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24 March 2021

National Water Reform 2020  
Productivity Commission  
Locked Bag 2,  
Collins St, East Melbourne  
Victoria WA 8003  
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To whom it may concern,

**Re: Nation Water Reform 2020 Productivity Commission Draft Report**

North Queensland Conservation Council (NQCC), Townsville would like to take this opportunity to make a submission on the Draft Report for National Water Reform 2020, released by the Productivity Commission. We regard this as overall, a very constructive document and wish to support that. At the same time, we wish to draw the Commission's attention to particular areas that might be strengthened.

We would also like to note that, generally in Australia, the majority of our experience with water management has been in temperate zones, with this somewhat overshadowed by the Murray-Darling experience. NQCCs particular interest is in the Burdekin river and its Basin, with the 5<sup>th</sup> largest catchment in Australia and one that flows into the heart of the Great Barrier Reef.

It is worth noting that river systems in the Tropics function in fundamentally differently from the temperate zones. River systems in the Tropics are fed by extreme rain events, as the norm, and with this comes large sediment loads. The way that these sediments, both fine and coarse, interact with dams, both in the river system and down-stream, is as important as extraction rates of water from the system. Thus, we have added an annex to present the Burdekin Basin, as a system of high national importance and which is currently under threat.

Regards

John G. Connell  
Chair of Burdekin basin sub-committee  
North Queensland Conservation Council

SUBMISSION TO THE PRODUCTIVITY COMMISSION  
ON  
**NATIONAL WATER REFORM 2020**  
PRODUCTIVITY COMMISSION DRAFT REPORT  
RELEASED 11 FEBRUARY, 2021

The North Queensland Conservation Council (NQCC) is a peak organisation in the State-wide environmental movement, with an office in Townsville. NQCC advocates for the conservation of the environment and the sustainable management of land and seascapes in the area roughly bounded by Bowen in the South, Cardwell in the North, the Coral Sea in the East and the Northern Territory border in the West. NQCC was established in 1974 as a not-for-profit incorporated association with a broad mandate to “protect the land, waters and atmosphere of the region” and since then has worked continuously on a range of environmental issues of significance to North Queensland and beyond.

NQCC welcomes the Commission’s Draft Report. We agree that the 2004 National Water Initiative (NWI) was a significant advance in Water Resource policy and management. We agree that it did lead to improvements in both water resources management and water service delivery. Nevertheless, NQCC believes that there is still considerable scope for improvements in policy and practice and that there is a compelling case for continued reform. NQCC believes that water resource policies and water resource management need be more data-based and adaptive to both reflect the lessons learned to date and deal with the rapid rate of environmental change, most particularly the changes associated with anthropogenic climate change.

### **The Need for a Revised Goal and Refreshed Objectives**

#### *Revised Goal Statement*

NQCC supports the Report’s proposal for explicit recognition of the need to adapt to a changing climate in any revised goal statement for a renewed NWI (Main Report, page 43). We also support the Report’s proposal that the NWI Goal statement be expanded to include reference to ensuring the “health of river and groundwater systems **and their surrounding landscapes**” (emphasis ours). However, we believe the goal statement must go beyond parties acknowledging “*the importance of water in the lives of Aboriginal and Torres Strait Islander people*”. This could, for instance, be revised to read “*In continuing to implement this agreement, the parties acknowledge the importance of water in the lives of Aboriginal and Torres Strait Island peoples. Parties will respect their water rights and interests and ensure their full and informed participation in water resource planning and management in line with our national endorsement of the UN Declaration on the Rights of Indigenous Peoples*”.

#### *Refreshed Objectives*

NQCC generally supports the suggested new NWI objectives (Executive Summary Figure 1 page 6). However, NQCC believes that this should be strengthened as follows:

- Inclusion of reference to “compatible catchment land use” as a Resource Management Objective
- Changing the service provision objective to read “Ecologically sustainable and economically viable infrastructure”.

Having a specific catchment land use objectives is essential if the references to “the health of river and groundwater systems **and their surrounding landscapes**” in the goal statement is to have more than rhetorical value. The service provision objective should apply to all water resource infrastructure not just new developments. In some cases, such as with dam safety in relation to changing climate, there may be priority requirements for improvement of existing infrastructure to ensure sustainability of past investments and the services they provide.

#### *Elements of a Revised Agreement*

NQCC supports the Report’s suggestion for the inclusion of two new elements in a revised agreement - on Aboriginal and Torres Strait people’s (NB this should read (peoples’) interests in water and a framework for major water infrastructure developments. As per arguments above, we believe that Item 4 of Box 1 (Executive Summary page 7) would be more appropriately titled “Aboriginal and Torres Strait Islander peoples’ water rights and interests” while item 8 of Box 1 would be more appropriately titled as Sustainable infrastructure development”.

#### **New infrastructure development**

NQCC fully agrees with the Report’s findings that new and refurbished water infrastructure needs to be both economically viable and ecologically sustainable (Executive Summary page 10). We fully support the suggestion that a revised National Water Agreement must add a third headline requirement that the planning processes for new infrastructure must be culturally responsive and that this requirement should be added to ensure deep consultation with Traditional Owners and the protection of their cultural assets.

NQCC believes that such consultation should apply to all aspects of water resources planning and management not just new water resources. We believe that Parties to a revised National Water Initiative should respect the water rights and interests of Aboriginal and Torres Strait Islander peoples and ensure their full and informed participation in water resource planning and management in line with our national endorsement of the UN Declaration on the Rights of Indigenous Peoples.

#### **The Need for Enhanced Environmental Management**

NQCC fully supports the Report’s recommendations for enhanced environmental management (Main Report, Chapter 8, pages 89-109). In particular, we support the Report’s recommendations for enhanced environmental management systems that:

- clearly specify environmental objectives and outcomes;
- ensure adequate low-flow provisions;
- integrate environmental water management with waterway and catchment management;
- identify institutional responsibility for waterway management;

- create adaptive monitoring systems; and
- develop clear processes that allow for adaptive environmental management as changes in climate necessitate.

In this, NQCC stresses that adaptive environmental process must be science-based and transparent to all stakeholders. Monitoring programs should extend beyond flow parameters to include water quality measures and ecological outcome indicators for water, waterway and catchment health. Effective monitoring is an essential prerequisite for an effective compliance regime.

NQCC believes that allocations in water resources plans should be based on median rather than mean annual flows and must consider how extreme events will be handled. NQCC believes that all water resource plans should include low-flow triggers for pre-agreed low flow arrangements and resource sharing. Effective flows to critical instream and downstream ecosystems should be maintained to avoid or greatly reduce the likelihood of the significant environmental problems we have seen in the Murray-Darling systems and elsewhere in recent years.

Comprehensive environmental assessment should be undertaken for all significant water resource development proposals. In this it is important, that assessments consider the cumulative effects of multiple proposals on single river systems – see Annex 1 for a local example in the Burdekin River Basin which is of immediate concern to NQCC, our members and supporters.

### **The Question of Subsidies and Payments for Environmental Services and other Public Goods**

NQCC agrees with the Report's findings that new and refurbished water infrastructure needs to be both economically viable and ecologically sustainable, with costs recovered from users. We also believe there is no case for providing public subsidies for the private or corporate benefits of private industry or private landholders.

That said, we also agree that there can be public goods considerations where Governments need to invest to meet to meet strategic or broader community objectives. In particular, we believe the renewed NWI should provide a framework for the wider use of payment for environmental services systems to protect the public environmental goods of our waterways and their catchments and to ensure environmental externalities of particular uses or development proposals are accounted for more effectively.

NQCC is particularly concerned that the Federal Agencies currently supporting water resource development in our region (see again Appendix 1) do not appear to be legislatively or operationally empowered to support rigorous consideration of all planning options. These bodies include the National Water Infrastructure Fund and the North Queensland Water Infrastructure Authority. These agencies are actively providing funding support for feasibility studies and business case development for three of the four current proposals for new water storages in the Burdekin Basin but are either unwilling or unable to support investigations of alternative development proposals such as improved irrigation infrastructure to increase the efficiency of water use in the lower delta and reduce existing and emerging environmental problems with water table rise, increasing salinity and excessive nutrient input into both the WHA Great Barrier Reef Lagoon and the

Bowling Green Bay RAMSAR site. We believe that supporting greater efficiencies with existing irrigation systems, if applied nationally, could arguably release comparable amounts of water for development of remaining feasible sites for new greenfield dam construction and/or often desperately needed environmental flows.

### **The Need for Enhanced Systems Integrity**

The experience with implementing the National Water Initiative Agreement since 2004 highlights the importance of increased systems integrity. Given the growing and often conflicting demands on water in Australia, water users and the broader community need to be able to trust in water resource management. They need to have confidence that water users are complying with their obligations and that water managers are managing this valuable community resource to best effect.

NWCC recognises that the 2004 National Water Initiative (NWI) attempted to address this through a water accounting element. However, while progress has been made in States like Victoria and South Australia, recent events show that these frameworks have not been enough to safeguard the integrity of water resource management. The 2017 ABC Four Corners program *Pumped* focused a spotlight on issues in the Murray–Darling Basin (MDB) (particularly in New South Wales and Queensland) and was a wake-up call to many stakeholders and communities around the country. We note the Draft Report’s observation that the multiple reviews which followed, found:

- shortcomings with the transparency, independence and effectiveness of the agencies responsible for regulating access entitlements for water resources
- lack of commitment to accurate metering and measurement of water take
- low levels of compliance resourcing and a weak compliance and enforcement culture
- an inappropriate range of penalties and sanctions available for enforcement
- a preference for customer service over regulation.

NQCC believes the framework the Commission has presented in Figure 10.1 of the Main Report (Page 121) provides a useful starting point for ensuring higher levels of integrity to meet community expectations of and trust in our water management systems. As noted previously, NQCC believes that adaptive environmental process must be science-based and transparent to all stakeholders. Monitoring programs should extend beyond flow parameters to include water quality measures and ecological outcome indicators for water, waterway and catchment health. Effective monitoring is an essential prerequisite for an effective compliance regime which in turn is an essential prerequisite for public trust in the systems integrity.

Figure 10.1 and the regime it describes needs to be strengthened by the inclusion of water quality and ecological outcome parameters. The latter should apply as much or more to public resource management agencies responsible for water resource management, management of the actual waterways and catchment management as it does to private landholders or other water users. Governments should lead by example.

## **APPENDIX 1. The Burdekin River Basin Case Study**

In the lead up last October's State Election, there was a lot of talk about water resource management in North Queensland with much of the focus on the Burdekin River Basin.

At this point, there are multiple proposals for new dams, weirs and the extraction of additional water from the Burdekin River. In the run-up to the State Election, approval was given for construction of the Big Rocks Weir (7,000ML/yr) near Charters Towers with both Federal and State government financing. With further Federal funding, tenders have also been let for the development of business cases for the proposed Urannah Dam on the Broken River tributary (150,000ML/yr) and the proposed Hells Gate Dam on the upper Burdekin (452,900 - 580,200 ML/yr). The latter is proceeding despite two recent federally funded feasibility studies (2013 and 2018 Federal Election commitments) showing that the proposal and the associated expansion of irrigated agriculture in the Pentland area were, at best, marginal economically. Sunwater is currently investigating the feasibility of raising the wall of the existing Burdekin Falls Dam and, a centrepiece of the State LNP campaign was an announcement that it would build a revised Bradfield Scheme. This would involve substantial water diversion from rivers in the Wet Tropics World Heritage Area into the upper Burdekin and then west of the Great Dividing Range to Hughenden, Longreach and into the Warrego River Basin.

There are many environmental, social and economic issues surrounding these proposals both individually and collectively. Scientists at James Cook University have identified a number of significant issues that could arise from the expansion of additional water storage facilities on the Burdekin River. These include:

- a) **Turning the Burdekin turbid for the full 12 months of the year below the dams.** This has been an unanticipated downstream impact from the construction of the Burdekin Falls Dam in the 1980s and, with the construction of the Hells Gate Dam alone, an additional 270km or 52% of the Burdekin length could be affected with adverse impacts on all aquatic life in the river, fish spawning and access to feed.
- b) **Competing claims to water** between lower catchment (existing) and upper catchment (potential) water users. It is understood from member discussions with State officials that construction of the Hells Gate Dam would require renegotiation of water allocations from the existing Burdekin Falls Dam
- c) **Increased water application in the Lower Burdekin River Irrigation Area**, an area already experiencing rising water-table and increased salinization. Further increases would threaten the established crop production and the health of wetland systems including the Bowling Green Bay, RAMSAR site.
- d) **Coarse sediment starvation and erosion of Cape Bowling Green.** Erosion of Cape Bowling Green is on-going and increasingly likely - at one point the width of the Peninsula is now 1/5 that at pre-dam conditions. If breaching occurs it would radically affect the aquatic habitat in the Bowling Green RAMSAR site, and potentially the coastal communities of Cungalla and Jerona.
- e) **Increased nutrient flows to the Great Barrier Reef** from additional areas of agriculture. This would further intensify the existing threat to GBR water quality, Reef health and biodiversity.

In an effort to find constructive ways to address these issues, NQCC has explored the potential for 'modernising' the irrigation system in the Lower Burdekin which could in some areas reduce nutrient inputs by up to 50%. As noted in the submission, this would address rising water tables, reduce farmers' costs, enable recovery of Bowling Green Bay

wetlands and dramatically reduce flow of nutrient onto the GBR. This could be done for a fraction of the cost of raising the Burdekin Falls Dam (2m) and would release close to the same amount of water. This is a very real case of the sort of multi-faceted positive impacts (b, c, and e above) that can be gained with upgrading efficiency of old irrigation systems.

NQCC in the last twelve months engaged with a range of stakeholders to bring these issues into focus, including: academics, regional councils, irrigators, and commercial fishing communities. These all have their own specific concerns, but align in terms of having limited desire to see new dams on the Burdekin. NQCC has conducted meetings with members of the Queensland State government<sup>1</sup>, and North Queensland Water Infrastructure Authority (NQWIA) to discuss the above issues. These issues have been well articulated in the Burdekin Seminar (14 Sept 2020) hosted by NQCC at James Cook University ([https://www.nqcc.org.au/burdekin\\_seminar](https://www.nqcc.org.au/burdekin_seminar)). Despite all this, the above issues remain generally unrecognised. In this regard, NQCC and other concerned stakeholders have called on the State and Federal Governments to variously:

1. Conduct a series of public workshops in Townsville, the Burdekin and Charters Towers to counter the prevalent myths, misunderstanding and misrepresentation about the nature of water resources in the Burdekin River Basin and North Queensland in general. Such workshops should be organised by Water Science staff of the Qld. Department of Environment and Science in collaboration with other bodies including JCU-TropWATER, the Australian Rivers Institute at Griffith University. They should aim to clarify the basic hydrology of the river including the variability of annual and peak flows, the relative contribution of the Burdekin's various sub-catchments to overall Basin flow, the state of health of the River and its catchment and the key instream and downstream environmental attributes that require protection or special management.
2. The State Government has appointed the Garnaut Panel to review the technical and economic feasibility of a revised Bradfield Scheme. This review should ensure rigorous analysis of all issues associated with the proposed development, including possible environmental and social impacts. It could thus provide a vehicle for the public workshops noted above.
3. Ensure that all water resources development in North Queensland fully and transparently conforms with the principles of the 2004 National Water Initiative agreed between the Commonwealth and the mainland states in 2004. Amongst other things, this agreement requires Indigenous representation in water resource planning; that *Water Plans* include Indigenous social, spiritual and customary objectives and strategies for achieving these objectives; and giving effect to transparent, user-pays pricing for water resource development and use.
4. Commission a Strategic Environmental Assessment (SEA) for the entire Burdekin Basin to identify and address both the impacts of particular development proposals and the cumulative impacts of multiple projects. NQCC believes that this assessment should be accompanied by an integrated land use plan for the entire Burdekin Catchment to inform both the State Government's revision of the Burdekin Water Resources Plan which currently expires in 2023 and the State and Federal Governments' ultimate decision-making on the multiple proposals currently being developed.
5. Ensure that all water resources management options remain on the water resource planning table. In particular, NQCC advocates that alternatives such as improved irrigation management in the lower Burdekin delta be rigorously

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<sup>1</sup> Minister Meaghan Scanlon (Environment, Great Barrier Reef, Science and Youth Affairs)  
Glen Butcher (Regional Development and Manufacturing and Water)  
Scott Stewart (Resources)

considered as an alternative to further dam development. We believe that such action could more cost-effectively reach enhanced agricultural production goals with considerably less risk to the environment.