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National Water Reform 2020
Productivity Commission
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Dear Sir/Madam,

The Inland Rivers Network ("IRN") is a coalition of environment groups and individuals who have been advocating for the conservation of rivers, wetlands and groundwater in inland NSW since 1991.

Member groups include the Australian Conservation Foundation; the Nature Conservation Council of NSW; the National Parks Association of NSW; Friends of the Earth; Central West Environment Council; Healthy Rivers Dubbo; the Coast and Wetlands Society and the Wilderness Society, Sydney. IRN welcomes the opportunity to provide

IRN provided comment on the previous Productivity Commission Inquiry into National Water Reform (Report 2017) and welcomes the opportunity to provide comment on the May 2020 Issues Paper. Our primary focus is on NSW inland surface water and groundwater under NSW and Commonwealth jurisdiction and interaction between the two jurisdictions.

INTRODUCTION:

Overall, it is evident that the vision and objectives set in the National Water Initiative (NWI) have not optimised outcomes for inland waterway health and the social and cultural well-being of the people and townships that depend on its waters.

This non delivery is evident to the broader community in the media reports of ecological collapse, fish kills, algal blooms, non-functioning artesian bores, trucked drinking water, starved and dying livestock etc. and the results of the various evidence based investigations into such events and reports. These sad outcomes indicate a significant market failure in the delivery of fair access to improved water security, abundance and quality.

It has necessitated government intervention that would seem contrary to the intent of an open water market. This expensive government intervention highlights the risks created by managing water as a commodity in the absence of clearly defined notions of what constitutes “highest and best value” in a balanced way.

Recent NSW and Commonwealth decision making indicates clear intention to “backslide” to past practices in water management that we feel is an inadequate response to the social and environmental challenges presented by a changing climate and reduced water availability.

This backsliding in government policy demonstrating how politically precarious market reform of such a precious “commodity” as water can be in the absence of independent, transparent and statutory review and oversight of progress. We note here the abolition of the National Water Commission and reduced function of the Natural Resource Management Ministerial Council.

Thus IRN supports the approach taken by the Productivity Commission to widen the scope of its considerations to include issues and recommendations identified in its 2017 Report. Consideration of these important issues and outstanding recommendations will assist the carrying forward of the intent and vision of the original 2004 NWI into a new NWI during the challenging times of a changing climate impacting the water resources of the driest continent on earth.

Please find below our specific responses to questions in the Issues Paper.

Overall IRN feels strongly that a revised NWI must take improved account of the following key values:
1, Ecosystem services
2. Social and cultural well-being
3. Water quality and health
4. Connectivity across the full reach of a water system and adjoining wetlands and floodplains.

Thank you for the opportunity to participate in this important review

Yours sincerely
Cathy Merchant
IRN member on behalf of IRN Committee.

SPECIFIC RESPONSES TO QUESTIONS

1. Assessing jurisdictional progress

As stated above IRN advocates for healthy rivers, wetlands and groundwaters in inland NSW and has an interest in seeing how all ten NWI objectives work towards the goal of improved health for all inland waters and the people and native species that depend on these waters.

In our previous submission we outlined a number of outstanding issues with NSW's implementation of NWI in relation to improving environmental outcomes in water management. We consider these are important and fundamental matters, critical to an effective and transparent national water market within a federation of states and territories

In summary these included:

- Lack of protection for planned environmental water;
- Overallocation of water in NSW Water Sharing Plans;
- Risks of increased water entitlement associated with floodplain water take with NSW;
- Limited independent review and auditing of WSP as required under the *Water Management Act 2000*;
- Erratic and ineffective assessment and monitoring of environmental outcomes in WSP;
- Water trading arrangements resulting in inefficient flood irrigated cotton and rice rather than higher value use;
- Climate change and extreme event risk mitigation planning severely undermined by mandated adoption of the pre 2004 drought of record as a basis for water share allocation;
- Inadequate integration of water management objectives with broader natural resource management objectives to achieve better environmental outcomes for river health;
- Risks associated with water sharing arrangements that prioritise extractive entitlements.

Some of these matters were addressed in the Report 2017 in its recommendation that jurisdictions recommit to a renewed NWI that "*should:*

- *maintain the key foundations of water management, and avoid eroding hard-won reforms through backsliding*
- *revise a number of policy settings, including: better incorporating extractive industries and alternative water sources in entitlement and planning frameworks; improving water planning to take account of climate change; improving the quality and consistency of economic regulation; and better recognising the water needs of Indigenous Australians*
- *significantly enhance other policy settings relating to:*
    - *urban water management*
    - *environmental water management*
    - *decision-making on building and supporting new infrastructure*."

Overall, IRN feels that many of these matters and your previous recommendations remain unresolved as we forward comment to the Productivity Inquiry 2020.

Most notably backsliding is evident in NSW:

- in water plans and policies related to inland water management;
- water use by extractive industries remains outside planning frameworks;
- water plans fail to take proper account of most current and predicted climate information;
- First Nations right to water remains unfulfilled and
- infrastructure decision making, such us new dams in NSW, is often siloed from the integrated water management approach that is critical to risk mitigation within a national water market.

IRN feels the objectives and outcomes of the NWI under NSW jurisdiction have not been achieved. A series of independent reviews, audits and inquiries have indicated serious failings in how water is allocated and shared in NSW. It has been demonstrated to lack transparency, fairness and effectiveness in meeting the needs of regional towns and groundwater dependent ecosystems.

Water security remains a major issue for many people and businesses across NSW. The Murray Darling Basin is identified as being in serious ecological collapse in some parts.

NSW has been slow to take account of the reality of a changing climate in any meaningful way in its water plans and policies. Despite a series of drought conditions currently, and during, the last 15 years NSW persists in using pre 2004 drought as a baseline in its water allocations.

Floodplain water regulation, its proper accounting and as necessary adjustment in allocation in water sharing plans, is still an outstanding issue.

Comprehensive metering has not been implemented with the proposed phased roll out likely to leave significant gaps in water accounting where metering is limited. For example a recent Natural Resource Commission review of Peel Valley Unregulated water sources indicated only one third of licenses will require metering making it difficult to assess current extraction levels, changes over time and likely impacts. [1]

Effective rules to manage environmental water and protect RAMSAR wetlands, riparian vegetation and groundwater dependent ecosystems are missing from WSP. First flush management, likely to be necessary more frequently within a changing climate, remains outside a proper statutory framework.

[1] Final Report Review of the Peel Valley WSP May 2020. Page 134

NSW has also been slow in meeting its commitments under the MDBP, in breach of meeting agreed significant milestones and belligerent in its attitude to this important collaborative plan to return basin waters to sustainable use and management in the national interest.

Overall, NSW government has either failed, lagged or inadequately implemented many of the key actions identified in the NWI.

Further, NSW has shifted backwards from an integrated approach to urban water cycle planning and environmental water management to expensive infrastructure proposals that are either untested or the inherent cause of the ecological collapse evident across inland NSW eg over extraction, thermal pollution, waterway barriers etc.

Recent dam and weir infrastructure proposals lack business cases, contradict open market principles of full cost recovery and demonstrate an outdated populist mindset, all of which are totally contrary to NSW commitments in the NWI.

This approach to infrastructure development is also evident at the Commonwealth level with a series of announcements of new infrastructure made since the last review of the NWI. These announcements, in unison with NSW announcements, have occurred similarly in the absence of any requirement for transparent independent business cases for such expensive infrastructure. This seems contrary to the intent of the NWI.

Your Report 2017 identified the need to learn from past mistakes: "*Another failing is completing the analysis only after a funding decision has been made and publicly announced.*" (page 273).

Unilateral, politically motivated announcements create expectations for projects that may not actually deliver in the longer term. For example Chaffey Dam remains at low levels despite expensive wall raising about five years ago. Expenditure on such projects could be better used if directed towards integrated management of water for environmental and other public benefit outcomes.
The results of unviable projects can severely distort the supposed purpose of an open water market and compromise its capacity to meet the clearly identified future challenges in water policy. Your Report 2017 elaborates on this matter and it is unfortunate that Commonwealth decision-making since 2017 in regards to water infrastructure has not had independent scrutiny by the National Water Commission that government abolished.

2. Assessing the adequacy of the NWI to meet current and emerging challenges

Is the NWI adequate to help Governments address the identified challenges?

Are there any other current or emerging water management challenges where the NWI could be strengthened?

Assessing the adequacy of a NWI agreed to in 2004 is complicated given the obvious failure by NSW and Commonwealth governments to meet their commitments fully during this 15 year period.

At the time the NWI represented a visionary world leading collaborative agreement to meet the fundamental challenge of managing water nationally within a multi-jurisdictional administration system.

In its original form it had checks and balances and in built review mechanisms that the Commonwealth government has more recently “fiddled” with. This severely compromises the capacity of the NWI to respond and adjust to the challenge of a changing climate and reduced water allocation with timely adaptive strategic management mechanisms.

It is arguable whether this represents inadequacy in the NWI or “sabotage” by subsequent government decisions that were underpinned by a reluctance to genuinely support water market reform via strong policy and planning commitments to achieve the full intent of the NWI.

Your Report 2017 highlighted the challenges associated with integrated approaches to water management. In the NSW jurisdiction it would seem these challenges were insurmountable, whether politically or ideologically.

NSW has demonstrated a tardiness in genuine policy reform eg floodplain harvesting licensing and metering, and contradiction with recent announcements for new dams in the absence of any publically available business case or cost benefit analysis.

The risk of such backsliding in water market policy settings were well predicted in previous Productivity Commission reports.

3. Future reform directions

The Commission welcomes feedback on the matters that should be considered for inclusion in a renewed NWI.

IRN feels that there are many outstanding recommendations from your Report 2017 that remain pertinent to a revised and improved NWI. These have been outlined above.

Given some evident backsliding in policy and planning direction, also mentioned above, improved mechanisms to manage associated market risks as a consequence of backsliding should be considered for inclusion in a renewed NWI.

While the NWI has clauses to ensure improved environmental outcomes these could be strengthened in a number of ways. Importantly, within each jurisdiction, there is need for independent statutory review of their water plans. This ensures responsive, robust plans underpin the NWI and genuine achievement of its environmental outcomes.

3.1 Accounting of Ecosystem Services
The NWI would also benefit from clearer statements about the enormous benefit of the ecosystem services provided by healthy waterways and functioning ecosystems. These benefits are wide ranging across social, cultural, recreational as well as economic spheres but often not properly accounted for within financial market operations.

3.2 Social and cultural well-being
Outcomes that consider social wellbeing and a greater emphasis on water quality would also strengthen a renewed NWI. Native Title rights and associated access rights to cultural water should also be incorporated in meaningful and genuine statements of objectives and outcomes.

3.3 Water quality and health
Previous recommendations by the National Water Committee and your commission highlight the inherent relationship between water quality and quantity. There is a critical need for the NWI to better articulate this relationship within water planning.

It is socially and morally unacceptable that regional towns have relied on carted bottled water over the past couple of years. This indicates an absolute failure in an effective national water market to achieve responsible and fair outcomes.

3.4 Connectivity
Loss of connectivity between water resources poses a particular risk that must be properly considered within a renewed NWI. Within inland NSW water sources interaction is often complex, dynamic and poorly understood, compounded by inland floodplain water take that is poorly measured and accounted for in most NSW WSPs.

In many cases the time frame for the accumulation of certain water sources will differ significantly to water accumulated during an extreme flood event. Groundwater dependent ecosystems have adapted to varying rainfall and climatic conditions, both of which predicted to be less and more extreme, but they require appropriate timing and adequate watering.

All of the above points highlight the need for a revised NWI to be strengthened in relation to connectivity. The important role of the National Water Commission in managing such complex and critical matters within a national water market must be clearly stated in a revised NWI. Independent assessment and regular oversight of cross-jurisdictional water planning is fundamental to the achievement of compatibility and coordination across the market.

4. Water entitlements and planning

How effective are water plans at managing extreme events such as severe drought?

Are NWI principles being applied at these times?

What steps have been undertaken — or should be undertaken — to plan for long term changes in climate?

What lessons have recent extreme events (bushfires and COVID-19) provided for planning?

Clearly, WSPs for the Northern Basin have been totally inadequate and far too much water allocated too quickly to irrigated agriculture after the large rainfalls of 2016. This left parched rivers full of dying fish and towns on high level water restrictions close to running out of water totally. It should be noted that although drinking water can be supplied in bottled form, much larger amounts of water are needed to maintain a sewer system, and without this towns would need to be evacuated, bringing all business to a halt.

The situation with Menindee Lakes was another disaster, with the lakes filled in 2016, only to be drained quickly to supply water to South Australia during a period of high water flow in that State.

As stated in points above a number of independent reviews, audits and inquiries have identified the ineffectiveness of NSW WSPs. Whilst the current drought is the political focus it is arguable that the current conditions of reduced water allocations, tributary inflows, dam levels and water quality are actually the “new normal” which all governments will need to embrace within a national water market.

NSW water plans and policies need to take full account of these changed conditions to facilitate a transparent, reliable and well-regulated water market. Disruption to the mandated plans and policies that underpin markets will always create risk but in the commodification of a natural resource so basic to human needs as water, mitigation of such risk is extremely complex and potentially disastrous if there is a market failure.

Extreme events across a vast continent such as Australia will be various and inconsistent which introduces another risk layer to be managed within a collaborative national agreement.

Reliance on ministerial orders to suspend WSP in attempts to assure the social and environmental benefits of first flows reach throughout a whole water system will disrupt market function and water security.

It would be less disruptive if rules in WSP were clearer and stronger so as to improve the capacity of WSPs to effectively manage and protect a first flush event after longer drought periods, predicted to be more frequent with a changing climate. Reliance on ministerial orders should only be in more unusual situations eg where prolonged high temperatures may have an impact on local water quality.

The recent inquiry into the first flush event in NSW suggests the need to balance the use of orders with the need for stronger clearly defined rules in WSPs as an improved strategic approach to management of extreme events predicted to be more regularly occurring.

The NWI identifies the need for integrated management of surface and groundwater as an overarching principle in water planning. The NWI Policy Guidelines for Water Planning and Management 2010 further states: "*If there is insufficient information to quantify the impact, then a precautionary approach should be taken which, in practice, means that it should be assumed that the system is highly connected*." Page 8.

Neither NSW or Commonwealth governments appear to take account of the precautionary principle in their risk management and mitigation. This is a necessary and sensible consideration that should remain in a revised NWI.

The 2011 National Water planning Report Card identified variability between NSW WSPs in their provisions for integrated management of surface water and groundwater, some with focus only on single water resources, but may have connectivity estimated into underlying modeling.

Reviews and audits of NSW WSP have been limited. A recent review of the *Water Sharing Plan for the Peel Valley Regulated, Unregulated, Alluvium and Fractured Rock Water Sources 2010* by the Natural Resources Commission identified the risk to the effective integrated management of the connected Peel Valley surface and alluvial water sources when the current WSP was replaced by four new WSP as proposed by NSW.

The NRC further commenting that the Water Act 2000 "*does not explicitly identify the consideration of connectivity between water sources within its objects or water management principles. However, the National Water Initiative's Water Planning Guidelines state that 'surface and groundwater should be managed in an integrated manner'. According to these guidelines:*
▪ *connected systems should ideally be managed as a single resource under a single plan, or at least through integrated plans that refer to each other*
▪ *water should be allocated and accounted for once, considering surface and groundwater connectivity*
▪ *separate surface and groundwater entitlements are possible in connected systems, but the impact of one form of extraction on the other needs to be quantified and factored into transactions*
▪ *a conservative or precautionary approach should be used when granting access to water in shared systems where the degree of connectivity is relatively unknown or there is insufficient information to quantify the impact*.'[2]

The impacts of a changing climate cannot be dismissed politically as "severe drought". Pandemics, extreme weather events, extended bushfire seasons, changed seasonal rainfall patterns, longer hotter periods are all events associated with a changing climate. Rigorous independent review of how such

[2] Final Report Review of the Peel Valley WSP May 2020. Page 101

events are managed should occur and lessons from these reviews must inform future water planning and risk mitigation.

Thus far NSW and Commonwealth governments have taken limited steps to properly plan to future proof NSW and Australia for the impacts of a changing climate. This requires a comprehensive response plan wider than just recognition of the inevitability of reduced water availability in an over allocated system such as the Murray-Darling Basin where current water take is poorly measured and in cases such as floodplain harvesting lacking proper accountability.

This comprehensive planning needs to consider what landuse is sustainable in these changed climate and rainfall conditions, capture the need for improved quality water in regional towns not just increased amounts and recognise the benefits of ecosystem services in plans and policies in meaningful, non-tokenistic ways.

Integrated catchment planning and integrated urban water management needs to be brought back within jurisdictional responsibility rather than a backsliding to a major infrastructure approach that further disrupts market function.

Unilateral decisions by some jurisdictions for infrastructure development outside the scope of such comprehensive planning is risky business both for the taxpayers who pick up the costs of expensive infrastructure and the license holders and traders within the water market.

The Covid pandemic and bushfires have identified failures in State/Commonwealth relations as well as strengths. Proper evaluation of “failures” ie gaps in jurisdictional responsibility, limitations of emergency response in cross border situation, lack of a current national pandemic response plan, availability of necessary resources at a national level, reliance on overseas markets for basic supplies, will provide a general insight into how the specific challenges and risks in the water market can be managed/mitigated and planned for effectively.

5. Water accounting and compliance

How could the NWI be amended to support best practice monitoring and compliance across jurisdictions?

This information request is slightly confusing as it requests information on “monitoring” which we consider a separate notion to “water accounting” as stated in the heading of this section. Our response is in relation to “water accounting”

NSW has made some progress in improved efficiency and transparency in water accounting and increased resourcing of its commitments to improved compliance, though the adequacy of this resourcing is arguable.

It is noted the NWI stated that the Parties had agreed to implementation of “a robust compliance monitoring regime” no later than 2011 in regards to interception activities. However, robust compliance is dependent on accurate measurement and auditing to ensure compliance with actual permitted usage. Effective compliance has a critical role in restoring community confidence that water take is honest and fair.

Robust modeling appropriate for the range of water systems and modern technologies is a critical requirement for valid and reliable water accounting that could be considered “best practice”. Realistic predictive modeling is also an important component in water accounting especially in any carryover allowances.

In the absence of accurate water accounting and publically available information that assures the community that all water is being properly measured and accounted for, compliance becomes contentious. Water measurements and balances can be somewhat meaningless and potential breaches unenforceable.

The NWI could be strengthened with stronger statements on the need for transparent, accurate water accounting and effective compliance systems consistently achieved across jurisdictions.

6. Key Issue: Environmental water management

Are environmental outcomes specified clearly enough in water plans to guide management actions, monitoring and accountability?

Are institutional and administrative settings effective in supporting these outcomes? Do environmental water managers have the necessary authority, resources and tools to achieve agreed outcomes?

Is environmental water management (including planning for use of held water, delivery of held water, use of markets and compliance with planned environmental water) sufficiently integrated with complementary natural resource planning and management frameworks?

Can environmental outcomes be more cost-effectively achieved with greater and more innovative use of water markets and market-like mechanisms?

Is the monitoring and assessment of environmental outcomes sufficient?

How effective has adaptive management and planning decision-making been during the recent drought?

Do environmental water managers maximise opportunities to achieve social or cultural outcomes alongside environmental watering? How could this be improved?

The dysfunctional and collapsing ecosystems of the Murray Darling Basin (MDB) clearly demonstrate that current approaches to water management have failed. Water is not flowing across the whole basin, both in surface and groundwater systems, in a connected way to properly support the environment and regional townships. The system remains over allocated with loss of the many ecosystem services and social benefits provided by functioning waterways. This is costly to everything and everyone but such failures are rarely captured within market mechanisms.

This could be described as a market failure or market mechanisms could be utilised to ensure the environment gets the water it urgently needs. Buying back water through a voluntary open tender process is the cheapest and most efficient and transparent way to achieve this.

Clearly keeping more water in water systems facilitates multiple benefits for river and groundwater systems and the communities and ecosystems that depend on them.

Within a market based system, keeping more water in a waterway system will only occur with strong rules for water take across a range of climate and economic scenarios; environmental targets within a water plan that are well defined and monitored; and clearly defined responsive adjustment mechanisms activated as required.

Protection of environmental water requires continuity across and between water plans to ensure connectivity between different catchments and water systems. There is need for improved management of regulated systems to ensure any releases are timely and appropriate, clear rules to protect environmental flows so that pumping is disallowed when a river is at a certain level and facilitate piggyback of other releases with environmental water to achieve overbank flows.

Independent reviews have repeatedly indicated that NSW WSP are not up to the task of protecting environmental water throughout a whole system. Unless NSW WSPs are improved to achieve effective and genuine environmental outcomes there will be a risk to improved environmental outcomes from market based mechanisms.

Such risks to “the environment” will, in a circular function then undermine the market based principles that State and Commonwealth governments have indicated as their preferred management approach to a precious and fundamental resource such as is water and government intervention will be required ie embargos on take, trucking in of drinking water, cleaning up dead fish, managing algal blooms, siloing access to aquifer systems etc.

7. Key Issue: Indigenous water use (cultural water outcomes and water for economic use)

What progress are States and Territories making on including Indigenous cultural values in water plans, and how are they reporting progress?

How could a refreshed NWI help Indigenous Australians realise their aspirations for access to water, including cultural and economic uses?

IRN supports fair and clean drinking water for all people regional towns; sustainable extraction limits; full opportunity for First Nation people to exercise their Native Title rights, appropriate cultural engagement and consultation; access to spiritual and cultural water for all Aboriginal people.

IRN feels this engagement and consultation should occur directly with First Nations people.

8. Key Issue: Water services

Are the institutional arrangements for metropolitan water service providers fit-for-purpose? Is there evidence of inefficient pricing or investment decisions?

IRN has a focus on regional towns and presumes this question relates to eastern metropolitan cities.

9. Key issue: Best practice pricing

How can small regional providers best balance affordability with longer-term service quality? Are there barriers to effective local planning?

Is there scope for greater collaboration between small providers? When might government support be warranted, and how should it be provided?

IRN feels that the Commission's scope of Inquiry should consider wider issues related to best practice pricing than the two questions above.

IRN understands that NSW government is a signatory to the National Water Initiative Pricing Principles document.

Principle 1 states that "*charges will be set to achieve full cost recovery of capital expenditures*" with some allowances for rural surface and groundwater based system under section 66 of the NWI.

The NSW and Commonwealth governments have both announced commitments to new dams in NSW. IRN is unaware of any business case or cost benefit analysis to support these infrastructure announcements, all of which could impact best practice pricing principles.

It is unclear how these new dam announcements fit within the statutory framework underpinning the national water market. The Wyangala, Mole River and Dungowan Dams and Western Weirs program were declared as critical State significant infrastructure under Schedule 3 of the *Water Supply (Critical Needs) Act 2019*. There is a lack of clarity as to how the dams actually fit within the intent of this legislation.

It is our concern that these announcements are inconsistent with the objectives of the NWI and the supporting Pricing Principles document. It is unclear how the recent infrastructure announcements will impact the water market in regards to pricing, security and environmental impacts and we feel this should be an additional consideration of your inquiry into best pricing principles.

10 Key issue: Safe and reliable water supply

Do water service providers supply high-quality water services in regional and remote areas? Are there examples of poor water quality, service interruptions, or other issues? Have regional water service providers adequately planned for extreme events?

Are there sources of data that could be used to benchmark smaller providers' water service levels (with fewer than 10 000 connections)?

IRN has limited understanding of service providers in regional and remote areas. However, it would seem unfair to shift market responsibility for their service if their water source is reliant on over allocated, poorly monitored and allocated wider based water planning.

Poor water quality and extreme events are mostly out of the control of regional and remote water service providers who are dependent on State level plans and policies.

Thus any benchmarking of service levels required by small service providers should have reciprocal arrangements that ensure smaller providers have access to a certain standard of water quality and quantity

11 Key issue: Planning for major water supply augmentation & Integrated water cycle management

What steps have been undertaken to address the priority areas for urban water reform identified in 2017?

Is further guidance on implementing an integrated water cycle management approach for delivering water supply, wastewater and stormwater management services required?

How does jurisdictional urban water service planning interface with urban land-use planning at different scales? Are the roles and responsibilities clearly set out?

Is the role of water in delivering amenity and liveability outcomes clear? How are the trade-offs with other NWI outcomes considered? Is it clear how the level and type of amenity delivered by urban water services will be funded?

As mentioned above in points 1-3 IRN feels that NSW water planning has shifted its focus away from an integrated water cycle management approach (IWCM). This seems contrary to the water reform direction identified in 2017.

This policy backsliding undermines initiatives for innovation planning with water-reuse initiatives and decentralized holistic management potentially disadvantaged within the national water market.

The Productivity Commission has identified a series of barriers to integrated water cycle management that remain pertinent to this Inquiry.[3] IRN feels that IWCM provides the best approach in maintaining the liveability of regional townships already experiencing the brunt of a changing climate.

A revised NWI should provide guidance via stronger statements of the benefits and opportunities provided by IWCM. Comparative analysis of any backsliding across jurisdictions would be useful in identifying specific factors which have contributed to this backsliding in water reform.

A revised NWI should stress the critical importance of water as a precious diminishing resource in delivery of urban amenity and liveability. The importance of balanced independent assessment of decentralised investment options should also be stated in a revised NWI.

The benefits of decentralized investment can have varying impacts on different stakeholder groups which can be missed in cruder more traditional approaches to impact assessment. For example smaller scale local reuse water systems can manage demand, reduce consumption, improve local biodiversity and mitigate heat island effects but are rarely transparently costed for these benefits in traditional cost benefit analysis.

Decentralised options for water supply and management should be given similar market opportunity to traditional centralised water management approaches, especially as they are more likely to attract private investment rather than an outlay of public money usual in centralised investment.

12 Key issue: Investment in new water infrastructure

Are there examples of projects that have not met the NWI criteria for new water infrastructure investment?

What principles should inform government funding or financing of new water infrastructure?

As stated above in point nine NSW is about to proceed with four major infrastructure projects on inland rivers, that do not meet any NWI criteria and are contrary to the intent of the NWI.

[3] Integrated Urban Water Management — Why a good idea seems hard to implement March 2020

The decision making in regards to the new dam proposals has occurred outside of any:

- regional strategic water planning process;
- consistency with the objectives of affected water plans or;
- publically available environmental assessment, cost benefit analysis and/or business case.

IRN welcomes that the Commission will assess, as part of its inquiry, the Commonwealth's $3.5 billion investment towards the new dams and whether this infrastructure is ecologically sustainable and economically viable. IRN understands that NSW government has matched this investment and urges that the NSW financial commitment forms part of the Commission's area of inquiry.

The impacts of the new Dungowan Dam are unclear to the public, as information on its specifications and operation has not been released. The proposal was forwarded to the Commonwealth under an EPBC Act referral.

Statements in the referral form indicated that detailed surveys had not been completed to determine properly any potential impacts on Matters of National Environmental Significance as no final design had been decided and site location indicative only.

It was considered likely to be a controlled action with potential impacts to be assessed in an EIS. No map to clearly identify the indicative location and extent of inundation was provided in the referral by WaterNSW compromising the only opportunity for public comment on the proposal.

Dungowan Dam is within the Peel Valley Regulated, Unregulated, Alluvium and Fractured Rock WSP (Plan). This Plan is one of only three inland water sources to have had a specific independent review by the NRC. The other two WSPs are the Barwon-Darling and the Great Artesian Basin WSPs. Further comment on these reviews of WSPs is included below.

All three reviews have identified inadequacies and were recommended for replacement. NSW government has not demonstrated where it has taken full account of the NRC review reports in replacement plans.

In regards to Dungowan Dam the NRC stated: "*The impacts of this upgrade are unclear, as information on the specifications and operation of the planned dam has not been released. It poses an additional risk for the unregulated water sources (the physical impact on flow) and regulated water source (the LTAAEL)*." It noted *"..the NSW Government has committed to starting construction of the Dungowan Dam around the time the Namoi Regional Water Strategy is due for release in late 2021, and it appears the processes are being managed separately*." Page 123.

Further, the NRC noted that whilst WaterNSW is leading the dam replacement, DPIE-Water is developing the Namoi Regional Water Strategy, *"…with the strategy including only assumptions about the dam upgrade. A*

distribution of benefit study would assess the best way to manage the new dam and any changes required in the replacement water sharing plans. DPIE-Water should commit to undertaking this study as part of the Namoi Regional Water Strategy and subsequently amend the water sharing plans to incorporate the findings.

"Further, the Namoi Regional Water Strategy and the Dungowan Dam upgrade environmental assessment should consider and address the full range of socio-economic risks and impacts, including to the environment (such as water quality), basic landholder rights, other water access licence holders, and to non-consumptive users. This would require further stakeholder engagement." Page 123/4."

NSW government has not provided their response to the NRC recommendations. The integrated Peel Valley WSP has now been separated into four separate WSPs as part of the Murray Darling Basin Plan Water Resource Plan accreditation process.

From our comments above it seems clear that where there has been independent review of a WSP affected by one of the new dam proposals significant matters of concern have been identified. Clearly NSW government progression of dam infrastructure is occurring outside any transparent, ordered assessment process and would seem contrary to NWI requirements.

Other issues: The Commission welcomes participant views on the initial set of water reform policy issues, any others that should be considered, and the scope of a renewed NWI.

Are there any areas for future reform of the NWI that have not been raised in this issues paper that should be investigated for inclusion?

Overall, the NRC review and audit process should ensure there is a rigour and transparency to NSW WSPs and their important role in the identification of risks to an effective national water market. This requires appropriate government attention and response when failings identified and improvements recommended. As indicated above the broader public has limited confidence in the NSW government acting in response to NRC recommendations.

NSW government has generally overseen a rather haphazard review of its WSPs that was complicated by the, for them, fortuitous timing requirements of NSW meeting its MDBP milestones - most WSP not specifically reviewed given the overlap with the preparation of WRPs originally due July 2019.

This lack of robust review could potentially impact the national water market. The NRC Peel Report identified a number of inadequacies related to specific NWI requirements in water plans. These included provisions for connectivity, full recognition of adaptive management and mechanisms to fully ensure access and rights to water for Indigenous peoples.

In all three NRC reviews degrees of market risk from activation of “sleeper” licenses in over-allocated, poorly measured and audited WSP was identified. We can only conclude that regular and robust independent review of WSP is critical to a healthy and well-functioning national water market and should be included in a revised NWI.

The NRC reviews also identified some errors and anomalies that compromise the full achievement of NWI outcomes.

In its review of the Great Artesian Basin WSP 2008 apparent errors were identified in the description of the calculation of planned environmental water from artesian groundwater sources. This error, as well as other knowledge gaps in estimates and predicted impacts, supported the NRC recommendation to recognise these in a new GAB WSP which established revised pressure estimate equivalents, planned environmental water provisions and long term annual extraction limits.

Significant knowledge gaps have been recognised in the GAB with its complex hydrogeological function and water exchanges. Within a water system as vast and fragile as the GAB it is critical that there is accurate calculation of PEW and improved knowledge of annual recharge and flux in water plans. It appears that the NSW government has failed to properly address these matters in the new GAB WSP but a water plan with such inherent errors, inconsistencies and poor data fails to take proper account of a changing climate and will not deliver the environmental outcomes of the NWI.

In its review of the Peel Valley WSP the NRC recommended that DPIE-Water "publish guidance that the provision in the draft *Water Sharing Plan for the Peel Regulated River Water Source 2020* would only be implemented based on detailed modelling and assessment of environmental, social and economic impacts and benefits of proposed changes, and with broad stakeholder consultation." Page 116.

This recommendation seems derived from a number of NRC concerns which included a lack of transparency and reliability of the Water Access Licence Register with 61% of trades having no value recorded against them. Page 112.

Overall, A lack of transparency and reliability in water market information undermines effective and fair market operation.