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Arid Lands Environment Centre

24 March 2021

Productivity Commission
GPO Box 1428
Canberra City ACT 2601, Australia

Submitted online via the Productivity Commission's website

To Whom it May Concern,

Submission in relation to the Productivity Commission Draft Report – National Water Reform 2020

Thank you for the opportunity to provide a submission in relation to the Productivity Commission's draft report on the National Water Reform 2020 (Draft Report). This submission is made jointly by the Environment Centre NT (ECNT) and the Arid Lands Environment Centre (ALEC).

ECNT is the peak community sector environment organisation in the Northern Territory, raising awareness amongst community, government, business and industry about environmental issues and assisting people to reduce their environmental impact and supporting community members to participate in decision-making processes and action.

ALEC is Central Australia's peak environmental organisation, and has advocated for the protection of nature and sustainable livelihoods since 1980. Based in Alice Springs, ALEC's vision of 'healthy futures for arid lands and people' drives its advocacy and project work across the region.

Both ECNT and ALEC have a decades long history of making policy and law reform submissions on water law and policy in the Northern Territory. ECNT and ALEC conduct this work as the peak environmental bodies in the Northern Territory, in the public interest.

Key threats to our most precious resource

Water is our most precious resource, and is essential to all life.

ECNT and ALEC believe that the Northern Territory's water regulatory system is inadequate to meet the current and future threats and challenges to our water resources. These threats and challenges are threefold:

1. There is significant and longstanding water insecurity in remote Indigenous communities, including due to the fact that drinking water is unregulated and unprotected in these places;
2. Climate change is significantly impacting our water resources, and the viability of life in the Northern Territory, including from harsher and longer droughts, erratic rainfall (and recharge of

aquifers), and increased evapotranspiration. Recent research has found that three of the NT's principal ecosystems, the northern savannas and coastal mangrove forests of the wet/dry tropics in the "Top End", and the arid zone interior of Central Australia, all meet the criteria to be classified as "collapsing".[1] Climate change is also likely to worsen existing inequalities in health, infrastructure provision, lack of educational and employment opportunities, and income in Indigenous communities.

3. The Northern Territory Government is proceeding with plans for large-scale industrial and water-intensive agriculture across the Northern Territory. For example, there are plans for 168,000 hectares of agribusiness development across the Northern Territory, involving extensive land clearing of NT savannas and the arid zone (which are, as highlighted above, are ecosystems on the verge of collapse), and which will require billions of additional litres of the Northern Territory's groundwater and surface water.[2]

Our water regulatory system is failing the Northern Territory

The Northern Territory's poor water regulatory system, weakened by its failure to incorporate key components of the National Water Initiative, means that we are ill-equipped to manage these threats and challenges. We note the following key issues:

1. There are currently no legal protections for drinking water quality in the Northern Territory. There is no general power to reserve water for current and future drinking water supply against other uses. There are no minimum standards for water quality across the NT. Drinking water provision is completely unregulated in remote Indigenous communities.[3]
2. The Northern Territory has very few declared water allocation plans, with only 28% of the volume of water licences currently captured by those plans. This means that the vast majority of water licence decisions in the Northern Territory (72%) are occurring without appropriate planning oversight, a rigorous and publicly-tested scientific basis, or appropriate stakeholder and public engagement.
3. By the time water allocation plans are declared, water systems are typically already completely allocated (or overallocated), reducing the much-celebrated "Strategic Aboriginal Reserve" in the Northern Territory (which only takes legislative effect upon the declaration of a water allocation plan) to a nominal concept, and undermining the utility and efficacy of water planning processes;
4. Water advisory committees (the only mechanism currently in place to ensure stakeholder and public engagement in water planning) are not functioning effectively, and indeed seem to have been disbanded in many cases.

[1] Bergstrom, D. M., Wienecke, B. C., van den Hoff, J., Hughes, L., Lindenmayer, D. B., Ainsworth, T. D., Shaw, J. D. et al (2021). Combating ecosystem collapse from the tropics to the Antarctic. *Global change biology*. doi:10.1111/gcb.15539.

[2] NT Farmers, Northern Territory Plant Industries Economic Impact Analysis 2020.

[3] Liam Grealy & Kirsty Howey (2020) Securing supply: governing drinking water in the Northern Territory, Australian Geographer, 51:3, 341-360, DOI: 10.1080/00049182.2020.1786945, https://blogs.crikey.com.au/northern/2019/05/31/are-there-legal-protections-for-drinking-water-in-the-northern-territory/.

5. There are no mechanisms for catchment or ecosystem-based management of water resources in the Northern Territory, including to provide oversight of environmental and cultural water.
6. There is no independent oversight, reporting or auditing of the Northern Territory's management of environmental and cultural water.
7. The Northern Territory is the only jurisdiction (apart from Western Australia) that does not charge irrigators for water. This means that:
    a. the key mechanism to fund water resource management by the Northern Territory Government is absent, seriously impeding the compliance, monitoring and enforcement functions which are essential for the success of any water allocation system.
    b. water licensing in the Northern Territory currently involves the direct transfer of public wealth into private hands, and appears to constitute a significant mismanagement of public resources. The Northern Territory has recently introduced water trading within water allocation plan areas, which means that irrigators can trade a public resource obtained by them for free at a profit.
8. Monitoring, compliance and enforcement functions appear to be either extremely poor, or absent. There is no public reporting of these functions, significantly undermining the transparency of the water regulatory regime.
9. There is no institutional separation between water service delivery, policy-making and regulation with respect to water in the Northern Territory. Indeed all these roles appear to be performed by the one department. It has long been standard practice in the Northern Territory that the Water Controller is also the CEO of the relevant Department, who reports to the Environment Minister. Further, there is no independent economic regulation of water in the Northern Territory.
10. The Northern Territory's key water planning policy, the Water Allocation Planning Framework, is over 20 years old and allows the unsustainable draining or 'mining' of aquifers in the arid zone of the Northern Territory. Moreover, it is not binding, and is sometimes departed from by the Northern Territory Government for individual water licensing decisions with little public or scientific justification.
11. There is no modelling for climate change impacts in Northern Territory water allocation plans, nor water licensing decisions.
12. The Northern Territory Government is proposing to implement significant changes to its water management regime that are inconsistent with the NWI, and will increase threats to water resources. For example:
    a. The Northern Territory Government will in the second quarter of 2021 release a policy authorising floodplain or surface water harvesting in the Northern Territory, which will put additional pressure on already over-allocated systems. NT Farmers has indicated that an additional 520GL per annum could be "available" from the Daly River system alone through floodplain harvesting. The total estimated sustainable yield for the Oolloo and Katherine-Tindall water allocation plans is around 135GL. If authorised, this is likely to put additional pressure on the Territory's water resources, and will again facilitate the transfer of public wealth into private hands (as occurs already with respect to water licensing in the Northern Territory). Currently, there is little capacity for the Northern Territory to appropriately regulate this practice, given poor monitoring, compliance and enforcement of water management.

b. The Northern Territory Government is proposing to legislate to enable the grant of "head water licences" to developers which will have the effect of reserving water for future development, where the actual water requirement for the development may be unknown. This is inconsistent with the NWI, may facilitate the hoarding of water for individual developers, and could result in developers securing the available consumptive pool from a water resource to the detriment of other prospective users, including for Indigenous economic development.

Case studies

ECNT and ALEC provide two case studies to illustrate the poor state of water regulation in the Northern Territory: one from the Top End Zone, and one from the Arid Zone.

Larrimah groundwater extraction licence - Top End zone

In late 2020, the Acting Water Controller granted a 10,000ML pa groundwater extraction licence (TLAM1002) from the Mataranka Tindall Limestone Aquifer in the Larrimah region of the Northern Territory, which was inconsistent with the Water Allocation Planning Framework, the ongoing water allocation planning process for the area, and has had the effect of exhausting the available consumptive pool so that there is no water for the Strategic Aboriginal Reserve.

The particulars of this licence decision are given below:

(a) The Water Allocation Planning Framework defines two zones for the purposes of defining the rules for "contingent allocations" of water resources in the Northern Territory as follows:

a. The Top End Zone applies in the northern one third of the Northern Territory, and applies (with respect to aquifers) the 80:20 rule which states:

"at least 80 precent of annual recharge is allocated as water for environmental and other public benefit water provision, and extraction for consumptive uses will not exceed the threshold level equivalent to 20 percent of annual recharge"

b. The Arid Zone applies in the southern two thirds of the Northern Territory and applies (with respect to aquifers) a different rule which states:

"there will be no deleterious change in groundwater discharges to dependent ecosystems, and total extraction over a period of at least 100 years will not exceed 80 percent of the total aquifer storage at the start of extraction".

Of note, the Top End contingent allocation (when applied on the basis of good scientific evidence) should facilitate the sustainable use of the resource. By comparison, the Arid Zone aquifer allows unsustainable "mining" of the aquifer via storage depletion (rather than storage maintenance).

(b) The Acting Controller's Decision applied the Arid Zone contingent allocation rules for assessing the licence. The basis for this appeared to be a single line in the attached Technical Report stating that the aquifer "behaves like an Arid Zone aquifer because the recharge occurs unreliably via large episodic events" (p 5 of the Acting Controller's Decision).

(c) The Acting Controller's Decision to apply the Arid Zone contingent allocation was inconsistent with previous water licence decisions, announced annual allocations, planning and advice from the Department including as follows:

a. The 2020 Announced Annual Allocation Decision for the Mataranka Tindall Limestone Aquifer uses the Top End contingent allocation (https://denr.nt.gov.au/__data/assets/pdf_file/0010/819244/aaa-decision-2020-2021-mataranka-tindall-limestone-aquifer.pdf);

b. The Controller's Decision to apply the Arid Zone criteria is inconsistent with other water extraction licences granted in the area which use the Top End contingent allocation (TLAM23, TLAM25, TLAM29 and TLAM10000). In particular, the recent refusal of a licence with respect to the nearby Vermelha Station (9 July 2019), which applied the Top End contingent allocation to find that there was not sufficient water to justify the grant of the licence:

> "the estimated amount of groundwater available for extraction from the Land on a sustained basis without impairing water quality, or causing environmental damage is estimated by the department to be 2,945ML pa. This figure represents approximately 20 percent of the estimated ground water median annual recharge for the Aquifer relative to the Land, and is consistent with the Framework … The Applicant's original application volume of 20132 ML per annum would be in excess of the 20 percent for the estimated groundwater recharge, and therefore inconsistent with the Framework."

c. The Mataranka Water Advisory Committee tasked with advising on the development of the proposed water allocation plan for the area appears to have only ever been provided with advice from the Department that applies the Top End contingent allocation (ie the 80:20 rule), or a more "conservative" set of rules. The Mataranka Water Advisory Committee has not met since October 2019, and it is not clear that they have been consulted about the licence decision. No reference is made to applying Arid Zone allocation rules in the minutes of the Water Advisory Committee meetings, not does it appear to have ever been contemplated. Relevant extracts from the Mataranka Water Advisory Committee minutes are below:

   i. The minutes from a March 2018 meeting state (https://depws.nt.gov.au/__data/assets/pdf_file/0016/501019/Meeting-Record-TMDWWAC-3-180322.pdf):

      > "NT Water Allocation Planning Framework
      >
      > - Tindall Limestone Aquifer is considered a humid zone
      > - The Committee has the capacity to move away from this policy ie recommend less than 20% to consumptive beneficial uses with regard to the 80/20 rule. It would be more difficult to justify the opposite approach. The Framework acts as a guide."

   ii. The minutes from an August 2018 meeting state (https://depws.nt.gov.au/__data/assets/pdf_file/0010/593920/Meeting-Record-TMDWWAC-6-180821.pdf):

      > "The 80/20 rule is a guiding rule. Is 80/20 right, or is a more conservative approach needed?"

This minutes also note that the Committee was briefed about the Vermelha application for 20GL, and that the Committee was of the view there should be no licences granted during the water allocation planning period.

iii. The minutes from the October 2018 meeting state (https://depws.nt.gov.au/__data/assets/pdf_file/0008/679670/tmdwwac-minutes-meeting-7-20181025.pdf):

"Discussion of how values for Estimated Sustainable Yield (ESY) and the Consumptive Pool are developed, including the contingent 80:20 rule under the NT Water Allocation Planning Framework."

These minutes also disclose that average annual recharge figures were recalculated for the Mataranka-Tindall Water Allocation Plan area on the basis of the 80:20 rule. This discloses that the estimated consumptive pool for the proposed plan was in the vicinity of 43.6GL/year (p 3).

iv. The minutes from the last meeting of the Committee in October 2019 (https://depws.nt.gov.au/__data/assets/pdf_file/0005/814586/tmdwwac-minutes-2019-10-24.pdf) state that a new model had been developed to test different extraction scenarios by which showed "that certain management zones may be approaching full allocation i.e. in the context of an ESY based on 20% of median annual recharge". It also referred to a new Roper Model developed by Anthony Knapton.

(d) If the Top End contingent allocation rules were correctly applied, the Licence would not have been granted because it would have led to the available consumptive pool becoming overallocated. The total volume of water licensed for extraction from the resource prior to the grant of the Licence was 28, 356ML/year. The Licence increases the water licensed for extraction from the resource to 38,356ML/year. The Technical Report for the Vermelha water licence decision, and the advice given to the Water Advisory Committee both suggest that the median recharge for 1960-2018 was 175,000ML, meaning that the available consumptive pool is approximately 35,000ML (calculated as 20% of the annual recharge): (https://depws.nt.gov.au/__data/assets/pdf_file/0004/814585/tmdwwac-minutes-2019-05-21-22.pdf - page 5 of appendix 6). This means that, as a consequence of this licence decision, the system is likely to be overallocated and other prospective users cannot access this water. In particular, there will be no water left for Indigenous economic development under the Strategic Aboriginal Reserve, rendering this concept hypothetical or nominal, as has occurred in other water allocation plans in the Top End Zone.

ECNT has sought a Ministerial review of this decision. It illustrates the flexibility of the NT's water regulatory system, which is navigated to facilitate particular development outcomes to the detriment of other users, including for Indigenous economic development. It aptly demonstrates the entrenched practice of fully allocating the consumptive pool prior to the declaration of water allocation plans, and the willingness of the Northern Territory Government to depart from well-established rules regarding water allocations in the Northern Territory.

Singleton Station groundwater extraction licence – Arid Zone

In 2020, Fortune Agribusiness applied for 40 000 megalitres of publicly owned water per annum for a production period of 30 years. This proposed horticultural development near Ali Curung at Singleton

Station provides unique insights into how our current water planning laws are not working. If granted, the water licence at Singleton Station would be the largest groundwater extraction licence in the Northern Territory.

This proposal shines a light on major flaws in water planning laws in the Northern Territory, including regarding: water pricing; a lack of existing scientific knowledge and baseline information; and impacts on groundwater dependent ecosystems. These issues have far reaching impacts for the environment, local and regional communities, as well as for the Northern Territory as a whole. In addition, it sets a dangerous precedent around the ongoing industrialisation of water resources in Central Australia and the Northern Territory.

The Western Davenport water control district has large knowledge gaps and the water licence application lacks a scientific basis around key areas. Knowledge gaps around the Western Davenport water control district and Singleton Station include:

(a) The limited data to verify modelling assumptions used in determining sustainable yields, including aquifer storage and recharge events;

(b) The regolith resource which accounts for 34 000 megalitres of the estimated sustainable yield, however, the resource remains an unverified resource with significant uncertainty existing;

(c) The impacts of groundwater pumping on GDEs is inferred and not known;

(d) If the estimated sustainable yield is underestimated than cultural values and GDEs could be impacted;

(e) Untested assumptions around the response of groundwater recharge to rainfall events. There have only been four recharge events that have occurred in the last 100 years;

(f) Baseline surveys for GDEs have not been done at Singleton Station. Only remote sensing data has been used, despite the Western Davenport Water Allocation Plan emphasising the need for "detailed mapping of GDEs including identification of priority conservation areas and types; research into GDE groundwater use and vulnerabilities to change";

(g) There is no scientific basis is given for the projected drawdown of the aquifer by 50 metres over 30 years;

(h) There is no scientific basis is given for the assertion that aquifers would recover over a 30 year period following the conclusion of the project;

(i) There is no scientific basis for the 'Guideline: Limits of acceptable change to groundwater dependent vegetation in the Western Davenport Water Control District' which is used to justify up to 30% of GDEs being negatively impacted;

(j) There is limited knowledge on how this development will impact the water supply and quality of nearby communities;

(k) There is no modelling for climate change impacts on groundwater resources and GDEs, despite temperatures to warm in the region and evaporation rates to increase;

(l) There is no scientific assessment on the impacts of increased salinity on the development site;

(m) The impacts groundwater extraction will have on stygofauna;

(n) There is insufficient information about how cultural values and sacred sites will be protected.

The lack of information across an array of parameters is justification in itself that further research needs to be conducted before water licences that may pose significant environmental harm can be approved. It is vital that robust biological and cultural studies are completed prior to the extraction of groundwater resources. Instead, the largest groundwater extraction licence in the Northern Territory may be able to proceed despite significant uncertainty.

Conflict over how GDEs are to be managed are central to concerns around the Fortune Agribusiness water licence. The Western Davenport Water Allocation Plan (WDWAP) requires that:

- The maximum depth to groundwater should not exceed 15 metres;
- The magnitude of change in the depth to groundwater is not more than 50%
- The rate of change of the groundwater table is not more than 0.2 metres per year.

However, the proposal by Fortune Agribusiness states that the groundwater table will fall by 50 metres over 30 years, which is grossly inconsistent with the WDWAP. The significant discrepancies between the WDWAP and the proposed development highlight major issues around planning in the Northern Territory.

As stated above, the Northern Territory remains the only jurisdiction in Australia that does not charge for water. This means that the horticultural development at Singleton will be able to receive up to 40 000 megalitres of water every year for 30 years for free. Cost recovery is a key mechanism by which water resource management, including regulatory, compliance and enforcement functions are funded across Australia. ECNT and ALEC consider cost recovery to be a critical component to ensuring the Northern Territory satisfactorily performs these vital functions. Cost recovery also creates a disincentive to potential speculators by applying appropriate charges for entitlement. ECNT and ALEC note that if the (conservative) rate for water suggested by the Pepper Inquiry - $1000 per ML - as a guide to assess income foregone by the Northern Territory was applied to industry, then Fortune would be liable for up to $40 million. By failing to charge for water, the Northern Territory is giving away valuable public assets at considerable cost to the public and the environment.

Scientific certainty, legislative clarity and environmental and cultural protection need to form the basis of water planning in the Northern Territory. The Fortune Agribusiness water licence application, if granted, threatens to undermine all of these factors.

Recommendations

ECNT and ALEC call for urgent reform of the Northern Territory's water regulatory system. Any reform should be grounded in principles of water justice which ensure:

- that Traditional Owners, and their representative institutions, are centred in all decisions about management and use of water in the Northern Territory;
- that everyone's basic water needs are met;
- that the high ecological, cultural and social value of the Northern Territory's waterways are recognised and protected;
- that people who are affected by decisions about water are given a seat at the table; and
- that our water is recognised as a valuable public good that should not be squandered.

ECNT calls for the following specific reforms to the Northern Territory's water regulatory system to achieve water justice:

1. The Northern Territory Government must legislate for a right to safe drinking water for all Territorians in a *Safe Drinking Water Act* (as called for by the four NT land councils in 2020), and ensure that funding for water service infrastructure and management is adequate, transparent and risk-based.
2. The Northern Territory Government must re-establish water advisory committees to ensure that water planning processes are transparent, accountable, and that community and stakeholder input is appropriately obtained for all water planning in the Northern Territory.
3. The Northern Territory Government must establish mechanisms for catchment or ecosystem-based management of waterways in the Northern Territory. This function should be performed by an independent (government-funded) panel of experts, land and water users, and community members, specifically including Traditional Owners or their representative institutions.
4. The Northern Territory must set a price on water for consumptive use by irrigators to ensure that water management in the NT is adequately resourced, and to stop the entrenched practice of transferring public wealth to private hands via the handing out of significant water licences for free to irrigators.
5. The Northern Territory must legislate to stop the entrenched practice of granting significant water licences to irrigators prior to the declaration of water allocation plans, to enable a more strategic approach to water management planning.
6. The Northern Territory must publicly report on compliance, monitoring and enforcement activities with respect to water licences.
7. The Northern Territory must publicly report on environmental and cultural water.
8. An independent water regulator should be established in the Northern Territory. There should be institutional separation between water service delivery, policy-making and regulation in the Northern Territory to prevent political interference in water regulation and the perception of bias.
9. All water allocation plans in the Northern Territory must include modelling for climate change.
10. All scientific and technical models underpinning water allocation plans and water licences must be made publicly available, and peer reviewed. The methodologies used to underpin modelling for water allocation planning and water licence decisions must be consistent across the Northern Territory.
11. The Northern Territory must revise its 20-year old Water Allocation Planning Framework by embedding best practice environmental practices and outcomes.
12. The Northern Territory must ban the practice of floodplain or surface water harvesting.

If you have any questions in relation to ECNT's submission, please contact Kirsty Howey on kirsty.howey@ecnt.org or Jimmy Cocking on director@alec.org.au.

Yours faithfully,

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