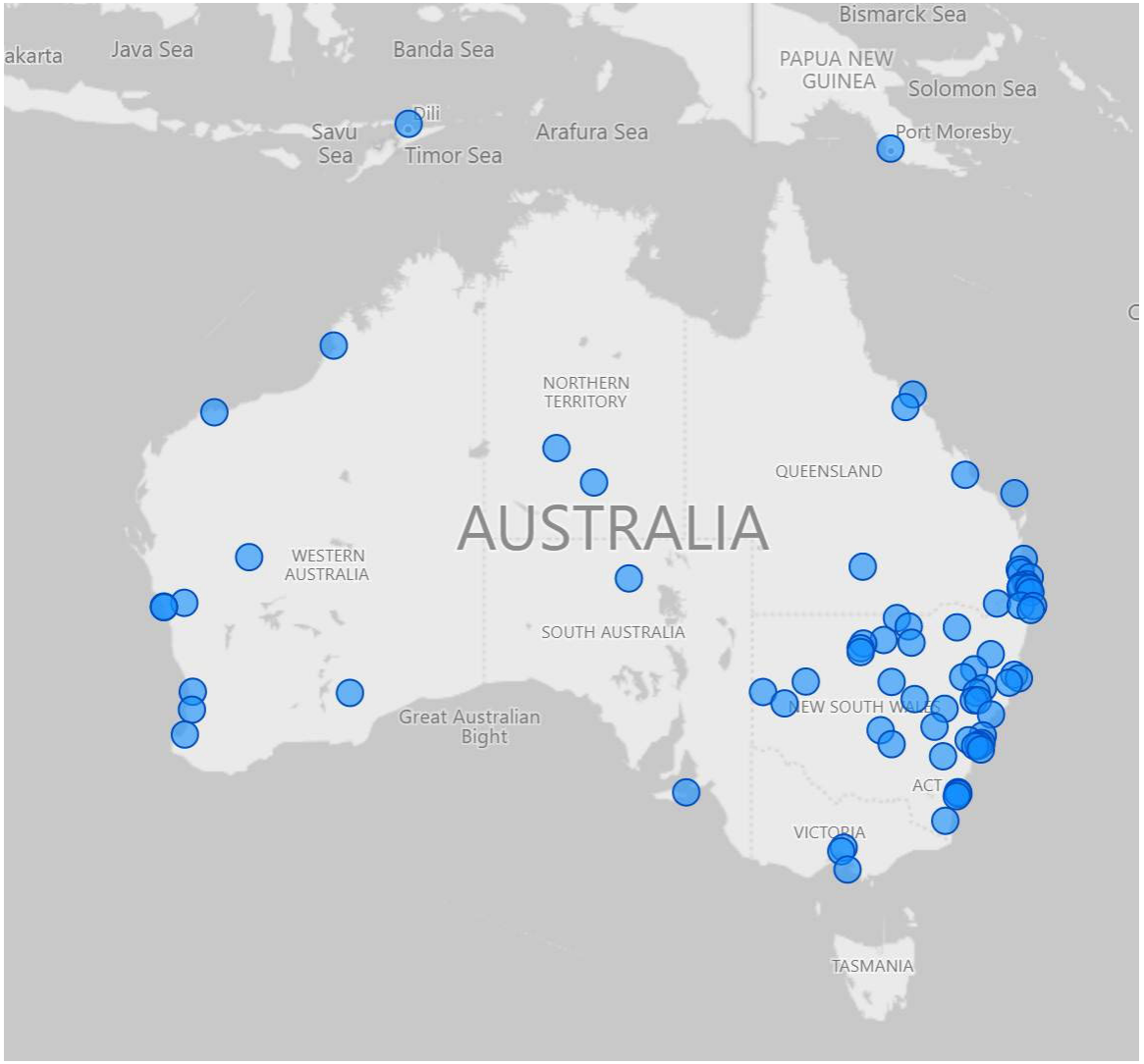
2 With heat from the sun, SOURCE converts water vapor collected into liquid water, made pure

3 The pure water is mineralized with magnesium & calcium to achieve an ideal taste profile

4 Sensors in each Hydropanel array monitor & optimize the water to maintain quality



ATTACHMENT B: AUSTRALIAN SOURCE LOCATIONS



ATTACHMENT C: EXAMPLE INSTALLATIONS

NSW ABORIGINAL HOUSING OFFICE (WESTERN NSW)

The Hydropanel Program is an initiative of the NSW Aboriginal Housing Office (AHO) that saw the installation of over 900 hydropanels to AHO and community-owned properties in remote, drought-affected areas within NSW. The Program focused on producing clean, reliable, free drinking water for tenants.

From January 2017 to December 2019, rainfall was the lowest on record. All major inland river systems in NSW were in critical or severely drought affected. As a result, there was no drinking water available in large areas of Western and Central Western NSW. Councils struggled to deploy necessary infrastructure to deliver portable drinking water to their residents. In some towns, bores were sunk to supply the townships with water. Many locals, however, found the bore water unpalatable due to its high sodium content. Testing has been reported to show the sodium levels of bore water were as high as 353 milligram per litre, above the rate (180mg/L) recommended by Australian Drinking Water Guidelines. Without drinking water at their homes, low-income families' only hydration options were expensive bottled water or unhealthy sugary drinks.

MURRURUNDI PUBLIC SCHOOL (UPPER HUNTER NSW)

Murrurundi has been hard hit by the drought. Struggling with a low water supply, the town needed a solution that would provide community members with drinking water security.

Three Blue Ducks, a sustainably minded farm to table restaurant, committed to supporting the town of Murrurundi by donating 10 SOURCE Hydropanels to Murrurundi Primary School. Now the students, parents, and community members have continuous access to reliable, high-quality drinking water.

Similar installations have also been funded by the New South Wales Department of Education in 10 separate public schools throughout the State.

BUTTAH WINDEE COMMUNITY (MEEKATHARRA WA)

Faced with uranium-contaminated water for the past 10 years, residents of this remote town had extremely limited water-supply options given the health consequences.

With funding provided by a number of Perth based businesses, the community members now no longer face the negative health effects caused by prolonged ingestion of high levels of uranium. This SOURCE Hydropanel arrays produces over 10,000 litres of clean drinking water each year.

ABORIGINAL REMOTE COMMUNITIES (AUSTRALIA WIDE)

Patty Mills, NBA player and one of Australia's leading sportspeople, was determined to bring a renewable supply of clean drinking water to drought-stressed areas of remote Indigenous Australia.

Throughout his basketball career, Mills has been dedicated to honoring his Aboriginal culture, and founded The Community Water Project to enable remote communities to overcome water stress. With the support of the National Basketball Players Association and Australian Indigenous Basketball, The Community Water Project installed SOURCE Hydropanel arrays in six remote Australian communities, including Wilcannia (NSW), Walgett (NSW), Cunnamulla (QLD), Oodnadatta (SA), Black Tank (NT), and Dampier Peninsula (WA).

Commenting on the Wilcannia installation, a community elder said, *"Over the past 5 years there has been virtually no water in the Darling River, and the water that is left is poisonous. The Hydropanels donated to us provide 900 litres of water each month. It really makes a big difference to the lives of our elders and our young families."*

SACOSS
South Australian Council of Social Service

Marjorie Black House
47 King William Road
Unley SA 5061

P. 08 8305 4222
F. 08 8272 9500
E. sacoss@sacoss.org.au
www.sacoss.org.au

ABN 93 197 662 296

Dr Ashley Kingsborough
Team Leader, Water Security Policy and Planning
Department for Environment and Water
GPO Box 1047
ADELAIDE SA 5001

Via email: DEWWater@sa.gov.au

Dear Dr Kingsborough,

"Water for Life and Human Health": Joint Community Submission to the Government of South Australia's draft Water Security Statement 2021

Thank you for the opportunity to respond to the Government of South Australia's draft Water Security Statement 2021. We are writing as a coalition of organisations concerned about the lack of access to safe, affordable and secure water for some South Australians.

Water is a fundamental human right and is essential for health, hygiene and life. Lack of access to clean and secure drinking water has been linked to significant health impacts including hygiene-related skin, ear, and eye infections, respiratory infections and diarrhoeal disease[1]. Repeated infections have also been linked with increased risk for long-term diseases including chronic kidney disease, rheumatic heart disease and renal failure.[2]

Given the high levels of water security for the overwhelming majority of the State's population, it is simply unconscionable that some members of our community do not have access to safe drinking water. Notably, those living in rural and remote areas, particularly in remote Aboriginal communities and homelands, already face a higher burden of disease and poorer health outcomes, compared to those living in major cities.[3] In the context of South Australia's commitment to the National Agreement on Closing the Gap, provision of safe and secure water is critical to advancing targets around long and healthy lives.[4]

No South Australian should be left behind when it comes to access to drinking water. However, there is currently a lack of policy and leadership imperative in taking a holistic approach to fixing these issues. While we welcome the inclusion of remote community water security as one of the draft Water Security Statement's ten strategic actions as a positive step, more could and should be done.

[1] Knibbs and Sly (2014) Indigenous health and environmental risk factors: an Australian problem with global analogues? Global Health Action

[2] Hall et al. (2020) Housing, crowding and hygiene-related infectious diseases in the Barkly region NT, University of Queensland, Northern Territory – for the Anyinginyi Health Aboriginal Corporation

[3] Australian Institute of Health and Welfare (2019) Rural & remote health

[4] Commonwealth of Australia (2020) Closing the Gap Targets and Outcomes

The draft Statement's strategic action to "***further investigate the case for additional water security investments in self-supplied remote communities and continue to support the provision of potable supplies for critical human water needs in exceptional circumstances, where such communities have identified risks to existing supplies"***[5] should be reframed as a more ambitious vision to set up long-term, sustainable outcomes for regional and remote communities, rather than dealing with issues reactively as they arise.

The draft Water Security Statement flags work to be undertaken by the Department of Environment and Water (DEW) to complete a water security audit and risk assessment for self-supplied remote communities. This will involve "confirming the existing water supply arrangements to assess short and long-term risks, better understand future requirements, and identifying investment options to address potential water shortages".[6] This is a promising starting point; however, the stocktake needs to be adequately resourced and take the whole of the state into account.

While our joint submission is in response to the South Australian context, we are aware of similar issues in other jurisdictions.[7] The West Australian Auditor General recently reported improved outcomes for the management of essential services to remote communities in Western Australia since a 2015 audit, when 80 per cent of communities tested failed to meet Australian drinking water standards, with elevated levels of contaminates such as nitrates, uranium, *E. coli* and Naegleria. In South Australia, we are not confident that we have the same baseline to work from to make informed decisions, identify priorities and target improvements.

To this end, we are calling for:

- Acknowledgement of the social, community and human rights imperatives of water security planning when considering 'Water for Sustainable Growth'.
- The Water Security Statement to take a more **ambitious and proactive leadership position** in addressing drinking water supply challenges for regional and remote South Australia. This includes articulating a clear vision to ensure that *all* South Australians have access to safe water, setting up frameworks for working towards that vision, clarity around roles and responsibilities, and committing to monitoring and evaluating progress against levels of service. Without this leadership, there is a missed opportunity for genuine transformative change.
- Investment to **extend the scope of the planned stocktake** of select self-supplied communities to gain a state-wide understanding of water service arrangements for regional and remote communities, both inside and outside of SA Water's network.
- The government to **commit to developing a *basic level of service*** for all South Australians. This would enable conversation between communities, government and service providers about how basic water needs can be met under all circumstances (drought and 'normal' times). Critically, setting a minimum bar which the state government agrees to not fall below provides a clear direction for long-term decision-making and policy decisions.

[5] Government of South Australia (2021) Draft Water Security Statement 2021: Water for Sustainable Growth, p. 46

[6] Government of South Australia (2021) Draft Water Security Statement 2021: Water for Sustainable Growth, p. 31

[7] Office of the Auditor General Western Australia (2021) Delivering Essential Services to Remote Aboriginal Communities – Follow-up

The draft Water Security Statement provides an unprecedented opportunity to take a leadership position and fix long standing issues with access to safe drinking water in South Australia. A strategy targeting 'Water for Sustainable Growth' cannot continue to leave behind those without the basics. Whilst long-term solutions are being developed and deployed, short- and medium-term relief is fundamental. We strongly urge the Government to ensure that until such time as sustainable access to safe water is established, clean and safe water be delivered to communities in need. This will ensure that no further negative health impacts occur in our most vulnerable communities from poor quality water. We are looking forward to working with the government to progress meaningful action in this space.

Sincerely the undersigned,

Ross Womersley
Chief Executive Officer
SACOSS

Shane Mohor
Chief Executive Officer
Aboriginal Health Council SA

Dr Michelle Atchison
President
Australian Medical Association (South Australia)

Dr Jacqueline Bowden
Branch President, SA
Public Health Association of Australia

Dr Kimberley Humphrey
SA State Chair
Doctors for the Environment Australia

Ms Kylie Fergusen
Chief Executive Officer
Community Centres SA

John Furbank
President
Consumers SA

Jane Mussared
Chief Executive
COTA SA

Professor Fran Baum AO FASSA FAHMS

David Rathman AM PSM FIML

SACOSS Submission to the Government of South Australia's Draft Water Security Statement 2021

June 2021

SACOSS Submission to Government of South Australia's Draft Water Security Statement 2021

First published in June 2021 by the South Australian Council of Social Service

47 King William Road

Unley, SA, 5061 Australia

Ph (08) 8305 4222

Fax (08) 8272 9500

Email: sacoss@sacoss.org.au

Website: www.sacoss.org.au

Contents

Introduction

The South Australian Council of Social Service (SACOSS) is the peak non-government representative body for health and community services in South Australia, and has a vision of *Justice, Opportunity and Shared Wealth for all South Australians*. SACOSS does not accept poverty, inequity or injustice. Our mission is to be a powerful and representative voice that leads and supports our community to take actions that achieve our vision, and to hold to account governments, business, and communities for actions that disadvantage vulnerable South Australians.

SACOSS' purpose is to influence public policy in a way that promotes fair and just access to the goods and services required to live a decent life. We undertake policy and advocacy work in areas that exacerbate disadvantage for low-income consumers in South Australia. With a strong history of community advocacy, SACOSS and its members aim to improve the quality of life for people disadvantaged by the inequalities of our society.

SACOSS has a long-standing interest in the delivery of essential services. Our research shows that the cost of necessities like water and electricity impacts greatly and disproportionately on those on low-income, living in regional and remote areas, living with disability, among other structural inequalities.

SACOSS would like to thank the Department of Environment and Water (DEW) for the opportunity to comment on the Draft Water Security Statement 2021 ("draft Statement").

In summary, our submission addresses the following:

- The definition and scope of the draft Water Security Statement;
- The development of water security strategies (currently being trialled in 'priority growth industries');
- Water security investment in self-supplied remote communities;
- The setting of objective water security standards to prioritise critical human needs;
- The importance of community-led, fit for purpose and fit for place solutions; and
- The findings and recommendations of the *review of the Water Industry Act 2012*.

SACOSS recommends that:

- The definition of water security should explicitly consider social equity imperatives, balancing environmental, economic, social, human health and cultural outcomes.
- The draft water Security Statement acknowledge the negative health outcomes inherent in not providing citizens with access to safe, affordable and reliable drinking water.
- The planned water security audit and risk assessment for self-supplied remote communities is expanded to include those serviced by SA Water under the remote communities' scheme. Further, the audit should incorporate a socio-ecological framework and not be limited by a "supply and demand" approach.
- Objective water security standards or a 'basic level of service' are prioritised.

- Water security strategies also need to be developed **urgently** in regional and remote communities where there is not an immediate economic imperative, using a tailored, community-led approach.
- The Water Industry Act 2012 Review processes further investigates/consults on:
    - Whether the regulation of 'stand-alone' water supply options acts as a disincentive for SA Water to propose a 'stand-alone' option as opposed to a network option
    - The follow-up to the *SA Inquiry into Water Prices* investigates the influence of pricing and price setting processes in supporting an efficient water industry; the transparency and independence in price setting processes; and the prudency and efficiency of all water planning and management-related costs incurred by SA Water, including the manner in which they are recovered; and
    - The proposed removal of section 37 of the *Water Industry Act 2012*

Definition of Water Security

The draft Water Security Statement defines 'water security' as:

> **"Having an acceptable quantity and quality of water for people, industry, agriculture and the environment now and into the future."** [1]

While managing the availability and quality of our precious water resources is important, SACOSS encourages a broader definition of water security which considers the complex and interconnected challenges of water. A review of the different 'water security' framings in Australian policy found that there is no formal national approach or agreed definition for water security.[2] The framing of 'water security' implicitly establishes 'what' is being secured, against what threats, who water security is for, and who/what is being centred or excluded.[3] A well-considered definition is particularly critical as water planning and management has historically decentred Aboriginal voices.

SACOSS suggests that South Australia's definition of Water Security should go beyond the narrow lens of "water security for sustainable growth". The need for an integrated approach to water security has been bought into focus by the impacts of climate change. This was evident in the response to the Black Summer bushfires of 2019/20 and the related threat to water quality and ecosystems. Critically, the impacts of climate change are likely to disproportionately affect water consumers on low-incomes, and those located in regional and remote areas. This is particularly the case for those living in remote Aboriginal communities who face exacerbated health risks from climate change because of factors such as remoteness, quality of the infrastructure, limited economic resources and pre-existing health burdens.[4]

The current definition of water security adopted in the draft Statement foregrounds the water resource management perspective above the public health, environmental and human rights imperatives. Achieving balance between environmental, economic, human health and cultural values may be inherently political, but it is achievable with adequate ambition and leadership. A worthwhile starting base is UN-Water's definition of water security, which balances the essentiality of water for sustainability, development and human well-being:

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[1] Government of South Australia (2021) Draft Water Security Statement 2021: Water for Sustainable Growth, p. 2

[2] Taylor, K.S (2019) What does 'water security' mean for Australia? A review of Australian policy, Parliamentary Library, Canberra.

[3] Taylor, K.S (2021) Australian water security framings across administrative levels, Water Security, Volume 12

[4] Hall, N.L & Crosby, L (2020) Climate change impacts on health in remote indigenous communities in Australia, International Journal of Environmental Health Research 1-16; Delany-Crowe, T, Marinova, D, Fisher, M, McGreevy, M & Baum, F (2019) Australian policies on water management and climate change: Are they supporting the sustainable development goals and improved health and well-being? *Globalization and Health*, vol. 15, 68.

> ***"The capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability."[5]***

Ensuring that the definition of water security is fit for purpose is critical for ensuring greater policy direction and cohesion. Water-borne pollution and water-related disasters are prominent risks considering the challenges of climate change. As noted by researchers from ANU in their policy response to the devastating 2019-20 bushfires, "recognising the intrinsic value of water beyond its so-called 'productive' use must be central to our collective response to Australia's water emergency."[6]

As such, SACOSS recommends that the definition of water security should explicitly consider social equity imperatives, balancing environmental, economic, social, human health and cultural outcomes, in line with the draft recommendations made by the Productivity Commission in its review of the National Water Initiative[7] (see below):

DRAFT NWI RENEWAL ADVICE 3.2: MODERNISED OVERARCHING OBJECTIVES

The National Water Initiative has a strong focus on water resource management. A renewed agreement should give greater emphasis to water service provision and this should be reflected in the overarching objective. The objective should also include reference to cultural outcomes to recognise the aspirations of Aboriginal and Torres Strait Islander people. Suggested wording follows.

The overarching objectives of the Parties in implementing this Agreement are to:

- optimise economic, environmental, social and cultural outcomes through best-practice management of Australia's water resources. In the process, this will provide certainty for investment, water users and the environment
- enable entitlement holders, communities and the environment to contend with climate variability and adapt to a changing climate
- ensure effective, efficient and equitable provision of water services that meet the needs of customers and communities in a changing climate.

Water Security for All South Australians

Differential outcomes for those on the SA Water network and those not on the network

[5] UN-Water (2013) What is Water Security? Infographic

[6] ANU Crawford School Policy Brief (2020) Water reform for all: a national response to a water emergency Canberra, ACT, p. 4

[7] Productivity Commission (2021), National Water Reform 2020 Draft Report, p.44

The draft Water Security Statement references significant investments and developments (both undertaken and planned) targeting remote and regional water security.[8] However, we note that these investments relate to areas under the responsibility of SA Water, and exclude areas outside its network. This is particularly crucial given that for regional and remote communities not part of the SA Water network, cost recovery and availability of finance for capital expenditure can be difficult.

While we acknowledge that SA Water provides drinking water for 99% of the state's population and collectively, minor and intermediate retailers provide drinking water for less than 1%, this inadvertently makes the challenge seem small and insignificant.[9] In reality, the 1% of the population are also among the most disadvantaged in the state, located in regional and remote areas where access to safe, affordable and reliable drinking water has inherent difficulties. This burden falls most keenly on Aboriginal people living in remote communities and homelands, who already experience poor health outcomes, exacerbated by a lack of access to safe and secure water. These concerns are outlined in further detail in the joint Community Submission to the draft Water Security Statement 2021.

As identified by Aither[10], the Water Security Statement and next wave of water reforms presents a unique opportunity to set the agenda for foundational change in how we plan for, manage, regulate and monitor water services in regional and remote communities. Given the high degree of water security for the greater Adelaide area, now is the time to once and for all address the embarrassing situation where some citizens in our state do not have access to safe, affordable and reliable drinking water.

We note the qualifications applied in **Strategic priority 6** of the draft Statement and encourages a clear path for investment is made for areas outside of SA Water's network:

> "Building on SA Water's planned investments in remote communities out to 2024, further investigate the case for additional water security investments in self-supplied remote communities and continue to support the provision of potable supplies for critical human water needs in exceptional circumstances, where such communities have identified risks to existing supplies."[11]

[8] These includes: $41 million in remote community water supply upgrades for regional areas including Yunta, Oodnadatta, Maree, Terowie, Marla, and Manna Hill

[9] Aither (2021) Falling through the gaps: A practical approach to improving drinking water services for regional and remote communities in South Australia

[10] Aither (2021) Falling through the gaps: A practical approach to improving drinking water services for regional and remote communities in South Australia

[11] Government of South Australia (2021) Draft Water Security Statement 2021: Water for Sustainable Growth, p. 46

Water security investment in self-supplied remote communities

Water security audit

The draft Statement notes that ***"DEW will complete a water security audit and risk assessment for self-supplied remote communities. This will involve confirming the existing water supply arrangements, assessing short and long-term risks so as to better understand future requirements, and identifying investment options to address potential water shortages."***[12]

SACOSS welcomes the proposed water security audit as a worthwhile starting point; however, we believe that a full stocktake of the entire State needs to be considered – both self-supplied remote communities and those serviced by SA Water under the remote communities' scheme. We note that much of this information may already be available, and the issue may be one of consolidation of data from different sources. This will enable a basis for **state-wide decision making**, identifying priorities, investigating the root causes of challenges (including any systemic barriers), and determining the level of investment required to address to totality of the problem.[13]

Further, for self-supplied communities, the stocktake needs to incorporate a socio-ecological framework and not be limited by a "supply and demand" approach.[14] This is critical as research has consistently shown that issues with water supply in remote communities are not solely a technical challenge to be solved.

Indeed, challenges with provision of safe drinking water services in remote South Australian communities have long been documented,[15] with various studies pointing to issues around lack of co-ordination and governance, poor quality and ageing infrastructure, lack of infrastructure to the (household) door, lack of sustainable funding models to maintain infrastructure; and small economies of scale.[16] It is worth noting that initial investment to upgrade remote communities water infrastructure in South Australia during the early 1990s

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[12] Government of South Australia (2021) Draft Water Security Statement 2021: Water for Sustainable Growth, p. 31

[13] Aither (2021) Falling through the gaps: A practical approach to improving drinking water services for regional and remote communities in South Australia

[14] Satur, P. & Robertson, H. (2020). Safe Water Access on Remote Indigenous Homelands: Applying a Socio-Ecological Framework. OzWater'20: Thirst for Action, Australian Water

Association.

[15] Commonwealth of Australia (1994) Water: A Report on the Provision of water and sanitation in remote Aboriginal and Torres Strait Islander communities, Canberra

[16] Willis E.M., Pearce M.W., Jorgensen B.S., and Martin J.F. (2015) Water supply and governance options for outback towns in remote South Australia, Goyder Institute for Water Research Technical Report Series No. 15/7, Adelaide, South Australia; SACOSS (2020) Scoping Study on Water Issues in Remote Aboriginal Communities, Unley, SA; Aither (2021) Falling through the gaps: A practical approach to improving drinking water services for regional and remote communities in South Australia

did not include ongoing funding for planned maintenance services.[17] This has led to ad-hoc maintenance, usually in response to major breakdowns.

Crucially, as noted by Willis et al. (2015)[18] providing sustainable water services requires **a number of factors working together**, including:

- 'soft' factors such as skills, behaviours, norms and practices;
- 'hard' factors such as suitable technologies;
- availability of finance for capital expenditure; and institutional factors that can provide for long-term support to community system;
- *Motivation* – Community support to use the scheme;
- *Maintenance* – a viable maintenance and renewal strategy with appropriate training and resourcing;
- *Cost Recovery* – The metering, billing method and its administration and accounting need to be able to generate revenue for ongoing costs. These processes must be transparent;
- *Continuing Support* – Ongoing cooperation between the community, government(s) and the water provider are required. Support is usually necessary for ongoing financial support and maintenance.

As such, SACOSS recommends that a genuinely comprehensive water security audit needs to consider:

- **Supply and demand / biophysical dimensions** (e.g. main source of drinking water; adequacy of drinking water supply; treatment method of drinking water; quality of water supply, including frequency of water testing and issues such as salinity with may affect the life of infrastructure)
- **Technology and infrastructure requirements** (e.g. Age and viability of current technologies and water sources; housing and infrastructure requirements; Power access and requirements)
- **Systems and governance arrangements** (e.g. Current ownership, operating and service arrangements of infrastructure, including responsibility for maintenance and ownership arrangements both outside and inside community boundaries; supply and billing arrangements; funding arrangements);
- **Social, cultural, economic, material resource dimensions** (e.g. Current/required community water access processes; existing water use cultures; water needs for health and cultural practices; affordability and willingness to pay);

[17] Willis, E., Pearce, M., McCarthy, C., Ryan, F., & Wadham, B. (2009). The provision of water infrastructure in Aboriginal communities in South Australia. Aboriginal History, 33, 157-173. Retrieved June 1, 2021, from http://press-files.anu.edu.au/downloads/press/p74631/html/ch07.html?referer=1055&page=10

[18] Willis E.M., Pearce M.W., Jorgensen B.S., and Martin J.F. (2015) Water supply and governance options for outback towns in remote South Australia, Goyder Institute for Water Research Technical Report Series No. 15/7, Adelaide, South Australia, p. 11

Community led, fit for purpose, fit for place solutions

In their 2015 review of water supply and governance options for outback towns in South Australia, Willis et al. (2015) observed that "there has currently been little input from residents of remote towns as to what water supply scheme and level of service they require. A process of including the potential users of improved water supply schemes is a fundamental requirement of good governance."[19]

An example of the importance of genuine community-led, fit for purpose, fit for place solutions is the 'Outback Drinking Station' which was installed in Oodnadatta by the Outback Communities Authority (OCA) in 2018. The reverse osmosis desalination plant delivers clean drinking water at a cost of $4 per 20 litres of water.[20] However, it has been reported that the drinking station is mainly used by tourists passing by the township, with (mostly young) residents preferencing cheaper sugary drinks.[21]

SACOSS notes that SA Water are upgrading the non-drinking water at Oodnadatta to a drinking water standard as part of its 2020-24 regulatory period and suggests that it is crucial that community are involved in decision making processes about how this upgrade is achieved. We support the Productivity Commission's view that all options should be on the table for best-practice system planning. [22] However, we are unsure if the Water Industry Act 2012 currently allows for "all options to be on the table", including non-network solutions. This is discussed in further detail in "Review of the Water Industry Act 2012" section of this submission.

Objective water security standards: Developing a Basic level of service

SACOSS supports the draft Statement's strategic priority to ***"work proactively with water retailers and other stakeholders to ensure critical human water needs continue to be prioritised appropriately and that water planning processes support the setting of objective water security standards where required." [Strategic priority 5]***

The setting of an objective water security standard or 'basic level of service' is critical for providing a clear direction for government policy, and to enable the Essential Services Commission of South Australia (ESCOSA) to have a benchmark to regulate against.

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[19] Ibid, p. 11

[20] Outback Communities Authorities (2018) OCA commissions Outback Water Stations, Government of South Australia

[21] https://www.michellelensink.com/question_clean_water_oodnadatta; https://indaily.com.au/news/2019/12/06/not-a-safe-drop-to-drink-sa-towns-water-scandal/

[22] Productivity Commission (2021), National Water Reform 2020 Draft Report, p.143

ESCOSA has previously called for objective water security standards in its 2015 Inquiry into Reform Options for SA Water's Drinking Water and Sewerage Prices, suggesting that:

> "To facilitate greater economic efficiency, water security standards should be made explicit, so that decisions about future capacity expansion and policies for water conservation can be clearly linked to security-of-supply. In the absence of a clear security-of-supply standard, it is difficult to determine the most efficient way to manage the supply/demand balance. Further work on such an objective standard should be undertaken."[23]

SACOSS also notes that the Productivity Commission has recommended that governments commit to a 'basic level of service', which sets a minimum level of service Governments agree not to fall below, and acts as a mechanism to ensure that adequate and safe drinking water is delivered to all citizens. The Productivity Commission suggests that:

> "The precise definition of a basic level of safe and reliable water is a decision for each State and Territory Government, based on their own circumstances (although a definition of 'safe' water should align with existing health guidelines under the Australian Drinking Water Guidelines). Service reliability could encompass judgments at the local scale over the quantity of water available, the frequency of water restrictions, and/or clear arrangements to maintain services during extreme events."[24]

Development of water security strategies

SACOSS notes that the draft Statement only considers developing water security strategies for key water resources or priority growth industries, beginning with a trial in the Barossa Valley and McLaren Vale and through the Water and Infrastructure Corridors initiative (**Strategic Priority 1**). SACOSS strongly submits that water security strategies also need to be developed urgently in regional and remote communities where there is not an immediate economic imperative, using a tailored, community-led approach.

We recommend that water security planning is broadened to consider a community's overarching water service arrangements (based on a comprehensive water security audit as described above), and its ability to meet a basic level of service.

The draft Water Security Statement notes that:

[23] ESCOSA (2015) Inquiry into Reform Options for SA Water's Drinking Water and Sewerage Prices, https://www.escosa.sa.gov.au/ArticleDocuments/436/20150128-Water-InquiryReformOptionsSAWatersDrinki.pdf.aspx?Embed=Y, p. 46

[24] Productivity Commission, National Water Reform 2020 Draft Report, p.153

> "For those remote communities that are 'self-supplied', the state government will also continue to subsidise emergency water carting in exceptional circumstances, where a community has identified that its existing potable supply is at risk."[25]

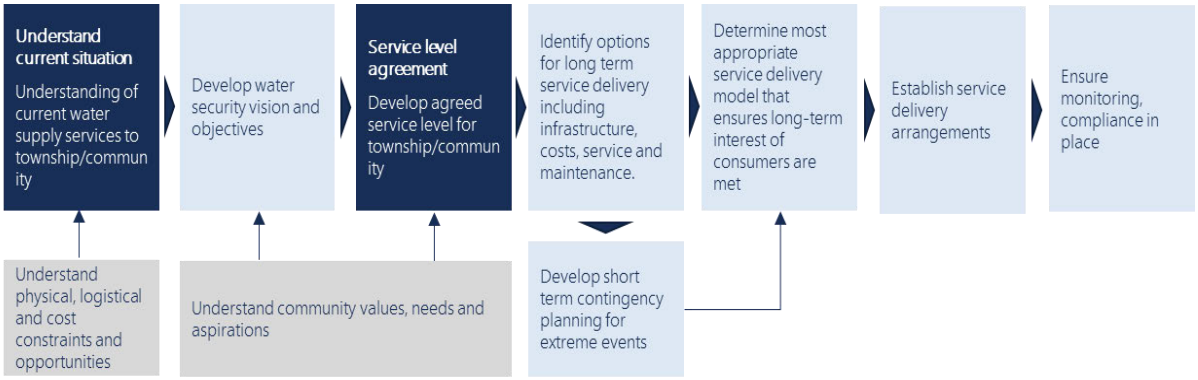
While the government's commitment to continue subsidising emergency water carting is positive and welcome, SACOSS acknowledges that emergency water carting may not be the most economic, efficient, or desired policy response, either now or in the future. Taking the remote Aboriginal community of Scotdesco as an example, emergency water carting may very well be the appropriate policy response (for the sake of argument) every 1 out of 10 years the community runs out of fresh drinking water due to low rainfall. Indeed, the State Government stepped in to offer such support following water supply reaching severe emergency levels.[26] While the community has an innovative and workable solution in the remaining 9 out of 10 years it has sufficient rainfall, water carting may not be the preferred option when emergency levels are reached every, say, 1 out of 7 years, or 1 out of 5 years. Accordingly, the increased frequency and severity of drought conditions brings into focus the need for more robust and adaptive water security planning, rather than reaching for the most reactive response.

Therefore, SACOSS recommends a process of water security planning as summarised in the figure below and includes:

- an understanding of the current and future available water sources and needs (with consideration of climate change impacts)
- developing a water security vision and objectives for the community
- developing agreed levels of service and identifying and articulating the gap between the basic level of service and the agreed level of service (if there is one)
- identifying possible servicing options, including sources, infrastructure needs, delivery arrangements and costs to meet a basic and/or agreed level of service
- short term contingency planning to maintain water supply and quality during extreme events (integrated with water security plans at the local and catchment scale)
- developing an appropriate service delivery model and arrangements, including options for long-term funding. This funding may include a combination of external funding, user charges and the application of CSO (if appropriate)

[25] Government of South Australia (2021) Draft Water Security Statement 2021: Water for Sustainable Growth, p. 31

[26] https://www.lindaburney.com.au/speeches/2019/10/28/the-water-emergency-in-scotdesco



Source: Aither (2021)

Review of the Water Industry Act 2012

SACOSS welcomes the State Government's commitment to ***"progress the findings and recommendations of the review of the Water Industry Act 2012 to further drive innovation and competition in the water industry sector"*** as one of the strategic priorities for the draft Water Security Statement.[27]

Pricing, service standards and customer protections are important components of water security. We would therefore like to comment on the following recommendations of the *Water Industry Act 2012* review ("WI Act Review"):

Recommendation 11

SACOSS has several queries in relation to the regulation of 'stand-alone' water supply options – and whether there is a disincentive for SA Water to propose a 'stand-alone' option as opposed to a network option, even where the stand-alone option might be more efficient and cost-effective. We question whether 'stand-alone' water supply options fall within the definition of 'retail services' under the WI Act, and therefore, whether it falls under WI Act regulations.

SACOSS questions whether this could work against SA Water properly costing and proposing 'place-based' solutions for regional locations where it has an obligation to supply (as it would potentially not be permitted to recover the costs of stand-alone systems through its allowed revenue).

Definition of 'retail services'

Section 17 of the WI Act declares that the water industry is a regulated industry for the purposes of the ESC Act. Accordingly, ESCOSA has a general power to regulate prices in the water and sewerage industries.

In terms of ESCOSA's price regulation function, section 7 of the WI Act provides that:

> *7 — Functions and powers of Commission*
> *(1) The Commission has (in addition to the Commission's functions and powers under the Essential Services Commission Act 2002) —*
> *(a)the licensing, price regulation and other functions and powers conferred by this Act.*

Section 35 of the WI Act provides ESCOSA with the discretionary power to make a price determination for 'retail services':

> *35 — Price regulation*

[27] Government of South Australia (2021) Draft Water Security Statement 2021: Water for Sustainable Growth, p. 31

*(1) Subject to this section, the Commission may make a determination under the Essential Services Commission Act 2002 regulating prices, conditions relating to prices, and price fixing factors for **retail services**.*

A 'retail service' is defined in section 4 of the WI Act to mean a service constituted by:

*(a)the sale and supply of water to a person for use (and not for resale other than in prescribed circumstances (if any)) **where the water is to be conveyed by a reticulated system**; or*
(b)the sale and supply of sewerage services for the removal of sewage,
(even if the service is not actually used) but does not include any service, or any service of a class, excluded from the ambit of this definition by the regulations

In a previous Regulatory Determination, this has been interpreted by ESCOSA to **exclude** the provision of network services on a stand-alone basis (see SAWRD16 p. 22):

'Accordingly, any operations or services falling outside the scope of the above definition are not subject to price regulation by the Commission – for example, the provision of network services on a stand-alone basis.'

This would indicate that even where a 'stand-alone' option would be more efficient, SA Water will always seek 'reticulated system' options for the sale and supply of water to customers in its network, as these are the only operations or services that fall within the scope of the definition of 'retail services' and are therefore subject to price regulation by ESCOSA (allowing SA Water to recover the costs of these services from consumers). Notably, in the most recent price determination (SAWRD20), SA Water sought to recover costs associated with the Zero Cost Energy Future program, but ESCOSA found this program did not constitute a 'retail service' and was therefore not a 'regulated activity'. ESCOSA removed all costs and savings of ZCEF from the revenue determination, stating 'All risks of the project will accrue to SA Water and its owner, the South Australian Government' (page 49). ESCOSA also found that SA Water's water testing service provided through the Australian Water Quality Centre, was not a retail service and was not subject to price regulation under the WI Act.

SACOSS has been unable to get confirmation of ESCOSA's view on 'stand-alone' options. SA Water's Regulatory Business Proposal for 2020-24 proposed to invest $37.7 million during SAW RD20 to provide potable water supplies to 340 properties across 19 systems that currently have a non-potable water supply. Seventeen of these systems are in the upper north of South Australia. The initial focus was on northern railway towns, with the remaining 310 properties to be addressed during SAW RD24. SA Water identified a range of options for providing upgrades, which include: **water carting and storage, extension of pipelines, desalination, and point of use treatment**. It stated that the selection of which properties to upgrade was informed by multi-criteria analysis, conducted in September 2019, and that the analysis considered water quality impact, rainwater availability, water security, community resources, economic potential, current cost of water and cost of upgrades (see Appendix 3 p.263). As far as SACOSS are aware, there was no specific 'stand-alone' solution costed and compared to a 'network' option as part of the proposal.

It is unclear whether 'stand-alone' options would have fallen within the definition of 'retail services' as ESCOSA's Draft Determination, was not to include expenditure for this project on another basis (page 130):

> *'…the extent of SA Water's obligation to supply, and the broader matters of where and how potable water supplies are provided, and funded,* ***are matters of South Australian Government policy*** *that are likely to require wider consideration. The Commission agrees that these are matters of South Australian Government policy. Notwithstanding the mixed views of stakeholders on this program, in its current form, it proposes a partial solution that provides limited incremental benefits to a small number of customers at a very high cost per directly-benefitting customer. Therefore, the draft decision is to not include the $37.7 million proposed to upgrade non-potable water supply for 340 properties.'*

Expenditure for the project ($40.5 million in capex and $5.2 million in operating expenditure) was included in the Final Determination 2020-24 to be recovered from all SA Water customers, as a result of the Minister's Direction to SA Water on 28 May 2020. SACOSS notes that in evidence given to the Legislative Council Budget and Finance Committee, SA Water are still investigating technical assessments:

> *"SA Water's planning for the Oodnadatta upgrade is currently in the 'Asset Investigations' phase and moving into the 'Capital Delivery' phase. The investigations are nearing completion and are being used to inform the technical solutions. These early investigations indicate a reverse osmosis desalination solution would likely be best suited in Oodnadatta. To date, SA Water's work has included early community engagement, concept planning with the Environment Protection Authority (EPA), trialling of new technologies, and selection of a construction partner that has been engaged to develop the design and pricing of the project. Oodnadatta will be the first to be progressed in the program of upgrades for six remote communities which will be delivered over the course of the 2020-24 period. Construction is currently scheduled to commence in March 2022 with completion expected by September 2022."*[28]

While, a reverse osmosis desalination solution appears to be favoured at this stage, it is unclear whether 'stand-alone' options have been considered or costed for the Oodnadatta upgrade project.

[28] Parliament of South Australia (2021) Transcript of Evidence and supplemental- SA Water - David Ryan 9.03.21 , Legislative Council Budget and Finance Committee, p. 38

K. Upgrading the water supply of SA Water customers in regional areas

To upgrade the water supply of SA Water customers in certain regional areas to potable water.

During the third regulatory period, SA Water must upgrade the water supply to potable water in the regional areas of Yunta, Oodnadatta, Maree, Terowie, Marla, Manna Hill (and the associated filling station at Peterborough).

SA Water will fund capital expenditure of up to $40.5 million over the third regulatory period together with associated operating costs not exceeding $5.3 million (as per the tables below):

(i) In relation to SA Water's capital expenditure:

2020-21	2021-22	2022-23	2023-24
$9 743 000	$9 986 000	$10 236 000	$10 492 000

(ii) In relation to SA Water's operating expenditure:

2020-21	2021-22	2022-23	2023-24
$538 000	$1 006 000	$1 694 000	$1 993 000

From an energy perspective, it is worthwhile to note that the Australian Energy Market Commission (AEMC) reviewed the regulatory arrangements for stand-alone power systems in the last couple of years (as currently the national energy laws and rules only apply to the interconnected electricity grid). The Statutes Amendment (National Energy Laws) (Stand-Alone Power Systems) Act was passed this month and came after the AEMC's 2019 and 2020 reports recommending changes to energy laws and rules **to enable distributor-led SAPS when this is cheaper than maintaining a grid connection**. The AEMC has made a suite of recommendations for changes to energy laws and rules to enable the use of stand-alone power systems by distributors. On 25 March 2021, the AEMC announced the Energy Ministers are consulting on changes needed to ensure consistency between the changes to the Law.

Recommendation 3

SACOSS is of the view that the 2018 SA Inquiry into Water Prices was particularly narrow in its scope and would welcome further investigations into the influence of pricing and price setting processes in supporting an efficient water industry.

SACOSS would support further consideration of the NWI Pricing Principles, including Principle 3 of the NWI Pricing Principles, which covers the recovery of costs from water planning and management (WPM) activities, and provides for a cost-effectiveness test:

> Clause 16*: **'Having identified water planning and management costs to be recovered from water users, in whole or in part, activities should be 'tested' for cost-effectiveness by an independent party and the findings of the cost-effectiveness review are to be made public'***.

SACOSS would also support further investigation into the issues of transparency and independence in price setting processes; in line with recommendations in the Productivity Commission's Draft Report:

> 'Regulators must also be supported by appropriate governance and institutional arrangements. **Ensuring that economic regulation is transparent and independent**

provides accountability, better aligning regulatory decisions with long-term consumer interests. And institutional separation, with a clear relationship between utilities and their government shareholders and regulators, remains important and should be retained as a principle under the NWI.'[29]

The Essential Services Commission of South Australia's 2014 *Inquiry into Reform Options for SA Water's Drinking Water and Sewerage Prices* found that water planning and management charges paid by SA Water's customers may not be economically efficient. The Final Inquiry Report recommended that (recommendations 12 and 13):

- The Government should consider commissioning an independent public review of the prudency and efficiency of all water planning and management-related costs incurred by SA Water, including the manner in which they are recovered.

- Until such a review is conducted, SA Water should make it clear on customers' bills that a water planning and management payment is being collected through them – and that this is being done for the benefit of the wider South Australian public.

In 2014 ESCOSA also expressed a view that SA Water's WPM costs should be balanced (trued-up) prior to the commencement of the next price determination period (which was on 1 July 2016), allowing for any excess revenue or additional costs to be taken into account so SA Water customers only face true WPM costs in the next regulatory period.[30]

In its 2013 Regulatory Determination for SA Water[31], ESOCSA indicated the (then) Department of Environment, Water and Natural Resources had stated the WPM arrangements were a '*transitional measure, and that it is intended that the amounts attributed to, and recovered from, SA Water (and its customers) and other beneficiaries will be reviewed before the end of the current SA Water Revenue Determination*' (i.e. by 2016).

As far as SACOSS is aware, none of these recommendations or promised reviews of WPM costs have occurred. The 2018 Water Pricing Inquiry **specifically excluded from consideration** the 'costs included by the Essential Services Commission of South Australia (ESCOSA) by virtue of them being included in a Direction issued by the Minister for Environment and Water under section 6 of the *Public Corporations Act 1993*'.[32]

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[29] Productivity Commission, National Water Reform 2020 Draft Report, p.147

[30] https://www.escosa.sa.gov.au/ArticleDocuments/436/20150128-Water-InquiryReformOptionsSAWatersDrinki.pdf.aspx?Embed=Y

[31] https://www.escosa.sa.gov.au/ArticleDocuments/488/130527-SAWater_Water_SewerageRevenu.pdf.aspx?Embed=Y

For SA Water PD2013 ESCOSA found these charges will total $51.4 million (equating to approximately $78 for each water customer across the three years) (Table 9.1). For SA Water PD 2016, these charges will total $74.8 million (equating to approximately $113 for each water customer across the four years) (Table 9.1).

[32] https://www.treasury.sa.gov.au/__data/assets/pdf_file/0010/93646/2018-12-A-Cautious-Conclusion-report.pdf p.3

At the Direction of the Minister for Environment and Water, SA Water is required to pay water planning and management (WPM) costs to the Department for Environment and Water. By virtue of the Treasurer's Pricing Orders to the Essential Services Commission,[33] the WPM charges SA Water incurs are ultimately paid for by its customers. These costs are not publicly scrutinised, not visible on customers' bills and send distorted price signals to water users.

$131m in WPM costs were included in Direction 'F' of the Minister's Direction made on 28 May 2020. [34] Applying the Treasurer's Pricing Order, ESCOSA have allowed SA Water to recover the $131m in WPM operating expenditure from its customers, over the coming four-year period. Given there is no clarity around what this money will pay for, there is no guarantee the activities are cost-effective or costs incurred by customers are reflective of the cost of providing water services, and therefore the recovery of these costs arguably deviates from the NWI Pricing Principles (COAG Agreement, 23 April 2010).

Under the NWI Pricing Principles, Governments agreed that 'if a decision was made not to apply these principles in a particular case, the reasons for this would be tabled in parliament'. To our knowledge the $132m in WPM costs has not been tested for cost-effectiveness and the reasons for this have not been table in parliament.

Recommendation 7

SACOSS does not support reduced regulatory reporting obligations for small scale water retailers, particularly in relation to important consumer protections for customers who may already be disadvantaged by remote locations, inadequate water supply and increased costs. SACOSS is looking forward to the opportunity to provide further feedback on this proposed recommendation, in line with our submission to ESCOSA on the small-scale networks inquiry.[35]

Recommendation 8

SACOSS has concerns about exemption regimes which exclude customers from accessing important consumer protections and refers the Department to our recent submission to the Parliamentary Inquiry into embedded networks in SA.[36]

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[33] https://www.treasury.sa.gov.au/__data/assets/pdf_file/0011/41123/Pricing-Order-for-the-Regulatory-Period-1-July-2020-to-30-June-2024.pdf

And https://www.treasury.sa.gov.au/__data/assets/pdf_file/0003/215139/Second-Pricing-Order-for-the-Regulatory-Period-1-July-2020-to-30-June-2024.pdf

[34] Direction to SA Water pursuant to section 6 of the *Public Corporations Act 1993*, https://www.escosa.sa.gov.au/ArticleDocuments/21489/20200611-Water-DirectionsUnderSection6PublicCorporationsAct1993-GazetteNotice.pdf.aspx?Embed=Y

[35] SACOSS, Submission to ESCOSA's Draft Inquiry Report into the regulatory arrangements for small-scale water, sewerage and energy services, September 2020

[36] SACOSS, Submission to the Economic and Finance Committee Parliament of South Australia: Inquiry into Embedded Networks in South Australia, May 2021

Recommendation 15

SACOSS is looking forward to further consultation on the proposed removal of section 37 of the *Water Industry Act 2012*. SACOSS is extremely concerned about the proposed removal of this section which currently provides for customer hardship policies that must be adopted by water retailers across the State. These hardship policies specifically apply to tenants in accordance with section 37(5) of the Act. SACOSS considers the removal of this section in line with the recommendation would operate to significantly reduce supports and consumer protections for water consumers across South Australia. Given the potential harm the removal of this section could cause on water consumers, SACOSS is expecting more involved consultation on this proposed recommendation. We strongly oppose progressing this recommendation without further consultation taking place.

Draft Water Security Statement 2021

Water for sustainable growth

Consider climate change

Water security has long been recognised by the SA Government as one of the key platforms for sustainable growth. SA occupies a leadership position in water management and re-use.

Climate change with its impacts on water security represents a systemic risk with significant effects across all sectors of the economy from producers through to investors and even consumers.

Government needs to have an appropriate governance structure in place in order to manage the issues, provide stakeholders with reliable and useful information on their exposure to climate related risk, implement policies and targeted investment to mitigate adverse impacts and realise the opportunities.

Climate change is far from a steady-state, rather it is a continuing trend which poses a major and growing threat to South Australia's water security. The outcomes are far from certain... any statement should be adaptable and flexible enough to adapt to unforeseen events.

Climate change - Barossa and Northern Adelaide Plains example

The seemingly benign primary impacts of "a bit warmer and a bit drier" over a forty-year period (1990-2030) belie the dramatic impacts climate change is already having on agriculture.

The CSIRO model to 2030[1] has the following, seemingly insignificant primary impacts ('most likely case') for the Northern Adelaide Plains, against a 1990 baseline:

- Warmer temperatures – +0.7-1.0°C; and
- Drier conditions – a 3-4% decline in annual rainfall

However, by 2020 horticulturists[2] and farmers were seeing a far greater impact than even the 'worst-case' impacts suggest in the CSIRO model to 2030[1] with its projected impacts to 2030:

- Warmer temperatures – +0.8-1.1°C; and

[1] Source DEWNR Technical Note 2013/09 Climate change in the Northern Adelaide Plains and implications for horticulture. This was the closest region to the Barossa modelled in 2019-20

[2] Horticulturist used in the broader sense of the cultivation of plants - vegetable, viticulture, fruit & nuts, herbs, flowers and ornamentals

- Drier conditions – a 11-17% decline in annual rainfall.

These 'primary' impacts are amplified substantially in the broader atmosphere and biological systems with 'secondary' impacts far greater than anyone suspected at first glance:

- A dramatic increase in extreme heat events – 24-fold in 100-years[3] 1910-1919 v 2010-2019;
    - Extreme heat adversely impacts yield, quality and profitability
- This increase, in conjunction with a shorter winter/extended 'dry-season', low humidity, high winds necessitated a revision in the maximum Forest Fire Index from 100 (based on the catastrophic fires of 1939) to a maximum of 400 (circa 2014)
    - We are painfully aware of the unprecedented & catastrophic fires of the last decade
- A 1°C rise in temperature increases evaporation rate by 7.3% which
    - If applied to Lakes Alexandrina & Albert means an increased loss of 56GL[4], **over 10%** of the total annual SA River Murray irrigation allocation – reducing water-supply; yet
    - Plant needs – potential evapotranspiration – or demand for water increase by an indicative 2.5%; thus
    - Opening up a gap between supply and demand that will continuing to widen as temperatures increase.
- A 10% reduction in rainfall reduces run-off or surface water supply (rivers, lakes & dams) by up to 40%. Supporting observations include:
    - North Para (Barossa Valley) streamflow trend data[5] between 1989-90 (moratorium on dams) and 2016-17 declined by more than 43%. The Barossa region has experienced drought conditions since then; and
    - River Murray[6] inflows in the first 20 years of 21st century is approximately half of the previous century. The RM supplies two thirds of Barossa Valley irrigation water
- Increased temperatures bring ripening forward –widely supported across the globe in wine-making regions - an indicative one-month earlier harvest for Barossa grapes in just thirty years. What does this mean:
    - Nuriootpa mean maxima[7] in March is 26.0°C, but a month earlier in February it is 29.3°C. This, without considering any background temperature rise, represents three-times the worst case 1.1°C increase modelled, during month of harvest; and
    - Indicative sunshine hours in March of 8.0 hours, versus a month earlier in February 9.0 hours; which
    - In combination have dramatic effects on plant physiology – a lot warmer for 11% longer (per day) in the month of harvest.
    - The optimum temperature for many plants is circa 10°C, so a 1.1°C rise is about 11% of the range – a seemingly small increase with a large impact on the target crop.

[3] Australian climate data including extreme heat events - BOM Climate Outlook March 2020 for southern Australia as presented to Barossa Improved Grazing Group
[4] Based on Wikipedia surface area of 817 km^2, a conservative evaporation rate baseline of 1.00m pa
[5] Source https://www.waterconnect.sa.gov.au/Content/Publications/DEW/Barossa%20PWRA%202016-17.pdf
[6] Source: Keelty (2020) Impact of lower inflows on state shares under the Murray-Darling Basin Agreement
[7] Nuriootpa PIRSA Station BOM data

Private v public water use

The current weighting of the document is toward potable water for people and industries and requires greater agricultural content, if it is to sustain economic growth.

Australian agriculture is in general experiencing boom conditions and the National Farmers Federation have set a $100b target for the sector by 2030.

Agriculture (including horticulture) is a far greater user of water and needs discussion.

Pre-emptive policy and investment advantages

In an economic sense, other global economies are similarly exposed to climate change. The Western US including California is currently experiencing a twenty-year drought. It reported to be the driest it's been in 1,200 years[8]. Many of their crops match those grown in SA – leaf vegetables, tomatoes, grapes, almonds and citrus.

The global effects of climate change in effect confer potential advantage to South Australia through its leadership position in water policy, licensing and re-use. This allows the informed, timely and pre-emptive allocation of key resources to water security in the face of climate change.

In particular, opportunities exist for greater exploitation of climate independent[9] water resources due to their superior reliability:

- In 2008-09 SA River Murray allocations were 18% (of entitlement) – an 82% reduction; yet
- SA Water's Bolivar treatment plant outflows were 95% (expected volume) – a 5% reduction.

Simply, water security is a key, but not the only adaptive response to climate change.

River Murray a climate dependent water source

The River Murray is a climate dependent water source which has already experienced a substantial decline in irrigation water availability[10]:

- Twenty percent of flows are now (sensibly) allocated to the environment at the expense of irrigation;

[8] Source US to enter mega drought which will be the worst for 1200 years – here's what to expect | The Independent

[9] 'Climate dependent' (dependent upon rainfall) in contrast to 'climate independent' (independent of rainfall) water sources

[10] Source: Keelty (2020) Impact of lower inflows on state shares under the Murray-Darling Basin Agreement

- Median annual inflows (2000-2020) have been approximately half that of the previous century (1895-1999); and
- Drought – 8 out of 13 of the driest years since 1895, have occurred since 1999.
- Climate change is expected to continue with a worsening of outcomes through to 2050.

Up to 60% of River Murray irrigation water is 'imported' into South Australia.

South Australia has surface water licenced use of 551.0GL pa of Murray water[11] but nett imports[12] averaged 540.8GL for the same period (albeit reduced by wet 2016-17 year). This ballooned to 657.4GL imported water for the period 2019-20 & 2020-21 (unfinished year distorted by 'parking arrangements' in Victoria for carryover purposes).

The ***use of Murray surface water in South Australia is currently closer to 1,200GL pa*** when allocation trades into SA are included. Simply, Victorian (Murray Zone 7 HR) and NSW (Murray Zone 11 HS) licenses are owned, leased and/or allocation water is transferred into SA on an annual basis.

Whilst the risk to population centres has been addressed through Adelaide's desalination plant and critical human needs prioritisation, agriculture and horticulture are seriously exposed. By way of example two thirds of Barossa Valley vineyards are irrigated from the River Murray (RM) at a time when native (local) water resources are also in steep decline. The RM exposure is serious and unless solutions are found will undermine economies and lead to decline rather than growth.

Looking at risk, dry (and extremely-dry) years are increasing in frequency. A chain of dry years runs up-stream Murray storage volumes down and severely curtails water volumes available for irrigation. Aither an economics, policy and strategic advisory firm based in Melbourne indicate[13] that in an extremely dry year (like 2007-08) insufficient water will be available to maintain more than 40% of 2018 permanent plantings (grapes, citrus, fruit & nuts).

SA's valuable horticulture industries are largely reliant on climate dependent water sources that are in decline.

Water quality

If water use is to be sustainable then quality must be addressed - it must be fit for purpose. Currently, some recycled water is saline and sodic (high sodium adsorption ratio) with serious implications for irrigated horticulture. In one set of PIRSA trials using recycled water, irrigated

[11] Figure 2: Average annual volume of water used in South Australia by resource type – Water Security Statement 2021

[12] Source: Water Connect SA nett imports into South Australia – this is a **cumulative net volume into** SA https://www.waterconnect.sa.gov.au/Systems/WTR/Pages/water-trades-allocation-charts.aspx

[13] Aither (2019) Final report: Water supply and demand in the southern Murray-Darling Basin

almond trees died. Sodic irrigation water can permanently destroy soil structure rendering soils impervious to water, degraded, useless for agriculture and exposed to catastrophic erosion.

Groundwater sources are often of poor quality and unsuitable for horticulture. Many groundwater sources in the Barossa are of marginal quality. Aside from soil sustainability issues, a quantity of salt-affected grapes was grown in the water-poor Eden Valley region in the Barossa in 2020-21. These grapes produced wines that do not comply with FSANZ regulations (too high in salt) and the growers will be unable to market their output in the medium-term.

Quality is critical in maintaining sustainable industries and conserving irreplaceable soil assets.

Source versus quality

Current legislation and management practice emphasise the water source, yet the crop does not differentiate on water-source. Growth, productivity and sustainability (enterprise & soils) are based on water quality.

The use of 'wastewater' as a descriptor invokes negativity and fear. This emphasis on recycled water with its negative connotations is not constructive in respect to the limitations it imposes on usage, storage and management. These barriers are largely historic and emotive as well as costly.

Given the magnitude of potential climate independent water (recycled/reclaimed) available – only 30GL out of a total 99GL water from metropolitan Adelaide is currently re-used, with a further 135GL of stormwater[14] discharged into Gulf St Vincent - further opportunities are significant.

If the water is similar to or better than native water sources, it should not be treated any differently. We do not need lined storage, overflow protection, etcetera - the cost barriers should be removed:

- It comes from few sources – Christies Beach, Glenelg & Bolivar treatment plants managed by one of the best water utilities in the world;
- In contrast, Adelaide's potable water sources are relatively many, some from catchments including rainwater tanks with faecal contamination risks, yet no recent contamination issues come to mind;
- The Virginia Pipeline Scheme has been irrigating salad vegetables (eaten uncooked) with treated Bolivar water for over 20 years without any negative human health issues that I am aware of; and
- Native water sources in many cases are of lower quality and are expected to decline further.

[14] Interestingly, stormwater volumes may grow with the advent of urban in-fill and new housing due to increased hard-stand area with high (99%) runoff.

It is not the source but the quality that matters. In some ways the more traditional Class A, B and C irrigation water would provide greater guidance on utility without the baggage of current nomenclature.

Desalination

Desalination costs are likely to parallel wholesale energy costs and in the continuing decarbonisation of our economy, present as an increasingly viable proposition. This presents as two key opportunities:

- A 'sink' for excess power at times of high supply; and
- An ongoing use at baseline (lower) power prices.

The linkage of power and water make excellent strategic sense given water treatment and transportation is reliant on energy. Is there another collocated opportunity in the adjacent (to Bolivar) salt lakes and desalination?

Water trading

Knowledge barriers and transparency represent barriers to horticulture. Access to real time information and guidance on the underlying rules are problematic for many individual users. The omission of a substantial volume of Murray irrigation in the draft Water Security Statement 2021 bears ample testament to the current complexity.

This presents as an opportunity for improvement. The investment of $14.7m is applauded.

Economic contribution

Beyond the farmgate

One of the difficulties of current ABS and ABARE data is in the way it is aggregated. Simple commodity-based industries such as wheat predominantly exported in unprocessed form are served relatively well, yet more complex industries with more significant value accretion have their data 'lost' through aggregation with other crops/industries through the supply chain.

As a consequence, simple measures such as farm-gate value in primary industry can understate by many-fold the real contribution an industry may make to the overall economy. One example of a (relatively) complex value chain is Barossa wine:

- Grape values determined at farm-gate (easily visible);
- The resultant wine may be sold in bulk or packaged as branded product; with

    - Using 2020 export value ($/L) an uplift for packaged wine exported averaging around 6.5-times the farmgate value[15]; yet
    - It is much more difficult and costly to get meaningful data on domestic sales
- A significant drawcard for wine-tourists seeking to visit the region difficult to quantify.

Economic value often extends far beyond the farm-gate with multiples many times that 'easy to collect' figure.

Decentralisation

Australia is one of the most urbanised countries in the world and much can be said for the decentralisation of population from direct cost savings and indirect benefits. Continues urbanisation presents as an abandonment of costly community assets such as roads, utilities, housing and health services. These need to be replaced in the destination towns and cities usually at significant cost.

Rural communities need rural economies to sustain them.

Leon Deans 18th June 2021

[15] Based on indicative $23/L Barossa Valley red export values published by Wine Australia and compared with $2,500/T weighted average price for Shiraz published by VineHealth Australia, using a nominal 720LPT into bottle

Green Triangle
Forest Industries Hub

Friday 18 June 2021

Department for Environment and Water, Water Security, Policy and Planning
GPO Box 1047
ADELAIDE SA 5001

Via email: DEWWater@sa.gov.au

Dear

The Green Triangle Forest Industries Hub (GTFIH) appreciates the opportunity to provide comment on the South Australian Government's *Draft Water Security Statement 2021,* in particular the welcomed plans to review and amend the water allocation plan in the Lower Limestone Coast region with updated science.

The GTFIH, which represents more than 90 per cent of the Green Triangle's Forest and timber industries, was established by key industry leaders in 2019 to undertake strategic planning and research to support sustainable industry growth, enabling development of new plantations and increased local processing and manufacturing. The Commonwealth Government has supported the GTFIH by investing more than $1 million towards this important work.

The Green Triangle, which is Australia's largest producer of softwood structural timber, has been earmarked as a premier location to deliver a major proportion of the Commonwealth's *One Billion Trees for Jobs and Growth* plan due to the suitable climate, topography and processing capability. This first-of-its-kind national plan aims to plant an additional 400,000 hectares of commercial trees over the next decade to meet growing domestic consumption for wood products. It is anticipated that current domestic and global demand for fibre will quadruple by 2050, illustrated in recent time by the staggering growth in Australia's new housing market.

However, this growth is being crippled locally by the current Lower Limestone Coast Water Allocation Plan (LLCWAP) which has resulted in an estimated 25,000 hectares of trees being stripped from the south-east estate, equating to a loss of more than $300 million in local economic activity and flow-on job cuts. This is having a significant impact on the national shortage of construction timber which has been exacerbated by further decline due to the toll of wildfires in NSW and Kangaroo Island.

The Lower Limestone Coast's net loss in plantation estate, which is the equivalent of trees destroyed in the 1983 Ash Wednesday bushfires, cannot be replanted in the Hundreds of Coles, Short and Zone 3A because of assumed overallocation of water – the water licensing restrictions will not provide growers access to enough water to replant.

Industry has been forced to absorb these water reductions based on data that is outdated, some of which is nearly two decades old, resulting in once productive and profitable estates converted to farming land. The industry is being forced to redirect investment to other states where water is not an inhibiting factor to establishing new trees.

It is essential that in combination with ensuring the sustainability of the LLC water resources that due consideration is also given to the many regional and national values contributed by the Green Triangle's forest plantations. These include but are not limited to: economic and sovereign capability; employment locally and nationally in the building and construction industry; carbon capture; environmental and social benefits of world's best practice forest management.

Working in collaboration with NIFPI (National Institute for Forest Products Innovation), the GTFIH is generating a robust scientific evidence-base using the most up to date forestry data to better understand the industry's impact on the water table and effects of climate change, working towards a sustainable solution to stop and reverse this current decline in plantation estate.

The GTFIH believes this extensive research, which is creating real, reliable and credible data, will greatly aid the Landscape Board in the LLCWAP review process and furthermore support the strategic priorities of this updated water security statement.

The GTFIH water research, which is due to be finalised in the coming weeks, focuses on four key themes:

- Investigation groundwater resource management in the LLC WAP Region – or more simply, whether the current 60 hydrological zones can be reduced to eight simplified zones.
- Examination of the direct impact of plantation forests on wetlands using plantation growth as an indicator.
- Modelling Evapotranspiration – investigating if there is spatial variation in mean plantation water use, groundwater recharge and extraction across the LLC due to variation in rainfall and PET (Potential evapotranspiration, or PET, represents the combined loss of water through: 1) the plant's process of transpiration via its vascular system, and 2) evaporation of water from the earth's surface).
- Mapping of heavy clays in the LLCWAP to indicate areas that may not be accessing groundwater.

This work is in addition to NIFPI research which is focused on optimising the management of plantation water and environmental assets and options for operating efficiently and sustainably within forest license rules. It will also be finalised in the coming 12 months in time for the LLCWAP review process.

The GTFIH has earmarked the need to continue this significant research in the new financial year, identifying further opportunities to learn from the current findings and meet further gaps identified in the Goyder Review and recommendations from the Independent Expert Panel.

As you are aware, our industry stakeholders have been actively engaged in the development of forest water policy since its inception and want to ensure they continue to have a recognised voice in future decision making.

To support positive ongoing interaction with the Landscape Board, the GTFIH has led the formation of a new consultation group, the Primary Producers Sustainable Water Group, a collaborative partnership with key irrigators from the Limestone Coast region. These participants, including vignerons, potato growers

Green Triangle
Forest Industries Hub

and dairy farmers alongside forestry stalwarts, recognised synergy in their sectors growth plans, understanding they must work together for collective sustainable growth in the region.

This group has formulated a Sustainable Water Strategy which has been considered by the Limestone Coast Landscape Board with recommendations included in the *Make Every Drop Count* project, which recently received $500,000 from the State Government to understand how to deal with water security in a changing climate. This includes research into harnessing drainage water, currently directed to sea, for environmental and industry gain.

Whilst our forest and timber sector welcome this *Draft Water Security Statement*, it is of concern that it fails to recognise the forestry sectors growth ambitions. Whilst the report highlights the priorities of the Growth State plan, earmarking growth in food, wine and agribusiness, it fails to recognise the contribution of forestry and its development priorities. These objectives are well-recognised by the State Government through FIAC-SA (Forest Industry Advisory Council), which identified 16 key recommendations to supercharge the industry, including major water reform. Our sector would welcome additional commentary about the significant contribution our sector plays to the economic, social and environmental needs of our communities in this visionary plan. The GTFIH strategic plan also provides great resource for this commentary.

Again, thank you for considering these comments and we look forward to ongoing positive collaboration as we share the findings of our industry-led research into plantation tree water use.

Yours sincerely,

Liz McKinnon
Executive General Manager
GTFIH

Dr Ashley Kingsborough
Team Leader, Water Security
Department for Environment and Water
e: ashley.kingsborough@sa.gov.au

18 June 2021

Dear Dr Kingsborough,

RE: Feedback on the Draft Water Security Statement 2021

At the invitation of Minister the Hon David Speirs MP (correspondence ref: 21EW0013343), I write to you on behalf of the Conservation Council SA to provide feedback on the State Government's draft *Water Security Statement 2021: Water for Sustainable Growth* ('the Statement'). Thank you for the opportunity to provide comments.

The Conservation Council SA is an independent, non-profit and strictly non-party political organisation representing around 60 of South Australia's environment and conservation organisations and their 90,000 members.

The Conservation Council SA takes a principles-based approach to water security, conservation and management, and advocates that the Statement adhere to those principles where possible:

1. **Capture and use water as close to source as possible**

When considering a hierarchy of water supply choices, capturing and sourcing water as close to the end user as possible is preferable. Water captured close to its the point of use is more energy-efficient, water-efficient, and builds social resilience – especially in drought-prone or high bushfire-hazard areas. To that end, recycled, stormwater and rainwater rank higher than pumping water long distances or desalination.

South Australia has long been an international leader in managing stormwater and wastewater as resources rather than as waste products; the Government should continue to scale up the integration of cost-effective recycled water options into South Australia's water supply system.

2. **Don't 'mine' water**

South Australia is blessed with ancient groundwater in the Great Artesian Basin that is many thousands of years old. This resource must be treated with the utmost care and respect and not utilised for mining projects or other short term goals. In most parts of the Basin, recharge rates have declined over time, so the resource is in natural decline. We are effectively 'mining' this precious source.

3. **Prioritise water for the environment**

Economic activity and human health depend upon environmental sustainability. In any water use planning, environmental needs must be prioritised before economic development.

It is critical that a clear and measurable total water allocation target is set for Adelaide's green urban spaces (and where possible, also for other South Australian significant urban areas), and with meaningful plans put in place to reach that target. Modelling on the water demand from green urban space must of course account for the impacts of climate change, namely, that the green urban spaces will become more important in a hotter climate (for example, due to the urban heat island effect) and will also require more water for their maintenance.

4. **Water policy must be considered holistically in the context of broader policy**

Choices we make regarding water supply and demand impact on every facet of life. For example, our response to rainwater capture and stormwater in Adelaide has a major effect on the health of sea grass in Gulf St Vincent. This in turn has a major impact on the health of commercial and recreational fishing.

5. **Continue to adopt water sensitive urban design (WSUD)**

Whilst WSUD is a term that captures many techniques, its objectives are relatively constant, namely: to maximise the use and reuse of water resources, and to improve the water quality of water draining from urban environments into creeks, rivers, and wetlands.

6. **Proactively respond to climate change**

Climate change is making South Australia hotter and drier, and creating more volatile weather systems. Combined, these impacts are creating more instability and irregularity in both the supply and demand for water. All decisions on water systems design should clearly articulate how they are incorporating and responding to the projected impacts of climate change.

7. **Support full implementation of the Murray-Darling Basin Plan**

Despite its imperfections, the full implementation of the Murray-Darling Basin Plan is critical to the water security of South Australians and to their prosperity.

8. **Recognise Aboriginal Rights to Water**

Access to sufficient, quality water is a fundamental human right. Any comprehensive water statement needs to consider cultural needs for water, alongside environmental and economic considerations.

Further to its principles-based approach, there are several specific policy recommendations that the Conservation Council SA strongly urges the Government to adopt clear references and commitments to in its Statement, namely:

1. **Establish a process that sets annual urban greenery water allocation targets**. Without clear targets, water allocations for urban green spaces will continue to be constricted.

   Please find enclosed a report commissioned by the Conservation Council SA, '*Water for greening in metropolitan Adelaide*' (Edge Environment, June 2021), that investigates the causes of the loss of greenspace and examines the drivers, including sufficient water supply, that will encourage greater greening across the city.

   This report contains a range of recommendations to ensure that water and greening policy for metropolitan Adelaide is better linked. The 30 Year Plan for Greater Adelaide has a target of increasing urban green cover by 20% in metropolitan Adelaide by 2045. This increase will only be possible if there is explicit consideration in policy and state government priority setting of how much water is needed to achieve it.

2. **Reverse the recent retrograde changes to rainwater tank requirements of new builds in the Planning Code**. We are deeply concerned that the recently released Planning & Design Code unwinds the previous mandatory requirements for the provision of plumbed rainwater tanks in new housing.

   It is surprising and disappointing that in the driest inhabited State on the driest inhabited continent, and with increasing impacts of climate change looming so large, that the State Government has chosen to unwind the previous, limited requirements that had been in place since 2006.

3. **Support the urgent incorporation of climate-change modelling into the Murray-Darling Basin Plan**, to provide the basis for a more realistic update of the Plan, and to prepare more effectively for future South Australian water security challenges.

Finally, the Conservation Council SA has several recommendations to specific parts of the text of the Statement it wishes to highlight:

1. "*Strategic priorities for water security and next steps*" (pages 45-46)

   The biggest omission in the Statement is that this section refers only to process, and not to outcomes the State Government is aiming to achieve. This is clearly evidenced in the indeterminate verbs selected; for example "*consider*", "*improve*", "*building on*", "*update*", "*continue to*", "*progress*", and so on.

Clear outcomes should be referred to, and clear steps provided on how to achieve those outcomes. For a highly relevant example of this approach, please refer to the 'Key actions' and 'Actions and outcomes' sections of the previous excellent publication by the Office of Water Security, *Water For Good*[1]. If this change is not adopted, the document will be purely descriptive – for information only – rather than prescriptive and action-oriented.

2. "*Why we need to consider water security?*" (pages 2-3)

   There is no direct reference to the importance of water security to secure environmental outcomes, which has so many consequential impacts upon social outcomes and also sustainable economic prosperity; for example, upon human health, sustainable agricultural and forestry, and sustainable freshwater and estuarine fisheries, to name but a few. This is a significant oversight.

   It is therefore recommended that there be an explicit reference to "*Water for communities and the environment*" within this section of the Statement described under a separate subheading.

Thank you again for the opportunity to provide feedback on the State Government's *Water Security Statement 2021*. We thank the Government for their efforts to address the critical importance of our state's water security.

As this is such an important policy conversation, we strongly encourage the public sharing of all submissions in response to the Statement, and more open discussion between interested stakeholders. We would be happy to work with DEW on encouraging a broader debate on water in the SA community.

If you require further information, please contact me at craig.wilkins@conservationsa.org.au.

Yours sincerely,

Craig Wilkins
Chief Executive

Cc Minister for Environment and Water, The Hon David Speirs MP
Cc Chief Executive, Department for Environment and Water, Mr John Schultz

[1] *Water for Good*, Office of Water Security, Government of South Australia, June 2010, available at: https://www.environment.sa.gov.au/files/sharedassets/public/water/water-for-good-full-plan.pdf

18 June 2021

Mr John Schutz
Chief Executive
Department for Environment and Water
81-95 Waymouth Street
Adelaide SA 5000

Dear John

Draft Water Security Statement 2021

Thank you for the opportunity to provide SA Water's feedback as a part of the consultation process for the draft Water Security Statement 2021. We have valued our early and ongoing engagement with the Department for Environment and Water (DEW) in developing the Water Security Statement, considering our shared interests in this important issue.

SA Water acknowledges the criticality of water security for the South Australian population which ultimately underpins healthy, thriving communities and sustainable economic growth for South Australia.

SA Water is supportive of the draft Water Security Statement, which has strong alignment to Our Strategy 2020-25. Our shared commitment to water security ensures that the 1.7 million South Australians we serve either directly or indirectly have adequate water supply now and into the future.

As a key contributor to securing South Australia's water resources, we are actively working on planning new desalination infrastructure on Kangaroo Island and Eyre Peninsula, expected to start construction in 2021 and 2022, respectively. Remote communities including Yunta, Oodnadatta, Maree, Terowie, Marla and Manna Hill will also receive water supply upgrades by 2024.

We also acknowledge the importance of water allocation planning to provide certainty to current and future users of water, particularly to those whose livelihoods depend on it. As you would be aware, SA Water considers that all Water Allocation Plans should include provisions for critical human water needs for protection of public water supplies.

In support of the South Australian Government's sustainable growth agenda, we welcome the opportunity to continue to work with DEW, and other stakeholders on the 10 strategic priorities for water security, which will lead to fair and equitable access to water that meets our community's needs.

Kind regards,

David Ryan
Chief Executive

From: Kingsborough, Ashley (DEW)
Sent: Monday, 21 June 2021 10:14 AM
To:
Subject: FW: SA Water's consultation response - draft Water Security Statement 2021
Attachments: SA Water response Water Security Statement consultation - signed.pdf

From: Neumann, Rachael
Sent: Friday, 18 June, 2021 3:21 PM
To: Kingsborough, Ashley (DEW)
Cc:
Subject: SA Water's consultation response - draft Water Security Statement 2021

Dear Ashley,

Thank you for the opportunity to provide feedback on the draft Water Security Statement 2021, I've attached SA Water's formal response expressing our support of the draft Statement.

Separately, I want to pass on some feedback regarding the location and construction timeframes listed against the Eyre Peninsula (EP) Desalination Plant project on pages 34 and 47 of the Statement, as the detail is no longer accurate.

You may be aware that we are investigating several locations as a of the alternative site selection process. The alternative locations are identified as potentially delivering a more cost-effective project outcome than the previously preferred position near Sleaford Bay, while still meeting important environmental, social and cultural priorities.

As a result of this change in the planning process, the initial expected construction commencement date of 2021 will also change. While construction timeframes will be finalised in coming months, it is anticipated that construction will now commence in 2022. We expect to provide details to the wider community within coming weeks on a preferred site.

Please let me know if would like to talk through any of the EP Desalination Project information or have any other questions.

Kind regards,
Rachael

Rachael Neumann
Manager Key Stakeholder Relations

250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

sawater.com.au

From:
Sent: Friday, 18 June 2021 5:01 PM
To: DEW:Water
Subject: comment on draft water security statement

Hi

I first saw this statement 2 days ago, and the Water Advisory Committee of the Riverland & Murraylands Landscape Board saw it yesterday, with one day left to comment. None of the members had seen the draft report or the request for comment via their own networks.

My first question is, what is the consultation process and where has the draft report been circulated for comment?

From my very brief quick review, also reflecting the discussion at yesterday's meeting of the Water Advisory Committee, the bulk of the report is a description of business-as-usual. The last two pages then touch on the development of forward plans from 2024. These promise to be based on the best available science.

The elephant in the room for this statement is the existing science which is being ignored. This draft statement should be driven by the predictions of significantly reducing water availability, both from the Murray-Darling and in regional rainfall. The state water strategy should be embracing the reduce/re-use/recycle philosophy as hard as it can go. The aim should be to reduce demand and to foster re-use and recycling. It is not appropriate to assume that currently secure arrangements for diversions from the Murray River will continue or that Mt Lofty catchments will continue to supply the dam network. Recharge of groundwater supplies is also in serious doubt, for example in mid-north catchments like the Broughton River and Willochra Creek.

Waiting until 2024 to consider the science is too late. The reconciliation of the Basin Plan which is due in that year will show that key elements have not been delivered. Off-set projects to justify the 605 GL reduction in water recovery won't have been delivered by that deadline (some not even started). Work on toolkits projects in the northern Basin to justify a further 70 GL reduction won't be complete. The constraints projects to support delivery of environmental water and river flows are barely started. The 450 GL required by SA to sign up to the Basin Plan and to guarantee flows through the southern basin to the Murray Mouth and Coorong are barely started (2 GL delivered so far, maximum likely delivery 13 GL because Miniter Pitt has ruled out any further buybacks from willing sellers).

The issue of over-allocation has not be tackled and Basin states are relying on the allocation system to keep control of total diversions. This will leave more and more diverters with no water, which will further hamper implementation of the Plan and recovery of water. The Basin ecosystem is still declining, undermining the water security of all Basin states.

This needs to acknowledged now, not in 2024.

I hope there will be more opportunities for considered discussion and comment.

Anne Jensen

--
Dr Anne E Jensen
Environmental Consultant
Healthy Rivers Ambassador for MDB

From:
Sent: Monday, 28 June 2021 12:07 AM
To:
Subject: RE: comment on draft water security statement
Attachments: grand vision for sustainable Australia.pdf; WE ARE MAKING THE DRIEST INHABITED CONTINENT DRIER .pdf

Hi

Thank you for your response and the offer to provide additional comments on the draft water security statement. I had intended to take up the opportunity to provide further comment but had deadlines to meet on a major project this week and ran out of time.

My initial response covers the key points that I wished to make about the water security statement. In support of my argument that South Australia needs to acknowledge the limits on its water availability and to plan to live within those limits, I have also attached two brief documents which provide further detail relating to my points about the need for active intervention to reduce water demand and to retain water in our landscapes.

I have outlined a brief 'Grand Vision' incorporating a range of sustainable management actions including water resources. I refer particularly to Michael Jeffery's report 'Prosper the Soil, Prosper the Nation' and his call to manage soil, water and vegetation as national assets which are essential to our economy.

In the paper 'We are making the driest inhabited continent drier', I also draw your attention to the paper by Bastin et al (2019) which highlighted the very significant potential for Australia to make a major contribution to global action to remove carbon from the atmosphere, by revegetating cleared marginal lands with perennial native species, at the same time restoring some of the lost regional rainfall associated with mass clearance of native vegetation.

South Australia could lead the way in demonstrating how we can live well within the means of our natural resources, starting with sustainable management of our precious water resources.

Thanks for the opportunity to comment.

Cheers

Anne

--

Linked in profile: http://lnkd.in/eA8u7W
Blog: www.planetforlife.wordpress.com

GRAND VISION FOR A SUSTAINABLE AUSTRALIA

Australia needs an inspiring ***Grand Vision for a Sustainable Australia***, underpinned by a well-coordinated, funded, practical **50-year Action Plan.**

The ***Grand Vision*** and ***50-year Action Plan for a Sustainable Australia*** should include the following strategies:

- Manage landscapes to better suit Australia's unique status as the world's driest inhabited continent, accepting real limitations of finite water sources, low nutrient soils and highly unreliable rainfall
- Develop a national regenerative farming policy based on building resilience to manage the farming sector through flood and drought cycles, by retaining rainfall on the land where it falls, to soak into the soil and then run at a slower pace into rivers, while leaving soils in place on the land
- Develop a national program to re-hydrate Australia to get moisture and carbon actively back into soils, reducing fire risk, improving agricultural productivity, increasing biodiversity and addressing climate change
- Revegetate at least 50% of cleared lands to allow rainfall to penetrate, to restore disrupted rainfall cycles and reverse the current decline in rainfall, restore surface cover to prevent evaporation and reduce surface temperatures
- Stop further mass-scale clearing and start a mass revegetation program to return native groundcover, shrubs and trees to marginal farming areas as an alternative to annual cropping and marginal grazing
- Provide technical support for farmers to move to regenerative farming methods which retain soil cover, and to switch to crops, stock and farming methods better suited to Australian conditions
- Expand the system of biodiversity credits to pay farmers across Australia to revegetate and manage native vegetation while earning an alternative income, similar to credits already paid to farmers in Great Barrier Reef catchments for preventing soil and nutrients leaving their properties and flowing to the Reef
- Set national targets for reducing soil erosion and dust storms, to keep our precious limited soil resources in place on farms
- Adopt and promote regenerative farming methods, with a support hub in every state (*like the Mulloon Creek Institute near Canberra, with running water in its creeks in the current drought*)
- Set realistic, conservative water use targets for all sectors, urban, rural, mining and industrial, and enforce compliance rigorously
- Set strict limits on water trading between river valleys, to ensure that water is not traded from a permanently flowing river to a river with intermittent or highly variable flows, where water allocations cannot be delivered with the same reliability
- Set limits on water trading and new plantations according to system capacity to deliver sufficient water at times of peak demand, while providing flows for essential environmental needs or critical human needs
- Set targets for Australian cities and towns to reduce water demand and to use water more efficiently through recycling and re-use schemes
- Set targets for Australian cities and towns to make surfaces permeable so rain can reach aquifers and soils beneath urban areas, to line their waterways with native trees, shrubs and groundcovers, to increase shade and green spaces to lower temperatures, to capture local rainwater on-site and to recycle stormwater rather than directing it out to sea, where it impacts on marine ecosystems.

Implementation of the ***50-year Action Plan*** will require engagement in an ongoing national conversation with Australians about why we need to change the way we farm and manage our landscapes, our water, our soils and our cities and towns over the next 50 years, in order to repair the damage we have (mostly unwittingly) done in the last 220 years and to manage fire and flood risks going forward.

It will require significant statesmanship to get the ***Grand Vision*** developed, agreed and adopted, and to generate long-term commitment and bi-partisan support for effective implementation.

This alternative policy could set Australia on a path back to recovery from massive environmental and community damage, towards a future of prosperity with stability, living within our natural resources means and doing a good job of looking after the health of our island continent and our own communities.

Australia can't be drought-proofed or fire-proofed – we need to learn to live with drought and how to reduce the risk of devastating fires. The first step is to accept the natural limitations of our climate, soils and water resources.

We already know where to start!

Former Governor-General and National Soil Advocate, Michael Jeffery, has completed a milestone report ***Restore the Soil: Prosper the Nation***, after six years of consultation across the country. It sets out a blueprint for looking after Australia's soil, water and vegetation assets as the basis for future soil and water security.

https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/ag-food/publications/restore-soil-prosper.pdf

Our Farming Methods are Making the Driest Inhabited Continent Drier and Hotter – It's Not Just Climate Change

As fires rage across Australia in the worst fire season ever experienced, every interview notes that the country has never been so tinder-dry. We are making the driest inhabited continent drier and hotter through our farming methods and management of landscapes – it's not just climate change.

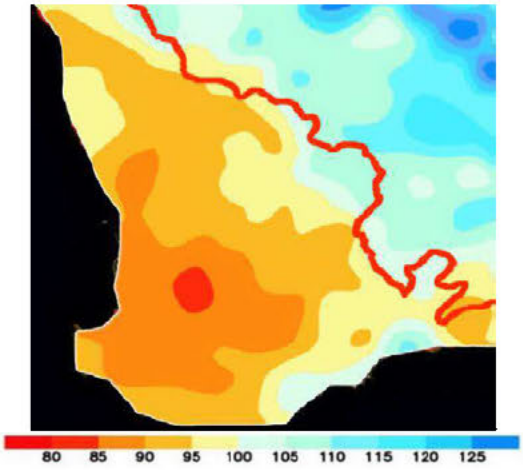
In his book 'Collapse', published in 2005, Jarrod Diamond says Australia will be the first of the First World countries to face economic and social collapse because of over-exploitation of its natural resources.

Australia has uniquely impoverished soils and associated low nutrients in our marine ecosystems, as well as finite, limited water resources. Almost all natural nutrients were tied up in the original standing crop of native vegetation cover, and once this was removed, remaining nutrients were quickly depleted by the first crops. Current crops are heavily reliant on supplementary fertilisers.

Clearance of vast tracts of vegetation has in fact decreased rainfall, instead of the popular myth that 'the rain follows the plough'. Bureau of Meteorology charts show a very significant decline in rainfall across agricultural areas since the 1970s, accompanied by a very dramatic increase in temperature over the same period (*see BOM map below*).

The cumulative effect of past management of Australian landscapes has increased the drying out of already dry and impoverished soils. Dust storms did not occur until large-scale clearance of native vegetation followed by ploughing and cropping of soils destroyed soil structure and stability.

Rain doesn't follow the plough, as believed in the early days of settlement. Rather, the reverse is true, massive clearance has reduced regional rainfall. More and more evidence is emerging to demonstrate this effect, such as the coincidence of declining rainfall in south-west Western Australia with the rabbit-proof fence, which marks the edge of cleared crop lands (*see figure right from Pitmann et al. 2004*).



- run-off into Perth's reservoirs declined by 120 GL from the 1970s (66% decline), leading to necessity for desalination plants (Pitmann *et al.* 2004)
- declining rainfall and run-off in south-west WA coincides with the 'rabbit-proof' fence, bordering the area cleared for cropping and grazing (Pitmann *et al.* 2004)
- land clearing in south-western Australia accounts for ~50% of changes in local temperatures and rainfall, comparing 1976–2001 with 1925–1975 (Pitmann *et al.* 2004)
- around half the decline in rainfall to 2000 in south-western Australia is due to land clearing (Andrich & Imberger 2013)
- dust storms did not occur before European settlement and the commencement of clearance of native vegetation (Diamond 2005).

Australia blames other countries for producing CO_2 but up to half of rainfall decline and rising temperatures is due to local factors, the way we clear and farm our landscapes.

Need for Change

National Soil Advocate Michael Jeffery said in his 2017 report to the Prime Minister that we need to declare Australia's soil, water and vegetation as national strategic assets and that our national priority should be to focus on soil and water security, to underpin social stability and security (Jeffery 2017). His recommendations were based on six years of investigations and interviews with farmers.

Former Chief Scientist Ian Chubb, presenting at a National Press Club debate on 'Re-booting Democracy' (National Press Club 05/09/2018), called for an over-arching vision for where our country is going and leadership from politicians on how to get there (Chubb *pers comm.* 2019).

Australia needs a new attitude of stewardship of our natural resources and living within our resource means. This requires political will and an informed and engaged community of voters (Garnaut *pers comm.* 2018; Chubb *pers comm.* 2018). In particular, it needs to involve stewardship of our water, soil and vegetation resources in both rural and urban locations. There is emerging evidence of the need for rehydration of Australian landscapes (Massy, 2018 in Diamond 2005) and coordinated sustainable management of our water, soil and vegetation (Jeffery 2017).

A New Vision

It would be a good start to have a vision of re-vegetating large areas of landscapes, to increase soil moisture, to retain carbon, to shade the soil surfaces to reduce temperatures and increase habitats for insect-eating birds, among many benefits. We also need a vision of how to manage a landscape with such large variability in water availability and temperature, to develop sustainable farming techniques which do not continue to deplete resources and can support farming communities through inevitable periods of drought.

Stock need shade and shelter, windbreaks improve crop yields, and mature trees transpire water and support the evapo-transpiration cycle which leads to rain. They also transfer water into the soil and root zones of the trees, maintaining moisture levels and retaining carbon.

Urban communities need to be involved too, to manage water conservatively to reduce demand and also to improve urban environments. There are multiple examples of adaptation in urban centres to incorporate water-sensitive urban design to include re-use, recycling, aquifer recharge, permeable pavements and sustainable designs for housing and infrastructure (Centre for Water Sensitive Cities, 2018). There are also significant health benefits to the community from incorporating biodiversity into urban settings (Maller, 2018).

Implementing Change

Innovative farmers are already developing farming methods better suited to the unique Australian conditions, with a focus on retaining surface cover and soil moisture. The ABC Landline program on 25 May 2019 featured two groups of farmers engaging in regenerative agriculture. One group of graziers is using a holisitic approach from Zimbabwe which aims to retain soil cover and diversity by rotational grazing which mimics the large herds of native animals in Africa. Their cattle are moved every 2-3 days around >100 paddocks, maintaining ground cover, nutrient levels and soil moisture. These farmers acknowledge that we have been using European farming techniques which are harming Australian landscapes and ecosystems, and they are trying to restore soil fertility and biodiversity. They are saving a lot of money by using less pesticides and fertilisers.

The second story was about banana farmers fostering native insect populations which then control pests. They too are spending much less on inputs to their crops, with measurable improvements in soil fertility and biodiversity. Their product is in our supermarkets, the bananas with the eye-

catching biodegradable red wax tips. They cost more, but they are much more environmentally-friendly and sustainable.

Ben Sippel, a farmer from Narromine, featured in an unusual story in Woman's Day in 2019, telling how he planted old man saltbush to make his farm drought-proof. He called it a 'living haystack', providing supplementary or even primary feed for sheep or cattle. It is a deep-rooted hardy native plant which can go long periods without rain; it is good at storing water and provides cover for native grasses and lambs. Even better, kangaroos don't like it. Ben says it's like the 'never-ending packet of Tim Tams' for livestock.

Time for Action

The solution is in our hands – we need to revegetate Australia, to establish surface cover, encourage penetration of rain into soils, to increase soil moisture, reduce dust, reduce temperatures and increase evapo-transpiration rates to boost regional rainfall.

International research published in July shows that planting 1.2 trillion native trees across the world could remove two-thirds of all carbon already in the atmosphere (Bastin *et al.* 2019). There is room to plant enough trees without hindering agricultural production or encroaching on urban areas.

This practical solution is over-whelmingly the most effective solution to combating the effects of climate change, and we already know how to do it! And Australia is one of six international priority sites nominated for potentially very effective mass revegetation (Bastin *et al.* 2019). So we could be removing carbon from the atmosphere for the benefit of the whole world while increasing soil moisture for our own benefit.

Australia can't be drought-proofed and we can't just keep trying to get more water from other sources to grow unsustainable crops – we need to live within our natural means and get a whole lot smarter about how we use our natural resources. All the fire reports refer to the tinder dry conditions, lack of rain and lack of soil moisture – all symptoms of the effects of 220 years of applying European farming methods to a very different continent and failing to understand its limitations.

Bring on a new vision to move to sustainable farm and land management, to re-hydrate and revegetate this driest continent.

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KEY LINKS

Revegetation for multiple benefits

UNDP reforestation projects are focussed on equatorial rainforest, need to add semi-arid sites like Australia under threat of climate change impacts on rainfall, run-off and drought; need to reverse clearing and start re-vegetating catchments; note also cooling effect of trees:
http://www.undp.org/content/undp/en/home/stories/the-answer-is-in-nature.html

http://www.abc.net.au/news/science/2018-09-15/trees-make-rain-ease-drought/10236572?smid=Page:%20ABC%20Rural-Facebook_Organic&WT.tsrc=Facebook_Organic&sf197724058=1

https://e360.yale.edu/features/how-deforestation-affecting-global-water-cycles-climate-change

http://mobile.abc.net.au/news/2018-08-03/how-trees-can-be-used-as-drought-busters/10069318?pfmredir=sm

Revegetation to extract carbon from atmosphere

https://science.sciencemag.org/content/365/6448/76 Science Vol 365, Issue 6448, pp 76-79.

Need for long term plan to manage drought and farming

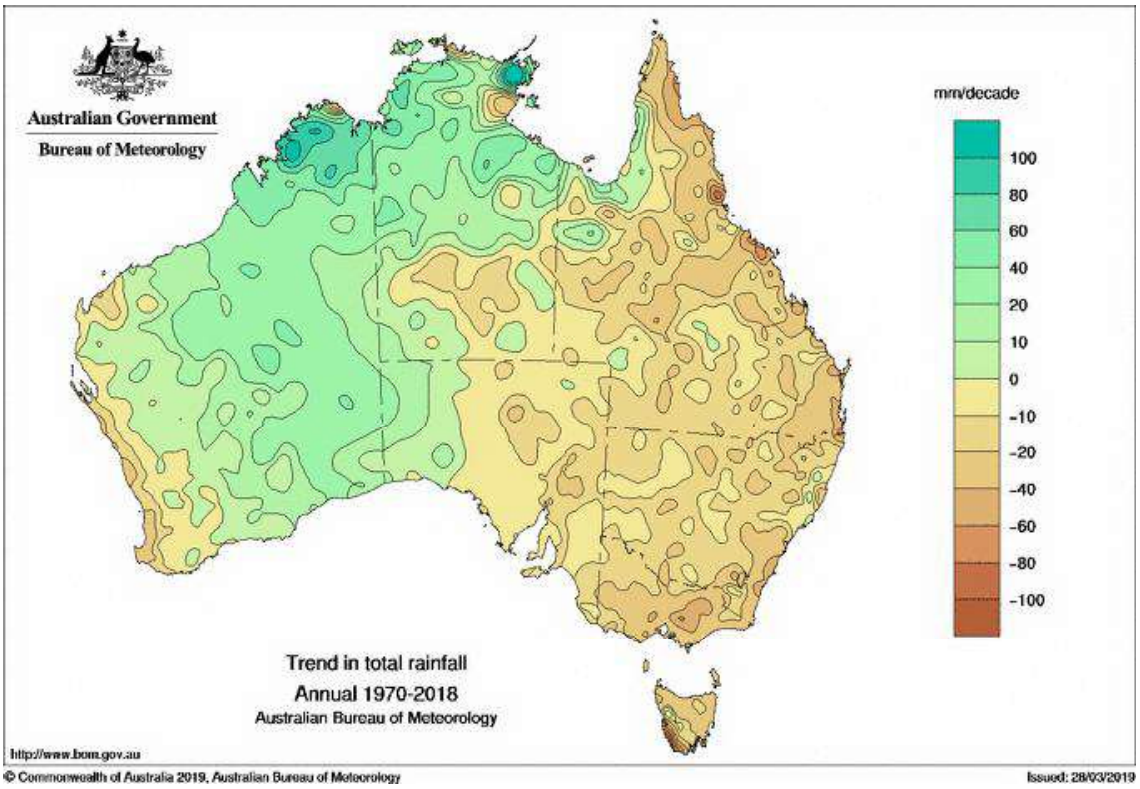
https://www.theguardian.com/business/grogonomics/2018/aug/30/if-youre-talking-about-drought-but-not-climate-change-youre-not-doing-your-job-

pm?utm_source=esp&utm_medium=Email&utm_campaign=Politics+AUS&utm_term=284462&subid=22345813&CMP=ema_792

https://theconversation.com/australia-is-not-ready-for-the-next-big-dry-12819

Regenerative (Natural Sequence) Farming methods retain moisture in soils and water in streams
Is natural sequence farming the secret to restoring our water-starved continent? For more than a decade, two farmers have shown that parched landscapes can be revived.

https://www.abc.net.au/news/2018-10-29/soaking-up-australias-drought-natural-sequence-farming/10312844?fbclid=IwAR2rFYUGheDgmHcX5kUV9vqCKEKCYVwDehD0TqdG69FH3COXNDu7vnoi0vI



To: Department for Environment and Water, South Australia

Re: Water Security Statement 2021 – Water for Sustainable Growth

18 June 2021

Introduction

AMEC appreciates the opportunity to provide a submission to South Australia's Department for Environment and Water's Water Security Statement 2021 – Water for Sustainable Growth. The recommendations and strategies contained within the Statement will have a direct impact on the current and future management of water, which is a critical requirement for the mining and mineral exploration industry.

About AMEC

The Association of Mining and Exploration Companies (AMEC) is a national industry body representing over 375 member companies across Australia, with over 20 members directly investing in South Australia. Our members are explorers, emerging miners, producers, and a wide range of businesses working in and for the industry.

The mining and exploration industry make a critical contribution to the Australian economy, employing over 255,000 people, and in 2018/19 collectively paid over $39 billion in royalties and taxation. In 2019/20 resources companies invested $35 billion in new capital and generated more than $176 billion in mineral exports. $2.8 billion was spent on minerals exploration in 2019/20, representing an 18% increase from the previous year.

Water Security Statement 2021

General feedback

AMEC continues to be an active participant in discussions and consultations with Commonwealth, State and Territory Governments regarding effective water management planning. Across these processes, our view remains consistent, that the effective management of water is a necessary measure to ensure no commercial or residential groups are disadvantaged, and that Industry's ability to access water supplies in a cost-effective and secure manner, is maintained.

The availability of affordable and steady supplies of water is a key factor to the development of the mineral exploration and mining sector. Given the biosphere and hydrogeological differences across South Australian regions, it is important that adaptive water management practices can reduce the need for prescription, and are reflective of current situations, while being sustainable into the future. This is particularly important as our Industry strives to meet the Government's ambitious Growth State and COVID-19 economic recovery objectives. Our ability to do so will be contingent on multiple factors, including water availability.

South Australian Framework

The South Australian Government's acknowledgment of the importance of effective water management and the need for innovation in this area, reflected in the $5.6M allocated to the 'Water and Infrastructure Corridors' initiative. This presents the opportunity for Industry to work with the Government. AMEC extends the invitation to the Department, to work collaboratively to explore opportunities to support the growth of our Industry, by addressing known knowledge gaps and establishing multi-use infrastructure corridors across regional South Australia.

The planned groundwater assessment phase which is set to focus on the Northern Corridor and link the Carapateena, Olympic Dam and Prominent Hill mines with other potential mines in this corridor with known copper prospectivity, including the testing of an old river ben groundwater source option in the Braemar province, will underpin the data that is used to develop the region's water and infrastructure strategy.

To meet expected increased demand for South Australian minerals, aligning with the Government's growth objectives for the State, early planning is required. As identified in the Statement, the current capacity of the State's desalination facility will be tested when demand significantly increases. To prevent potential delays as demand increases, the pre-emptive consideration of further desalination facility construction, to support the long-term water security plan beyond current supplies of water from the River Murray through the Morgan to Whyalla Pipeline, is recommended.

National-level Water Framework

Given the nature of the mineral exploration and mining industry, the majority of which is located in regional areas, natural water sources can be scarce, with significant hydrogeological variations across landscapes. There is Industry concern, based on recent water reforms at both national and individual State / Territory level, that any changes made at a national level, could have widespread, unintended consequences. These changes, without proper consultation, could diminish the economic viability of projects, and reducing investor confidence should challenges and / or increased costs in obtaining water arise.

Through the National Water Initiative (NWI), the 'water trigger' continues to be recommended for implementation, a recommendation that AMEC opposes. NWI paragraph 34 acknowledges that resources projects require economic and social considerations to be factored into decision making processes, and flexibility in entitlements and planning arrangements is required given the nature of the sector's water extraction requirements. The flexibility required by mineral explorers is unique to the Industry, as, for example, by definition, greenfield mineral exploration occurs where there is no prior knowledge of what is underground, to try and make a successful geological discovery.

We recommend against the duplication and complexity that would arise from such legislative requirements, including the water trigger, which could have detrimental impacts on our Industry, and impede its growth.

AMEC raised concern that the Murray Darling Basin (MDB) was identified in the Productivity Commission's Report into Resources Sector Regulation, as best practice. Recent reviews into the efficacy of the model identified issues with the plan, its implementation and management, and "the

info@amec.org.au | 1300 738 184
www.amec.org.au

dramatic reduction in inflows that has been experienced in the River Murray system over the last two decades"[1]. This results in water allocation uncertainty, and higher costs for affected proponents.

Decisions about water allocations made at a Commonwealth level, based on this model, do not give appropriate recognition to the large variances in each region's ecology or hydrogeology. As water availability in one part of a vast landscape does not remain consistent across the whole region, the effective management of resources should reflect these ecological differences, without the need for complex, duplicative requirements that reduce investor and project certainty.

Investment into the Industry

Water management can be a contentious issue, subject to frequent change dependent on seasonality and changing climates. Investors look favourably upon a project's ability to access water supplies, in a cost-effective manner. As South Australia's minerals sector competes with other Australian jurisdictions for investment, a robust regulatory framework which can provide an element of necessary investor confidence through accurate operational cost projections is required.

Flexibility via adaptive, risk-based water management practices are an important factor for investment attraction. The more certainty that can be provided to potential investors and project developers, the more opportunities South Australia's minerals sector will have to meet the growth objectives as per the Growth State's identification of mining as a priority sector, with goals to more than double the sector's exports by 2030. In order to realise these targets, competitively-priced, accessible water supplies are required.

Final comment

South Australia is highly prospective for minerals, and our Industry has the ability to meet the Government's Growth State objectives, in the right policy and regulatory settings. AMEC welcomes the opportunity to work with the South Australian Government as the $5.6M 'Water and Infrastructure Corridors' initiative is further developed, and requests continued engagement.

For further information contact:

Neil van Drunen	or	Samantha Panickar
Director - WA, SA, NT & Industry Policy		Senior Policy Adviser
AMEC		AMEC

[1] https://www.abc.net.au/news/rural/2020-04-17/mick-keelty-murray-darling-basin-water-sharing-review-released/12151148

CENTRAL IRRIGATION TRUST
Trustee: Central Irrigation Pty. Ltd. ACN 075 446 810
4 Fowles Street PO Box 34
Barmera SA 5345
Telephone
Fax

Mr Dan Jordan
Director Water Security, Policy and Planning
Department for Environment and Water
18 June 2021

Dear Dan

Re: Water Security Statement

Thank you for the opportunity to comment on the draft Water Security Statement and these comments are made on behalf of CIT and the 12 Trusts Managed by CIT, The South Australian Murray Irrigators and the Water Communities SA Group.

Water Security is critical for the prosperity of all South Australians and particularly those within our communities and we welcome the SA Government's Statement. We however like to see the following suggestions incorporated into the Statement.

In the Regional Water Security Status section of the Statement the narrative on the Barossa is positive and energising where it commences with "the Barossa is a world class premium food and wine region…..". However the descriptors for the other regions particularly the Riverland Murraylands are much less flattering and we would like to see this changed. The Riverland is an economic powerhouse for the state as outlined in the Statement "in 2017/2018 the gross value of irrigated agricultural production in the South Australia was $1.9 billion with $1.2 billion of this generated in the Riverland." We would like to see the Riverland Murraylands regions also described with a similar strongly positive narrative to that used for the Barossa.

It is also imperative that to continue to grow this economic powerhouse, policies that maintain or improve water security should be at the forefront of Government decision making.

In terms of the Strategic Policies for Water Security and with Water Security the top priority we believe greater emphasis should be placed on the following:

1) Increasing South Australia's consumptive pool by substitution or creation of water sources
2) Ensuring that River Murray Water Supply, Entitlement Reliability and Delivery Capacity are not eroded

CENTRAL IRRIGATION TRUST
Trustee: Central Irrigation Pty. Ltd. ACN 075 446 810
4 Fowles Street PO Box 34
Barmera SA 5345
Telephone
Fax

3) Discussions on climate change must include sea level rise and its impact on the lower reaches of the River Murray
4) Implementing policies to ensure that water demand does not outstrip the supply of the water resource as is currently happening in the lower reaches of the River Murray
5) Ensuring that any upgrades to the States water licencing system captures all participants.

INCREASING THE CONSUMPTIVE POOL

Increasing the consumptive pool will see more water available for further economic development. This requires a different mindset of government to look for new or alternative opportunities rather than easy options of reducing the consumptive use. An example could be substituting Adelaide and Coastal urban water from River Murray consumption to desalinated water and freeing up the River Murray Urban water for South Australian agricultural and non-urban community pursuits.

WATER SUPPLY, ENTITLEMENT RELIABILITY, AND DELIVERY CAPACITY ARE NOT ERODED

There are numerous examples where entitlement reliability and more recently delivery capacity have been eroded or are proposed to be eroded for consumptive users. We have seen a cap review reduce South Australian River Murray conversion factor from .9 to .875 whilst the Living Murray Water that was allocated to the Commonwealth at a reliability of 1. We have recently seen increased risks confirmed around deliverability of water to the lower reaches of the River Murray, and changes proposed for IVT Arrangements with potential third party impacts.

The South Australian Government should not introduce any policies or enter into any agreements that reduce the reliability of Water Access Entitlements or adversely impact on the delivery of water when and where required. All alternatives must be investigated and implemented even if it requires capital investment be that within SA or interstate.

CLIMATE CHANGE MUST INCLUDE SEA LEVEL RISE

Climate change discussions to date have only revolved around reduced rainfall and runoff and the impacts of these changes on the consumptive pool. However climate change induced sea level rises will also impact the very lower reaches of the Murray and research has shown that significant sea level rise may in fact lead to major changes in the lower reaches of the Murray. With greater sea water inundation in this region there may be fewer requirements for River Murray Water to cater for

CENTRAL IRRIGATION TRUST
Trustee: Central Irrigation Pty. Ltd. ACN 075 446 810
4 Fowles Street PO Box 34
Barmera SA 5345
Telephone
Fax

evaporative losses, natural environmental changes and hence the water available for productive agriculture and urban growth may in fact increase.

ENSURE THAT DEMAND DOES NOT OUTSTRIP THE SUPPLY

Whilst we have seen a reduction in water available for productive agricultural use in the Murray Darling system as a result of the Basin Plan, the Agricultural footprint has continued to grow. Aither in a number of reports have indicated that during the next drought there will be insufficient water to supply the demand from current plantings of permanent horticulture. After spending $13 billion on restoring the balance in the Murray Darling Basin it is incumbent on Government to ensure that agricultural footprint does not exceed the water resource in the Murray Darling system but also across the state.

UPGRADES TO THE STATES WATER LICENCING SYSTEM

The ACCC report on water markets in the Southern connected system recommends that there is a need for improved state water registers, data storage, processes and interoperability between states. We commend the upgrade of such systems but believe such upgrades do not cater for all stakeholders. In the most recent upgrade underway to the states licencing system the community title holders such as the Irrigation Trusts are excluded from the updates and the benefits that accrue. Any upgrades should he inclusive of all stakeholders.

Dan, thank you for the opportunity to comment on the draft statement and we look forward to seeing suggestions incorporated into the next iteration. If you would like to discuss this any further please feel free to contact me.

Yours Sincerely,

[redacted]

For

Gavin McMahon	Ian Penno and Keff Knispel	Richard Reedy
Chief Executive Officer	**Chair and Vice Chair**	**Deputy Chair**
CIT	**Water Communities SA**	**SAMI**

LANDSCAPE SOUTH AUSTRALIA HILLS AND FLEURIEU

Hills and Fleurieu Landscape Board

Cnr Walker and Mann St
Mount Barker SA 5251

Tel: 08 8391 7500

hf.landscapeboard@sa.gov.au

landscape.sa.gov.au/hf

Reference: HFLB-D000125

David Speirs MP
Minister for Environment and Water
81-95 Waymouth St
Adelaide SA 5000

23 June 2021

Dear Minister Speirs,

Thank you for the opportunity to comment on the draft Water Security Statement 2021. The Hills and Fleurieu Landscape Board understands how important it is that all South Australian regions are water secure and have the water needed to support economic growth, a vibrant and healthy society, and healthy ecosystems. The Board supports a renewed focus on water security planning, which will enable the management of native water resources to be integrated with alternative water sources, future water needs and strategies to respond to climate change.

Please see below some overarching comments about the Statement. More detailed comments on the document are provided in Attachment 1.

- The Board believes that the draft Water Security Statement (the Statement) provides a good overview of South Australia's water resources and Adelaide's water supply arrangements.
- The Statement would be improved by having a clear purpose set out early in the document.
- The Statement would be a more useful document if it identified which areas in the state have higher water security risks. The analysis could include discussion and consideration of:
    - the specific water security challenges in each region, including status and trend of the water resources (available from DEW water status reporting),
    - details about how different industry sectors are affected or potentially will be affected by water security issues, and
    - the likely impacts of climate change on regions, water resource types and industries.

  If this work is out of scope for the current Statement, then it should be included as an additional strategic priority.

- There is not clear line of sight between the current context (both for water resources, and water reliant enterprises), the goals of water security planning, and the strategic priorities.
- The strategic priorities could be written more succinctly and, for accountability, the responsible agency or agencies should be assigned to the priorities so that the expectations around their implementation is clear.
- Native water resources are unlikely to provide water security in many regions. The document should discuss where the water will come from for improving water access for business and economic growth. Whether that is by:
    - increased use of alternative water sources,
    - increasing water use efficiency and reducing demand, or
    - adjusting the balance between utilising water for economic benefit and ensuring the health of our ecosystems.
- Additional strategic priorities to be considered for inclusion:
    - Given the continued hesitancy of South Australian communities for use of recycled water for public water supply, an additional strategic priority is needed about engaging the community to raise awareness of the normalcy of use of recycled water around the world. This mind-set change will be critical to future adoption of alternative water sources for public water supply.
    - The next generation review of the *Planning, Development and Infrastructure Act* to consider opportunities for strengthening water reuse obligations in developments. For example, installation and plumbing of water tanks, and reuse of wastewater in Mount Barker township.
- A recent unpublished analysis of ABS data on the gross value of irrigated agricultural production showed wide variations between water resource areas in the value generated per volume of water used. An option that would further the Government of South Australia's economic growth goals, but was not discussed in the Statement, would be to assist primary producers to maximise productive outputs from water used. This could increase economic growth without increasing demand for water.

The board is collaborating with McLaren Vale Grape, Wine and Tourism Association, DEW, PIRSA, SA Water, City of Onkaparinga, Willunga Basin Water Company and vignerons to develop a water security plan for McLaren Vale. This work will contribute to addressing the first strategic priority in the Statement about developing highly targeted water security strategies for priority growth industries.

The board looks forward to seeing the final version of the Water Security Statement. If Department for Environment and Water staff would like to discuss any of our feedback, please contact Wendy Telfer, Manager Planning, Engagement & Partnerships on 0418 672 790.

Yours sincerely

[redacted]

David Greenhough
Presiding Member
Hills and Fleurieu Landscape Board

LANDSCAPE SOUTH AUSTRALIA HILLS AND FLEURIEU

Attachment 1

Comments on the draft Water Security Statement 2021

Introduction

- The Statement would be improved by having the purpose of the document clearly articulated in the executive summary and early in the introduction to better define what the role of the Statement is and what is in- and out-of-scope for the document. Some of the purpose of the Statement text on page 5 could be used.
- The Statement provides very little information on the volumes, location or quality of water required to support economic growth targets, and consequently it is difficult to judge the scale of the issue.
- An inspection of the allocation and usage figures shows that in most areas usage is much below allocation. While some of this can be explained by unused poor quality water, it indicates that in at least in some areas the growth of water dependent enterprises is not limited by access to water. In these cases growth is limited by other factors (for example access to markets or capital). Providing the right conditions for economic growth needs to ensure that the right factors are addressed.
- Figure 1 provides a good overview of the legislative framework relevant to water security. If would be good to either expand the scope of this diagram, or to include another diagram so that agencies that played a role in water security, but do not have a legislative responsibility could be included, for example PIRSA, Regional Development Authority (Commonwealth) and the National Water Grid Authority.

South Australia's Water Resources

- It is suggested that this chapter include additional sections on:
    - Water for social values
    - Water for cultural values
    - Impacts of climate change

SOCIAL VALUES
In recent consultation on the Barossa water allocation plan, the community has said that they value having water in watercourses and healthy trees on the banks of creeks.

CULTURAL VALUES
The Productivity Commission's draft[1] report 'National Water Reform 2020' released in February 2021 found that

> *The overarching goal of the National Water Initiative remains sound but should be modernised through reference to adaptation to climate change and recognition of the*

[1] The final report was handed to the Australian Government on 28 May 2021 but has not yet been released.

importance of water in the lives of Aboriginal and Torres Strait Islander people

This shows that the recognition of Aboriginal cultural values is now an important aspect of water planning. Discussion of Aboriginal cultural values in the context of planning for sustainable development would also be consistent with the objectives of the *Landscape Act 2019* [s. 7(3)(1)].

CLIMATE CHANGE

The Statement makes references to climate change and it is implicit that climate change will be a major factor in planning for future water needs, however it would be useful to have both a separate section discussing climate change, and to have some indication of the impacts of projected climate change impacts embedded in the descriptions for each region.

It should be clear that the impacts of climate change mean that there will need to be water security planning and adaption strategies to simply maintain existing levels of production from water dependent enterprises.

- The section 'Water for the environment' states:

  Increasing demand and climate change will put pressure on the environment and it is important to monitor, plan for and respond to future changes. Water planning will remain important to strike the right balance between utilising water for economic benefit and ensuring the health of our ecosystems.

  How to strike that balance is the core issue for water planning, and the Statement would benefit from including discussion on approaches to this issue.

Adelaide's water security

- This section provides good clear information.

Regional water security

- Figure 8 shows that Mount Barker, Victor Harbor and Crafers/Aldgate are outside the Adelaide urban boundary but they have populations larger than Port Pirie, Port Lincoln or Port Augusta (2016 census). It is suggested that the Statement clarifies whether these areas are considered regional, and include discussion of them in either the metropolitan or regional sections of the Statement.

  Mount Barker currently has an issue with finding a user for its treated wastewater and is exploring building a pipeline to the Langhorne Creek region.

Strategic priorities for water security and next steps

- There should be clear linkages between issues identified earlier in the document and the strategic priorities. While most of the strategies listed appear to be useful actions to improve various aspects of water planning and management, strategies should be tightly linked to specific desired changes to ensure that the right issues are resolved. It may be useful for this section to focus on a smaller number of more targeted strategies.
- The strategic priorities would be easier for the reader to understand if they were a short, succinct statement, e.g. 'Develop water security strategies for areas where water demand will exceed supply'; then unpack the priority with explanatory text.
- For the purpose of accountability, it would help if each strategy specified with which agency or

agencies the responsibility for implementation lies.

Priority 1

- The regions and industries with the highest priority for water security planning should be identified (including identifying likely impacts of climate change), so that resources can be directed where they are most needed. If it is not possible to include that analysis in the Statement, then there should be a new priority included to undertake that work. Also, priority 1 could be amended to include an alternative to adopting new and augmented supplies is the investigation and implementation of potential actions that focus on reducing demand.

Priority 2

- The Hills and Fleurieu Landscape Board (HFLB) supports improving the understanding of climate change impacts.

Priority 3

- It is noted that these goals are already an important part of water planning, and HFLB welcomes any initiatives that may further improve outcomes.

Priority 4

- The three (or five) year forward work plan has been an important tool for coordinating water planning projects between DEW work groups and regional boards since 2014. It is largely an internal planning tool and too low level for the Statement. It is suggested that it be removed from the list of priorities.

Priority 5

- It is noted that these goals are already an important part of water planning, and HFLB welcomes any initiatives that may further improve outcomes.

Priority 6

- HFLB does not have any comment on this priority.

Priority 7

- HFLB supports this important priority.

Priority 8

- HFLB asks for clarification as to whether, for the purposes of this plan, Mt Barker Crafers/Aldgate and Victor Harbor are considered metropolitan or regional.

Priority 9

- HFLB does not have any comment on this priority.

Priority 10

- This priority appears to be two separate priorities, one relating to drought planning, and the second relating to leveraging South Australia's existing expertise to pursue global business opportunities. It would be good to separate and clarify these two priorities.

Department for Environment and Water.

Water Industry Act 2012 & the Water Security Statement 2021 Review.

Gary Lyons - Manager of Alexandrina Council's Water Retail Business Unit

[Statements made within this submission are mine and may not be necessarily shared by Alexandrina Council.]

Context:

With approximately 8500 customers Alexandrina Council owns and operates one of the larger water retail entities in the State of Australia.

The Water Industry Act and subsequent ESCOSA governance has been a key pillar in the development and independence of the utility to ensure improve benefit to the customer and the service. It highlights the importance of legislative reform in empowering those charged with delivering the service.

Appreciate the opportunity to provide commentary on the supplied documentation.

Review Process.

Even resourcing for stakeholder input is problematic for smaller retailers. It's important to understand the downward pressure on entities with limited resources. These can be quite profound through the review process and subsequent reform. It would be good to understand how well smaller retailers are represented in the feedback.

Water Industry Act 2012 Review.

Competition, regulation and pricing

There are a number of assumption with the intent of incentivising competition within an Essential Service environment. The overwhelming issue is the assumption of prioritising the cost of service to the customer. Legislation and regulation should aim to provide the long-term sustainability of the service as the primary function for the customer. This may not be well understood by the customer but it needs to be better explained across all essential service industries.

In recent history Alexandrina has absorbed the ownership of at least 3 privately run wastewater entities. Drivers for such decisions have been the complete lack of governance and financial support to ensure the long-term provision of the service. Profit margins are maintained of course but at the expense of O&M and deteriorating assets.

DEW and the commission need to carefully consider the risks associated with empowering privatisation as the primary concern before implementing legislation. A monopoly may hold inherent risk but we shouldn't assume that an open market will provide benefit either. My background is from private industry and I'd prefer to see not-for-profit essential services that are well governed and supported rather than an investment based methodology with a focus on profit and/or shareholder returns.

The Water Industry should refer to the impact of competition within the energy sector. The same assumptions were made during that process and the outcomes have been quite profound.

Lack of sustainability is not only restricted to private ownership and there are a number of precedents regarding publically owned retailers needing to be acquisitioned due to major infrastructure requirements. This can be largely contextual and based on governance and support so fundamentally different drivers despite similar outcomes with privately owned schemes.

The commission should look to promote 'value' beyond the mere cost to customer. This will go a long way to supporting the sector challenges into the future. There will need to be transformative change and the value of water will need a triple bottom line framework to succeed. It will be important to start educating the public on this with less focus on purely price determination as a consumer protection and more on the long-term sustainability of the sector.

The onus that cost is at the complete domain of the retailer is also a fallacy. The commission has gone a long way to support smaller retailers to ensure total cost recovery. However there needs to be more consideration to empowering the consumer regarding the 'cost of living'. Blaming the supplier fails to look at usage rates and methods for reducing household footprints.

Irrigation and commercial water supply could be considered a commodity and this could be leveraged for increased competition. This market will only increase with impacts on water security and increases in costs should be expected as access is reduced and demand grows. This particular area may lend itself more to increased competition as highlighting in the review documentation.

Minor and intermediate retailers.

In addition to issues faced by smaller retailers in the review, there are numerous governance challenges, capability and compliance gaps that are not accounted for. This should be considered when looking into the statistics on cost recovery.

To elaborate, many publically owned smaller retailers would not be meeting basic compliance expectations for the industry. From a governance perspective if the entity was to appropriately resource and build the capability to provide core services this would no doubt increase the cost to the customer or increase the gap in cost recovery.

In the form of administrative control, the commission and/or regulators should provide greater support to those managing and operating the service to advocate, on their behalf, for service improvement. This could start with more rigour on the financial independence of the service and governance costs for the retailer to access internal services. Internal service costs should be applied to ensure value back to the customer and not the broader organisation. This should be audited across the sector and with appropriate justifications.

The importance of regulatory support in this area for minor and intermediate retailers can't be overstated. As previously mentioned there are a number of precedents within the public sector where long-term sustainability of the service has not been supported leading to attempted divestment and more likely SA Water acquisition. The resultant impact being significant indirect costs to persons that do not receive the service.

Any reform should give administrative controls to regulators to peer review the governance and financials of water entities.

State-wide Pricing.

As a manager of a regional Local Government owned water retailer, I find the Community Service Obligation (CSO) inherently inequitable and politically damaging for smaller and intermediate retailers.

From a governance and politically perspective Council owned water retail businesses are subjected to very challenging and dynamic environments. One of these is the benchmarking of service fees with other Council's with no context or due diligence regarding the reasons for higher prices. This can lead to paralysis into strategic and vital infrastructure decision making. Effectively ensuring the entity is on a path that is unsustainable.

The fact that SA Water gets access to state sanctioned funds to equalise their higher cost services is difficult to accept. If this is to be applied to the sector than it should be done universally without prejudice. This current situation actually places indirect and downward pressure on smaller retailers as unrealistic service fees are kept low based on cost comparison with SA Water.

The above should be considered when making determinations regarding the reform mentioned in R3.

Third Party Access.

As above re assumptions of competitive markets and actualised costumer benefit. There is too much conflicting evidence to make these broad assumptions that it will benefit customers in the long-term. Nevertheless, some services may be more appropriate than others as mentioned in the report.

Your own Water Security case studies for innovation, advocate for a publically run essential service over privatisation.

Stormwater

Agree in principle that this could improve governance and protection to ensure sustainability. There are significant challenges re the future infrastructure demands and impacts to community with getting this wrong.

These are high risk services that could benefit from holistic reform to empower infrastructure and operational decision makers to protect the service. It will also provide opportunity to plan long-term infrastructure and adaptation needs based on the predictive science.

A change of this scale should be considered carefully as it will place additional downward pressure on resources. Change impact analysis should be undertaken and supported based on areas with greatest vulnerability.

In the local government sector financial independence from other services can prove to be the most influential governance initiative that results in service improvement and performance. It can help refine and assist decision makers re spend prioritisation by framing the conversation within a particular industry and/or service. This significantly reduces decision making complexity for individuals that may not have the experience to prioritise between different sectors.

This also protects high risk industries from political environments that could neglect higher risk requirements for lower risk but more visible higher profile initiatives. This paradigm shift should be a key objective of any regulatory reform for critical infrastructure.

Understanding the framework for revenue recovery and how it is applied will be critical.

On principle support the listed reform but with reservations on how it will be managed moving forward.

Licensing and exemptions

The largest concern re any exemptions and/or even licensing very small water retailers is the potential market exploitation. I believe all regulators should primarily focus on ensuring regional sustainability as basis of the legislative framework they provide. Disruption via decentralised systems is nothing new and legislated appropriately doesn't mean it couldn't provide similar and/or improved service levels. However the market that will exploit this through development may not be aligned in values and/or objectives.

The sustainability of these systems historically has proven costly. This generally falls to existing users (or State Taxes) of the entity that now annexes the new customer base or service. This business model has proven very lucrative with over-promised and poorly supported outcomes.

The reforms as stated looks to engage further to refine any change. This would be considered a low risk change in its current state.

Planning for Water Security

More important than any current price reform. We would be better investing into the future impacts to reduce price shock and reliability issues to customers. The water industry should look to the energy sector as an outcome of the lack of political governance, disruption planning and introduced complexity.

There has been significant prose on reform but the customer has not benefited that is frightfully clear.

Section 25 (1)(o) and 25 (1)(p) – Customer Concessions.

Couldn't disagree more with this amendment. Some of these initiatives may be easily absorbed into a larger corporate entity but for smaller entities this could have profound impacts on customers.

To be clear, the right of concession is not the argument here. I agree that some sectors of the community could and/or should be supported. However that is not responsibility of a subset of the community who are paying for a particular service. That is the responsibility of the broader community and/or state to fund those initiatives.

This appears to be a complete contradiction from other parts of the legislation that protect this very principle.

Larger corporate and private entities have corporate responsibilities indexes they use to leverage these initiatives but this should not be applied to entities that can barely scrap together the most basic of resources.

WATER SECURITY STATEMENT 2021

Commend the development of the document and for the political will to think long-term for the State of South Australia. In large I agree with framework, strategic priorities and intent. Water infrastructure is prodigiously expensive and long lasting. In the absence of long-term strategic thinking there could be significant waste within the sector.

I have included some additional points as commentary to the document.

Planning reform – missed opportunity to direct development to more decentralised and self-sufficient opportunities. i.e. onsite stormwater capture with min. 22-50KL tank sizes and onsite codes. Vastly more efficient and cost effective than running a centralised reclaimed or recycled water program back to the urban properties (they lose $s so are indirectly subsidised).

New development could also be legislated at the street/community level with localised stormwater capture and streetscape reuse options. This can recognised min levels of greening aligned with anticipated water volumes (current & future). Currently it would appear that the current governance supports developers ahead of future water security and/or climate impacts. It is surprising how low a footprint stormwater reuse has in the total water use profile. The reform opportunities within the strategic priority #9 could help with supporting this area of the water sector.

A common omission when looking at water security is the focus on availability and not on the pending changes to quality that will come with climate change and perceived innovation. For example there are long-term risk that with increased salt & other constituents within the water which may eventually render the water no longer fit-for-purpose regarding its end use. There are number of factors which could impact the quality of recycled water especially. Some include but are not limited to; reduced quality of original water supply (source impacts), impacts of increased recycled water re-entering the catchment or system (recycling impurities), reduced water consumption at the property (concentrating constituents) etc.

There are references of significant use within the report for particular industries (forestry). Perhaps there should be strategic intention to look at transitioning industries that are not suited for localised climates. I'm not sure if supporting unsustainable industries is the best use of resources. There are a number of precedents, especially private sector, of climate risk adaptation which includes long-term acquisitions and establishment to more climate suitable areas.

There was limited information in the report on indirect impacts (acute and long-term) of water security issues on the economy. For example any health impacts with reduced water quality, impacts on prominent tourist areas (aesthetics and produce), international markets (green brand) etc. Also the positive economic impacts of intellectual property and innovation within a global industry.

Our region was somewhat under represented within the report so I can only assume that it is not considered a significant risk currently. The brevity of the report may have more to do with this but I

think strategic objectives failed to highlight looking for opportunities that may not be driven purely by water security issues. The report itself does highlight the integrated nature of the water sector and localised innovation could support regional advantages. Furthermore access to additional water supplies may encourage industry and economic development within a region. This would be a proactive approach of getting industry to go where the water and climate are suitable rather than a lag strategy to meet the water security issues of already established populations and/or businesses.

An additional strategic priority to potentially unlock unknown opportunities would be to engage regional water retailers for any strategic endeavours that could benefit from regional collaboration and support. With reduced competition through public ownership this may leverage economies of scale and facilitate collaboration. Regional endeavours could then span across retailers for long-term infrastructure planning. Essentially looking at service sustainability, long-term affordability and water security as strategic objectives above profits.

We have just drafted a 30 Year Masterplan that has opportunities to transform the entire wastewater sector on the Southern Fleurieu. Currently however this will not occur without significant investigations and collaborative influence. With the current resourcing levels for regional water retailers these opportunities could be missed if they are not catalysed through strategic initiatives such as the Water Security Report.

Government of South Australia
Murraylands and Riverland Landscape Board

Murraylands and Riverland Landscape Board

110A Mannum Road
Murray Bridge SA 5253

PO Box 2343
Murray Bridge SA 5253

Tel 08 8532 9100
MRenquiries@sa.gov.au
landscape.sa.gov.au/mr

Document Reference Number: 20_068

Department for Environment and Water
Water Security Policy and Planning
GPO Box 1047
ADELAIDE SA 5001
By email:

24 June 2021

DEW DRAFT WATER SECURITY STATEMENT 2021

Dear

Thank you for the opportunity for the Murraylands and Riverland Landscape Board (the landscape board) to provide comment on the *Draft Water Security Statement for 2021* (the Statement). Regional staff and the board's Water Advisory Committee have reviewed the statement and offer the following comments:

General comments
The Statement brings an opportunity to review the status of the water supply for all users, in light of new information and understandings that have arisen since *Water for Good* was published in 2009. It is understood the next water security statement will be published in 2024.

The acceleration of the impact from climate change is a critical factor affecting the future of South Australia's water security. Global, national, statewide and regional changes are all relevant to the water available for use in South Australia. The Statement could include and consider in more detail include:

- Movement and change in shape of Goyder's line;
- Areas already stressed or recently emerging from drought (Murray/Mallee);
- Changes in seasonal rainfall occurrence and the implications for water capture, storage and use;
- Potential changes to the Murray-Darling Basin agreement;
- Impacts of climate change on states upstream of the River Murray's course through South Australia (which are likely to affect the quantity of water reaching SA); and
- Increased evaporation of stored water, increasing losses during summer (it is important to not just focus on decreased rainfall).

In considering these issues and more, it is recommended that the Strategy reference and seek connection to the Implementation Plan for the State Government Climate Change Action Plan 2021-2025. There are several actions which align closely with the priorities of this Strategy.

The Strategy as it stands, seems to downplay the importance of climate change.

Of equal importance is the need to recognise water resources which are over-allocated and require careful reassessment to ensure their status does not become critical over the next three years. If the state were to enter into an extended drought, similar to the Millennium drought of 1997-2009 or the recent 2017-2019 drought, this could provide a tipping point for several prescribed water resource areas. More information on these over-allocated resources is provided in the context of the response.

The role of landscape boards

With regard to '*Figure 1 – Relevant legislation and responsibilities in relation to the provision of water security services in South Australia*',(p6) there are some additions that the Statement could consider referencing with regard to Landscape Boards. The Board's inaugural landscape plan is due to be issued on 1st July 2021, in which one of the five priorities is sustainable water use. In terms of the Board's role in water security, the Murraylands and Riverland Landscape Board's role includes:

- Improving water literacy;
- Optimising water use in irrigation;
- Supporting resilience building in water users;
- Supporting improved efficiency and productivity of water use on farm; and
- Supporting a network of regional weather stations which help regional producers make informed decisions about water use.

Specific comments

Executive Summary (page i)

The state government is proposing to work with stakeholders to develop highly targeted water security strategies for those industries or regions where potential water demands are at risk of exceeding available supplies. These strategies will build on traditional water allocation planning processes and link fit-for-purpose water supplies with existing and emerging water demands to support economic growth. In the first instance, this more targeted approach will be trialled in the Barossa Valley and McLaren Vale, where discussions have begun with stakeholders about pathways for adopting new or augmented supplies to meet emerging demands and address climate risk.

The Barossa and McLaren Vale are areas where multiple sources of water are already available. The McLaren Vale stakeholders have access to the purple pipe (reclaimed water) and Barossa stakeholders use the Barossa Infrastructure Ltd (BIL) Supplementary Irrigation Water Scheme which supplies River Murray water in addition to local surface water and groundwater resources.

Water use has already exceeded triggers set in the Marne Saunders Water Allocation Plan with respect to declining groundwater levels. Licensees are concerned that wells are running dry and/or water levels are declining and salinity increasing. Although the Marne Saunders area is already facing water shortages where demand exceeds supply, this area has not been identified in the draft water security statement. It is suggested that any trials should focus on the areas most in need *rather than* those areas where alternative solutions are readily available.

Introduction - Water Security Collaboration with Israel information box (p3)

Israel is proposed as being comparatively similar to South Australia as a "leader(s) in the management of water resources". However, Israel is facing some major challenges with over extraction of water from the Jordan River. This has contributed to the regression of the Dead Sea, where major catastrophic sink holes have developed along the shoreline rendering millions of dollars of investment unusable and townships and local communities being displaced. For balance, it is suggested that the information box on Israel could also include a statement that not all initiatives have proven successful, however there are still important learnings that South Australia can draw on from Israel's experience.

Water Markets (p11)

The Department for Environment and Water is committed to improving the efficiency and effectiveness of all water trade markets in South Australia and is continuing work on a range of initiatives to improve information provision and reduce barriers to trade.

It is concerning that the Statement mentions that reducing barriers to trade is important, as it is not clear how this might be achieved or what the driving management reasoning is behind it. Many of the landscape board's regional Water Allocation Plans (WAPs) have rules around trade, to prevent trade that would lead to adverse impacts to the water resource and other water users (including the environment). The current delivery risks in the River Murray are to a large degree the result of the inter-valley trades which now threaten delivery of water to South Australia. Unbundling, to a large degree, has helped reduce red tape around trade. From a resource management perspective, barriers to trade are essential for effective management.

Water for the Environment (p12)

In prescribed water resources, water allocation plans set out how much water is required for the environment and, in some cases, end of system flow and/or groundwater level targets are established. Environmental water provisions are provided before water is made available for consumptive purposes.

It is an oversimplification to suggest that the environment is considered first, with the remainder being allocated to stakeholders. In reality, water planners analyse the social, economic and environmental demands collectively and consider how a Water Allocation Plan can balance the demands of all needs.

It is recommended that the statement "*giving the environment the same security of supply as other water users*" is only true for the River Murray environment. In both the Eastern and Western Mount Lofty Region Prescribed Water Resource Areas, the current situation means that if there is reduced rainfall, stakeholders are still eligible to use their entitlement (assuming it is there) but the environment misses out. It is important that the Statement reflects this.

Long-term water security outlook (Page 25)
The Statement should clarify why the high emissions scenario (RCP 8.5) has not been used for the River Murray long term outlook. It has been widely discussed in the media that the current science shows that average flows into the Basin are already at or below the worst case scenario predicted for 2050. This information should be included as part of the Statement's outlook.

Regional Water Security Overview (p28)
It is unclear where the Marne Saunders is located? Is it contained in Murray Region?

Murray Bridge (Page 30)
The Statement identifies that *"any increase in demand (for the town of Murray Bridge) will be met from the River Murray."* This statement gives the impression that water is still available for allocation, not acknowledging that the River Murray Prescribed Water Resource Region is already over allocated.

Riverland and Murraylands (p35)
Although the information on regional water security is welcomed, it would be useful to include some comment on expected trends. For example, the conversion to almond groves in the Riverland, where almond crops have higher water needs than other crops, could change the water use balance in this region.

Eastern Mount Lofty Ranges (p37)
The statement "*Dams across the region provide water for stock and domestic purposes"* requires amendment to reflect that direct watercourse extraction, dams and underground water provide water for stock and domestic purpose, collectively.

It is recommended that the statement "*Historically, flood waters from the Bremer River have been used to irrigate properties and natural flooding has been harnessed to support irrigated crops"* be amended to:

"*Historically, flood waters from the Bremer River have been used to irrigate properties. Natural flooding has proven effective for managing salt accumulation in the root zones of plants (as a result of efficient irrigation practices) as well as providing essential environmental flows to the now stranded red gum swamps located on the floodplain."*

There is also no mention in this section of managed aquifer recharge (MAR). MAR commenced in the 1970s in this region with the current WAP encouraging MAR use to store water during times of high availability. The MAR has been found to have an overall benefit to the groundwater resource by reducing groundwater salinity. It is a more efficient way to store water in a way which avoids evaporative loss. There are policies in the WAP to also manage the risk of rising shallow water tables through planting deep rooted perennial vegetation which is a site use approval/licence condition. This community have been leaders in innovation, irrigation efficiency and water resource management and it should be recognised in the water security statement. This community has diverse sources of water available and have actively worked to reduce their risk to climate change and reduced water availability.

There is again no mention of the Marne Saunders Prescribed Water Resource Area (PWRA) which is faced with the greatest water security risk at present.

Murraylands and Riverland (p36)
It is recommended that the Statement is amended with regard to the following sentence:
"SA Water supplies water from groundwater resources for public water supply purposes"
To:
"SA Water and local councils supply water from groundwater resources for public water supply purposes."

Barossa Valley (p39)
With regard to the sentence "*The government is supporting plans to deliver additional water to the Barossa and Eden valleys*", it should be made clear that Eden Valley is part of the Marne Saunders PWRA, or preferably include a section on the Marne Saunders in the Murraylands and Riverland section (page 35) that discusses the potential options for delivery of additional water to the Marne Saunders region.

South Australian Government strategic priorities (p45)
The priorities do not presently consider areas where water security issues are currently an issue e.g. the Marne Saunders PWRA, particularly on the plains (not Eden Valley).

Most of the strategic priorities listed are actually business as usual (e.g. 3, 4, 5 & 7). For example, maintaining WAPs under a 3 year rolling work plan doesn't actually address water security issues (unless reducing allocations is included in dealing with water security issues).

It is recommended that an additional strategic priority in relation to climate change be included, for DEW to develop a state wide policy framework for managing water resources affected by climate change. The former State Water Plan required WAPs to be consistent with key policies. A similar policy position related to how WAP take into account climate change would be beneficial.

Appendix A (p50)
It is recommended that the table include an explanation of the difference between volume allocated and used. While most resources show underuse, the majority of resources are in fact fully allocated. The underuse may be available to trade subject to the rules in the relevant WAP. The allocation volumes also seem at variance with the limits specified in some WAPs, for example the Angas Bremer is 10,465 ML. Does this volume include available rollover volumes and MAR volumes? This could be clarified in the Statement appendix through use of footnotes.

Secondly, it is not clear that the allocation figures shown in this table are for the *total volume allocated* for that water use year. These allocation figures are confusing, and could eventuate in the reader misinterpreting the true availability of water, especially for surface water which may not be available in dry times. If the table is to be retained, then it is suggested that a third column is included, which displays the total permissible annual volume (PAV) for each prescribed area.

Marne Saunders data should be moved from EMLR to Murraylands and Riverland section.

Appendix B.
Please amend the table to indicate that the Peak Roby Sherlock WAP review is complete. Amendments to the plan will likely commence once the Mallee WAP review has been completed i.e. not until 2022-23 water use year.

For further information regarding this matter, please contact Eilidh Wilson, Senior Project Officer Planning and Policy within the Murraylands and Riverland Landscape Board on Eilidh.wilson@sa.gov.au or 0400 889 023.

Thank you for the opportunity to comment and I trust this information is of assistance.

Yours sincerely

Andrew Meddle
General Manager, Murraylands and Riverland Landscape Board

City of Salisbury
ABN 82 615 416 895

34 Church Street
PO Box 8
Salisbury SA 5108
Australia

Telephone 08 8406 8222
Facsimile 08 8281 5466
city@salisbury.sa.gov.au

www.salisbury.sa.gov.au

25 June 2021

Mr D Jordan
Director, Water Security, Policy and Planning
Department for Environment & Water
GPO Box 1047
ADELAIDE SA 5001

Dear Dan,

Re: DEW D0009728

We appreciate the opportunity to provide feedback on the draft Water Security Statement 2021 – *Water for Sustainable Growth* and the review of the *Water Industry Act 2012*.

The draft Water Security Statement is a concise and timely summary of the water resource management challenges and opportunities for South Australia. We fully support the ten strategic priorities that have been identified.

Our primary feedback relates to Priority 8.

> *'Develop an Urban Water Directions Statement that sets a state framework for optimising the use of all urban water sources – in a way that supports growth, greening and liveable towns and cities, more efficient and cost effective water use, as well as the release of water for productive use outside of urban areas.'*

We feel it is important that this Direction Statement is clearly communicated as a key sustainability initiative and that it is not open to misinterpretation as a continuation of the current importing of regional water and exportation (release) of waste water. Can we suggest the following wording?

> *'Develop an Urban Water Directions Statement that sets a state framework for optimising the use of all urban water resources (rainwater, stormwater, groundwater and wastewater) in a way that supports growth, greening and liveable towns and cities, more efficient and cost effective water use, as well as preserving River Murray Water and other regional water resources for the environmental and productive benefit of our regional communities.*

Priority 9 is also strongly supported.

> *'Progress the findings and recommendations of the review of the Water Industry Act 2012 to further drive innovation and competition in the water industry sector.'*

In particular, recommendation 3 relating to further investigating the influence of price and price setting, as a barrier to innovation and competition, is crucial. While Salisbury has endeavoured to progress sustainable, integrated urban water management, we have found it very difficult to secure customers and achieve necessary 'economies of scale' when faced with current mains water and waste water pricing. A better understanding of what is needed to create a level playing field for new water entities would be welcomed.

Recommendation 6 to investigate options for regulation of drainage services is also welcomed, in particular opening up opportunities for water industry entities to play a key role in moving to a more efficient urban water management approach.

Given the significant deficit in urban drainage investment (estimated by the SMA at over $800M across metropolitan Adelaide); the heightened risk of property damage from flooding due to increased climate variability and the environmental and economic consequences of damage to our coastal environment (eg recreational & commercial fishing, tourism) from failing to manage stormwater discharge, we strongly support investigations into better ways to manage urban water. Some Councils already shoulder a disproportionate burden for managing litter, pollutants and flood mitigation, simply due to their location in stormwater catchments. A new approach that acknowledges these costs and shares the burden would be most welcome.

We note that investments in integrated or local alternatives such as WSUD, rainwater harvesting or stormwater re-use did not make your list of key achievements. We hope this will be addressed urgently if all water resources are to be better managed for the benefit of our communities.

In closing, we note the assertion that emerging desalination technologies in combination with renewable energy can make it economically viable to desalinate brackish groundwater. We wish to acknowledge the strong support of both DEW (and the SA EPA) in facilitating these solutions for Salisbury. The timely provision of MAR licence transfers, desalination licences and brine disposal permits has allowed Salisbury to build additional resilience and reliability into our successful urban stormwater harvesting and reuse schemes. Reliability, due to weather variability has been a frequent criticism of urban stormwater reuse schemes, but this perception can no longer apply.

Should you require any further information on our submission please contact Mr Bruce Naumann, Manager Salisbury Water.

Yours sincerely,

John Harry
Chief Executive Officer
Phone:
Email:

Local Government Association of South Australia

The voice of local government.

Draft Water Security Statement 2021

Submission

June 2021

Table of contents

Summary of LGA recommendations

Recommendation 1

The LGA recommends increased stakeholder consultation, engagement and collaboration by the Department for Environment and Water with key stakeholders, including local government, in relation to water security matters across the state.

Recommendation 2

The LGA recommends that the scope of the statement be expanded to take a broader view of water security. Some additional elements the statement should consider are the importance of water in relation to culture, health and wellbeing, fit-for purpose water use and future threats to South Australia's water security.

Recommendation 3

The LGA recommends that when developing the forthcoming Urban Water Direction Statement (strategic priority eight) and any actions relating to stormwater (strategic priority nine), the Department for Water and Environment consider the findings of the Statutory Review Committee's Inquiry into the Stormwater Management Authority and the LGA's submission to that inquiry.

Recommendation 4

The LGA recommends that any forthcoming amendments made to the *Water Industry Act 2012* (SA) consider appropriate pricing and price setting processes to better support smaller operators such as councils.

Introduction

The Local Government Association of South Australia

The Local Government Association of South Australia (LGA) is the voice of local government in South Australia, representing all 68 individual councils across the state and the Anangu Pitjantjatjara Yankunytjatjara.

The South Australian *Local Government Act 1999* recognises the LGA as a public authority for the purpose of promoting and advancing the interests of local government. The LGA is also recognised, and has prescribed functions, in 29 other South Australian Acts of Parliament. The LGA provides leadership, support, representation and advocacy relevant to the needs of our member councils.

The LGA is a strong advocate for policies that achieve better outcomes for councils and the communities they represent. As such, the LGA welcomes the opportunity to provide a submission on the draft Water Security Statement 2021.

Background

Local government in South Australia plays an important role in water management and conservation. Some of the many activities undertaken by councils include:

- aquifer Storage and Recovery;
- wastewater and stormwater reuse;
- development of wetlands;
- existing infrastructure upgrades, particularly in relation to irrigation infrastructure;
- operation of desalinisation plant;
- water efficiency or best practice demonstration projects (e.g., low water use garden);
- adoption of Water Sensitive Urban Design solutions for development and water efficiency measures as part of the development process;
- reuse of swimming pool filtration system backwash water;
- development of residential land development standards for best practice in water use; and
- flood management planning.

Local government in South Australia makes a significant investment across various activities associated with water. Councils recognise the importance of water for healthy and happy communities.

LGA policy position

The LGA has worked with our member councils to adopt policy positions, based on robust research and evidence, to recognise their roles and identify how local government can be an important partner in government. The policy statement on water management is as follows:

> Local government recognises its obligation to conserve water resources, protect water quality, provide water for the environment and effectively manage storm and flood water. Councils shall contribute equitably to improving water management and infrastructure and processes, notwithstanding the responsibilities of federal and state governments.

National Water Reform

The LGA acknowledges that the development of this Water Security Statement 2021, coincides with a National Water Inquiry[1] and reflects a larger discussion occurring at the national level. The final inquiry report is in the final step prior to release. The report was handed to the Australian Government on 28 May 2021.

The Australian Government's Productivity Commission released its draft report in February 2021. The Australian Government's Inquiry has been asked to have a particular emphasis on the progress of all Australian governments in achieving the objectives, outcomes and timelines anticipated under the Intergovernmental Agreement on a National Water Initiative.

Some of these recommendations reflect the challenges identified in South Australia and point to opportunities for further reform.

LGA comments and recommendations

Consultation process

Recommendation 1

The LGA recommends increased stakeholder consultation, engagement and collaboration by the Department for Environment and Water with key stakeholders, including local government, in relation to water security matters across the state.

The Water Security Statement 2021 statement is the foundation that provides the direction for a future substantial body of work that is to be undertaken in relation to water security across the state. A strong foundational document, informed by key stakeholders, is important to ensure it captures all of the priorities and nuances associated with water within South Australia.

There is risk that the limited consultation process undertaken in relation to this draft statement will fail to engage with all relevant stakeholders and therefore fail to capture relevant priorities.

Given the importance of water security to South Australia's society's future economic growth, environment, health and wellbeing a greater level of stakeholder engagement and collaboration is advisable.

The Department way wish to reflect on the extent to which only providing a five-week period for feedback may diminish the view among stakeholders that the consultation process is genuine and meaningful.

A consultation plan that outlines key dates is useful for stakeholders as it supports increased participation.

[1] https://www.pc.gov.au/inquiries/completed/water-reform-2020#report

Scope of statement

Recommendation 2

The LGA recommends that the scope of the statement be expanded to take a broader view of water security. Some additional elements the statement should consider are the importance of water in relation to culture, health and wellbeing, fit-for purpose water use and future threats to South Australia's water security.

The statement could benefit from taking a broader view of water security. The focus on water appears to take a very linear approach, supply to consumption rather than looking more holistically at the whole of the water cycle.

Rightfully, the role of water in economic development has been identified, but less so the role of water in other considerations, like the importance of water from cultural or a health and wellbeing perspective. The LGA recommends that the scope of the statement be expanded to take a broader view of water security. Some additional elements the statement should consider are;

- the importance of water in relation to culture and health and wellbeing;
- fit-for purpose water use; and
- future threats to South Australia's water security.

Culture

The statement does not recognise the importance of water from a cultural perspective. The statement only mentions Australia's First Nations people once, in the seventh strategic priority.

Australia's first nations peoples have a primary, unique and inherent obligation to exercise the ownership, protection and management of the Australian environment, the Department of Environment and Water (DEW) acknowledges that *"freshwater systems are fundamental to Aboriginal cultures and identities and First Nations have profound perspectives and understanding of water across the South Australian landscape."*[2]

In 2017, the first *National Water Reform Productivity Commission Inquiry Report* [3] identified at Recommendation 3.2 that state and territory governments should ensure that:

a) Indigenous cultural objectives are explicitly identified and provided for in water plans
b) progress in achieving Indigenous cultural objectives is regularly monitored and reported publicly
c) there is public reporting of how Indigenous cultural objectives have been considered in the management of environmental water — both held and planned.

To achieve DEW's aim, *"…to build meaningful, enduring change and equity for First Peoples and Nations in Caring for their Country"*[4] and to align with recommendations from the National Water Reform Productivity Commission Report consideration of the importance of water from a cultural perspective should be considered in the statement and actions arising from it.

[2] https://www.environment sa.gov.au/about-us/first-nations-partnerships/water-resource-planning
[3] https://www.pc.gov.au/ data/assets/pdf file/0007/228175/water-reform.pdf
[4] https://www.environment sa.gov.au/about-us/first-nations-partnerships/reconciliation-action-plan

Health and wellbeing

The statement should also reflect the links between water and health and wellbeing. The links between water and health and wellbeing is well known. The United Nation acknowledges that *"Water is a precondition for human existence and for the sustainability of the planet"*[5] and has outlined clean water and sanitation as part of the Sustainable Development Goals.[6]

Acknowledging this connection will enable for the statement to better recognise and explore issues of both water quantity and quality, especially in relation to drinking water supply.

Some regional areas may have available water quantity; however, the quality may be too poor for the community to drink it. Other examples of health needs include the provision of clean water for dialysis in remote communities.

Water is also vital for urban greening and cooling. It is well researched and documented[7] that urban green spaces such as parks, playgrounds and residential greenery can promote mental and physical health and reduce morbidity and mortality in urban residence by providing;

- psychological relaxation;
- stress alleviation;
- stimulating social cohesion;
- supporting physical activity; and
- reducing exposure to air pollutants, noise and excessive heat.

Quality urban green spaces are proven to assist in alleviating the stresses associated with modern life.[8] Heat stress results in significant impact on the health system, both in terms of physical health and mental wellbeing. Water security considerations need to include access to water in public spaces for both drinking and cooling.

Fit for purpose water

Fit for purpose water solutions are identified in the statement[9] as: capture and storage of water in wetlands, injection of water into a groundwater aquifer, and pumping of the water out of the aquifer to irrigate parks and gardens.

The statement could emphasise fit for purpose water solutions for industry, rather than using potable water for most applications. The statement has an opportunity to identify wastewater as a resource that could be leveraged by industry.

Future threats to water security

The statement should address future threats to water security and the impacts of these threats to the long-term water security outlook for the state. Some examples of potential future threats include;

- Microplastics
- PFAS (Per- and polyfluoroalkyl substances)
- Water-borne diseases (resulting from altered temperatures, water flows/stagnant water)

[5] https://www.unwater.org/water-facts/
[6] https://www.un.org/sustainabledevelopment/sustainable-development-goals/
[7] World Heal h Organisation, "Urban green spaces and health – review of evidence" (2016) < https://www euro.who.int/__data/assets/pdf_file/0005/321971/Urban-green-spaces-and-health-review-evidence.pdf >.
[8] Braubach M., Egorov A., Mudu P., Wolf T., Ward Thompson C., Martuzzi M. "Effects of Urban Green Space on Environmental Health, Equity and Resilience." In: Kabisch N., Korn H., Stadler J., Bonn A. (eds) Nature-Based Solutions to Climate Change Adapta ion in Urban Areas. Theory and Practice of Urban Sustainability Transitions. Springer (2017).
[9] Draft Water Security Statement, page 9.

Specific comments on strategic priorities

Recommendation 3

The LGA recommends that when developing the forthcoming Urban Water Direction Statement (strategic priority eight) and any actions relating to stormwater (strategic priority nine), the Department for Water and Environment consider the findings of the Statutory Review Committee's Inquiry into the Stormwater Management Authority and the LGA's submission to that inquiry.

Strategic priority seven

Continue to drive full implementation of the Murray-Darling Basin Plan for a healthy River Murray – to meet critical human water needs in Adelaide and SA country towns, maintain vibrant river communities, meet the aspirations of First Nations and sustain internationally important floodplains and wetlands.

This strategic priority is supported, however the LGA notes that Australia's First Nations people are only mentioned once in the entire statement – in the above strategic priority.

Please refer to comments above in the "scope" section of this submission, supporting a more holistic approach to the statement that integrates and identifies the role water has in culture.

Strategic priority eight

Develop an Urban Water Directions Statement that sets a state framework for optimising the use of all urban water sources – in a way that supports growth, greening and liveable towns and cities, more efficient and cost-effective water use, as well as the release of water for productive use outside of urban areas.

An Urban Water Directions Statement should be focused on actions and achieving outcomes as well as defining roles and responsibilities.

Much more needs to be done to promote Water sensitive urban design, including better integration within the planning and development system, targeted funding, industry training and demonstration projects. This should be considered as part of this Directions Statement.

Stormwater

Improved management of stormwater has the potential to offer significant environmental, economic and social benefits to South Australia. However, the ability to capitalise on these opportunities is currently limited by the existing complex governance and institutional arrangements, limited funding and a lack of strategic direction.

The LGA provided a submission and evidence to the Statutory Authorities Review Committee Inquiry[10] into the Stormwater Management Authority which outlines the LGA's position in relation to stormwater within the state.[11] The LGA's recommendations to the Committee are identified in **Attachment A**.

[10] https://www.parliament.sa.gov.au/en/Committees/Committees-Detail
[11] https://www.lga.sa.gov.au/news-and-events/news/submissions?result_560035_result_page=1

Strategic priority nine

Progress the findings and recommendations of the review of the Water Industry Act 2012 to further drive innovation and competition in the water industry sector.

Recommendation 4

The LGA recommends that any forthcoming amendments made to the *Water Industry Act 2012* (SA) consider appropriate pricing and price setting processes to better support smaller operators such as councils.

The LGA welcomes the state government's review of the *Water Industry Act 2012* (SA) and the intention to progress findings and recommendations from this review. The LGA welcomes further investigations into the influence of pricing and price setting processes in supporting an efficient and competitive water industry that removes hidden subsidies that disadvantage smaller operators.

The following comments provide context to the competition, regulation and pricing challenges faced by South Australian councils, as smaller operators in water industry sector.

Excluded retail services, third party access

Some councils in South Australia as part of Council Waste Management Systems (CWMS), are responsible for wastewater treatment and disposal.

CWMS takes liquid wastewater (effluent) from properties to SA Water sewer mains or an approved treatment facility. It is sewerage that is being discharged into SA Water sewers from such systems, as such councils should be charged by SA Water accordingly. Unfortunatley, the current pricing determination statement[12] is silent on this matter and SA waste are charging councils for discharging sewerage to SA Water sewers in the category of trade waste.

This gap in regulatory oversight and pricing determination of "trade waste" drives up the cost for councils CWMS customers compared to their neighbour who are directly connected to SA Water, making council service "uncompetitive".

Minor and intermediate retailers

As councils responsible for CWMS update asset management plans, it has been highlighted they are not fully cost recovering for this service. However, given the small customer base and/or customers capacity to pay, councils will continue to experience difficulty in achieving full cost recovery.

Councils do not have the same capacity to spread costs across customers, when compared to SA Water, therefore changes, repairs and other maintenance on CWMS will impact the individual ratepayer, more so than SA Water customers where the costs for these works will be spread across the entire customer base.

Community Service Obligation payments

Councils offering the same services as SA Water to their community do not currently have access to community service obligation payments to subsidise cost and keep prices equivalent to state-wide prices. This means that communities, whose councils are responsible for delivering this service, are missing out and experiencing an unfair detriment.

[12] https://www.escosa.sa.gov.au/projects-and-publications/projects/water/sa-water-regulatory-determination-2020

Although councils offer rebates to those public non-commercial businesses that are identified for social purposes for use of CWMS, the community as a whole takes on this cost as councils need to raise the revenue (through rates and other means) to cover these costs. These communities are often regional, with a small ratepayer base.

Attachment A

LGA recommendations to the Statutory Authorities Review Committee Inquiry into the Stormwater Management Authority

Recommendation 1:

The LGA recommends that the Statutory Authorities Review Committee has regard to the reports and recommendations of the Productivity Commission's National Water Inquiry relevant to the scope of its inquiry into the SMA.

Recommendation 2:

The LGA recommends that the Statutory Authorities Review Committee:

- *recognises the participation of local government and the LGA in the function of the SMA;*
- *recommends no changes to the composition of the SMA as set out in the Local Government (Stormwater Management Agreement) Amendment Act 2016; and*
- *recommends that the SMA requests that the Minister formally establishes a Stormwater Advisory Committee as allowed under legislation to further inform and support the work of the Authority.*

Recommendation 3:

The LGA recommends that the Statutory Authorities Review Committee:

- *recognises that the wide array of legislative responsibilities shared across organisations is contributing to a lack of clear leadership, coordination and cohesive approach to stormwater management across South Australia;*
- *finds that a strategic and effective SMA should lead reform into stormwater management; and*
- *recommends that the SMA play a key role in demonstrating the strong leadership required to drive improvements in stormwater management.*

Recommendation 4:

The LGA recommends that the Statutory Authorities Review Committee:

- *recognises that significant improvements have been made to improve the effectiveness of the SMA and that these are ongoing; and*
- *considers further opportunities and makes recommendations: ○ ensuring the SMA has sufficient resources to operate;*
  - *enabling the SMA to take a more strategic and outcomes-based approach;*
  - *enabling the SMA to be more involved in the delivery of SMPs; and*
  - *progressing the development of service standards.*

Recommendation 5:

The LGA recommends that the Statutory Authorities Review Committee considers further funding opportunities and makes recommendations enabling the SMA to investigate funding options.

Local Government Association of South Australia

The voice of local government.

148 Frome St
Adelaide SA 5000

GPO Box 2693
Adelaide SA 5001

T (08) 8224 2000

E lgasa@lga.sa.gov.au

www.lga.sa.gov.au

Ref: ICORR10077-21/MM

25 June 2021

Dan Jordan
Director, Water Security, Policy and Planning
Department for Environment and Water
GPO Box 1047
ADELAIDE SA 5001

Dear Dan,

Thank you for providing Mid Murray Council with the opportunity to provide feedback on the recent review of the Water Industry Act 2012 and the development of a draft State-wide Water Security Statement.

Council is broadly supportive of any review that results in legislative amendments that makes the process easier and simpler for the end user.

The draft Water Security Statement, as it relates to the Murraylands and Riverland, is supported insofar as it seeks to ensure the future of water to the region and notes the critical role it plays in sustaining the key economic drivers of agriculture/horticulture and tourism. The final implementation of the Murray-Darling Basin Plan for a healthy River Murray is a key piece of work required to ensure that intentions of the draft Statement can be achieved as it relates to our region.

As you are aware, water security and water licence requirements is one of the greatest challenges Mid Murray Council currently faces. The Council area is vast in area and also comprises the only artificial water body in the State, Mannum Waters Marina, that is subject to the requirements to cover evaporation loss. Any future legislative reform or amended policy that can assist Council is securing water for the future, and at a financially sustainable rate, would be welcomed.

If you would like to discuss this matter further Council would welcome the opportunity. Please don't hesitate to contact me at the Cambrai Office on 8564 6020 or via email at jmcvicar@mid-murray.sa.gov.au.

Yours faithfully,

Jake McVicar
Director – Development & Environmental Services

Dan Jordan
Director, Water Security, Policy and Planning
Department for Environment and Water
PO Box 1047 Adelaide SA 5001

Via email: DEWWater@sa.gov.au

26 June 2021

Subject: Draft Water Security Statement 2021

BIL Feedback

Dear Dan,

Thank you for the opportunity to provide feedback on DEW's draft Water Security Statement 2021.

Reliable and affordable access to water underpins BIL and our customer-shareholders in the Barossa Valley.

BIL supports DEW's efforts in developing water security strategies, as evidenced by our participation at stakeholder and Steering Committee level on the Barossa region water security strategy.

Please contact me on 0403 743 199 or Simon@BIL.net.au if you have any questions or required further information.

Regards,

Simon Schutz
General Manager

PS. The brevity and generality of this response reflects my busyness on a range of commitments, and does not reflect on the importance with which we regard water security planning in South Australia.

2 Basedow Rd PO Box 665 Tanunda SA 5352 T 08 8563 2300 F 08 8563 1266
Info@BarossaInfrastructure.com.au

Limestone Coast
Local Government
Association

Level 1, 9 Bay Road
Mount Gambier SA 5290

Telephone (08) 8723 7310
Email admin@lclga.sa.gov.au

www.lclga.com.au

29 June 2021

The Department for Environment and Water
Water Security, Policy and Planning
email: DEW WATER

To whom it may concern,

RE: Consultation into the draft Water Security Statement 2021

Thank you for the opportunity to provide a submission on the *draft Water Security Statement 2021.*

The Limestone Coast Local Government Association (LCLGA) is a wholly owned subsidiary of the seven Local Government Councils in the Limestone Coast. Our purpose is to "Collectively Build Stronger Communities in the Limestone Coast" from a local government perspective. Our members provide essential local government services and infrastructure to a population base of more than 65,000 residents. Of all the levels of government, our members have the closest connection to local communities.

This submission represents the views of our seven constituent councils of the Limestone Coast being:

- District Council of Grant
- Kingston District Council
- Wattle Range Council
- District Council of Robe
- City of Mount Gambier
- Naracoorte and Lucindale Council
- The Greater Tatiara Council

While this is a regional submission, each member Council reserves the right to express their views on the draft Water Security Statement.

Concerning the draft Water Security Statement 2021, we provide the following feedback.

Water is one of our most critical resources for quality of life, a healthy environment and our current and future economic prosperity.

Given the importance of water security, the consultation process and engagement on the development of the Water Security Statement appears to have been rushed. Simply releasing a document and seeking feedback on it is a minimalist form of engagement. The short timeframe has not allowed our members to consult with their communities and therefore be able to provide robust feedback on the Statement.

The topic of state water security priorities deserves a more engaged process in its development to allow the community and stakeholders to have a voice before the priorities are presented. We also would expect that our critical industries in our region of Forestry and Agriculture that rely on secure water supplies for current operations and future growth are closely engaged in the development of the Statement.

Limestone Coast
Local Government
Association

Level 1, 9 Bay Road
Mount Gambier SA 5290

Telephone (08) 8723 7310
Email admin@lclga.sa.gov.au

www.lclga.com.au

This consultation represents a missed opportunity to engage the community on priorities, explain the assumptions in the plan, and, importantly, garner community and stakeholder support for the decision-making criteria.

There are meaningful conversations to be had with our community on the challenge, range of options, opportunities and future priorities in managing our precious water resources.

Water resource modelling relies heavily on a range of assumptions. Transparency around how these assumptions are decided is critical to understanding how priorities are set and tradeoffs made. There are always embedded biases in water resource models, and transparency on the assumptions would provide the community with a greater capacity to debate how to sustain water supplies for the community, commercial, agriculture, and environment.

The Limestone Coast Region relies heavily on surface and groundwater systems. It is essential that we continue to invest and develop our knowledge of these systems to enable evidence-based decision making. This approach is particularly the case when considering the impact on our critical industries in Agriculture and Forestry.

Overall, we support the SA Government's strategic priorities for water security as listed in the draft Statement and have some comments as listed below. We also suggest one other priority that could be added, which we address towards the end of this letter.

Priority 1: Develop water security strategies for key water resources or priority growth industries.

Agree. However, we don't believe that targeted water strategies should be restricted to those systems where demand is forecast to exceed supply. Each system should have specific water security and efficiency strategies where current users entitlements are secured. This approach could also become an opportunity for growth or even a signal for the relocation of industries from low to high-security areas.

Priority 2: Improve understanding around climate change impacts on water resources.

Agreed. The better the community knowledge of systems and drivers for water resource sustainability, the more effective decision making will be. Not just from the government but also from commercial, urban and environmental perspectives.

A key issue is the transparency of the assumptions and decision criteria used within water resource models. Engagement on these assumptions is critical to creating informed debate on water resource decision making, priorities and the opportunity cost from the adopted risk position. This transparency is particularly important when the models lead to a reduction or reallocation of water resources.

Priority 3: Ensure water planning processes operate efficiently and maximise the productive use of available water resources

Agreed, with transparency of assumptions and tradeoffs as mentioned in our comments on Priority 2.

Priority 4: Ensure that water resource management continues to be informed by science, that water resources are managed within sustainable limits, and that water allocation plans are updated within timeframes that reflect risks to users and water resources

Agreed and, where possible, provide forecast beyond three years to allow for informed decision making and risk management.

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Mount Gambier SA 5290

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Email admin@lclga.sa.gov.au

www.lclga.com.au

Priority 5: Ensure that critical human water needs continue to be prioritised appropriately and that water planning processes support the setting of objective water security standards, where required

Agreed that critical human needs should be prioritised, with an emphasis on planning and investments to enhance livability (green and cool spaces), water efficiency, water recovery and integrated water management. There should be specific engagement on what "critical human needs" means in the context of these priorities.

Priority 6: Support water security investment in self-supplied remote communities and the provision of potable supplies in exceptional circumstances, as required.

Agreed.

Priority 7: Continue to drive full implementation of the Murray-Darling Basin Plan for a healthy River Murray.

Agreed.

Priority 8: Develop an Urban Water Directions Statement that sets a state framework for optimising the use of all urban water sources

Agree, as long as the cross-subsidies in any such system are transparent and that all supply and demand-side options are available for consideration.

This framework should include the full range of water sources to augment or substitute potable water use, such as harvesting and using stormwater, recycled wastewater etc. There is a significant opportunity to consider fit for purpose use water in urban environments; traditional urban water systems treat 100% of water to the highest standard for potable consumption when most of this water is used in non-potable uses. As technology improves, there is an opportunity to completely rethink how we harvest, distribute, treat, and reuse our scarce water sources.

Priority: 9 Progress the findings and recommendations of the review of the Water Industry Act 2012

Agree, with the following comments against the recommendations:

R3 – SA Water Pricing, we agree that the State should review the approaches from other jurisdictions taking into consideration:

1. that revenue is provided for efficient operations;
2. the customers are central to the process;
3. that the revenue model doesn't bias CapEx over OpEx; and
4. that the government is at arm's length from the SA Water price-setting process i.e. we would not support the Parliament setting the Regulated Asset Base and becoming the defacto price setter outside of the ESC.

R5 – when developing policy for access arrangements, where those access arrangements involve local government assets, ensure they include in the process adequate measures to compensate regional councils on the financial burden from any access arrangement to drainage or wastewater assets.

R6 – be mindful of the impact on regional councils and the direct costs to their community when regulating drainage services.

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Priority 10: Build the state's capacity to respond to future water challenges across the economy and to capture a greater share of an expanding global market for water technologies and services.

Agreed.

There may also be room for another priority – actively protect our essential water catchments (groundwater and surface water) to ensure sustainability and reduce pollution, optimise yield and protect water quality.

A further improvement would be to clarify how the opportunity and direct costs of externalities should be included in decision making. By providing clear direction on how externalities should be treated in decision making, this will help ensure decisions are more robust and have a broader consideration of the scope of impacts from assessing various options.

Notwithstanding our earlier comments, we support the Water Security Statement as an important statement to protect and guide the management of our essential water resources.

Thank you for the opportunity to submit our feedback on the Draft Water Security Statement 2021.

Yours sincerely

Tony Wright

Executive Officer

The following submissions were received through the YourSAy consultation website. A copy of each comment received is listed below

AquaterreX Pty Ltd – Via YourSAy

Surface water (Rivers, Lakes, Dams, Rainwater from roofs), shallow groundwater, desalinated water and Deep-Seated Water. Surface water resources are the main source of our quality drinking water, but these resources are largely committed and, in some regions, have negative growth potential due to the vulnerability to droughts and contamination from rainwater runoff. Shallow groundwater has been a great source of water for stock and gardens over the many years since Australia was settled and sometimes it's even a source of drinking water for populations but is less common. Desalination has come a long way as a technology over the last 30 years, and it's a great resource for water supply, but the initial capital costs and overall running costs, and waste disposal have been a hurdle that still requires overcoming. With a reported average running cost of between $1 and $4 per kilolitre (1,000 litres), it's expensive, but when viewed against the alternative of no water, the cost is irrelevant. http://www.awa.asn.au/AWA_MBRR/Publications/Fact_Sheets/Desalination_Fact_Sheet.aspx . However, there is an alternative. Deep Seated Water (DSW) is a new source of sustainable water discovered relatively recently due to the significant research by many Geologists around the world. And with advancements in digital GIS mapping and data availability, particularly in Australia, this water can now be located with an extremely high degree of accuracy.

Lerami – Via YourSAy

South Australia is indeed one of the beautiful country. In regards of this problem people should minimize cutting trees and other harmful ways towards natural resources. As our world perpetual progress in technology, the more our natural resources is in danger. Therefore, people should know how to preserve and care for our nature.

Rosanna Cent – Via YourSAy

Here we have a Draft Plan on the impacts of Climate Change and a proposed policy on how to Secure SA water. Yet, there is nothing in this Draft Plan which highlights the main driver for the increase in temperatures with less rainfall year on year. Nor does it actually address solutions to assist with the reduction of carbon emissions, & land/Tree Clearing, which is ultimately the cause of less rainfall/water leading to drought like conditions. Water is the essence of life, nothing living can survive very long without it. We, (Govts, Communities, Business, Individuals) need to do everything we can to preserve it. If we do not take this issue seriously the State of our Beautiful landscape will be dire, not just environmentally but economically, you cannot have one without the other. Yet, your plan just focuses on a band-aide solution, without solutions for the Cause.

Current responses to drought tend to focus on short-term measures, such as temporary water conservation and efficiency improvements, water transfers from one basin to another We must incorporate longer-term efforts that reduce vulnerability and increase resilience to more frequent, severe, and longer-lasting drought conditions. The single most important step in limiting drought risk is getting to “net negative” global CO2 emissions. Suggestions to look at - We should: Act swiftly to reduce carbon emissions to reach net zero no later than 2030; Reduce water use from every sector, especially agriculture, to sustainable levels; Reduce acreages of crops that use the most water. This doesn’t mean eliminating those crops; it means reducing their area to sustainable levels, so that

future generations can also have access to those commodities; Reduce acreages of perennial crops that compromise water demands for many years. Non-perennial crops can be planted during wet years and their acreage reduced during dry years to increase flexibility in water requirements; Improve regional monitoring and measuring of water supply and uses; Target sources of surface and groundwater pollution that reduce clean water availability, (overuse of fertilizers and pesticides); Increase recycling and reuse of water, including by capturing and reusing stormwater, greywater, and wastewater; Increase efforts to sustainable manage groundwater resources that act as a savings account during dry times. For example, recharging aquifers in wet seasons could serve as a buffer during dry periods; Increase maintenance and modernise infrastructure to reduce leakages and health risk from old pipelines. number within the consultation document.

Mark – Via YourSAy

The document clearly outlines the key to success is having fit for purpose water (the right quality and quantity of water in the right location) available where and when it is needed. It rightly points out the challenges of supplying drinking water in remote communities as being a key consideration going forward. The South Australian developed Hydro-dis technology is ideally suited to helping the authorities meet the demands of remote communities like the locations identified in the report. Our unique technology provides an affordable, extremely low maintenance, reliable means of disinfecting the source water without the need for chemical transport, storage and handling.

Subject: Water security [SEC=OFFICIAL]

From:
Sent: Friday, 3 September 2021 11:04 AM
To:
Cc:
Subject: RE: Water security [SEC=OFFICIAL]

Dear Peta,

Thank you again for facilitating the opportunity for MVGWTA to provide input to SA's draft Water Security Statement, particularly under extended circumstances.

Please see below for MVGWTA's response:

MVGWTA is an agribusiness industry organisation which represents the interests of more than 550 business, with a combined gross regional value of more than AU$500m, from two of our State's identified Growth State Agenda sectors grapes and wine production, and tourism.

MVGWTA acknowledges and supports the development and implementation of a Water Security Statement for South Australia, particularly with respect to sustainably safeguarding and addressing the importance of water security for priority water-dependent regional industries, and, water for primary industries (grape, wine and tourism).

As a significant agribusiness representative organisation, MVGWTA welcomes the opportunity for on-going and direct consultation regarding the Statement's development and adoption, including all Strategic Priorities.

Due to the importance of sustainable water resources for our region and sectors, MVGWTA strongly advocates for Priorities 1, 2, 3, 4, 5, 9 and 10 to involve input from McLaren Vale businesses and partners, in addition to MVGWTA and South Australian water agencies.

Further, MVGWTA advocates that the Priorities be expanded to explicitly address [1] the integration of the Planning, Development & Infrastructure Act 2016 into the Statement and vice versa as planning codes, policy and legislation have the ability to directly impact and or improve water security.

MVGWTA also advocates that the Priorities be expanded to explicitly address [2] financial mechanisms and opportunities to support sustainable water infrastructure development, use and management, via grant, incentives and favourable lending conditions by financial partners.

Finally, MVGWTA strongly advocates for 'water security' – as a mentality – to be integrated into all State growth targets, agendas, plans, legislation and policy – a Water Security Statement should not be developed after our State Government has announced our Growth State Agenda – it should be a part of it.

We welcome the opportunity to discuss this matter further, and thank you for you for your consideration of MVGWTA's feedback.

In addition to the above, MVGWTA supplies the below rough feedback and queries regarding specific elements of the draft Statement for DEW's consideration and reply.

Suggest acknowledgment of draft plan addressing the importance of "Priority water-dependent regional industries Water for primary industries" page 3.

"Sustainable access to water enables primary industries to make a significant contribution to the state's economy. Primary production is the largest consumptive user of water in the State and the sector supports thousands of small and medium businesses. The largest agricultural water users in South Australia are the horticulture, viticulture, dairy,

forestry and livestock sectors. South Australia's food and wine industries are a vital part of the state's economy and there are major opportunities for growth locally, nationally and overseas.

In 2017-18, the gross value of irrigated agricultural production in South Australia was $1.9 billion, with $1.2 billion of this generated in the Riverland, followed by Adelaide and the Mount Lofty Ranges ($390 million) and the South East ($312 million) . Sustainable agricultural water use supported almost 10,000 businesses, including 3000 irrigation enterprises (ABS, 2018-19) . These businesses generated revenues in excess of $10 billion, with the highest value sectors being livestock ($3.2 billion) , wine ($2.3 billion) , horticulture ($1.8 billion), and dairy ($570 million) (Primary Industries Scorecard 2018-19) . In addition, licensed forestry was calculated to have used 240 GL and generated revenue of over $2.2 billion.

Growth State has identified food, wine and agribusiness as one of its nine key growth sectors. An industry-led plan is being developed to improve competitiveness and profitability. It also considers industry growth over the next decade as producers respond to climate change, changing consumer trends and the emergence of new overseas markets. Drought, climate change and the impacts of poor water availability and quality are existential threats to current systems of primary production (NFF, 2017 and Remenyi et al., 2020) . Secure access to water is essential for prosperous primary industries. This requires maintaining access to current water resources, development of new sustainable water resources, improved on- farm water use efficiency (through better irrigation equipment and crop management) , and the development of new, water-efficient, climate-suitable crops. Whilst financing water infrastructure to improve water availability for primary industries remains a challenge, close consideration needs to be given to the strategic long-term benefits of enhanced agricultural water security that may result from such investment.

Warm regards,

Rachel

Rachel Williams
Grower Engagement

Please note, I work part time.
Contact hours: Tuesday – Thursday, 9 am – 5 pm

McLaren Vale Grape Wine & Tourism Association