



Submission to the Northern Territory Government's Discussion Paper: Our Water Future July 2015



IAH NT Branch submission:

NTG Our Water Future Discussion Paper: A Conversation with Territorians 2015

The mission of International Association of Hydrogeologists (IAH) is to further the understanding, wise use and protection of groundwater resources throughout the world. We endeavour to raise awareness of groundwater issues and work with national and international agencies to promote the use of groundwater to ensure access to safe drinking water and sustainable use of groundwater generally.

The IAH National body have recently provided comment on the Draft National Groundwater Strategic Framework. This draft framework, coordinated by the Commonwealth Department of Environment has been developed in conjunction with all states and territories and outlines three priority objectives for action:

1. Sustainable extraction and optimal use
2. Confidence for investment
3. Planning and managing now for the future.

The National framework provides a 10 year strategic vision on sustainable use and ongoing access to Australia's valuable groundwater resources. In providing comment for the NT Our Water Future Discussion Paper, the IAH NT Branch has used the Draft National Groundwater Strategic Framework (Commonwealth of Australia, 2015) as a point of reference for providing our position. The IAH broadly supports the priority objectives therein, because

- a) the majority of the Northern Territory relies on groundwater use;
- b) all jurisdictions, including the NT will play a key role in implementing the actions in the National Groundwater Strategic Framework; and
- c) working towards these objectives will need to be considered in the NT's own Strategic Plan for managing our precious water resources.

This submission has been set out to address each of the five priorities of the NT Water Future Discussion paper and in some cases key actions. Relevant issues of importance are raised and solutions recommended.

Our Water Future Strategic Policy: Priority 1

Manage Competing demands for water: Territorians enjoy a prosperous economy supported by the sustainable use of water resource

Effective water resource management is key to supporting economic development.

The Northern Territory is earmarked for development; through its White Paper on Developing Northern Australia (Commonwealth of Australia, 2015), the Commonwealth Government is putting in place policies to support economic development across the North of Australia, including the Northern Territory. The White Paper focuses on 'building the right water infrastructure in the right place' to support northern development. In 2014 the Northern Territory Government conducted a Regional Infrastructure Study¹ to 'identify priority regional infrastructure investments that will drive the next stages of economic and social development in the Territory's regional areas', which included assessment of available water supply and sanitation infrastructure. The results are not yet published but are expected to identify hot spots for investment prioritisation. In the 2015 budget², the NTG announced \$2.9m for land and water resource assessments 'to unlock the Territory's agricultural potential'.

There is opportunity for the Commonwealth Government and the Northern Territory Government to work collaboratively and with other stakeholders to identify priority areas for investment. This would include funding and conducting associated water resource management activities in a transparent manner, to deliver benefits for multiple stakeholders.

The Water Allocation Planning process needs urgent attention. Unfortunately the process of completion of draft water allocation plans and review of existing plans has lost credibility due to long delays, changing policy mid-way through ongoing negotiations and lack of follow through.

The Northern Territory is a signatory to the intergovernmental agreement on a National Water Initiative (NWI). To ensure water planning is consistent with the NWI, the [NWI Policy Guidelines for Water Planning and Management \(2010\)](#) should be applied in review of existing plans and development of new Water Allocation Plans.

A 'first in first serve' approach to groundwater licencing in water allocation planning areas is resulting in activities impacting groundwater quality also diminishing the value of groundwater for adjacent existing and future users. To address this issue, The [National Guidelines for Groundwater Quality Protection in Australia \(2013\)](#) should be embedded into proposed planning, management and regulation processes for groundwater in the NT. The principles set out these guidelines integrate the following:

- economic and social rationales for the protection of groundwater quality,
- the current and future value of the groundwater,
- management or prevention that is proportional to contamination risk,
- responsibilities of the current generation to provide equitable access to resources for future generations

¹ <http://www.transport.nt.gov.au/publications/strategies-and-plans/regional-infrastructure-study>

² http://www.budget.nt.gov.au/wp-content/uploads/2015/04/Budget-2015-16_Regional-Highlights_NEW.pdf

Water Allocation Plans (WAPs) are specified in the NT Water Act as the tool for water resource management in Water Control Districts. The NT Government is obliged to develop and review them regularly. The reviews of the existing WAPs have not been completed within the required timeframe. IAH NT recommends that outstanding reviews are conducted as soon as possible. Water Allocation Plan development priorities should also be reviewed, in light of future potential development 'hotspots', as identified by the Commonwealth and Northern Territory Governments.

The Northern Territory Government should ensure a risk based approach to specifying water entitlement for groundwater which recognises seasonal variability, lag effects and uncertainty is applied and well communicated.

For a number of NT water planning areas there is full allocation but under-use. Some licence holders obtain licence entitlements for more water than they need to ensure reliability or to hold onto for future gain in trading. This has resulted in 'locking up' of groundwater causing several issues, including:

- Inequity: A handful of licence holders holding large water licence entitlements preventing the same free (currently) access, to groundwater resources by new and future users.
- Untested system: Under-use in fully allocated systems has meant the some systems have not been fully tested to determine impacts when actual use is at 20% of recharge.

There is currently an un-enforced 'use it or lose it' policy position to enable unused water held by licence holders to be returned after a period to the future allocations pool. There is an opportunity to review how other jurisdictions have addressed this issue and incorporate it into NT policy. For example partitioning licensed entitlements into two parts: 'take' and 'hold'. Where take would be what can be used in the first three years according a business plan, followed by being able to access the 'hold' part when that investment in 'take' access is evident. Addressing efficiencies for obtaining unused water back to future allocations should be addressed first before looking to expand the amount available to the consumptive pool.

All water use from existing mining and petroleum activities in water allocation areas must be accounted for in water allocation plans to ensure entitlement and reliability for existing allocations is protected. At present, our understanding is that mining or petroleum activities are exempt as per the Water Act - s7(3) Application of Act to mining or petroleum activity. This exemption causes considerable angst to both the community, proponents from varying industries, as well as mining and petroleum operators. The exemption also results in a lack of clarity in what is required from a water management and infrastructure installation perspective. The exemption also falsely drives perceptions about to what and to where the exemption applies. This compounds and adversely affects the lack of will to monitor or install monitoring infrastructure beyond lease boundaries. Due to the interconnected nature of groundwater and surface water systems, all stresses within a system require the same level of scrutiny. Exemptions are neither appropriate nor they should be required by a mining or petroleum activity.

It is notable that the [Queensland Farmers Federation and Cotton industry submission](#) on the Draft National Groundwater Strategic Framework 2015-2025 raises this as a key issue underpinning investor confidence for agricultural users.

Our Water Future Strategic Policy Priority 2:

Foster water stewardship: An informed community engaged and empowered to protect, conserve and enjoy Northern Territory water resources.

Self-regulation is a consequence of an informed water use community who have a role in decision making and management of their own resources. In rural areas the mechanism for people to participate in protection, conservation and responsible use of limited water resources is the Water Allocation Plan.

In the urban space, PWC has an active water conservation and demand management (WCDM) programme with an ambitious target for water saving – it is yet to be seen whether the target can be met and sustained.–

WCDM can be incentivised through a well-structured tariff system to encourage all water users to become active participants in water conservation.

Ongoing issue of entitlements from licence application during WAP development has resulted in full allocation of the consumptive pool prior to plan completion. This approach does not encourage participation by catchment based users who perceive that they are excluded from decision making until it is too late.

The economic value and cost of water should be incorporated into all allocation planning/trading processes. For example unit demand for water must be compared with economic return on the water used, as well as replacement cost to provide the water used for domestic needs. High value, low demand use should be prioritised over low value, high demand crops.

Under the current governance model, the costs of water management are borne by the taxpayer whilst economic benefits are reaped by water users. As custodians of the current and future groundwater resources in the NT, the NT government must fully appreciate the value of the Territory's groundwater resources in economic terms. Two recent national reports providing clear direction in this area are [Assessing the value of groundwater \(2012\)](#) and the [Economic value of groundwater \(2013\)](#).

Implementing water allocation charges would encourage water users to make productive use of their water, or relinquish it for productive use by others. A similar approach can be taken to other jurisdictions for setting of fees and charges. For example the Independent Pricing and Regulatory Tribunal of NSW (IPART) is responsible for setting the maximum charges the Office of Water can levy on water use for its water management services. The charges recover a share of the costs incurred by the government Office of Water in providing these services for regulated and unregulated systems, surface and groundwater resources. Ref: <http://www.water.nsw.gov.au/water-management/fees-and-charges/price-setting>

Illegal unmetered use is a major disincentive to encouraging groundwater trading in other jurisdictions. Compliance with licensing policy and control of illegal water use needs to be given higher priority in the NT. This should entail a comprehensive public awareness programme combined with a framework of compliance audits and associated fines and penalties.

Increased regulation and compliance activities (eg an adequately staffed Water Inspectorate) commensurate with development should be established and funded through costs recovered under a transparent NWI compliant fee structure. The government should set clear expectations on compliance to ensure investment is efficient. For example, other jurisdictions publish Water Sharing Plans on an annual basis, in which details of all water use activities are listed. Public disclosure of information on water use serves to discourage illegal water use.

Long Term Action 2: Coordinate research and partnerships that pursue innovation in water conservation, efficiency and productivity to benefit the Territory environment and economy.

The National Centre for Groundwater Research and Training has been involved in several NT specific projects which have helped inform understanding of tropical and arid zone groundwater systems. It is proposed that DLRM Water Resources continues to collaborate with the leading national body on groundwater research. Other bodies that have successfully collaborated with the NT government on groundwater associated research include the Goyder Institute, CSIRO and Geoscience Australia.

IAH NT supports education on water resource management. IAH NT branch supports groundwater research and training through:

- Supporting community forums,
- Supporting training events such as Groundwater Essentials
- Running field trips
- Hosting distinguished lecturers around the world to speak at free events on groundwater subjects

Long Term action 3: proposes to 'Encourage appropriate land use activities and practices within catchments so as to protect water quality and environmental flows.

Land use activities within water control districts and in particular Water Allocation Planning areas, should not be a long term action left to the discretion of 'encouragement' but rather determined appropriate under a land and planning process that applies the National Guidelines for Groundwater Quality Protection.

Our Water Future Strategic Policy Priority 3

Build strategic water knowledge, research and innovation: Knowledge from research and innovation is adopted in water policy, management and practice

Near term action 2: Establish a network of experts to periodically review the available scientific evidence; data from water resource monitoring and water extraction, to inform decision making.

A collaborative comprehensive research framework should be prepared to focus research into those areas which are most needed to improve water management in the NT. This framework should be linked to funding, internship and collaboration to ensure that research and innovation works towards answering questions that will help improve water management within a realistic time frame.

Such research should include:

- Investigating the importance of groundwater for baseflow of the NT's iconic river systems
- Investigating the impacts of current potential water use on the NTs groundwater dependant ecosystems.

Our Water Future Strategic Policy Priority 4

Enhance assessment and monitoring of water resources: Environmental and cultural values of water are understood, protected and maintained

Part 4 Section 34 of the NT Water Act states that: 'To enable effective planning for water resource development and environmental protection, it is the duty of the Controller to ensure as far as possible that a continuous program for the assessment of water resources of the Territory is carried out, including the investigation collection, collation and analysis of data concerning the occurrence, volume, flow, characteristics, quality, flood potential and use of water resources...'

Environmental flow requirements (EFR) for NT aquatic ecosystems are poorly understood. Conservative application of the Precautionary Principle is currently used in the de facto rule for EFR; the 80/20 rule approach is applied as the default assumption. This is not ecologically defensible and may curtail development opportunities. This should not be viewed as justification to increase the total consumptive pool percentage beyond 20%, under the current policy and planning regime. This approach highlights the need for a better scientific understanding of the environmental flow requirements of current or future high use systems.

NT requires a Strategic Monitoring Framework which will encompass the best practises for monitoring water resources, integrating activities (BOM, CDU, councils, DLPE, PWC others) , clarify roles and responsibilities, allow for redesign/restructure/rationalisation, ensure industry standards and guidelines are met, support governance of water resources, ensure value for money.

- Strategic Monitoring: monitoring water resources to characterise the nature and status of resources for potential future use at present unknown
- Compliance Monitoring: monitoring of water use activities and impacts in terms of statutory controls such as licences, regulation and standards
- Performance / audit Monitoring: comparison of water resource quality against predetermined resources management objectives
- Status and Trend monitoring: provide long term information on changes in the natural environment
- Impact Assessment: provide information on why the resource quality is changing and how it is expected to change over time. May be short or long term time frames
- Water resource surveys: may be limited duration irregular monitoring activities to investigate specific phenomena, or may be regular surveys to monitor temporal changes in phenomena

Our Water Future Strategic Policy Priority 5

Ensure resilient water supplies and sanitation: Access to a secure, resilient water supply and sanitation is assured for a growing population

Effective water resource management is needed to ensure water security for urban areas, for rural areas and for remote communities. IAH NT supports the development of a plan for the long term monitoring and management of remote community water supplies.

Septic tanks are not an appropriate means of sanitation disposal in an aquifer where people depend upon the untreated aquifer as a sole source of drinking water. The contaminant load will increase with population growth, impacting the quality of the water and potentially making it unfit for consumption untreated. Rural growth areas planned for development (eg Berry Springs, Humpty Doo) need to have reticulated sewage systems as an integral infrastructure component to avoid compromising the aquifers. Reticulated systems also allows for treatment and re-use of waste stream.