

Critique of the Great Artesian Basin (GAB) Strategic Management Plan

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The Great Artesian Basin (GAB) Strategic Management Plan is a framework guide organised in collaboration by the states and federal governments of Australia, to guide the actions of said government in regards to water use, economic, environmental, cultural and social outcomes of the GAB. The aim of this document is not to be utilised as a statutory document, but a collaborative management plan between users to achieve objectives and outcomes. The lifespan of this management plan is estimated to last 15 years. Metrics have been installed for every 5-year period that the strategy will be operating, to test the strategies validity in its objectives and track its progress.

Context:

The Plan seeks to deliver outcomes for the Basin through an adaptive, evidence-based risk management approach. This means accurate and timely information will be used to guide decisions of regulators, investors, water users and other interests. Governments will use the Plan to assist in the development of policies, management and investment plans that meet objectives for the Basin.

Investors, water users and other interests can use the Plan to guide decisions concerning their use and management of the Basin resources. In implementing the Plan, water users and other interests will play important roles in providing input and evidence to help ensure compatible Basin-wide responses to risks and development opportunities. The Plan provides for a coordinated governance structure drawing on the knowledge and expertise of all interested parties to develop robust Basin-wide perspectives that strengthen understanding and confidence in decisions about use of Basin water.

Why introduce a new plan?

Success of previous plan:

Key achievements of the previous plan include:

- 750 bores have been capped, rehabilitated or decommissioned
- 250GL of water is being saved each year.
- Water pressure in parts of the Basin has been restored
- Health of naturally occurring springs has been maintained or improved
- The profile of the Basin and understanding of its structure and dynamics has been raised among its users and community members.
- With this knowledge, respect of the Basin and the importance of its sustainable management has grown.
- Substantial improvements in policy, planning and management have also been achieved, including the development of state water management plans and policy support, changed community attitudes concerning the need for judicious use of Basin resources.

An emerging concern in the GAB, reflected in comments made during public consultation on the draft Plan, relates to equity between water users and transparency relating to water use. As composition of water users and patterns of use in the Basin continues to change, there are particular concerns relating to the quantity of water taken by extractive industries and their potential impact on water quality, including on stock and domestic water supplies. There is concern that water take for different industries is managed under different legislation within the same state and that not all take in the Basin is fully accounted for in a consistent manner. There is a desire for all water users to be accountable in order to contribute to maintaining the long-term sustainability of the Basin. The Plan addresses these concerns in a number of ways. Basin governments agree to implement measures aimed at minimising impacts from extractive industries on groundwater recharge and groundwater dependent ecosystems. Facilitating full accounting of water taken by all water users including the resource extraction industry is an objective of the Plan. Water entitlements should have nationally compatible characteristics, with conditions complied with by industries operating in multiple jurisdictions. There is a focus in the Plan on aligning Basin management more closely with nationally agreed strategies and frameworks, including the National Water Initiative. The Plan envisages that scientifically defensible limits relating to both quantity of water take and water quality will be established and adhered to. Specifically, measures are to be implemented so that features important to natural groundwater recharge are not unduly impacted.

Further Emerging Challenges

As the demand for Basin resources increases and patterns of use change, there will be increasing competition between water users and changes to the nature, magnitude and significance of impacts caused by water extraction. Emerging challenges may include:

- injection of gases
- injection of water (for future use or to maintain aquifer pressures)
- large resource developments
- unconventional gas extraction

These new and emerging issues may impact both water quantity and quality. To meet increasing demand, the use of new technologies to maximise the efficiency of Basin water use is encouraged to meet user demands in terms of quantity and quality.

GAB PLAN SUMMARY

The primary aspects of the GAB are summarised here along with the hoped outcome:

1. **Coordinated Governance:**

Coordinated governance means the Great Artesian Basin jurisdictions of New South Wales, Queensland, South Australia, Northern Territory and the Australian Government working together to manage the resource on a whole of Basin approach in partnership with communities and industry partners. This partnership provides advice to the governments on the productive,

environmental and other public benefit outcomes to be achieved in a mutually beneficial way within the Basin. Basin-wide coordinated governance engages Basin governments, community and industry in implementation of the Strategic Management Plan, to:

- collectively consider long term management of the Basin
- actively engage with community and industry on matters of importance and provide community and industry advice to Basin Ministers
- enable transparent public reporting
- enable evaluation of, and public reporting on, implementation of the Strategic Management Plan.

2. A Healthy Resource

A healthy resource means the Great Artesian Basin groundwater system is under artesian pressure, with water flows and quality that continue to support natural ecosystems and supply water for a wide range of human activities, including economic, social and cultural uses. A groundwater system in which water flows, artesian pressure and water quality support groundwater-dependent ecosystems and provide a supply of water that meets the needs of communities and industries. Improved management of Basin groundwater recharge and discharge processes and the ecosystems/springs that are dependent on them. To address this, the Basin state and territory water resource plans:

- identify access and extraction risks to Basin water resources
- set out scientifically defensible extraction limits and management measures that sustain the use of the resource, by 2033
- set out scientifically defensible water quality limits and extraction impact management measures that minimise impacts on the Basin resources, its users and dependent ecosystems. Authorised water users extract groundwater in accordance with limits
- specified in Basin governments' water resource management plans and under their licence or approval conditions, to minimise third party impacts.

Basin governments hope to implement the following outcomes:

- water resource matters are considered as part of land use planning, linked to regional natural resource management plans and activities
- land use impacts are considered when undertaking water resource management and planning for the Basin groundwater system, especially around Basin springs and recharge areas
- risk-based, cost-effective measures are used to manage impacts on groundwater flows, artesian pressure and the quality of groundwater
- industry measures are put in place to minimise impacts from mining and other resource extraction on groundwater recharge and Basin groundwater dependent ecosystems, including springs
- water resource management identifies and manages risks to Basin springs and other groundwater-dependent ecosystems, and on biodiversity and their environmental values
- where Basin aquifers are identified as having potential for mining and other resource extraction, Basin governments may put in place management plans for their long-term sustainable management. Landholders are encouraged and supported to adopt best management practice for managing important physical landscape features that support natural recharge and Basin springs.

3. Aboriginal and Torres Strait Islander Values, cultural heritage and other community values

Those Aboriginal and Torres Strait Islander values, cultural heritage and other community values supported by Basin water and deemed to be important by Aboriginal and Torres Strait Islander people and other stakeholders are identified and considered as an integral part of the water

planning and management process. Water is available to sustain Aboriginal and Torres Strait Islander values, cultural heritage and other identified community values that are dependent on the Basin groundwater system. Basin governments include provisions in water resource management plans to enable access to the groundwater required for sustaining:

- Aboriginal and Torres Strait Islander values and interests, which includes Basin springs
- cultural heritage values
- other identified community values.

Governments ensure that cultural knowledge is integral to governance, planning and implementation of Basin management. Aboriginal and Torres Strait Islander people have an effective voice in coordinated governance arrangements including through representation on stakeholder advisory committees within the Basin. Basin governments set out strategies to achieve Aboriginal and Torres Strait Islander values, cultural heritage and other community objectives that are dependent on Basin water resources.

4. Secured and Managed Access:

Secure and manage access to groundwater for authorised water users and the environment Public confidence that the management of groundwater access and extraction is in accordance with agreed statutory requirements Regulatory frameworks facilitating innovative solutions and productive developments to ensure the Basin groundwater system is used in a way that optimises economic, social and environmental outcomes Full accounting of water taken or injected by all water users.

Basin state and territory water resource management plans. to specify:

- the process in which access to ground water is granted and how third-party impacts are managed
- the characteristics of the groundwater resource, the water available for extraction and the conditions under which extractions can occur
- strategies to assess risks that could affect those characteristics and the allocation and extraction of groundwater.

In addition, it hopes to:

- establish the rights and responsibilities associated with Basin state and territory authorisations to access and extract groundwater are clearly specified, understandable and enforceable.
- Enforce government decisions that affect the extraction of groundwater are made in accordance with a transparent process and in consideration of Basin-wide perspectives.
- introduce a coordinated governance arrangement, which enables Basin governments to work together to implement complementary authorisation/management frameworks, regulations and requirements across jurisdictional boundaries which achieves Basin wide outcomes, including pressure.
- Extract and manage groundwater, including water or gas storage, disposal and aquifer reinjection, is in accordance with rights and responsibilities specified in relevant authorisations.
- Ensure Basin governments recognise and foster access to water for Aboriginal and Torres Strait Islander people to achieve social and economic outcomes.
- Ensure Basin governments implement risk-based compliance and education programs.
- Ensure Basin governments identify, attribute and publicly report costs associated with Basin water resource planning and management.
- Allow authorised groundwater extraction and injection to be accounted for through applicable tracking and monitoring processes.

5. Judicious Use

Judicious use is responsible, productive and efficient use of Basin water that minimises the impacts of extraction on groundwater flows and water pressures while meeting requirements for existing users, water-dependent ecosystems, and for development where appropriate. Basin water wastage minimised and social, economic and environmental values in the Basin enhanced in accordance with extraction limits.

Through planning, education, information, incentive measures and regulatory tools, Basin governments and water users will manage Basin water resource extractions, in line with social, economic and environmental values, so that:

- water wastage is minimised
- authorised water users are encouraged to implement water use practices that minimise the amount of groundwater extracted
- the economic value of Basin water resources increases as a result of increased productivity from using Basin water resources within agreed extraction limits
- water resource planning and regulatory frameworks provide for effective, efficient and innovative management of groundwater access, extraction, injection and use that is responsive to future development opportunities
- water infrastructure owners and operators upgrade and maintain groundwater infrastructure to meet Basin state and territory standards and minimise water loss, including the capping and piping of bores and removal of bore drains consistent with the requirements of individual state and territory water resource plans
- new and emerging risks to the Basin's water resources are assessed and managed under state and territory legislative tools. Coordinated governance arrangements assist in identifying and promoting practices and culture for judicious use and willing compliance among water users across the Basin.
- Basin governments develop mechanisms to allow transfer of water access rights within and between jurisdictions, where water systems are physically connected and water supply considerations will permit trading. Basin governments grant new authorisations to extract groundwater through processes that maximise the efficiency and productivity of water use.

6. Information, knowledge and understanding for management

Information and knowledge generation ensures that accurate, timely and readily accessible information supports good management of the Great Artesian Basin. Baseline information that identifies how the hydrology, hydrogeology and environment interact in Basin water resources is sufficiently accurate and robust to support decision making processes. Understanding of changes that result from extraction of Basin water resources, developed in a timely manner that enables management intervention. The benefits that accrue from use of Basin water resources understood by water users and the general public. The coordinated governance system enables collaborative working relationships between researchers, industry, water users and governments to improve the Basin-wide information and knowledge base by:

- seeking out, evaluating and using the best available information to make evidence-based decisions
- enabling collection and consolidation of information held by governments, researchers, and industry and community interests
- facilitating improved data quality and consistency
- investing in the acquisition of: – baseline information on the hydrogeological function of the Basin groundwater system, including natural recharge and discharge processes, water flows, water balances and risks to those processes – information on biodiversity and ecology of groundwater-fed systems, and risks to biota for all parts of the Basin
- identifying knowledge gaps and priorities for research and for development of models and management tools

- undertaking risk-based monitoring of the Basin groundwater system, including: – groundwater extraction – groundwater resource condition (artesian pressure, water quality, environmental values) – water infrastructure condition, including inter-aquifer leakage
- compiling social, economic and cultural heritage values information related to the use of groundwater
- understanding future patterns of development and projected water demand within the Basin

7. Communicate and Educate

Communicate and educate means that water resource management information, including information on social, cultural, economic and environmental values, will be publicly available, accessible and clearly understandable. Basin-wide water resource management information, including information on social, cultural, economic and environmental values is publicly available, easily accessible and understandable.

A centralised hub for Basin-wide information is established as part of the coordinated governance system to:

- Draw on expertise from governments, water users and other interests
- Share information openly
- Assist in identifying and remedying strategic information gaps
- Ensure that Basin information is accessible, understandable, reliable, and usable for all levels of decision-making and enquiry, and appropriate to target audiences
- Provide a community gateway to authoritative information products about Basin groundwater systems, and their values, health, management and use.

Basin governments publicly report information on management of Basin groundwater systems. A Basin-wide resource condition report is established based on an agreed monitoring strategy. It is communicated and updated 12 months prior to each five-year review of the Plan, to include 'dashboard' indicators of the current state of Basin resources and management, and identification of emerging trends, risks, challenges and opportunities. The Basin-wide condition report will provide a source of information for reviewing state and territory basin monitoring programs.

Implementation of the Plan Basin

Governments, water users and other interests have a joint responsibility to continue to improve management of the Basin to sustain important community values, continue to meet the needs of water users, and grow the benefits that accrue from Basin water use. The implementation of this Plan will assist governments with policy development and management, and support industries in their decision making to achieve more judicious use of water. Basin governments have statutory responsibilities to provide adequate resources for Basin management, with national policy and water resources information support provided by the Australian Government. Achieving the objectives and desired outcomes of the Plan will require targeted investment by Basin governments and the Australian Government commensurate with the risks and threats facing future Basin management. Industry and other interest groups should also be encouraged to consider the Great Artesian Basin Strategic Management Plan 33 Plan when making investment decisions within the Basin. This will support active engagement of water users and other interests to enable implementation of the Plan through a whole of Basin-wide approach. Local government and regional natural resource management groups provide an important source of local knowledge on social, economic and environmental matters and will be integral to implementing

the Plan. A rolling five-year implementation plan will be developed, be publicly available and jointly managed by Basin governments in consultation with water users and other stakeholders, to:

- meet national water management agreements and their respective legislative requirements
- emphasise the critical role of whole of Basin management
- continue to enable stakeholders to participate in Basin-wide policy and decision making
- assist industries and other interests in making management and investment decisions
- provide information that assists meeting the Plan objectives and raising the profile of the Basin
- apply the coordinated governance principle of the Plan to strengthen and complement state/territory and whole-of-Basin policy and management initiatives. Implementation plans will be guided by the principles, objectives and desired outcomes in the Strategic Management Plan and will include:
 - actions to be taken by governments through water planning processes
 - joint actions to be delivered by multiple governments in partnership
 - activities to be delivered by governments working closely with industry, community groups and other stakeholders' timeframes within which those actions and activities will occur
 - the commitments required by water users, Basin governments, Australian government, industries and other interests to make the implementation plans operational.